

2023

Annual Economic Report



**Oklahoma Employment Security Commission
Economic Research and Analysis Division**

OKLAHOMA ANNUAL ECONOMIC REPORT 2023

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On the Cover: Oklahoma State Capitol dome from the inside rotunda. Oklahoma City, Oklahoma. Begun in 2001, the dome was dedicated on November 16, 2002. An original stained glass interpretation of the Oklahoma State Seal graces the interior peak of the dome, and features a color palette that harmonizes with the overall inner dome design.

SPECIAL REPORT:

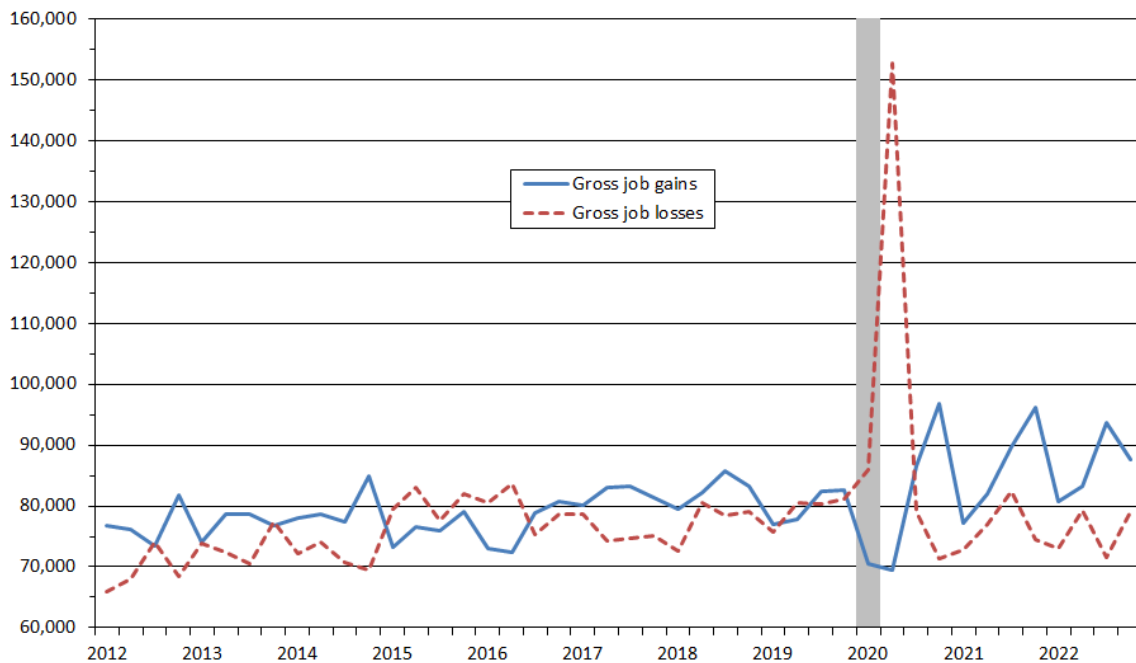
OKLAHOMA BUSINESS EMPLOYMENT DYNAMICS: 4th Quarter 2022

Gross Job Gains and Gross Job Losses: 4th Quarter 2022

From September 2022 to December 2022, gross job gains from opening and expanding private-sector establishments in Oklahoma totaled 87,704, a decrease of 5,891 jobs from the previous quarter. Over this period, gross job losses from closing and contracting private-sector establishments were 79,138, an increase of 7,623 jobs from the previous quarter, according to the Oklahoma Employment Security Commission, Economic Research and Analysis Division, and the U.S. Bureau of Labor Statistics, (see Chart 1, below and Table 1, page 7). The difference between the number of gross job gains and the number of gross job losses yielded a net employment gain of 8,566 jobs in Oklahoma’s private sector during the 4th quarter of 2022.

Chart 1

Private sector gross job gains and gross job losses in Oklahoma
March 2012 - December 2022, seasonally adjusted

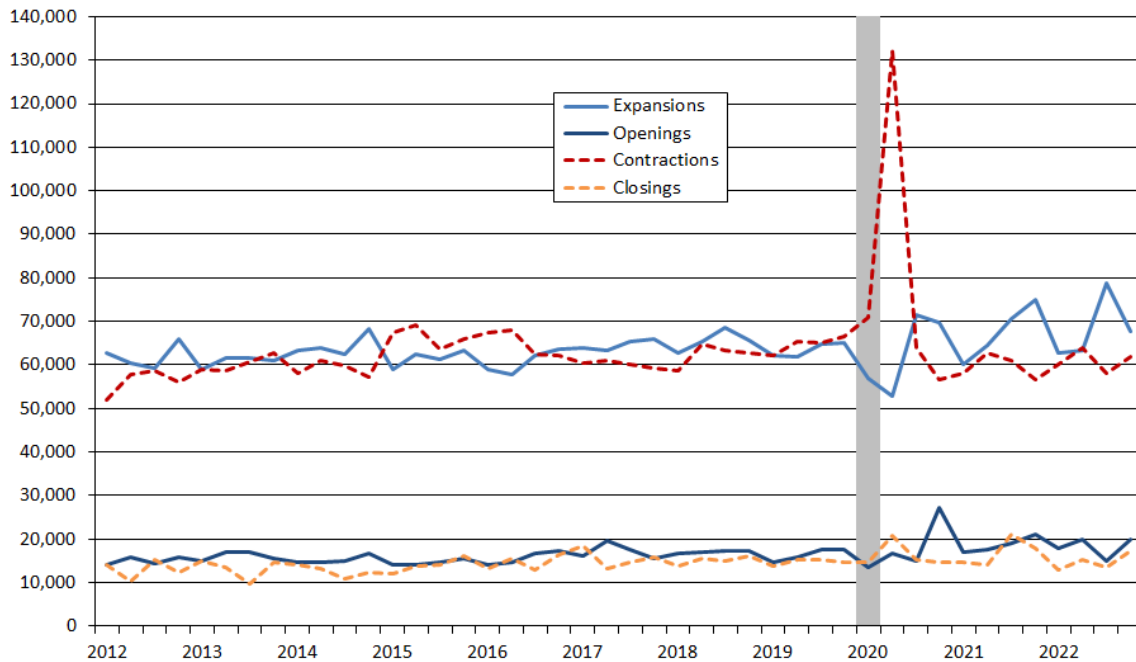


Source: U.S. Bureau of Labor Statistics
Note: Shaded area represents NBER defined recession period.

The change in the number of jobs over time is the net result of increases and decreases in employment that occur at all businesses in the economy. Business Employment Dynamics (BED) statistics track these changes in employment at private business establishments from the third month of one quarter to the third month of the next. *Gross job gains* are the sum of increases in employment from expansions at existing establishments and the addition of new jobs at opening establishments. *Gross job losses* are the result of contractions in employment at existing establishments and the loss of jobs at closing establishments. The difference between the number of gross job gains and the number of gross job losses is the net change in employment.

Chart 2

Components of private sector gross job gains and losses in Oklahoma
March 2012 - December 2022, seasonally adjusted



Source: U.S. Bureau of Labor Statistics
Note: Shaded area represents NBER defined recession periods.

Gross Job Gains and Losses: Openings vs. Closings and Expansions vs. Contractions

Gross job gains are the sum of increases in employment due to expansions at existing establishments and the addition of new jobs at opening establishments. Gross job gains at expanding establishments in Oklahoma totaled 67,807 in the 4th quarter of 2022, a decrease of 10,905 jobs compared to the previous quarter. Opening establishments accounted for 19,897 of the jobs gained in the 4th quarter of 2022, an increase of 5,014 jobs from the previous quarter, (see Chart 2, above).

Gross job losses are the result of contractions in employment at existing establishments and the loss of jobs at closing establishments. Contracting establishments in Oklahoma lost 61,883 jobs in the 4th quarter of 2022, an increase of 3,754 jobs from the prior quarter. In the 4th quarter, closing establishments lost 17,255 jobs, an increase of 3,869 jobs from the previous quarter.

