



# OKLAHOMA Economic Indicators

May 2019

# OKLAHOMA ECONOMIC INDICATORS

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## SPECIAL REPORT:

### Changes in Oklahoma's Labor Force Participation Help Explain Recent Job Gains

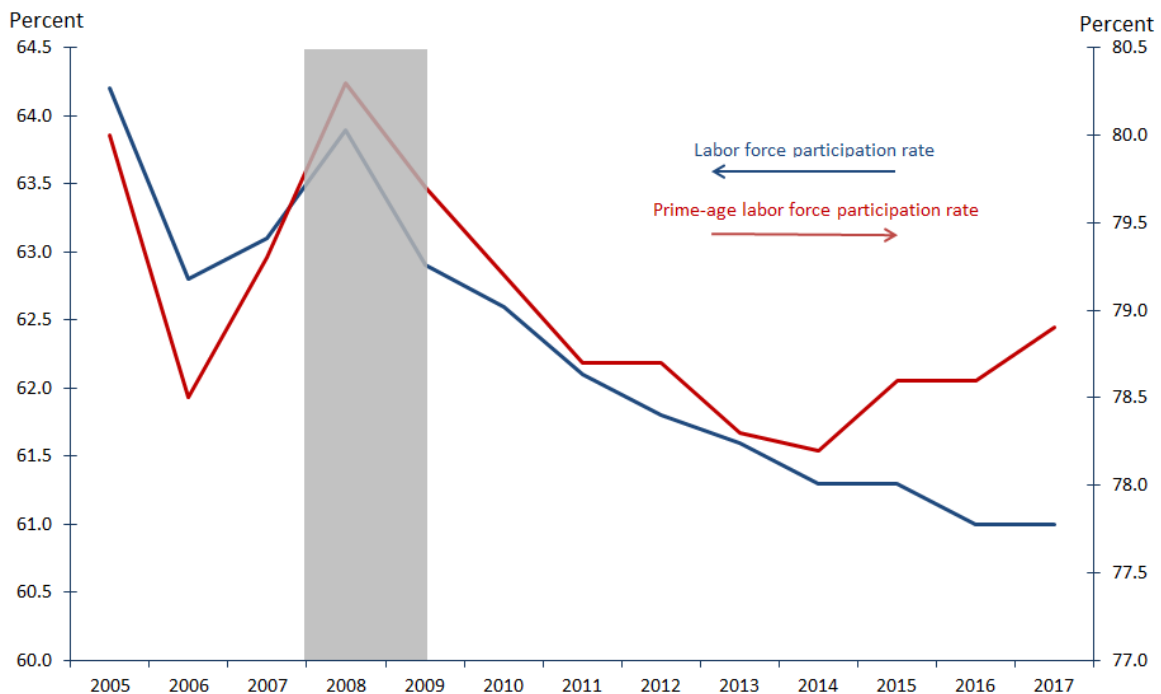
The Federal Reserve Bank of Dallas recently completed an analysis of changes in the U.S. labor force participation rate and how that might explain job creation even as the unemployment rate reached historically low levels. In that study, it was found, among other things, that an important factor in the leveling off of the labor force participation rate and continued job creation is a recent rebound in the prime-age (25 to 54 years) participation rate. Has Oklahoma's labor market followed the trends observed nationally? This analysis investigates the answer that question.

Oklahoma's labor force participation rate—the number of people either employed or unemployed as a proportion of noninstitutionalized working age (16 years and older) population—declined after the Great Recession to a low of 61.0 percent in 2016.

The labor force participation rate for Oklahoma held steady at 61.0 percent through 2017, although the statewide labor market has continued to add jobs despite the unemployment rate reaching historically low levels. One important factor driving continued job creation despite low labor force participation rates is a recent rebound in the prime-age (25 to 54 years) participation rate (see Chart 1, below).

**Chart 1**

#### Prime-Age Participation Rate in Oklahoma Increased Since 2014



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

SOURCE: U.S. Census Bureau, American Community Survey 1-Year Estimates

If the prime-age participation rate had remained at its 2014 average (78.2 percent) through 2017, and the path of the unemployment rate was unaffected, Oklahoma's economy would have added approximately 22,000 fewer jobs.

Considering which demographic groups in Oklahoma are driving the changes in the labor force participation rate, it was also found that educational groups, individuals claiming disability status and female participation are also behind its recent rise, though to differing degrees.

### **Conclusion**

The labor force participation rate in Oklahoma has been declining since 2005, reaching a low of 61.0 percent in 2016 and leveling off there in 2017. At the same time, Oklahoma's labor market continues to grow and the state's economy continues to add jobs even as the unemployment rate has been reaching historic lows. Part of the reason for this can be attributed to a rebound in several special demographic components of the participation rate.

The prime-age (25 to 54 years) labor force participation rate in Oklahoma has increased from a low of 78.2 percent in 2014 to 78.9 percent in 2017, the highest rate since 2010. College-educated individuals had the least decline among all educational groups in labor force participation during and immediately after the Great Recession and also led the rebound of participation after the recession from 2014 to 2017. Other demographic components contributing to growth in Oklahoma's labor force include disabled individuals, whose change in participation rate was well above those without disabilities between 2014 and 2017. Finally, Oklahoma's female labor force participation rate has seen an overall increase from 67.9 percent in 2005 to 69.4 percent in 2017. During this time period the male labor force participation rate has contracted from 84.0 percent to 79.1 percent, as the gap between male and female participation rates has declined from 16.1 percentage points in 2005 to 9.7 percentage points in 2017.

These groups' participation in Oklahoma's labor force has allowed the statewide labor market to expand even as the overall participation rate in the state has declined.

### **More Information**

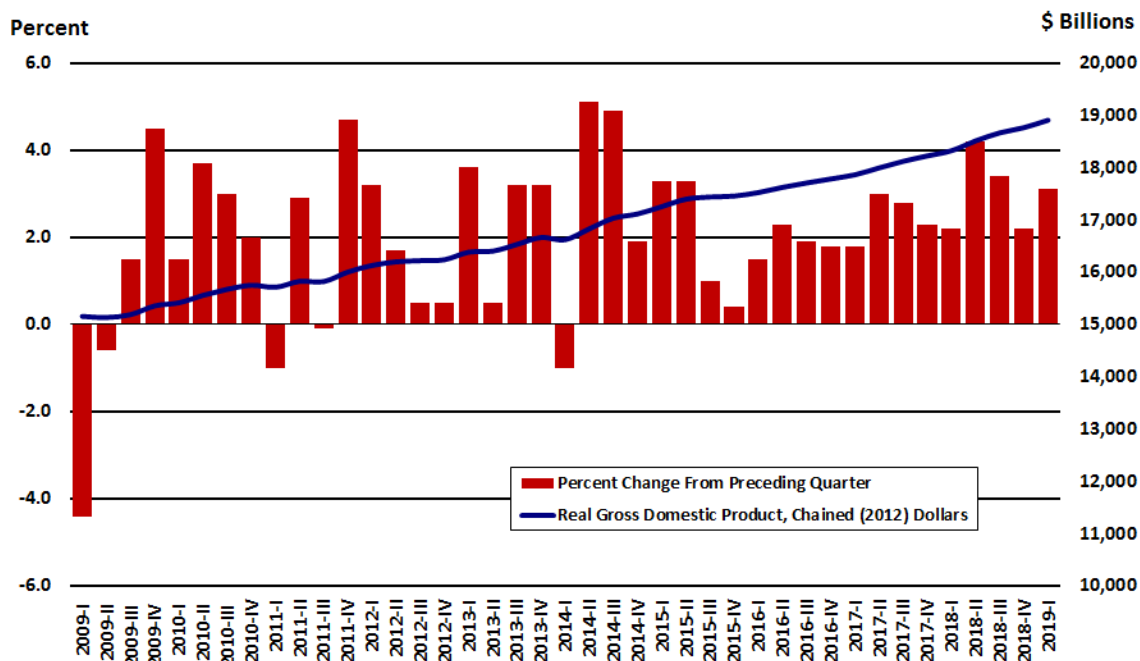
A copy of the full report, 'Changes in Oklahoma's Labor Force Participation Help Explain Recent Job Gains' along with detailed tables and charts is available on the OESC website at:

<https://www.ok.gov/oesc/documents/lmichgoklfpr.pdf>

## Real Gross Domestic Product and Quarterly Change

1st Quarter 2009 to 1st Quarter 2019

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**

U.S. economic growth in the January-March period was revised downward slightly although personal consumption and exports were stronger than previously reported. Real gross domestic product (GDP) increased at an annual rate of 3.1 percent in the 1st quarter of 2019, according to the "second" estimate released by the Bureau of Economic Analysis (BEA). In the 4th quarter, real GDP increased 2.2 percent.

Consumer spending, which accounts for more than two-thirds of U.S. economic activity, was revised upward to 1.3 percent, still the slowest pace in a year. Outlays on durable goods, such as automobiles, fell at an upwardly-revised rate of -4.6 percent, for the biggest drop in nearly a decade. Nondurable goods spending slowed to a 2.0 percent pace in the 1st quarter. Spending on services also slowed to a 2.1 percent rate. Personal consumption expenditures (PCE) contributed 0.90 percentage point to 1st quarter GDP, instead of 0.82 percentage point previously estimated.

Businesses spending slowed to a 2.3 percent rate in the 1st quarter from the previous estimate of 2.7 percent. Spending on equipment decelerated sharply, to a -1.0 percent decline, the slowest pace since the 1st quarter of 2016. Investment in structures was revised upward to show a 1.7 percent gain rather than a -0.8 percent decline. Nonresidential fixed investment contributed 0.31 percentage point to 1st quarter GDP growth, revised downward from the 0.38 percentage point reported earlier.