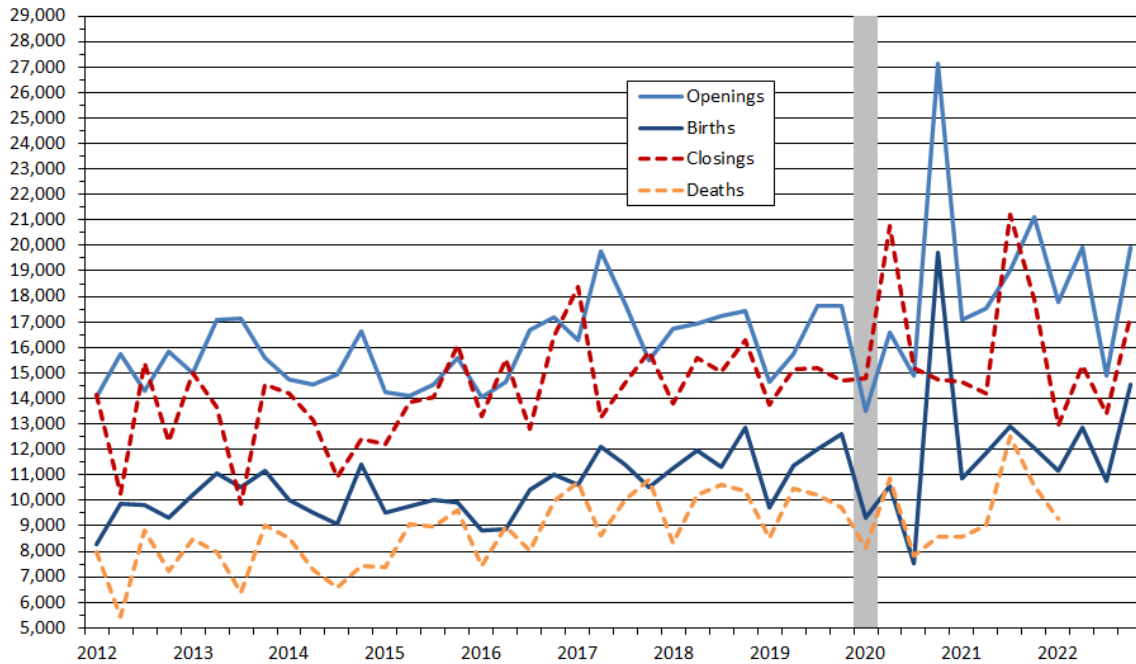
Establishment Births and Deaths

In Oklahoma, the number of private sector establishment births, (a subset of the openings data), increased by 1,055, for a total of 4,278 establishments in the 4th quarter of 2022. These new establishments accounted for 14,548 jobs, an increase of 3,786 jobs from the previous quarter, (see Chart 3, next page).

Data for establishment deaths, (a subset of the closings data), are now available through the 1st quarter of 2022, when 9,274 jobs were lost at 2,628 establishments, a decrease of 1,295 jobs from the 4th quarter of 2021, (see Chart 3, next page).

Chart 3

Employment from private sector openings, closings, births and deaths in Oklahoma
March 2012 - December 2022, seasonally adjusted



Source: U.S. Bureau of Labor Statistics
Note: Shaded area represents NBER defined recession periods.

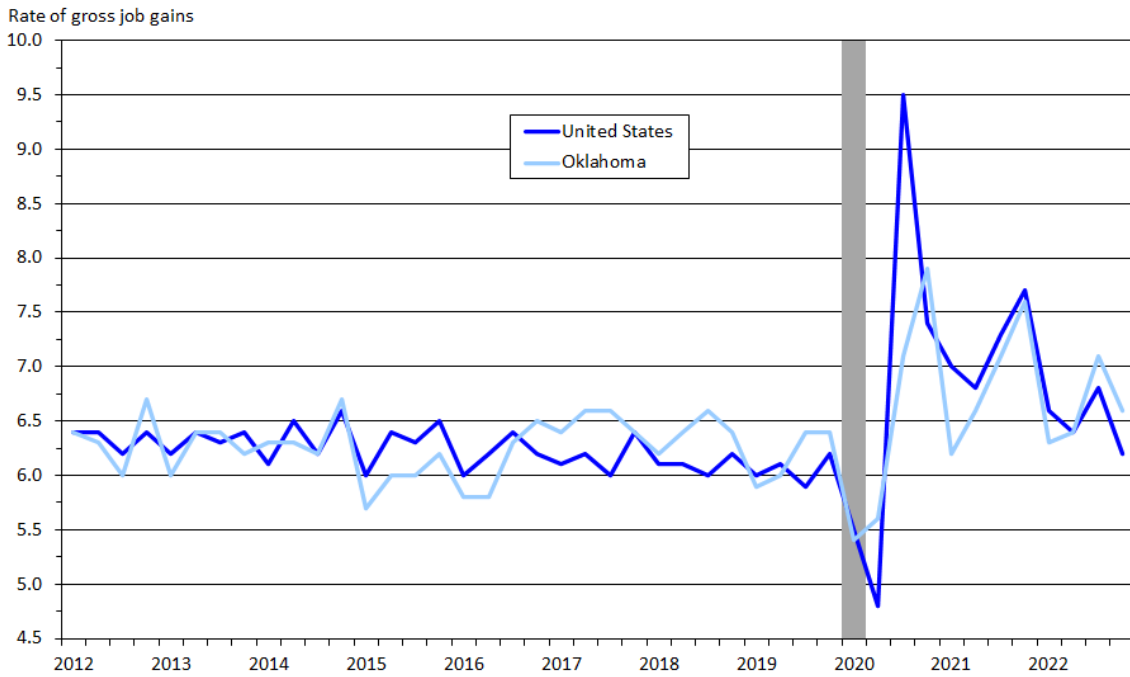
Gross Job Gains and Gross Job Losses: Percent of Total Private Sector Employment

In the 4th quarter of 2022, gross job gains represented 6.6 percent of private-sector employment in Oklahoma with expansions accounting for 5.1 percent of total private sector employment and openings contributing 1.5 percent. Nationally, gross job gains accounted for 6.2 percent of private sector employment in the quarter of 2022. With few exceptions, Oklahoma's rates of gross job gains have generally tracked with the U.S. rates. However, beginning in the 1st quarter of 2015, the rate of Oklahoma's gross job gains slipped below the national rate for seven consecutive quarters, exceeded the U.S. rate in the following nine quarters but has lagged behind the U.S. rate in nine out of the past 16 quarters, (see Chart 4, next page).

In the 4th quarter of 2022, gross job losses represented 6.0 percent of private-sector employment in Oklahoma, with contractions accounting for 4.7 percent and closings adding another 1.3 percent. The national rate of gross job losses was 5.9 percent in the 4th quarter of 2022. From the 3rd quarter 2013 forward, Oklahoma's rate of gross job losses has shown more volatility especially the period beginning 1st quarter 2015 through 1st quarter 2017, then tracking more with national trends from the 4th quarter of 2017 forward, (see Chart 5, next page).

Chart 4

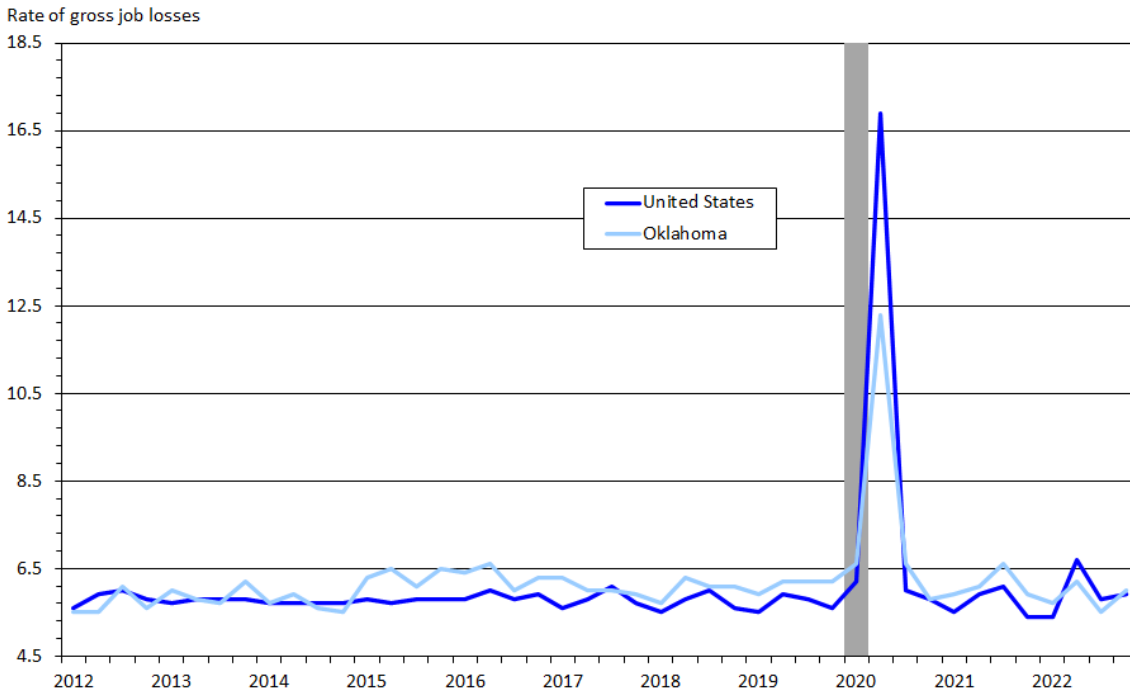
Private sector gross job gains as a percent of employment, United States and Oklahoma
March 2012 - December 2022, seasonally adjusted



Source: U.S. Bureau of Labor Statistics
Note: Shaded area represents NBER defined recession periods.