Businesses inventory investment increased at a downwardly-revised \$128.4 billion rate in the 1st quarter, the largest accumulation of unsold merchandise since 2015. Part of the inventory build was due to weak demand, especially in the automotive sector. Inventory investment's contribution to 1st quarter GDP was revised to 0.6 percentage point from 0.65 point, after adding one-tenth of a percentage point in the October-December period.

Investment in homebuilding contracted for a fifth straight quarter. Residential construction fell at a downwardly-revised -3.5 percent rate in the 1st quarter. Residential investment subtracted 0.13 percentage point from GDP growth in the 1st quarter.

Exports jumped 4.8 percent while imports declined by 2.5 percent in the 1st quarter. The narrowing trade deficit added 0.96 percentage point to GDP in the January to March period.

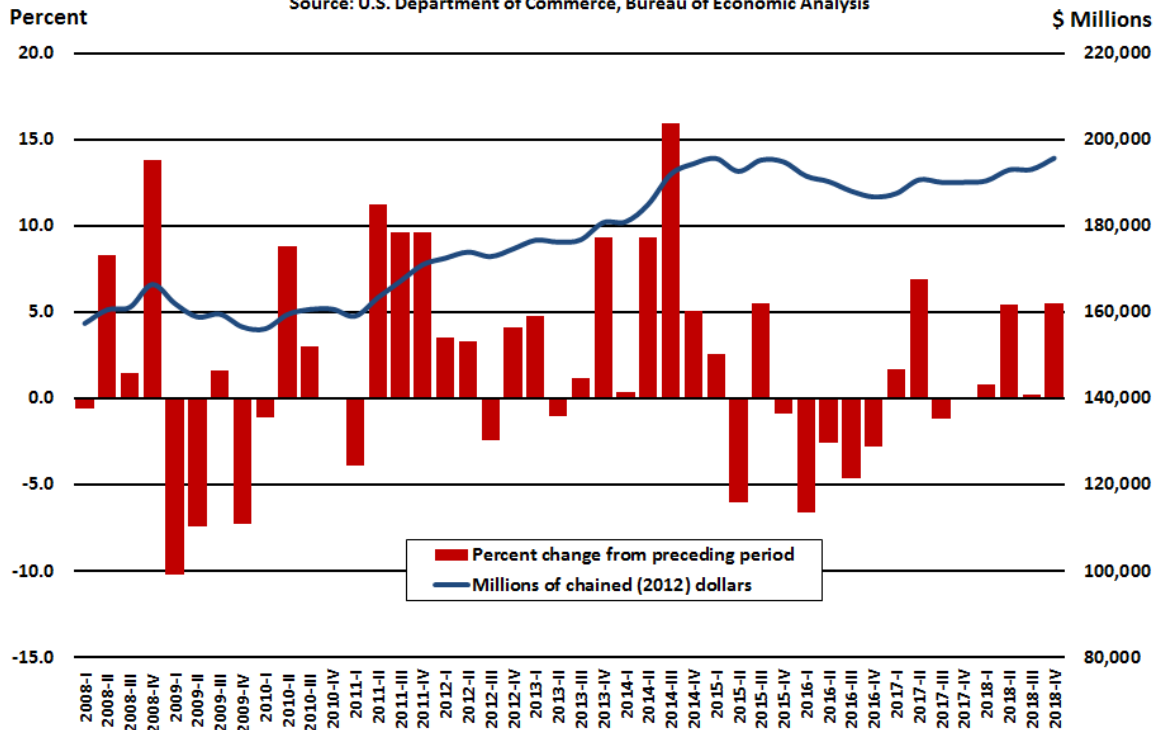
Government investment rebounded at an upwardly-revised 2.5 percent rate in the 1st quarter, boosted by spending at state and local governments. Domestic spending by the federal government declined 0.1 percent in the 1st quarter. State and local government outlays rose 4.0 percent. Government consumption expenditures and investment added 0.42 percentage point to 1st quarter GDP growth.

While it could not quantify the full effects of the 35-day partial federal government shutdown, the BEA estimated that the effects of the reduction in the labor services supplied by federal employees along with the reduction in intermediate purchases of goods and services by nondefense agencies shaved 0.3 percentage point from real GDP growth in the 1st quarter and trimmed 4th quarter growth by 0.1 percentage point.

## Oklahoma Real Gross Domestic Product and Quarterly Change

1st Quarter 2008 to 4th Quarter 2018, 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

U.S. real gross domestic product (GDP) by state—a measure of nationwide growth calculated as the sum of GDP of all states and the District of Columbia—increased in 49 states and the District of Columbia in the 4th quarter of 2018, according to the Bureau of Economic Analysis (BEA). The percent change in real GDP in the 4th quarter ranged from 6.6 percent in Texas to 0.0 percent in Delaware.

Overall growth in real GDP by state decelerated to a 2.2 percent pace in the 4th quarter from a 3.4 percent rate in the 3rd quarter of 2018. Wholesale trade, mining, and information services were the leading contributors to the increase in real GDP nationally in the 4th quarter, according to the BEA.

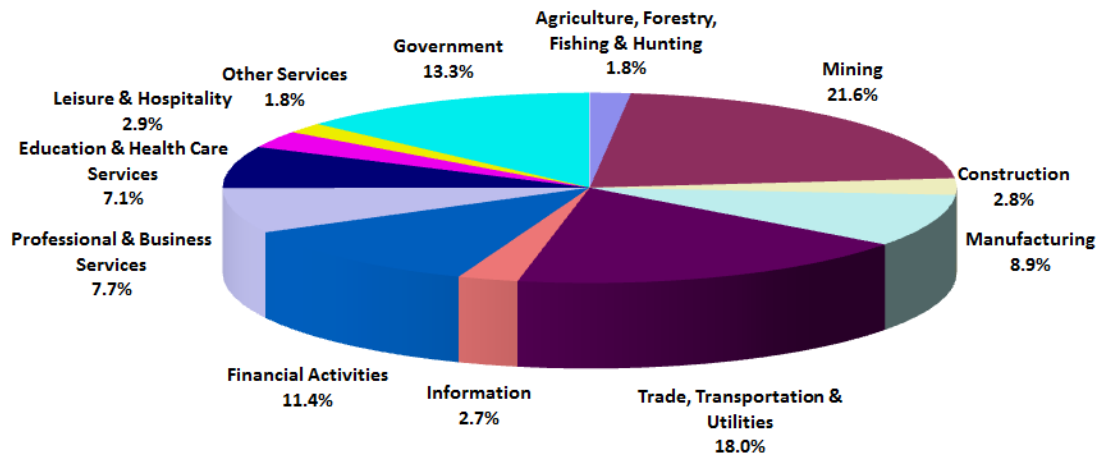
Oklahoma’s real GDP accelerated in the 4th quarter of 2018, after falling in the previous quarter. Statewide real GDP grew at a 5.5 percent pace in the 4th quarter, ranking Oklahoma 3rd among all other states and the District of Columbia. Statewide GDP was at a level of \$195.7 billion (in constant 2012 dollars) in the 4th quarter, up \$2.6 billion from the 3rd quarter level of \$193.1 billion.



## Industry Share of Oklahoma's Economy, 4th Quarter 2018

(by percentage of Gross Domestic Product)

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



Nationally, wholesale trade, mining, and information services increased 9.1 percent, 38.0 percent, and 8.9 percent, respectively. Wholesale trade and information services contributed to growth in all 50 states, while mining contributed to growth in 49 states, according to the BEA.

Wholesale trade increased 9.1 percent in the 4th quarter of 2018. This industry was the leading contributor to growth in South Dakota and Arkansas. In Oklahoma, wholesale trade was the second-leading contributor to 4th quarter GDP growth adding 0.61 percentage point.

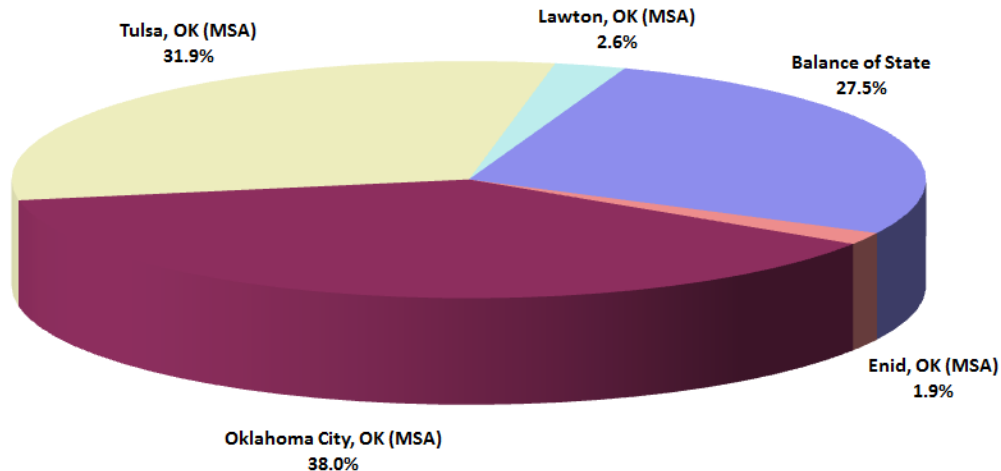
Mining increased a remarkable 38.0 percent nationally. Along with Texas, this industry was the leading contributor to the increase in real GDP in Wyoming, Oklahoma, Alaska, and New Mexico—the second through fifth fastest growing states. In Oklahoma, mining added 4.28 percentage points to 4th quarter GDP growth.

Information services increased 8.9 percent nationally. This industry was the leading contributor to growth in Washington—the ninth fastest growing state. However, in Oklahoma, information barely contributed to 3rd quarter GDP, adding only 0.08 percentage point.

Finance and insurance declined 0.47 percent nationally, and subtracted from GDP growth in all 50 states and the District of Columbia in the 4th quarter of 2018. Finance and insurance subtracted 0.25 percentage point from Oklahoma's GDP growth in the 4th quarter.

## Metropolitan Area Contribution to State Real Gross Domestic Product 2017

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



### Definition & Importance

Metropolitan Statistical Areas (MSA) 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.

GDP by metropolitan area is the sub-state counterpart of the Nation's gross domestic product (GDP), the BEA's featured and most comprehensive measure of U.S. economic activity. GDP by metropolitan area is derived as the sum of the GDP originating in all the industries in the metropolitan area. Nationally, metropolitan statistical areas represent approximately 90 percent of total GDP. In Oklahoma, the four MSAs of Oklahoma City, Tulsa, Lawton and Enid accounted for 74.3 percent of total state GDP in 2017.

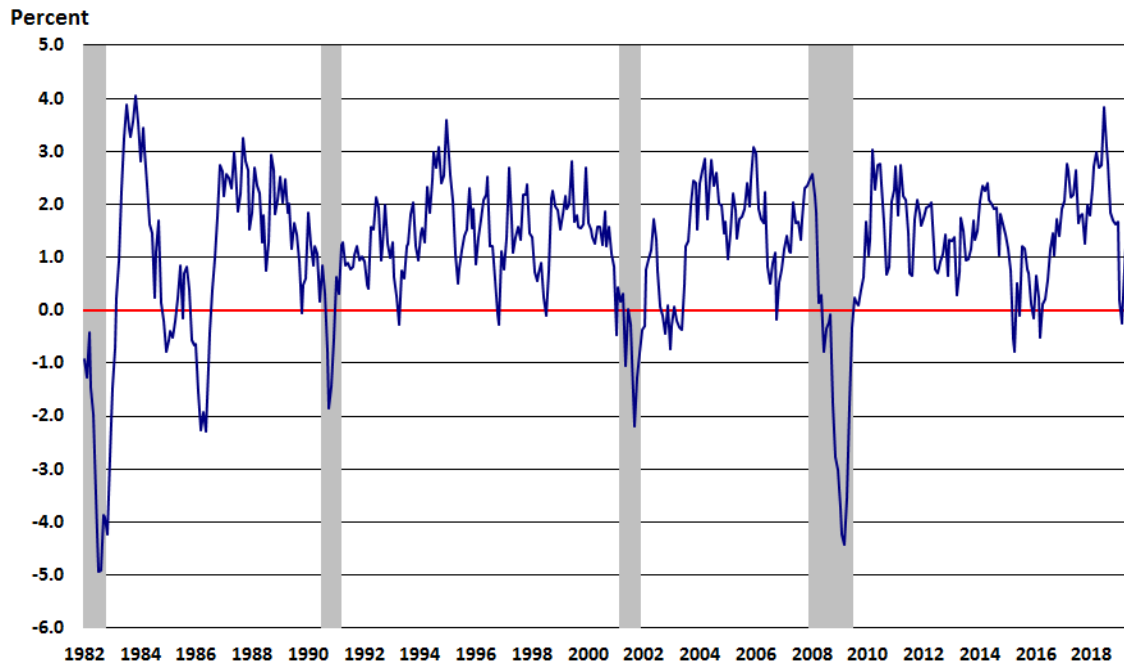
### Current Developments

Real gross domestic product (GDP) increased in 312 out of 383 metropolitan areas in 2017, according to the U.S. Bureau of Economic Analysis (BEA). The percent change in real GDP by metropolitan area ranged from 12.1 percent in Odessa, TX to -7.8 percent in Enid, OK. Real GDP for U.S. metropolitan areas increased 2.1 percent in 2017, led by growth in professional and business services; wholesale and retail trade; and finance, insurance, real estate, rental, and leasing.

In 2017, three of Oklahoma's four metropolitan areas experienced negative growth. Natural resources and mining subtracted from growth in Enid MSA (-7.8 percent), ranking it last among the 383 metro areas in 2017. Tulsa MSA's GDP contracted 1.1 percent (ranked 353rd), pulled down by natural resources and mining and construction. Lawton MSA declined 0.1 percent to \$5.2 billion in 2017 and ranked 318th among U.S. metro areas. Oklahoma City MSA grew 2.3 percent to \$74.9 billion and ranked 142nd, lifted by natural resources and mining and professional and business services.

## Leading Index for Oklahoma, 1982-2019

Source: Federal Reserve Bank of Philadelphia (retrieved from FRED, Federal Reserve Bank of St. Louis)



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

The Federal Reserve Bank of Philadelphia has released the leading indexes for the 50 states for April 2019. Forty-six state coincident indexes, (including Oklahoma's), are projected to grow over the next six months and four are expected to contract. For comparison purposes, the Philadelphia Fed has also developed a similar leading index for its U.S. coincident index, which is projected to grow 1.4 percent over the next six months.

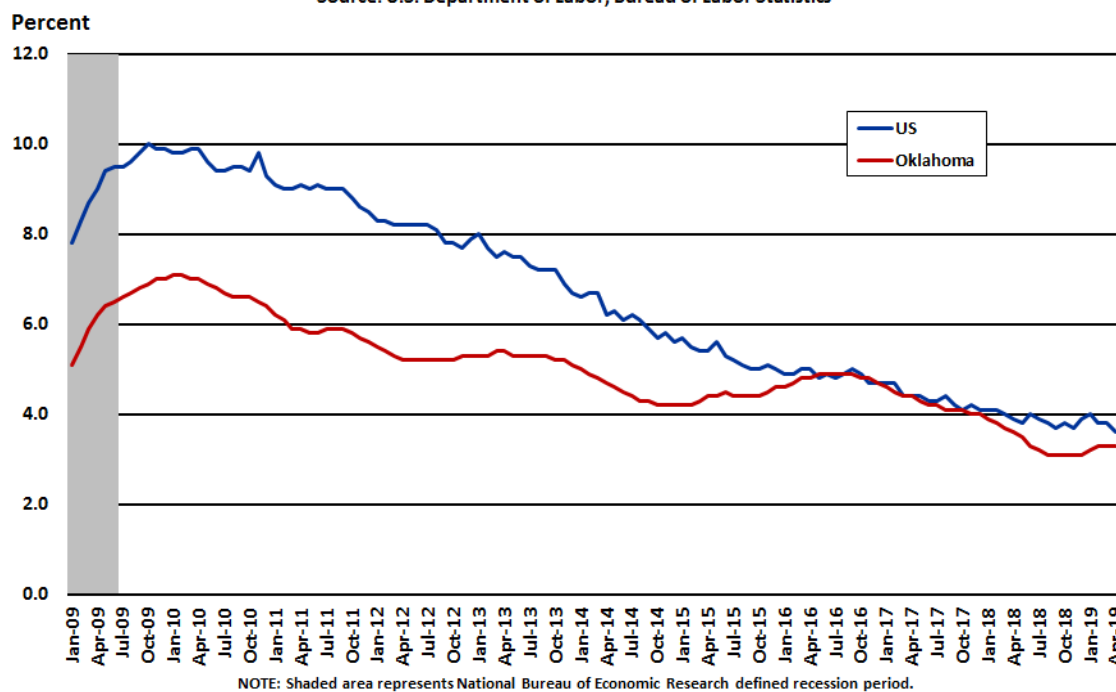
After revisions, Oklahoma's leading index, a six-month forecast of the state's coincident index, had been declining since June 2018 but now appears to be turning around. The state's leading index was 1.64 percent in April. The March index was revised up to 0.78 percent (from 0.46 percent), following an upwardly-revised -0.26 percent reading in February, according to the latest figures from the Federal Reserve Bank of Philadelphia.

Overall, Oklahoma's leading index for April suggests expansion in the state's economy into the 4th quarter of 2019.

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

January 2009 to May 2019

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 U.S. unemployment rate remained at a nearly 50-year low in May. The unemployment rate held steady at 3.6 percent in May, the lowest jobless rate since December 1969, 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—remained at 62.8 percent in May.