Chart 5

Private sector gross job losses as a percent of employment, United States and Oklahoma
March 2012 - December 2022, seasonally adjusted



Source: U.S. Bureau of Labor Statistics
Note: Shaded area represents NBER defined recession periods.

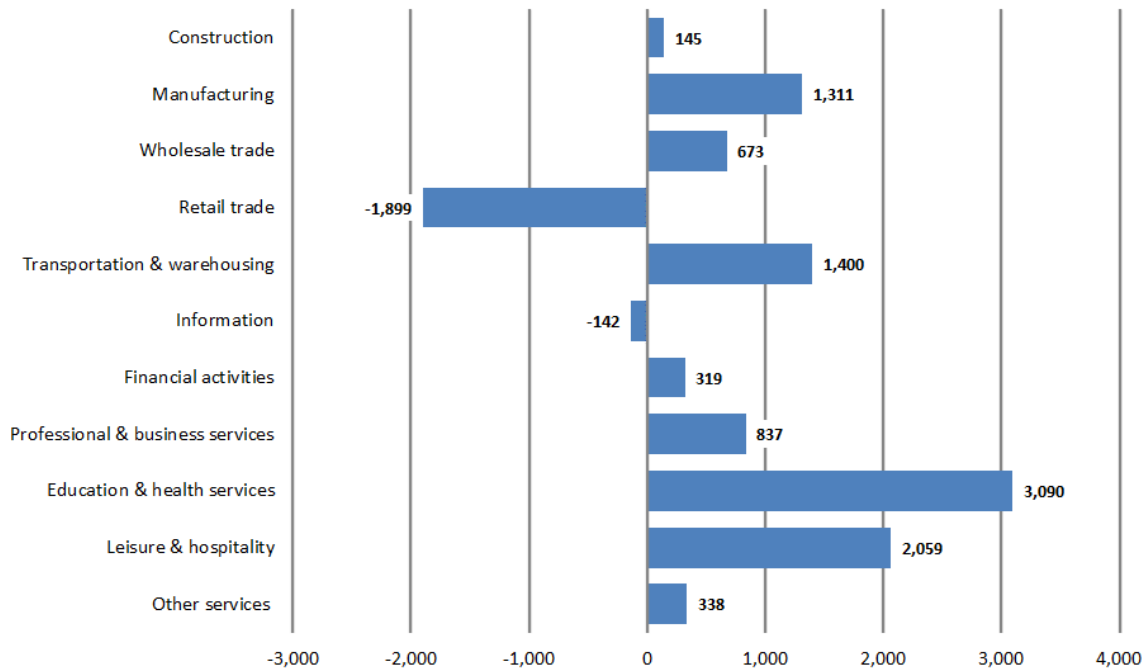
Gross Job Gains and Gross Job Losses by Industry: 4th Quarter 2022

Gross job gains exceeded gross job losses in 9 of Oklahoma’s 11 reported industry sectors in the 4th quarter of 2022. Oklahoma’s service-providing industries experienced a net job increase of 6,675 jobs in the 4th quarter. This was the result of 72,086 gross job gains and 65,411 gross job losses. Within service-providing industries, the education & health services sector had the largest over-the-quarter net job increase, gaining 3,090 jobs, followed by the leisure & hospitality sector with a net increase of 2,059 jobs in the 4th quarter.

Goods-producing industries reported a net job increase of 1,456 jobs in the 4th quarter of 2022. Within goods-producing industries, the manufacturing sector reported a net job gain of 1,311 jobs, while the construction sector had a net job gain of 145 jobs in the 4th quarter of 2022, (see Chart 6 below and Table 5, pp. 12-15).

Chart 6

Private sector net change in jobs by industry, Oklahoma
December 2022, seasonally adjusted



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

Table 1. Oklahoma: Three-month private sector gross job gains and losses, seasonally adjusted

Category	3 months ended				
	Dec 2021	March 2022	June 2022	Sep 2022	Dec 2022
	Levels				
Gross job gains.....	96,147	80,662	83,248	93,595	87,704
Expanding establishments	75,018	62,879	63,349	78,712	67,807
Opening establishments	21,129	17,783	19,899	14,883	19,897
Gross job losses.....	74,418	73,118	79,286	71,515	79,138
Contracting establishments	56,534	60,167	64,005	58,129	61,883
Closing establishments	17,884	12,951	15,281	13,386	17,255
Net employment change ¹	21,729	7,544	3,962	22,080	8,566
	Rates (percent)				
Gross job gains.....	7.6	6.3	6.4	7.1	6.6
Expanding establishments	5.9	4.9	4.9	6.0	5.1
Opening establishments	1.7	1.4	1.5	1.1	1.5
Gross job losses.....	5.9	5.7	6.2	5.5	6.0
Contracting establishments	4.5	4.7	5.0	4.5	4.7
Closing establishments	1.4	1.0	1.0	1.0	1.3
Net employment change ¹	1.7	0.6	0.2	1.6	0.6
Source: U.S Bureau of Labor Statistics					
¹ Net employment change is the difference between total gross job gains and total gross job losses.					

More Information

Detailed Business Employment Dynamics tables for Oklahoma can be found in the Appendix of this publication (beginning on page 30).

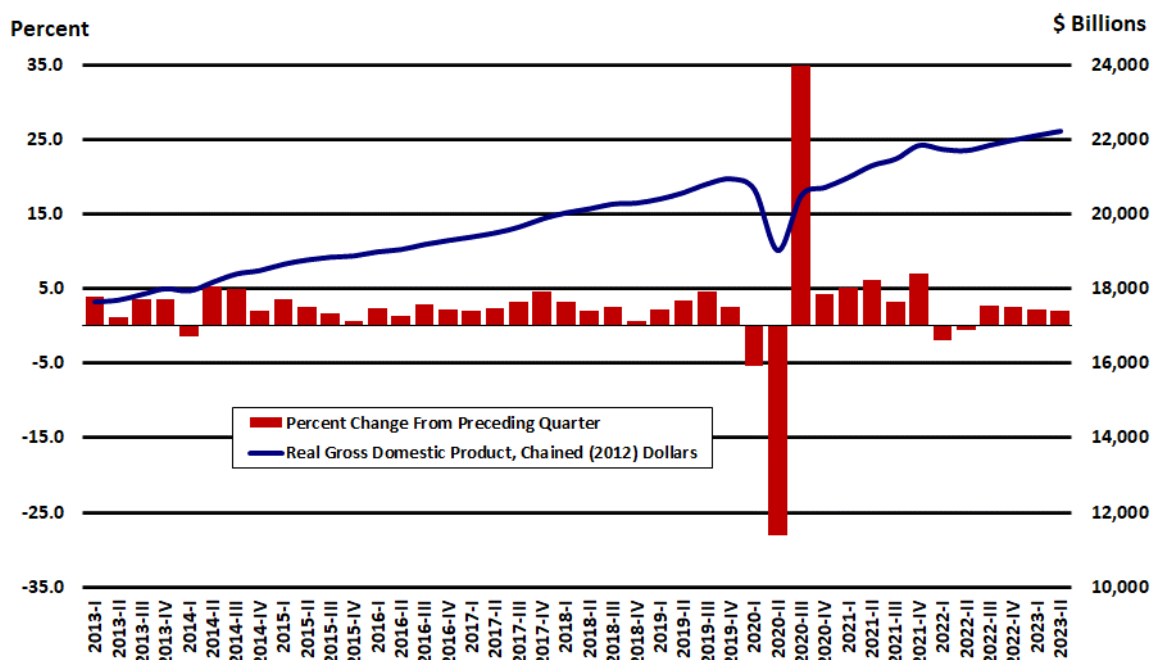
A copy of the full 4th quarter 2022 Oklahoma BED report along with technical notes and detailed tables is available on the OESC website at: [Oklahoma Business Employment Dynamics - 4th Quarter 2022](#)