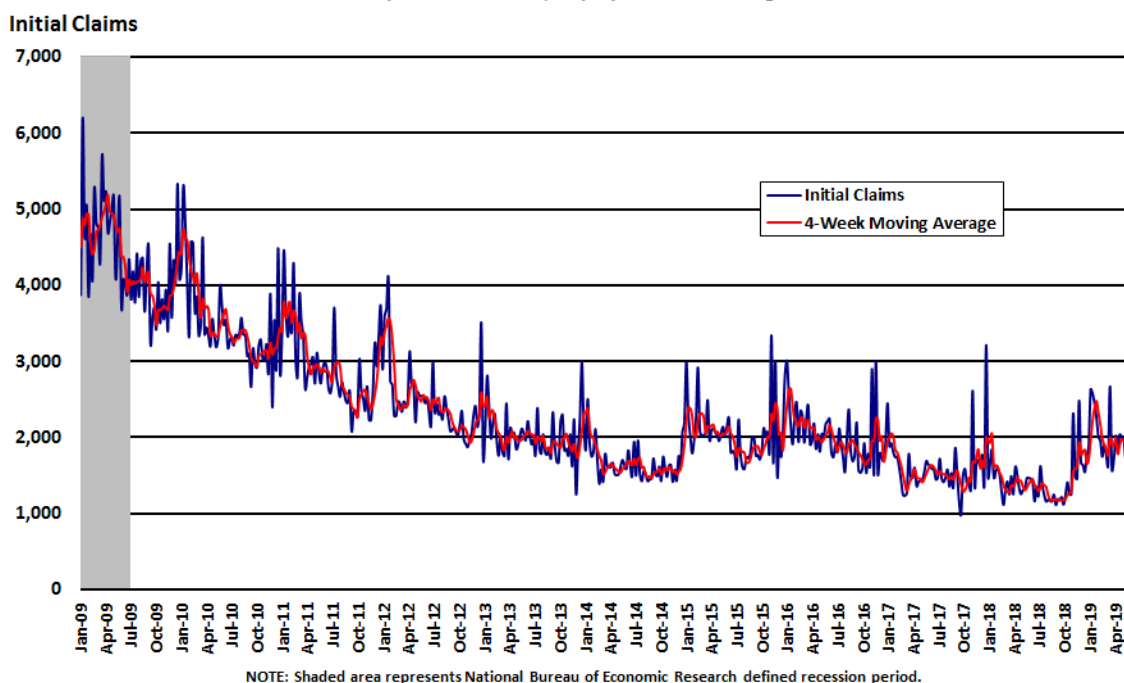
Oklahoma's seasonally adjusted unemployment rate held steady at 3.3 percent in April. Over the year, Oklahoma's unemployment rate has declined by 0.3 percentage point from April 2018.

In April, Latimer County and McIntosh County shared the state's highest county unemployment rate of 4.6 percent, while Cimarron County claimed the lowest county unemployment rate at 1.4 percent. Unemployment rates in April were lower than a year earlier in 75 counties and higher in two counties.

## Oklahoma Initial Weekly Claims for Unemployment Insurance

January 2009 to May 2019 (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 applications for state unemployment benefits was unchanged in the last week of May, pointing to a still strong labor market. In the week ending June 1, the advance figure for seasonally adjusted initial claims was 218,000, unchanged from the previous week's revised level, according to the Department of Labor (DOL). The less volatile 4-week moving average was 215,000, a decrease of 2,500 from the previous week's revised average of 217,500.

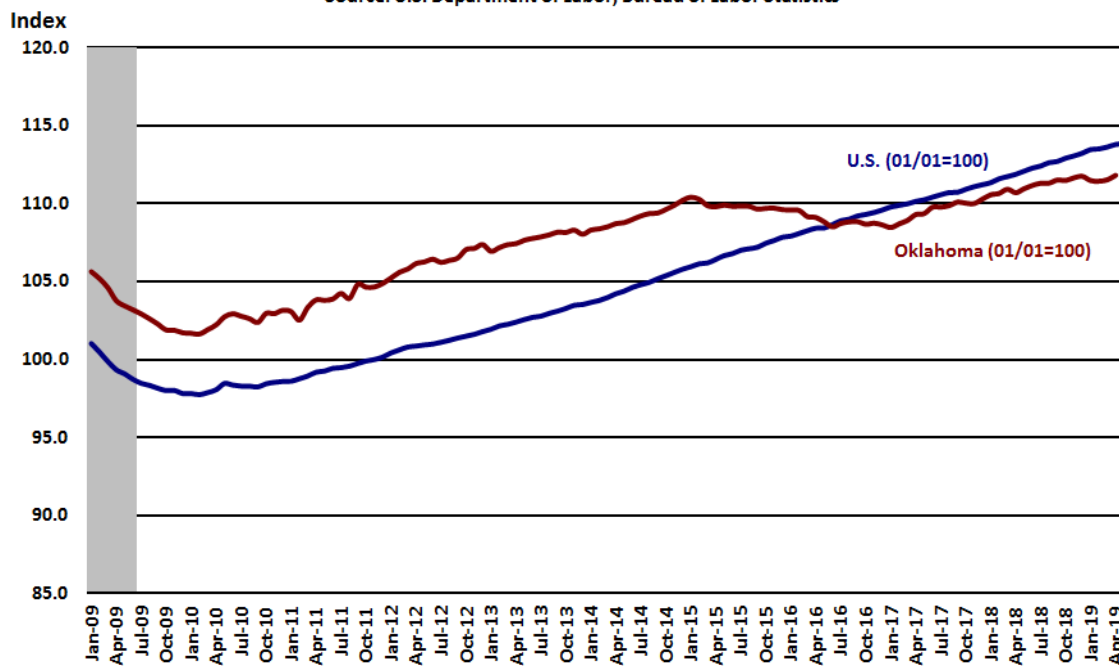
The level of initial and continued claims for jobless benefits in Oklahoma trended down in May. For the file week ending May 25, 2019, non-seasonally adjusted initial claims for unemployment insurance benefits were at a level of 1,722, down eight (8) from the previous week's level of 1,730 and 288 less than the April 27th level of 2,010. For the same file week ending, the less volatile four-week moving average was 1,793, down 72 from the previous week's average of 1,865.

For the same file week ending May 25, 2019, continued claims for unemployment insurance benefits were at a level of 13,191, dropping 317 from the previous week's level of 13,508.

## 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

The pace of U.S. hiring slowed sharply in May, as employers added the fewest number of jobs since February. Total nonfarm payroll employment edged up 75,000 in May, according to the Bureau of Labor Statistics (BLS). In May, employment continued to trend up in professional and business services (+33,000 jobs) and in health care (+16,000 jobs).

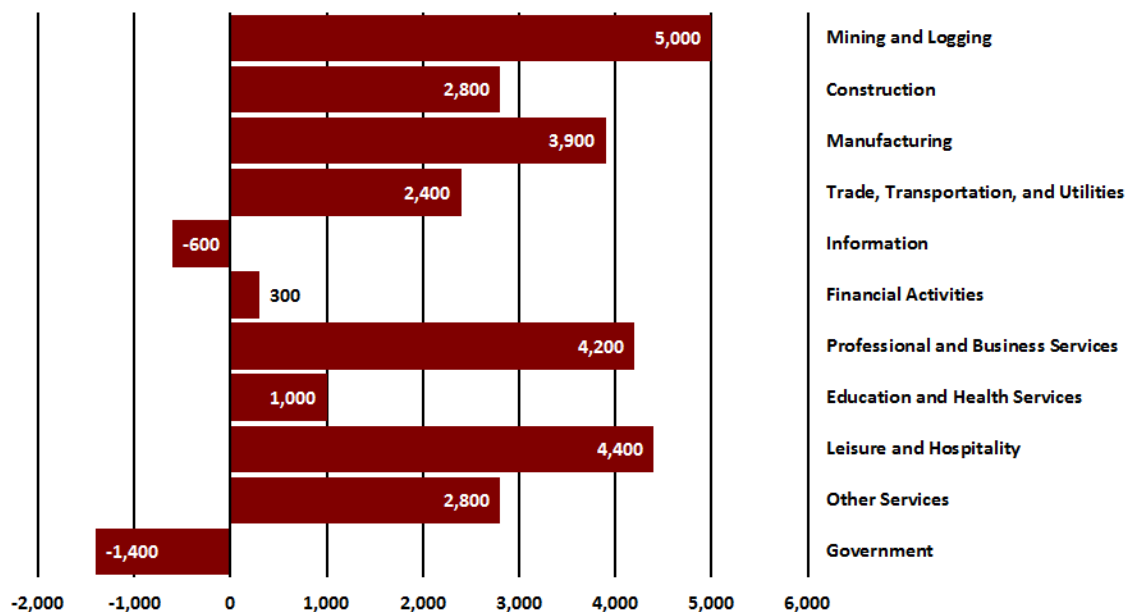
Statewide nonfarm employment added a seasonally-adjusted 4,400 jobs (0.3 percent) in April, to a level of 1,697,300 while March's estimate was revised upward to 1,692,900.

In April, five of Oklahoma's 11 supersectors added jobs over the month as trade, transportation, and utilities (+1,900 jobs) posted the largest monthly gain followed by education and health services (+1,200 jobs). Mining and logging, manufacturing and information (-300 jobs each) reported over-the-month job losses.

## Oklahoma Employment Change by Industry, 2017-2018

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

Oklahoma's annual average employment growth turned in solid gains in 2018, boosted by increases in mining & logging, leisure & hospitality, and professional & business services. Total nonfarm employment gained a non-seasonally adjusted 24,900 jobs for a 1.5 percent growth rate. For comparison, in 2017, 9,000 jobs were gained for a 0.5 percent increase.

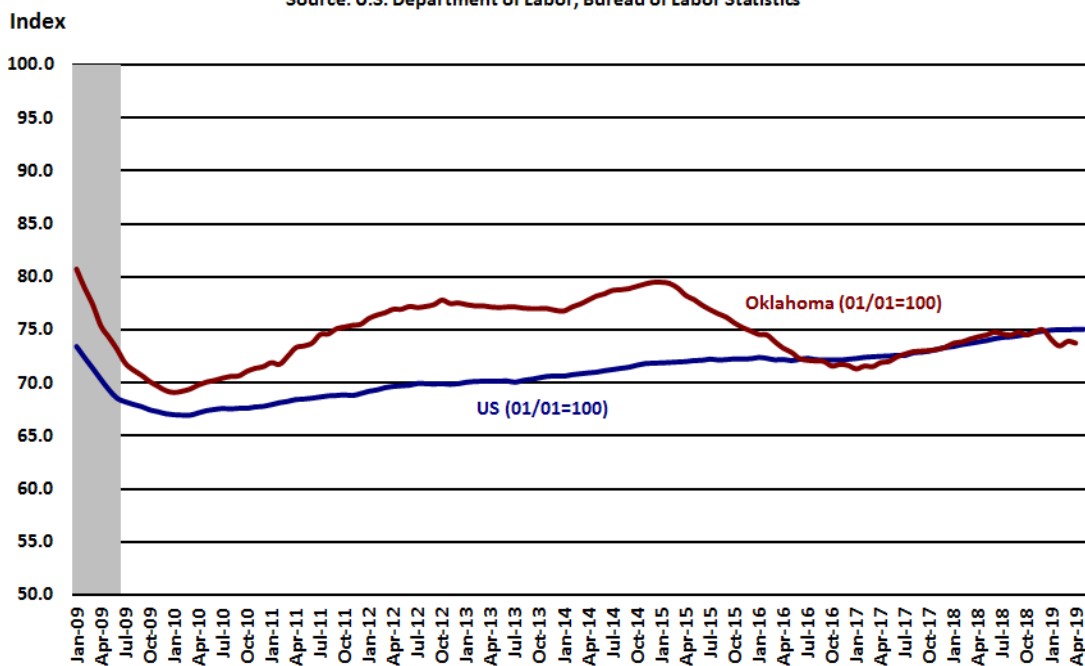
In 2018, nine out of 11 statewide supersectors recorded job gains. Mining & logging led all other supersectors adding 5,000 jobs (10.4 percent). Leisure & hospitality added 4,400 jobs (2.6 percent), while professional & business services gained 4,200 jobs (2.3 percent). Manufacturing employment grew by 3,900 jobs (2.9 percent). Construction and other services added 2,800 jobs for 2.9 percent and 4.1 percent gains respectively. The broad trade, transportation and utilities supersector added a non-seasonally adjusted 2,400 jobs (0.8 percent). Education and health services grew by 1,000 jobs (0.4 percent) and financial activities added 300 jobs (0.4 percent) over the year.

The largest annual average over-the-year job losses were seen in government which shed a non-seasonally adjusted 1,400 jobs (-0.4 percent), followed by information dropping 600 jobs (-2.9 percent).

## 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. manufacturing employment growth also slowed in May, a sign of the impact of tariffs on the economy. In May, manufacturing added 3,000 jobs, according to the Bureau of Labor Statistics (BLS). In the 12 months prior to February, the industry had added an average of 22,000 jobs per month, since February manufacturing has only averaged 3,000 jobs per month.

Oklahoma manufacturing employment shed a seasonally-adjusted 300 jobs (-0.2 percent) over the month in April, with all the job losses occurring in durable goods manufacturing.

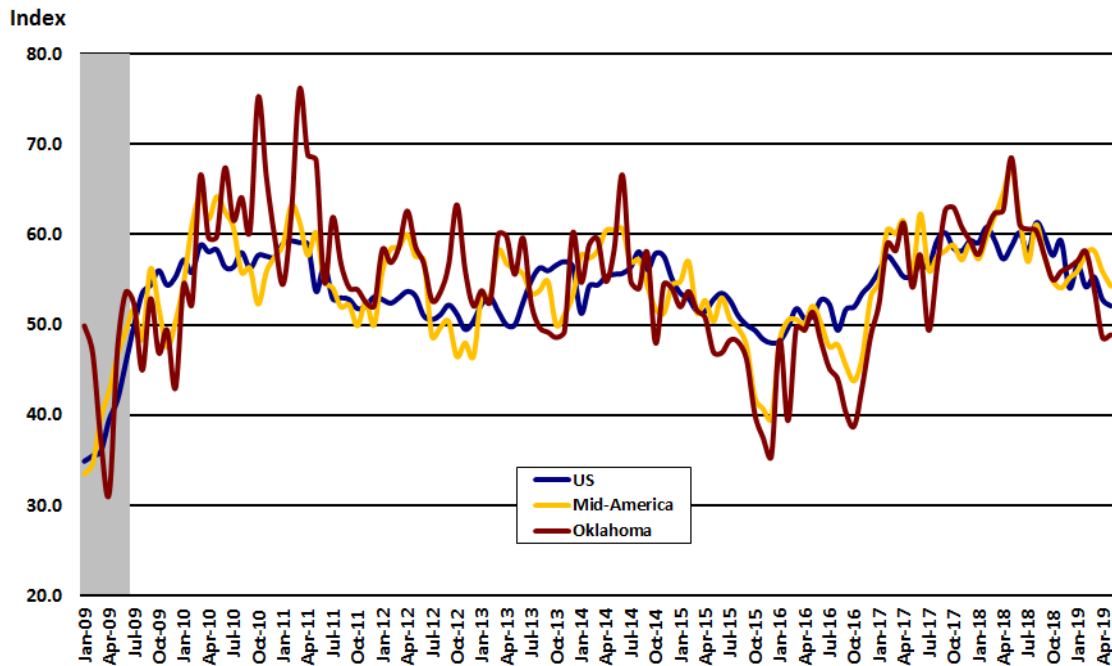
Over the year, statewide manufacturing employment contracted by a seasonally-adjusted 1,100 jobs (-0.8 percent), with job losses in both durable (-800 jobs) and non-durable goods manufacturing (-300 jobs).



## Purchasing Managers' Index (Manufacturing)

January 2009 to May 2019

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



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

### 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, which accounts for about 12 percent of the U.S. economy. 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. factory activity slumped to its lowest level in 2½ years in May, as production levels fell slightly. The May PMI® registered 52.1 percent, a decrease of 0.7 percentage point from the April reading of 52.8 percent, according to the latest ISM Manufacturing Report On Business®. Eleven of the 18 manufacturing industries reported growth in May, including: printing & related support activities; furniture & related products; plastics & rubber products; textile mills; and miscellaneous manufacturing.

ISM's measure for new orders expanded in May to a reading of 52.7, an increase of 1 percentage point from the April reading of 51.7 percent. The ISM index for production registered 51.3 percent, a 1-percentage point decrease. The employment gauge increased 1.3 percentage points to 53.7 percent. The Inventories Index registered 50.9 percent, a decrease of 2 percentage points while a measure of supplier deliveries declined 2.5 percentage points to a reading of 52.0 percent.

The Creighton University Mid-America Business Conditions Index, a leading economic indicator for a nine-state region stretching from North Dakota to Arkansas, fell to a still solid reading signaling positive, but slowing, growth for the region over the next three to six months, according to the latest monthly survey results. The Business Conditions Index, which ranges between 0 and 100, declined to 54.3 from April's 55.9. This is the second straight decline in the overall index, but the 30th straight month the index has remained above growth neutral 50.0.

"The regional economy continues to expand at a positive pace. However, tariffs and flooding across several states pulled the overall index below growth neutral for four states: Iowa, Nebraska, North Dakota and Oklahoma. I expect the latest announced tariffs against Mexico, if implemented, to push more Mid-America states into job loss territory in the months ahead," said Ernie Goss, Ph.D., director of Creighton University's Economic Forecasting Group and the Jack A. MacAllister Chair in Regional Economics in the Heider College of Business.

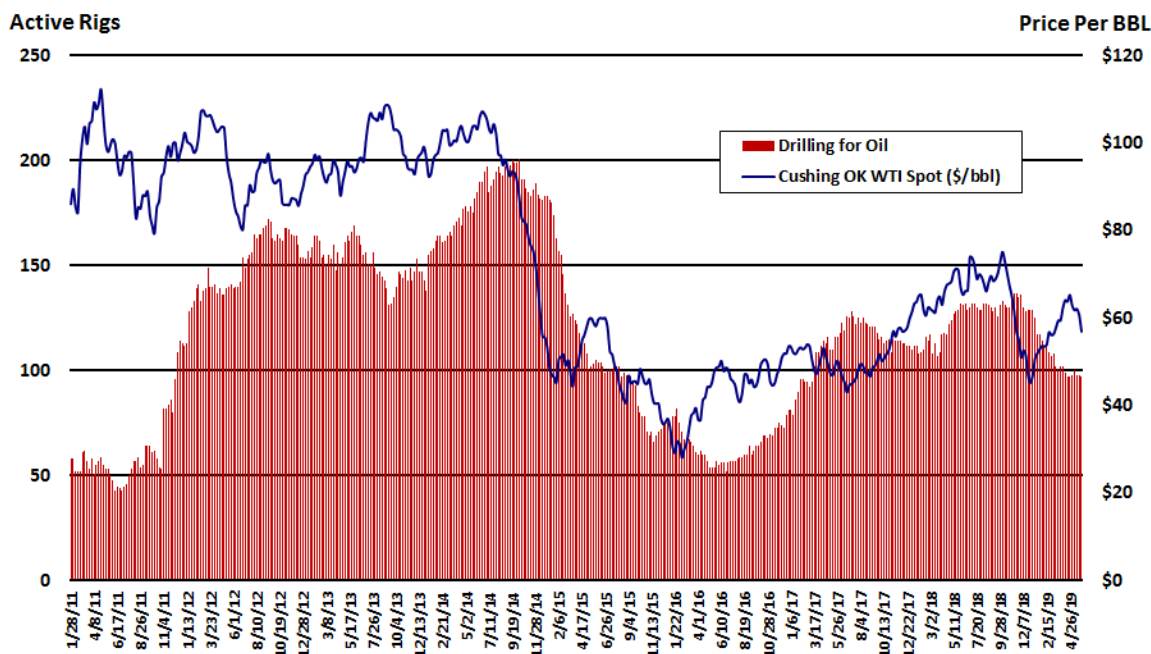
Oklahoma's Business Conditions Index fell below growth neutral 50.0 for a second straight month in May. The overall index from a monthly survey of supply managers for May rose slightly to a weak 48.9 from 48.6 in April. Components of the overall May index were new orders at 53.8, production or sales at 52.4, delivery lead time at 47.9, inventories at 43.4, and employment at 46.8.