Additional information about the Business Employment Dynamics program is available online at: <http://www.bls.gov/bdm>

Real Gross Domestic Product and Quarterly Change

1st Quarter 2013 to 2nd Quarter 2023 ("Third" Estimate)

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 held steady from April through June, as consumer spending was much lower than previously thought while business investment was much stronger. Real gross domestic product (GDP) increased at an annual rate of 2.1 percent in the 2nd quarter of 2023, according to the "third" estimate released by the Bureau of Economic Analysis (BEA). In the 1st quarter, real GDP increased 2.0 percent. The update primarily reflected a downward revision to consumer spending that was partly offset by upward revisions to nonresidential fixed investment, exports, and inventory investment.

Consumer spending, which accounts for more than two-thirds of U.S. economic activity, was revised down sharply to an 0.8 percent annualized rate, down from the previous estimate of 1.7 percent. Spending on durable goods, such as automobiles, declined 0.3 percent, unchanged from the previous estimate. Outlays on services, such as health care, housing and utilities, slowed to a 1.0 percent pace, down from the previous estimate of 2.2 percent. Spending on nondurable goods, such as food and beverages, advanced 0.9 percent, down from the 1.2 percent rate estimated earlier. Personal consumption expenditures (PCE) added 0.55 percentage point to 2nd quarter GDP growth, down from the previous estimate of 1.14 percentage points.

Business investment accelerated to a 7.4 percent annual rate in the 2nd quarter, the fastest pace in more than a year, driven by spending on structures. Expenditures on structures, which are tied to the oil and gas sector and commercial real estate, grew at a 16.1 percent pace, up from the previous estimate of 11.2 percent rate. Business outlays on equipment was unchanged at 7.7 percent. Spending on intellectual property products increased 2.7 percent. Nonresidential fixed investment contributed 0.98 percentage point to 2nd quarter GDP, up from 0.80 percentage point reported previously.

The change in businesses inventory levels was revised upward in the 2nd quarter. Business inventories decreased at a rate of \$14.9 billion, down \$12.2 billion from the previous quarter. The change in private inventories was neutral (0.0 percentage point) to GDP growth, rather than subtracting 0.09 percentage point previously estimated.

Investment in housing fell again, contracting for the ninth straight quarter, weakened by higher mortgage rates. Residential investment, a gauge of homebuilding, declined 2.2 percent in the 2nd quarter. Residential fixed investment subtracted 0.09 percentage point from 2nd quarter GDP.

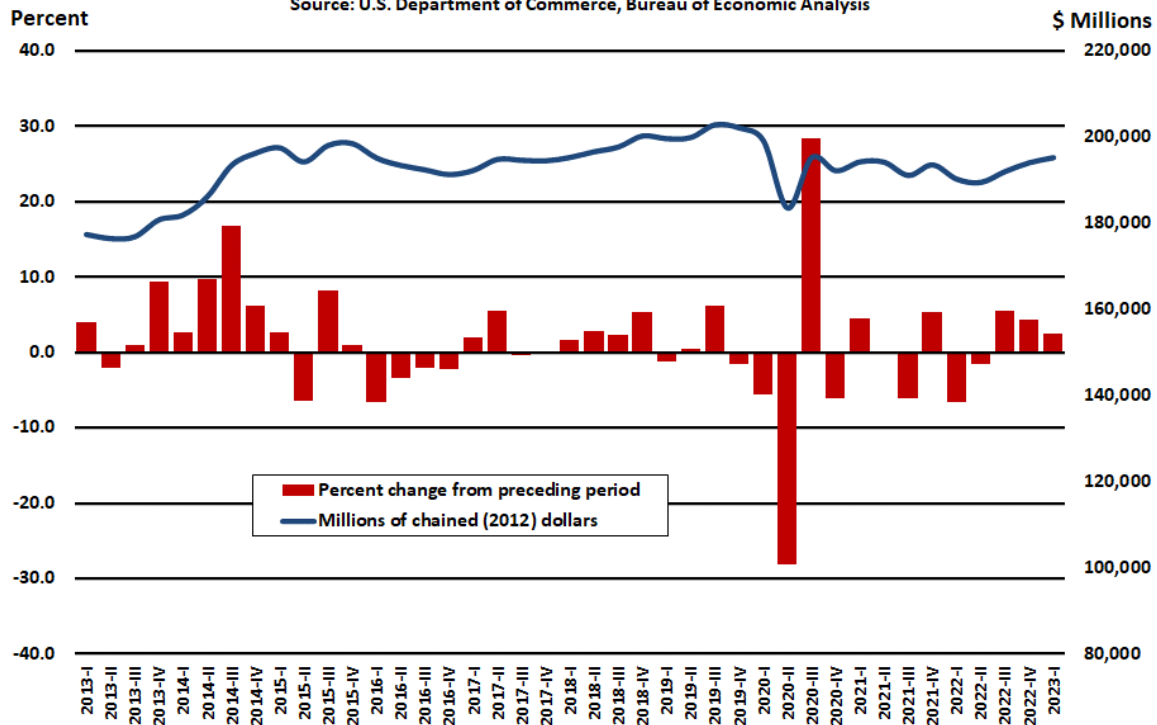
Trade was less of a drag to 2nd quarter GDP than thought earlier. Exports, which add to GDP dropped 9.3 percent while imports, which subtract, declined 7.6 percent. The narrower trade gap subtracted 0.04 percentage points from 2nd quarter GDP, rather than -0.22 percentage points reported earlier.

State and local government spending in the 2nd quarter jumped to the largest quarterly gain since 2019. Federal government spending increased 1.1 percent in the 2nd quarter, as national defense spending rose 2.3 percent, while nondefense spending declined 0.4 percent. Consumption outlays by state and local governments increased 4.7 percent in the 2nd quarter. Government consumption expenditures and investment added 0.57 percentage point to 2nd quarter GDP.

Oklahoma Real Gross Domestic Product and Quarterly Change

1st Quarter 2013 to 1st Quarter 2023, 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 began producing statistics of quarterly gross domestic product (GDP) by state dating back to 2005. These new statistics provide a more complete picture of economic growth across states that can be used with other regional data to gain a better understanding of regional economies as they evolve from quarter to quarter. The new data provide a fuller description of the accelerations, decelerations, and turning points in economic growth at the state level, including key information about changes in the distribution of industrial infrastructure across states.

Current Developments

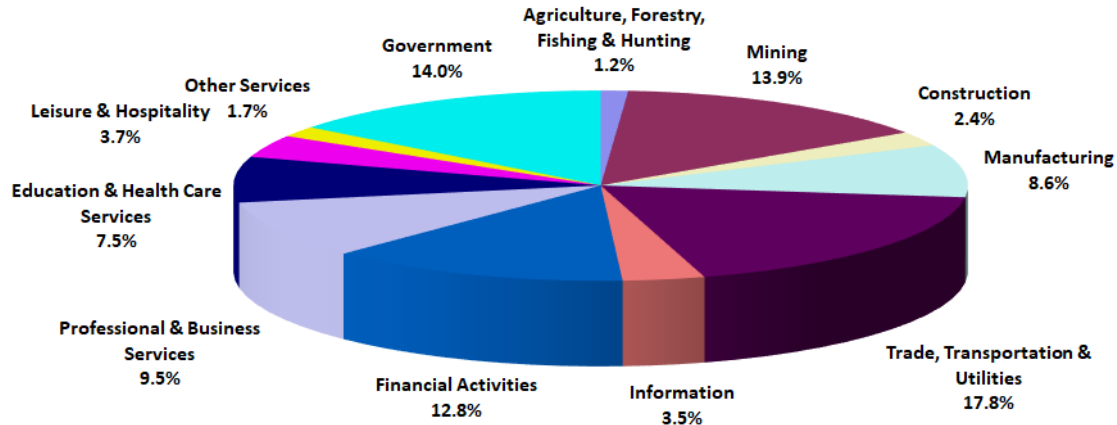
Real gross domestic product (GDP) by state—a measure of nationwide growth calculated as the sum of GDP of all states and the District of Columbia—increased in all 50 states and the District of Columbia in the 1st quarter of 2023, with the percent change ranging from 12.4 percent in North Dakota to 0.1 percent in Rhode Island and Alabama, according to the Bureau of Economic Analysis (BEA). Current-dollar GDP increased in 47 states and the District of Columbia in the 1st quarter, with the percent change ranging from 14.1 percent in Nebraska to -2.9 percent in West Virginia.