"Economic losses for the state's durable goods and nondurable goods producers spilled over into other portions of the state's economy for the month," said Goss.

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

January 2011 to May 2019

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. Excluding federal offshore areas, Oklahoma was the nation's 6th-largest crude oil producing state in 2017 (at 165,920,000 barrels). 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. As of January 2018, those refineries had a combined distillation capacity of more than 522,000 barrels per day—roughly 3.0 percent of the total U.S. refining capacity.

### **Current Developments**

In the May 2019 update of its *Short-Term Energy Outlook* (STEO), the U.S. Energy Information Administration (EIA) forecasts that international benchmark Brent crude oil price will average \$70 per barrel (b) in 2019 and \$67/b in 2020. This price forecast for 2019 and 2020 is higher than any previous STEO forecast in 2019. The 2019 Brent crude oil price forecast in the May STEO is \$9/b higher than the January STEO forecast and more than \$4/b higher than the April STEO forecast. The upward revision to the price forecast is a reflection of several factors, including higher-than-forecast actual prices in recent months, changes to the global supply and demand outlook resulting in tighter expected global oil market balances, and increased oil supply risks.

EIA also forecasts that crude oil production in the Organization of the Petroleum Exporting Countries (OPEC) will average 30.3 million barrels per day (b/d) in 2019, down by 1.7 million b/d from 2018. In 2020, EIA expects OPEC crude oil production to fall by 0.4 million b/d to an average of 29.8 million b/d. Production in Venezuela and Iran account for most of the OPEC output declines in 2019 and in 2020, but EIA expects these declines to be partially offset by production increases from other OPEC members.

Oklahoma crude oil production surged to its highest recorded level in March, surpassing the previous record set in December 2018. Oklahoma field production of crude oil in March was at a level of 18,153,000 barrels (bbl), 2,186,000 bbl (13.7 percent) more than the downwardly-revised February production level of 15,967,000 bbl. For 2018, statewide crude production was at an upwardly-revised level of 200,686,000 bbl, the highest annual level of production on record, and 34,766,000 bbls (21.0 percent) more than the 165,920,000 bbls produced in 2017.

WTI-Cushing spot crude prices averaged \$60.83 per barrel (b) in May, down \$3.04/b from the April average of \$63.86/b and \$5.43/b below the price in April of last year.

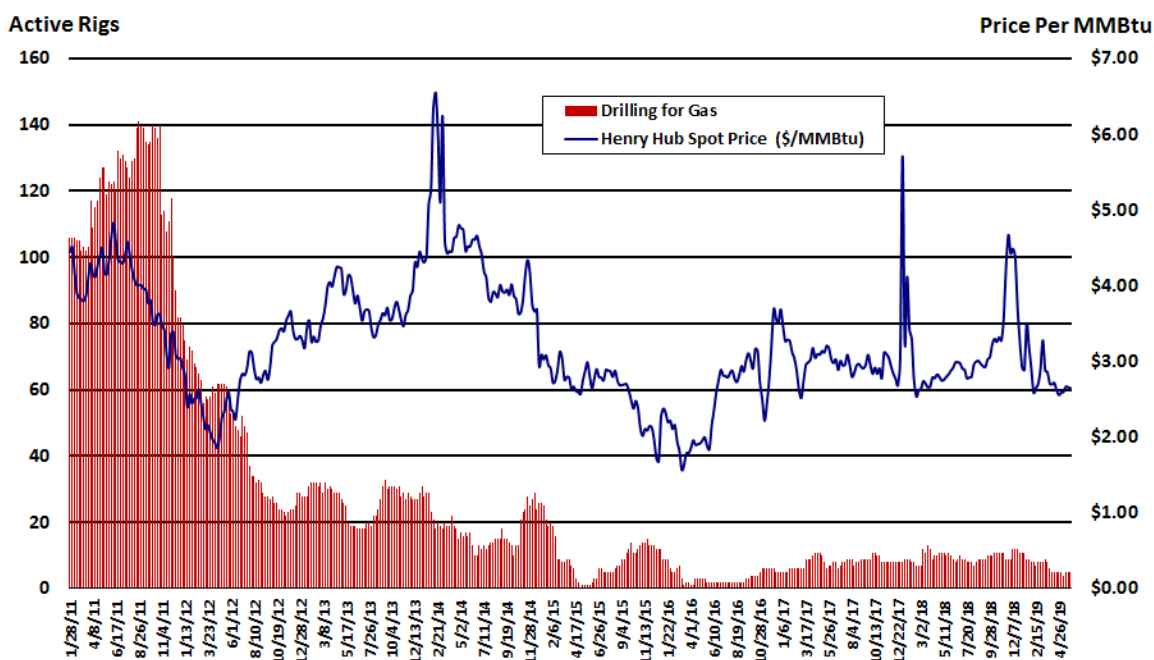
The number of rigs drilling for oil and natural gas in the U.S. was up one (1) for the week ending May 31, 2019, bringing the total count to 984 rigs, according to Houston oilfield services company Baker Hughes Inc. Of that total, 800 rigs (81.3 percent) drilled for oil and 184 (18.7 percent) explored for natural gas. Compared to a year ago, the nation's rig count was 76 less than the 1,060 rigs reported on June 1, 2018.

Oklahoma's active rig count remained at a two-year low in May. For the week ending May 31, 2019, the statewide active rig count moved down one (1) to 102 rigs, according to Baker Hughes. It was the lowest weekly rig count since 101 rigs were active for the week ended March 10, 2017. Oil-directed rigs accounted for 97 active rigs (95 percent) of total rig activity. Over the year, Oklahoma's rig count was down 40 (-28.2 percent) from 142 rigs reported on June 1, 2018.

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

January 2011 to May 2019

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 nation, ranking 4th among all states in U.S. gross production in 2017, (excluding offshore production), and accounting for 8.6 percent of U.S. gross production. 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**

According to the May 2019 *Short Term Energy Outlook* (STEO), EIA forecasts that dry natural gas production will average 90.3 billion cubic feet per day (Bcf/d) in 2019, up 6.9 Bcf/d from 2018. EIA expects natural gas production will continue to grow in 2020 to an average of 92.2 Bcf/d.

Statewide natural gas production notched its second-highest level in March. Oklahoma natural gas gross withdrawals were at a level of 264,547 million cubic feet (MMcf) in March, 23,588 MMcf (9.8 percent) more than February's upwardly-revised level of 240,959 MMcf. In 2018, statewide natural gas production set a record level of 2,946,115 MMcf, or 432,218 MMcf (17.2 percent) more than 2,513,897 MMcf produced in 2017.

The Henry Hub natural gas spot price averaged \$2.64/million British thermal units (MMBtu) in April, down 31 cents/MMBtu from March, according to the EIA. Prices fell as a result of warmer-than-normal temperatures across much of the United States, which reduced the use of natural gas for space heating and contributed to above-average inventory injections during the month. EIA expects strong growth in U.S. natural gas production to put downward pressure on prices in 2019 and in 2020. EIA expects Henry Hub natural gas spot prices will average \$2.79/MMBtu in 2019, down 36 cents/MMBtu from 2018. The forecasted 2020 average Henry Hub spot price is \$2.78/MMBtu.

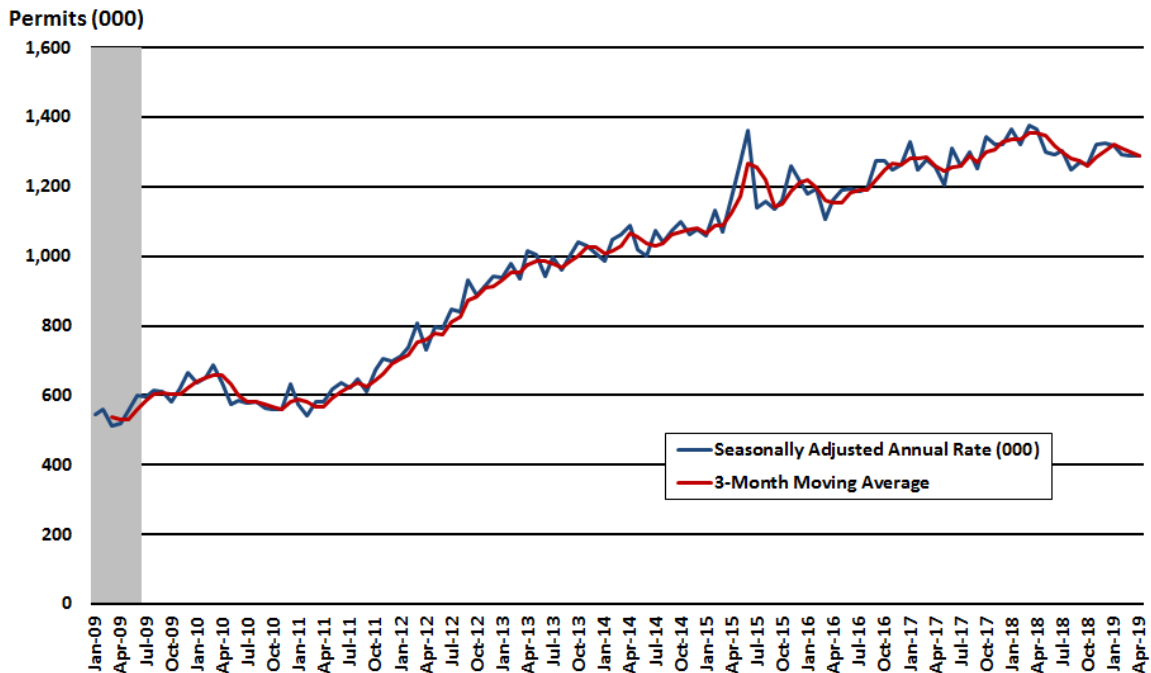
According to oilfield services company Baker Hughes, for the week ending Friday, May 31, the U.S. natural gas rig count was at 184 rigs, two (2) less than the previous week and 13 less than a year ago.