Oklahoma’s real GDP decelerated to a 2.5 percent rate in the 1st quarter of 2023, following a 4.3 percent pace in the 4th quarter, ranking Oklahoma 21st among all other states and the District of Columbia. Statewide GDP was at a level of \$195.2 billion (in constant 2012 dollars) in the 1st quarter, up \$1.2 billion from the 4th quarter level of \$194.0 billion.

Industry Share of Oklahoma's Economy, 1st Quarter 2023

(by percentage of Gross Domestic Product)

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



In the 1st quarter of 2023, as real GDP for the nation grew at an annual rate of 2.0 percent, real GDP increased in 14 of the 23 industry groups for which BEA prepares quarterly state estimates. Health care and social assistance; retail trade; and agriculture, forestry, fishing, and hunting were the leading contributors to the increase in real GDP nationally.

Health care and social assistance increased in all 50 states and the District of Columbia and was the leading contributor to growth in 15 states. In Oklahoma, health care and social assistance added 0.45 percentage point to 1st quarter GDP.

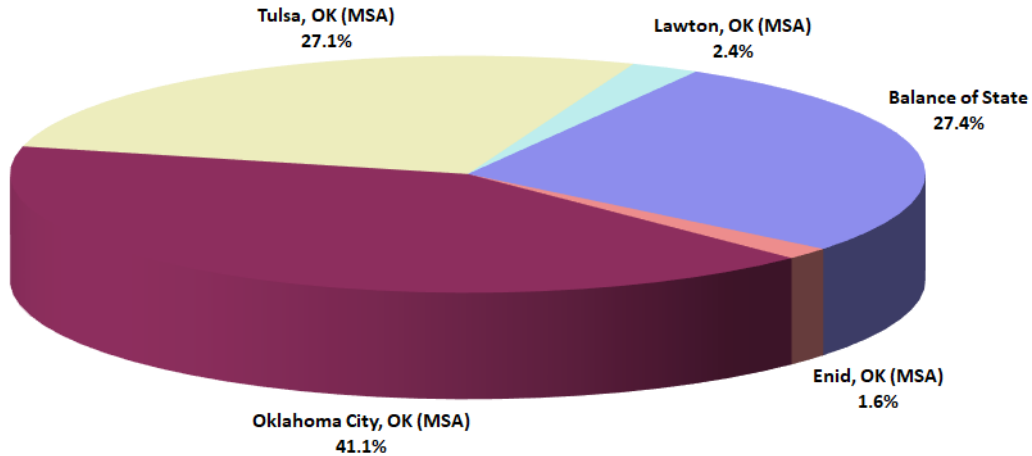
Retail trade increased in all 50 states and the District of Columbia and was the leading contributor to growth in 8 states, including Oklahoma adding 0.82 percentage point to 1st quarter GDP.

Agriculture, forestry, fishing, and hunting increased in 33 states and was the leading contributor to growth in 13 states including North Dakota, Nebraska, South Dakota, Kansas, and Montana, the 5 states with the largest increases in real GDP. In Oklahoma, agriculture, forestry, fishing, and hunting was the second-largest contributor to 1st quarter GDP, adding 0.71 percentage point.

Finance and insurance decreased in all 50 states and the District of Columbia. This industry was the leading offset to growth in Rhode Island, one of the states with the smallest increase in real GDP. In Oklahoma, finance and insurance subtracted 0.30 percentage point from statewide GDP in the 1st quarter.

Metropolitan Area Contribution to State Real Gross Domestic Product 2021

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 72.2 percent of total state GDP in 2021.

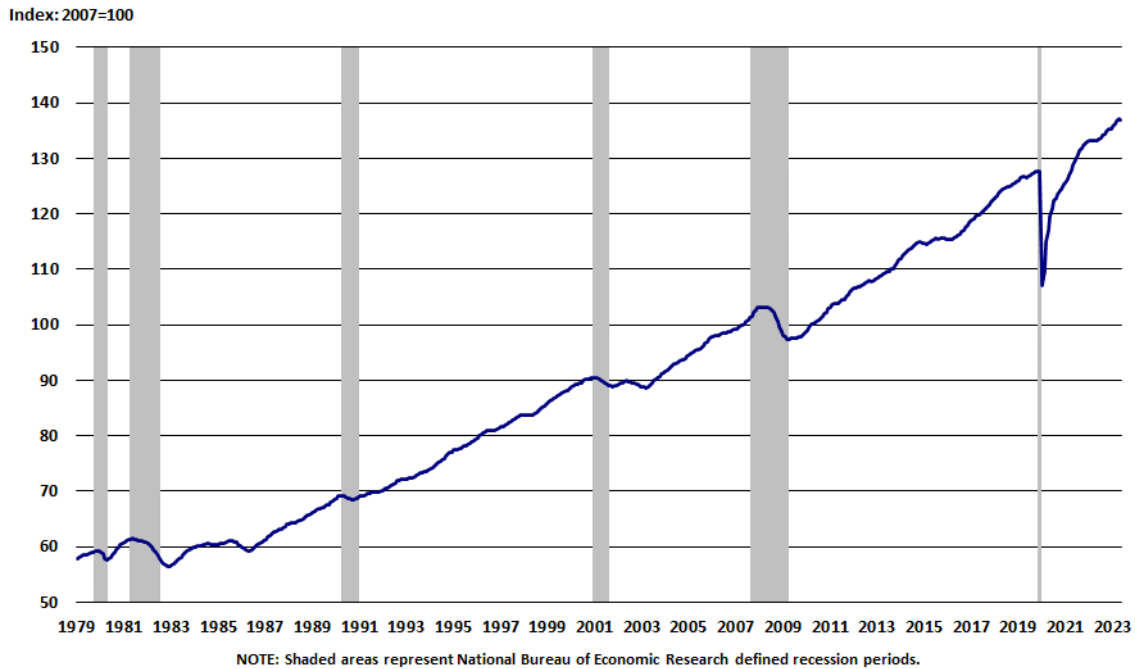
Current Developments

Real gross domestic product (GDP) increased in 365 out of 384 metropolitan areas in 2021, according to the U.S. Bureau of Economic Analysis (BEA). The percent change in real GDP by metropolitan area ranged from 25.3 percent in Elkhart-Goshen, IN to -6.7 percent in Wheeling, WV-OH. Real GDP for U.S. metropolitan areas increased 6.2 percent in 2021 as every major industry group, (with the exception of information and finance, insurance, real estate, rental, and leasing), saw declines over the year.

In 2021, all of Oklahoma's four metropolitan areas experienced positive GDP growth. Enid MSA real GDP rose 5.7 percent in 2021 to a level of \$3.17 billion, ranking it 154th among 384 metro areas. Lawton MSA real GDP increased 1.4 percent in 2021 to a level of \$4.66 billion, and ranked 349th among U.S. metro areas. Oklahoma City MSA grew 0.9 percent to \$79.33 billion and ranked 354th. Tulsa MSA real GDP increased 0.3 percent to a level of \$51.27 and ranking 362nd among 384 U.S. metropolitan areas in 2021.

Coincident Economic Activity Index for Oklahoma, 1979-2023

Source: Federal Reserve Bank of Philadelphia, retrieved from FRED, Federal Reserve Bank of St. Louis
Index: 2007=100



Definition & Importance

The [Federal Reserve Bank of Philadelphia](#) produces a monthly coincident index for each of the 50 states. The indexes are released a few days after the Bureau of Labor Statistics (BLS) releases the employment data for the states. The Bank issues a release each month describing recent trends in the state indexes, with special coverage of the three states in the Third District: Pennsylvania, New Jersey, and Delaware.