Oklahoma's natural gas-directed drilling rig count was down to five (5) units for the week ending May 31, 2019, unchanged from the previous week. Over the year, the number of statewide rotary rigs exploring for natural gas was down five (5) from 10 reported for the week ended June 1, 2018.

## U.S. New Private Housing Units Authorized by Building Permit

January 2009 to April 2019, 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 outside 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. housing permits, an indicator of future home building activity, rose in April following three straight monthly declines. Privately-owned housing units authorized by building permits in April were at a seasonally adjusted annual rate of 1,296,000, 0.6 percent above the revised March rate of 1,288,000, but 5.0 percent below the April 2018 rate of 1,364,000, according to the U.S. Census Bureau.

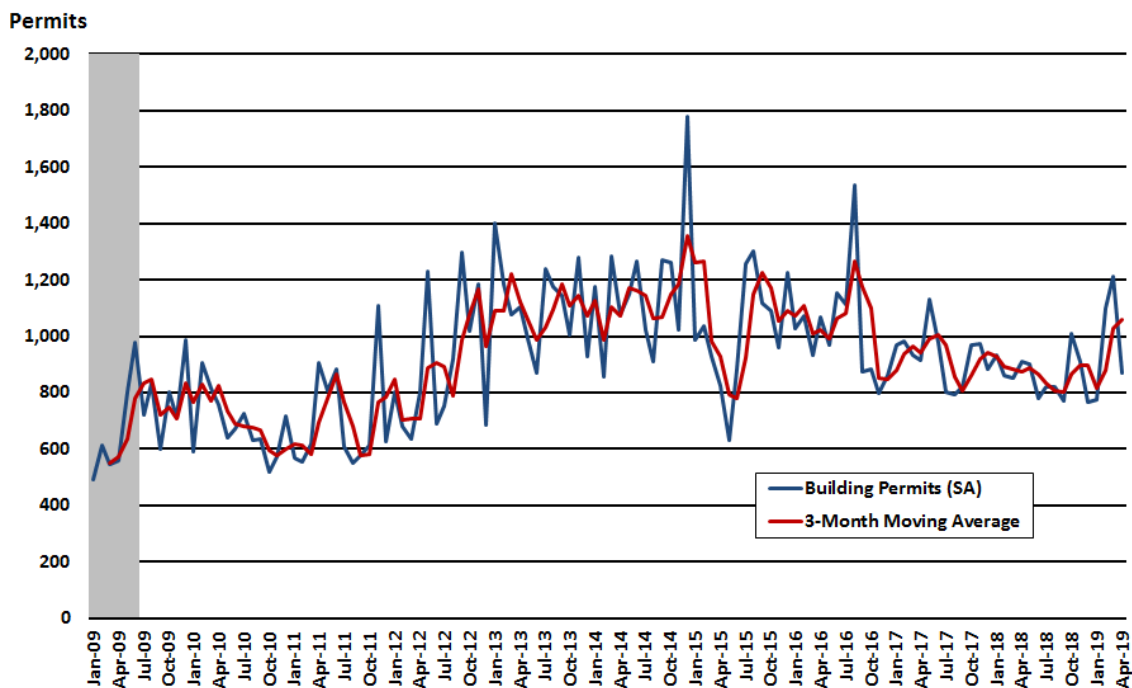
Single-family permits were at a rate of 782,000 in April, 4.2 percent below the revised March figure of 816,000 and down 9.4 percent from the previous April. Permits for the construction of apartments jumped 7.1 percent to a pace of 467,000 in April.

The National Association of Home Builders/Wells Fargo Housing Market Index rose to a seven-month high of 66 in May.

## Oklahoma New Private Housing Units Authorized by Building Permit

January 2009 to April 2019, 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

Oklahoma homebuilders requested fewer applications for residential construction in April, as permits to build apartments plunged. Total residential permitting sank to a seasonally-adjusted level of 871 in April, down 342 permits (-28.2 percent) from the upwardly-revised March level of 1,213, and 40 permits (-4.4 percent) more than the April 2018 estimate of 911 permits, according to figures from the U.S. Census Bureau and the Federal Reserve Bank of St. Louis.

In April, permits for single-family homes were at a seasonally-adjusted level of 746, down 11 permits (-1.4 percent) from the downwardly-revised level of 756 permits in March. Multi-family permitting was at a seasonally-adjusted level of 126 units in April, down 331 permits (-72.5 percent). Single-family permitting accounted for 85.6 percent of total residential permitting activity in April while the more volatile multi-family permitting accounted for only 14.4 percent.

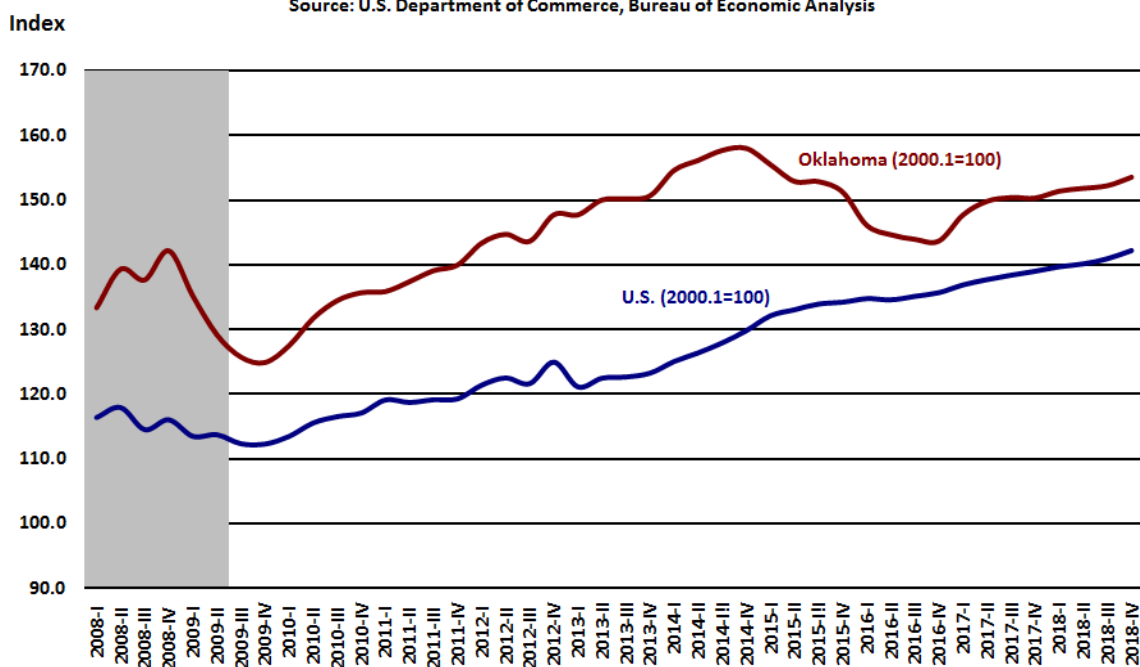
Over the year, statewide single-family residential permitting was down 73 permits (-8.9 percent) from the April 2018 level of 819 permits. Multi-family permitting was up 33 permits (36.2 percent) from a year ago.



## U.S. and Oklahoma Real Personal Income, Q1/08 to Q4/18

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

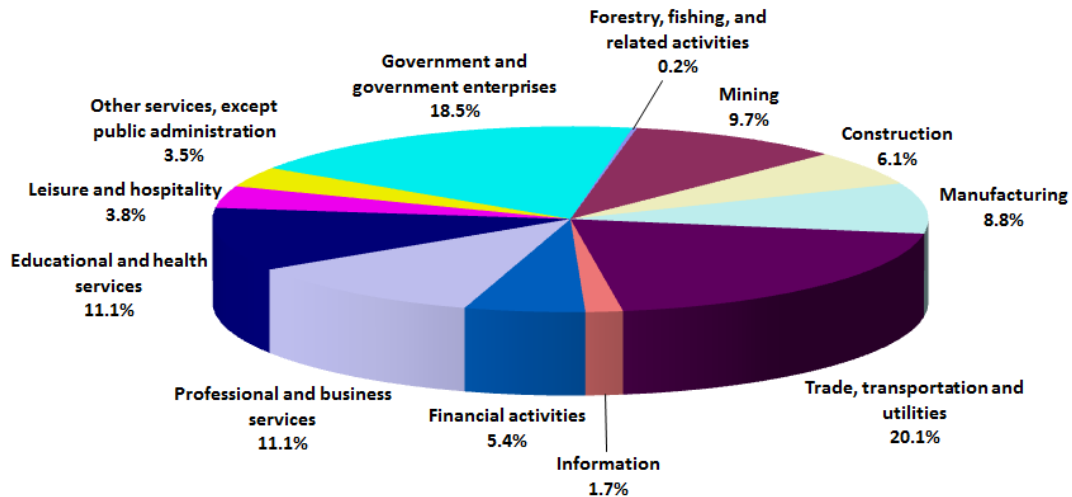
U.S. personal income climbed in April while consumer spending slowed amid modestly rising inflation. Personal income increased \$92.8 billion (0.5 percent) in April, according to estimates by the Bureau of Economic Analysis (BEA). Disposable personal income increased \$69.3 billion (0.4 percent) and personal consumption expenditures (PCE) increased \$40.8 billion (0.3 percent).