The coincident indexes combine four state-level indicators to summarize current economic conditions in a single statistic. The four state-level variables in each coincident index are nonfarm payroll employment, average hours worked in manufacturing by production workers, the unemployment rate, and wage and salary disbursements deflated by the consumer price index (U.S. city average). The trend for each state's index is set to the trend of its gross domestic product (GDP), so long-term growth in the state's index matches long-term growth in its GDP.

Current Developments

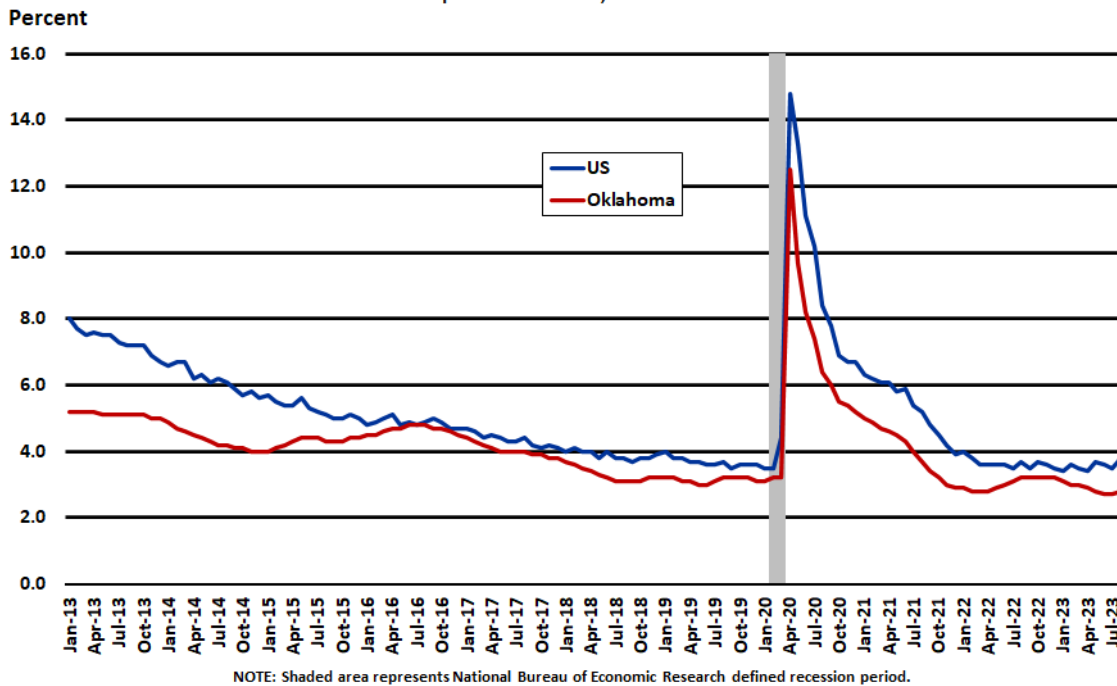
The Federal Reserve Bank of Philadelphia has released the coincident indexes for the 50 states for August 2023. Over the past three months, the indexes increased in 40 states and decreased in eight states, and remained stable in two, for a three-month diffusion index of 64. Additionally, in the past month, the indexes increased in 30 states, decreased in 13 states, and remained stable in seven, for a one-month diffusion index of 34. For comparison purposes, the Philadelphia Fed has also developed a similar coincident index for the entire United States. The Philadelphia Fed's U.S. index increased 0.6 percent over the past three months and 0.1 percent in August.

In the three months to August, the coincident index for Oklahoma increased 0.5 percent. The level of payroll employment increased over the past three months. The unemployment rate showed no change during the three-month period. Additionally, average hours worked in manufacturing increased. Overall, Oklahoma's economic activity as measured by the coincident index has risen 2.9 percent over the past 12 months.

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

January 2013 to August 2023

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 rose sharply in August, as more Americans entered the labor force and not all found jobs. The unemployment rate rose by 0.3 percentage point to 3.8 percent in August, according to the Bureau of Labor Statistics (BLS). The unemployment rate had ranged from 3.4 percent to 3.7 percent since March 2022.

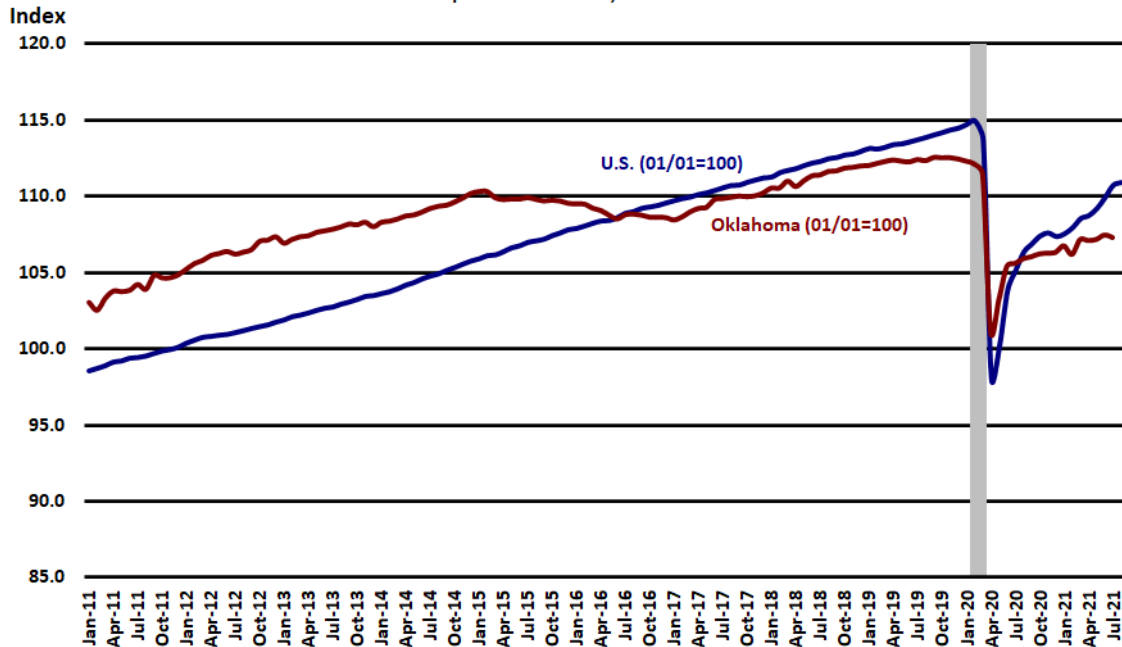
Oklahoma's seasonally adjusted unemployment rate rose 0.1 percentage point to 2.8 percent in August. Over the year, the state's seasonally adjusted unemployment rate was 0.4 percentage point lower than August 2022.

In August, Latimer County posted Oklahoma's highest county unemployment rate of 6.3 percent. McIntosh County reported the second-highest rate for the month, followed by Haskell County. Cimarron County reported the lowest county unemployment rate of 1.7 percent in August. Unemployment rates in August were lower than a year earlier in 35 counties, higher in 31 counties and unchanged in 11 counties.

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 145,000 businesses and government agencies representing approximately 697,000 worksites throughout the United States. 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

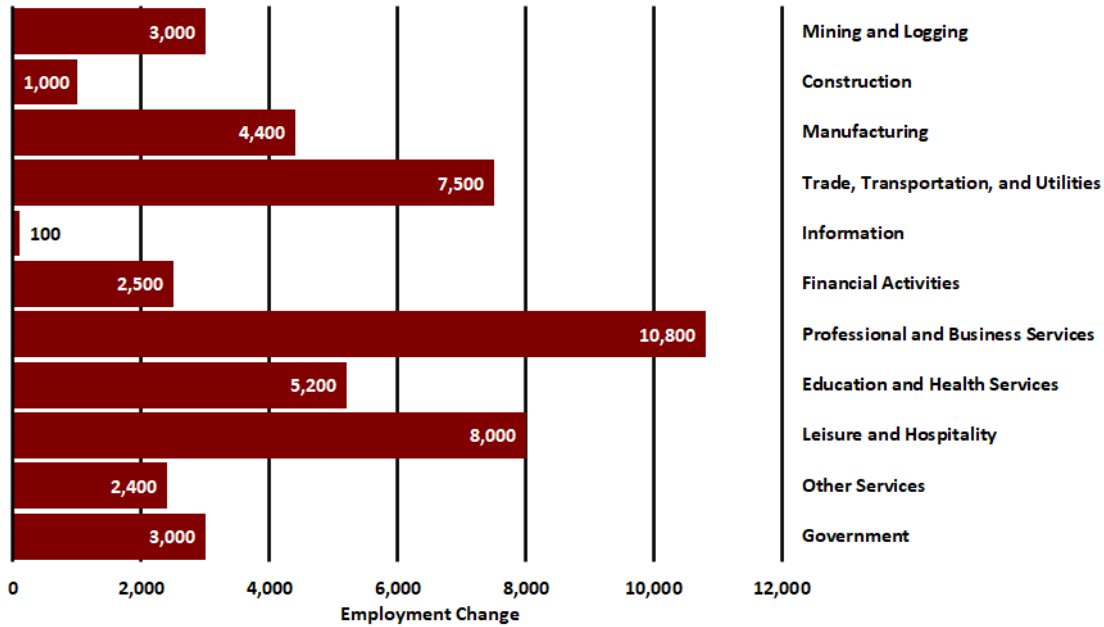
U.S job growth picked up in August as employers hired at a solid pace, but slower than job gains of the past two and a half years. Total nonfarm payroll employment increased by 187,000 in August, less than the average monthly gain of 271,000 over the prior 12 months, according to the Bureau of Labor Statistics (BLS). In August, employment continued to trend up in health care (71,000 jobs), leisure and hospitality (40,000 jobs), social assistance (26,000 jobs), and construction (22,000 jobs). Employment in transportation and warehousing declined (-34,000 jobs).

Oklahoma's seasonally adjusted nonfarm employment shed 500 jobs (0.0 percent) over the month in August, to a level of 1,730,500 while the July estimate was downwardly revised to 1,731,000. In August, four of Oklahoma's supersectors added jobs, as trade, transportation, and utilities (1,200 jobs) followed by leisure and hospitality (800 jobs) reported the largest job gains over the month. Professional and business services (-1,100 jobs) followed by education and health services (-900 jobs) posted the largest over-the-month job losses.

Oklahoma Employment Change by Industry, 2021-2022

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

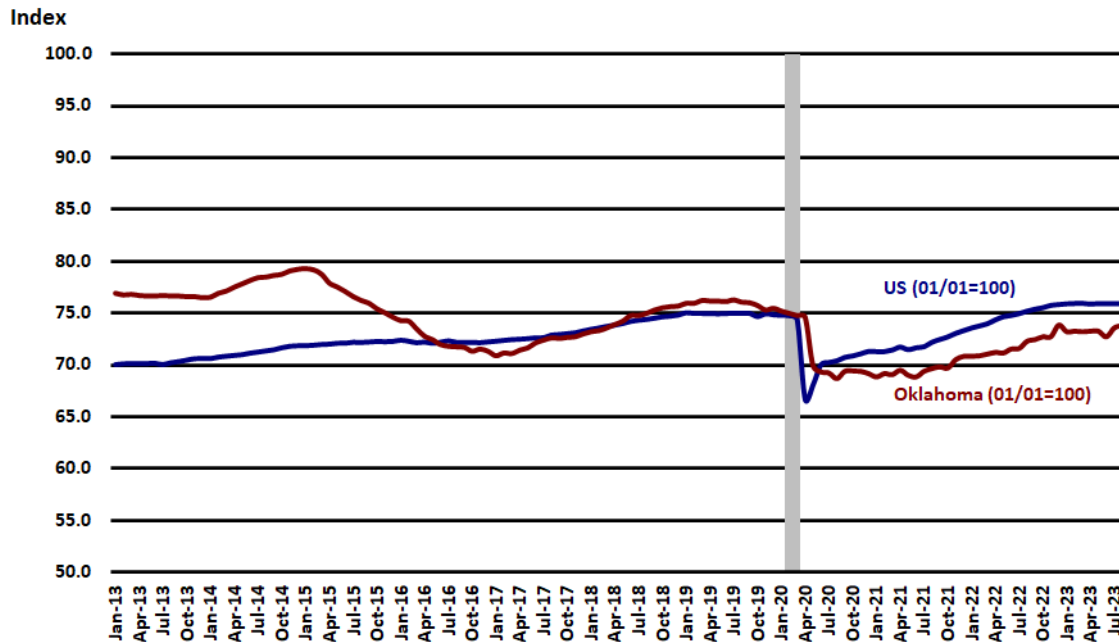
Oklahoma's annual average nonfarm employment added jobs in 2022, as the pace of hiring accelerated. Total nonfarm employment added a non-seasonally adjusted 47,900 jobs (2.9 percent) in 2022. For comparison, in the previous year annual average nonfarm employment added 22,300 jobs (1.4 percent).

In 2022, all of 11 of Oklahoma's supersectors reported job gains. Professional and business services saw the largest job gain adding 10,800 jobs (5.6 percent), as administrative and support and waste management and remediation services (6,000 jobs) along with professional, scientific, and technical services (4,000 jobs) accounted for most of the job gains. Leisure and hospitality added 8,000 jobs (4.8 percent). Trade, transportation, and utilities added a non-seasonally adjusted 7,500 jobs (2.4 percent), over the year. Professional and business services employment grew by 5,000 jobs (6.3 percent). Other sectors adding jobs were education and health services (5,200 jobs), manufacturing (4,400 jobs), mining and logging (3,000 jobs), financial activities (2,500 jobs), other services (2,400 jobs), construction (1,000 jobs), and information. Government employment added 3,000 jobs (0.9 percent) over the year in 2022, as local government excluding educational services (2,300 jobs) accounted for most of the job gains.

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. According to the [2020 County Business Patterns](#), the manufacturing sector was the 5th-largest employer, employing 12.0 million workers in the United States—and the top 10 average annual employee payroll at \$61,520. 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 payrolls trended up in August, as hiring picked up in the durable goods industries. Manufacturing employment increased by 16,000 in August, according to the Bureau of Labor Statistics. Durable goods manufacturing added 12,000 jobs in August, led by fabricated metal products (4,600 jobs), electrical equipment, appliance, and component manufacturing (3,700 jobs), and machinery manufacturing (3,600 jobs). Non-durable goods added 4,000 jobs.

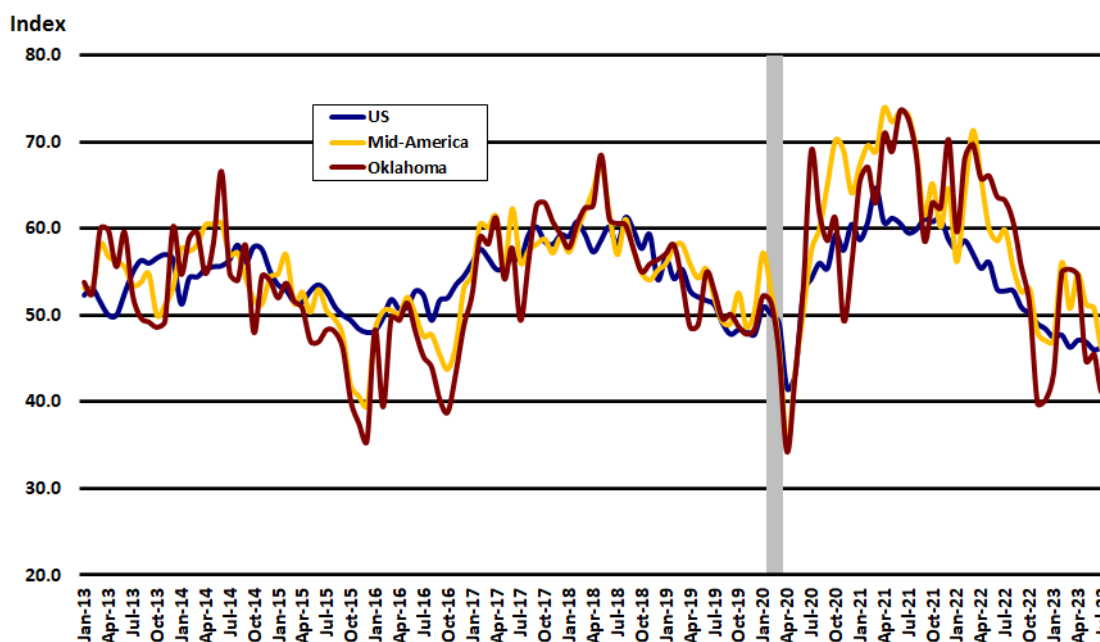
Oklahoma manufacturing employment shed a seasonally adjusted 100 jobs (-0.1 percent) over the month in August to a level of 136,300. In August, durable goods manufacturing gains (200 jobs) were offset by losses in non-durable goods manufacturing (-300 jobs).