In April, purchases of durable goods such as automobiles fell 0.8 percent following a 3.6 percent jump in March. Purchases of nondurable goods such as food and clothing rose 0.7 percent in April while outlays on services, such as utilities and doctor visits rose 0.3 percent.

With incomes rising faster than spending, the personal saving rate, personal saving as a percentage of disposable personal income, increased to 6.2 percent of after-tax income in April, up from 6.1 percent in March.

## Oklahoma Nonfarm Industry Contribution to Earnings Fourth Quarter 2018

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 increased 4.5 percent in 2018, after increasing 4.4 percent in 2017, according to estimates by the Bureau of Economic Analysis (BEA). In 2018, personal income increased in all states and the District of Columbia. The percent change in personal income across all states ranged from 6.8 percent in Washington to 2.9 percent in Hawaii.

Oklahoma's personal income grew at a 5.0 percent rate in the 4th quarter of 2018, to a level of \$184.6 billion, ranking the state 29th among all states. For the 3rd quarter of 2018, Oklahoma's personal income was revised upward to \$182.4 billion (3.1 percent) from the previous estimate of \$182.0 billion (2.6 percent).

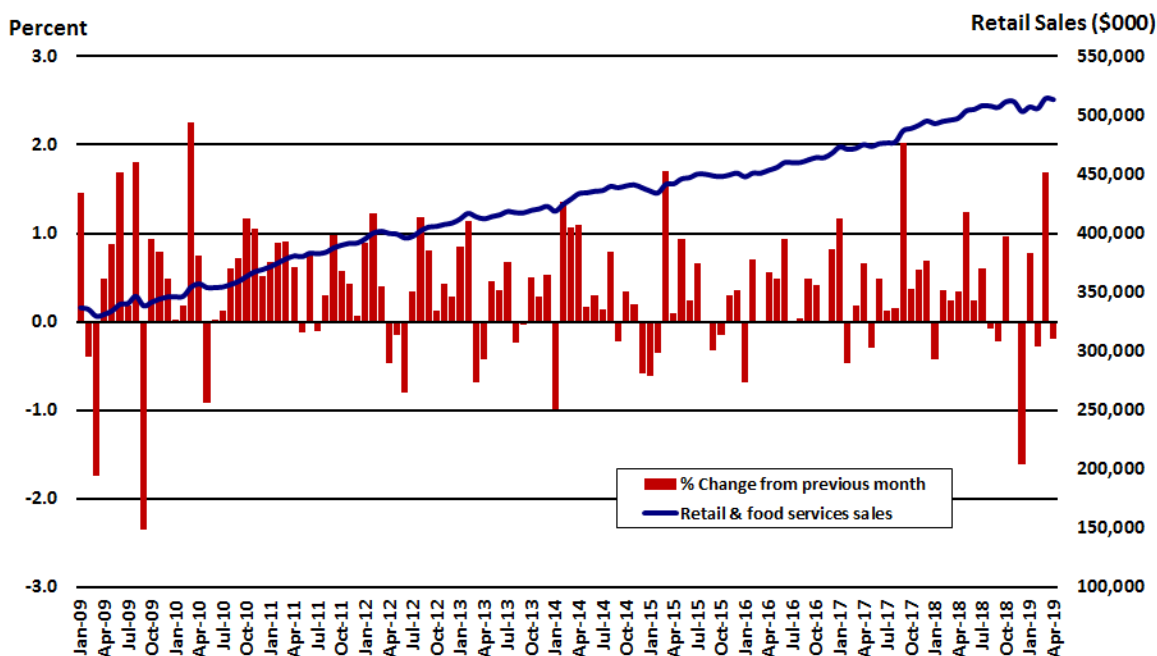
For the nation, earnings increased 5.1 percent in the 4th quarter of 2018, after increasing 4.0 percent in the 3rd quarter and was the leading contributor to personal income growth in most states. Oklahoma's net earnings grew 5.7 percent, contributing 3.75 percentage points to personal income growth in the 4th quarter of 2018.

In Oklahoma, farm earnings (0.91 percentage point), was the leading contributor to 4th quarter earnings growth. Earnings in transportation and warehousing (0.62 percentage point), mining, quarrying, and oil and gas extraction (0.33 percentage point), and health care and social assistance (0.26 percentage point) were also contributors to earnings growth in 4th quarter 2018.

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

January 2009 to April 2019

Source: U.S. Census Bureau, Advance Monthly Sales for Retail Trade 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

Spending at U.S. retailers sank in April, as consumers cut back on spending for the second time in three months. Advance estimates of U.S. retail and food services sales for April 2019, adjusted for seasonal variation and holiday and trading-day differences, but not for price changes, were \$513.4 billion, a decrease of 0.2 percent from the previous month, but 3.1 percent above April 2018, according to the U.S. Census Bureau. The February 2019 to March 2019 percent change was revised from 1.6 percent to 1.7 percent.

Sales at auto dealerships fell 1.1 percent in April after a decline in sales of new cars last month. Sales jumped 1.8 percent at gasoline stations, reflecting higher prices at the pump. Excluding the volatile auto and gas categories, sales fell 0.2 percent in April, reflecting broader weakness in the retail sector.

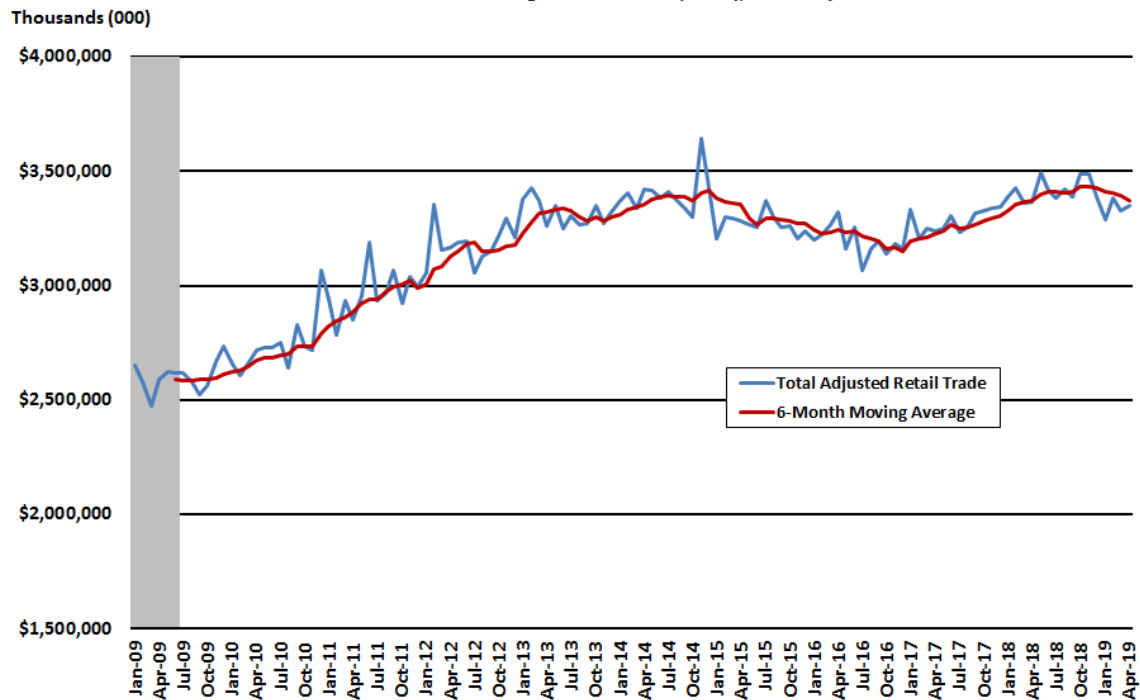
Sales slid a sharp 1.3 percent for electronic stores and 1.9 percent at home and garden centers. Clothing stores, pharmacies and Internet retailers all posted a 0.2 percent dip in sales in April.

The less volatile "core" or retail-control group sales which are used to calculate gross domestic product, and strips out automobiles, gasoline, building materials, and food services sales was flat in April after an upwardly revised 1.1 percent advance in March.

# Oklahoma Total Adjusted Retail Trade

January 2009 to April 2019

Source: Center for Economic & Management Research (CEMR), 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 smooth out monthly volatility, we have used a six-month moving average.

## Current Developments

Statewide retail spending picked up in April, however much of the gain was due to higher estimated gasoline sales. Total adjusted retail trade for April was at a level of \$3.35 billion, a 0.6 percent rise from the March level of \$3.33 billion. Over the year, total adjusted retail sales was 0.5 percent less than the April 2018 level of \$3.37 billion. Excluding gasoline sales, total retail sales for April declined 0.35 percent over the month.

Total durable goods sales slipped 0.4 percent in April as sales in all categories declined. Sales at electronics & music stores dropped 1.1 percent, while lumber & hardware and miscellaneous durables both declined 0.4 percent. Other declining sales were used merchandise (-0.7 percent); auto accessories & repair (-0.2 percent); and furniture (-0.03 percent).

Nondurable goods purchases rose 1.0 percent in April as higher pump prices pushed the volatile estimated gasoline sales up 9.3 percent over the month. Other advancing nondurable goods categories in April were food stores (0.5 percent); miscellaneous non-durable goods (0.6 percent); eating & drinking places and drug stores (0.1 percent). Declining nondurable categories in April were general merchandise stores (-1.0 percent); liquor stores (-4.6 percent); and apparel (-0.4 percent).

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