Over the year, statewide manufacturing employment added a seasonally adjusted 2,400 jobs (1.8 percent) compared to August 2022, as durable goods manufacturing gained 1,600 jobs (1.8 percent) and non-durable goods manufacturing added 800 jobs (1.7 percent).

Purchasing Managers' Index (Manufacturing)

January 2013 to August 2023

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 contracted for a 10th straight month in August, but the pace of decline continued to slow, suggesting that the sector could be stabilizing at lower levels. The August Manufacturing PMI® registered 47.6 percent, 1.2 percentage points higher than the 46.4 percent recorded in July, according to the latest Manufacturing ISM® [Report On Business®](#).

The ISM survey's forward-looking new orders sub-index slipped to 46.8 in August from 47.3 in July. The survey's gauge of factory employment rose to 48.5 from 44.4 in July, the lowest reading since July 2020. Inflation at the factory gate rose to 48.4 last month from 42.6 in July. The delivery performance of suppliers to factories has been faster for 11 straight months, as the survey's measure of supplier deliveries rose to 48.6, up from 46.1 in July. A reading below 50 indicates faster deliveries to factories.

After climbing above growth neutral for five straight months, the Creighton University Mid-America Business Conditions Index, a leading economic indicator for the nine-state region stretching from Minnesota to Arkansas, fell below the growth neutral threshold for a second straight month. The [Business Conditions Index](#), which uses the identical methodology as the national ISM and ranges between 0 and 100 with 50.0 representing growth neutral, increased to 49.5 in August from 46.1 in July.

“The Mid-America regional manufacturing economy is definitely losing momentum. Government data indicate that the regional manufacturing economy has lost jobs for the last three months,” 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.

“Creighton University’s survey results indicate that contrary to the Federal Reserve consensus, a recession in 2023 is still ‘on the table.’ Approximately 45 percent of supply managers expect a recession in the second half of 2023,” said Goss.

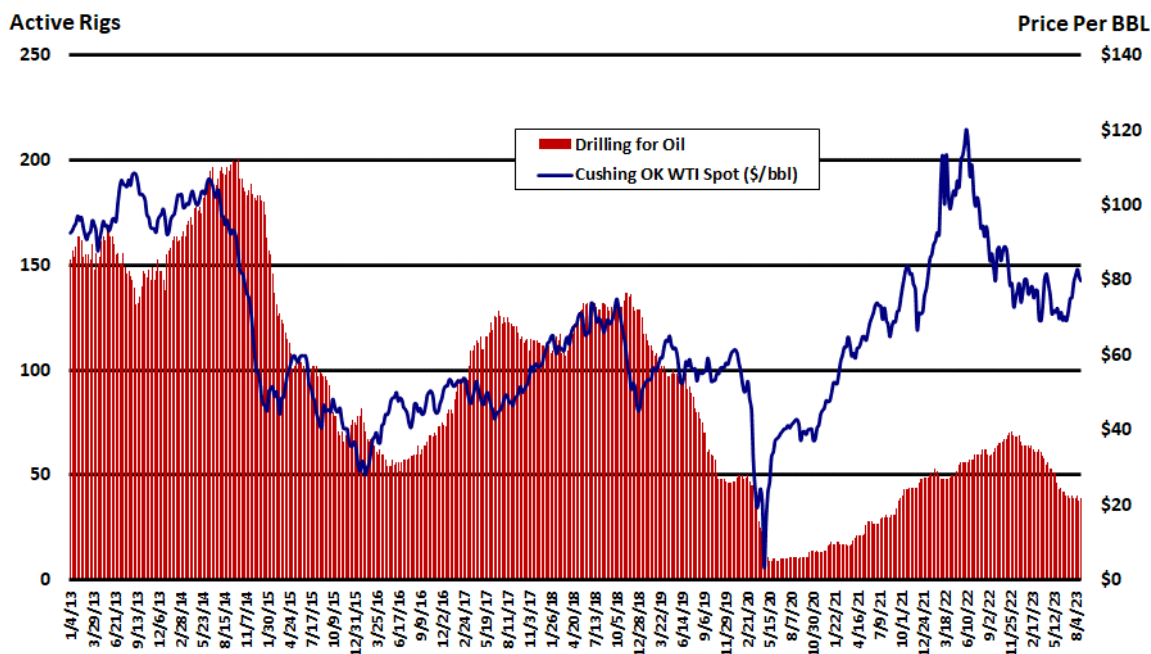
Oklahoma’s Business Conditions Index slumped below growth neutral for a third straight month. The August index increased to 46.9 from 41.1 in July. Components of the overall August index were: new orders at 45.4, production or sales at 47.0, delivery lead time at 52.1, inventories at 46.8 and employment at 43.0.

“According to U.S. International Trade Association data, Oklahoma exports fell by 10.8 percent in the first five months of 2023 compared to 2022 during the same time period. The state’s leading export, machinery manufacturing, contracted by 9.2 percent from 2022 to 2023,” noted Goss.

Oklahoma Active Rotary Rigs & Cushing, OK WTI Spot Price

January 2013 to August 2023

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

The discovery of oil transformed Oklahoma's economy. By the time Oklahoma became a state in 1907, it was the largest oil producer in the nation. Excluding federal offshore areas, Oklahoma was the 6th-largest crude oil producer among the states in 2022, accounting for over 4 percent of the nation's crude oil production (at 445,000 barrels per day). Crude oil wells and gathering pipeline systems are concentrated in central Oklahoma. The state's largest producing field, and the 11th largest in the United States, the [Sho-Vel-Tum](#) field, in eastern Stephens and western Carter Counties has continuously produced crude oil since its discovery in 1905.

The city of Cushing, in central Oklahoma, is home to about 14 percent of the nation's commercial crude oil storage capacity and is a major crude oil trading hub connecting Gulf Coast producers to Midwest refining markets. Cushing is also the designated delivery point for the New York Mercantile Exchange (NYMEX) crude oil futures contracts. 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, Crude oil supplies from Cushing that are not delivered to the Midwest are fed to Oklahoma's five refineries. As of January 2022, those refineries had a combined distillation capacity of more than 524,000 barrels per day—roughly 3 percent of the total U.S. refining capacity.

Current Developments

The U.S. Energy Information Administration (EIA) expects global oil inventories to decline by almost a half million barrels per day in the 2nd half of 2023, causing oil prices to rise over the remainder of the year. In its September [Short-Term Energy Outlook](#) (STEO), EIA forecasts international benchmark Brent crude oil price will average \$93 per barrel in the 4th quarter of this year, up from its August forecast of less than \$88 per barrel. Oil production cuts from OPEC+ members, including Saudi Arabia's recently announced extension of additional voluntary production cuts, contribute to EIA's forecasts for decreasing supplies.

"We expect crude oil prices to rise as global oil inventories decrease through the end of this year," said EIA Administrator Joe DeCarolis. "High oil prices combined with uncertain economic conditions could lessen global demand for petroleum products through 2024."

Crude production in Oklahoma decreased over the month in June—the most recently reported monthly data point. Statewide field production of crude oil was at a preliminary level of 13,199,000 bbl in June, down 576,000 bbl (-4.2 percent) from the upwardly revised May level of 13,775,000 bbl, according to data reported by the EIA. Compared to a year ago, Oklahoma crude production was up 630,000 bbl (5.0 percent) from the June 2022 production level of 12,569,000 bbl. For 2022, statewide crude production was at a level of 151,535,000 bbl, up 3,698,000 bbl (2.5 percent) from the 2021 production level of 147,837,000 bbl.

West Texas Intermediate (WTI-Cushing) crude oil for delivery at Cushing, Oklahoma, averaged \$81.39/bbl in August, up \$5.32/bbl from the July average of \$76.07/bbl. EIA expects the WTI-Cushing crude oil price to average \$87.68/bbl during 4th quarter 2023, up from its previous forecast of \$82.65/bbl.

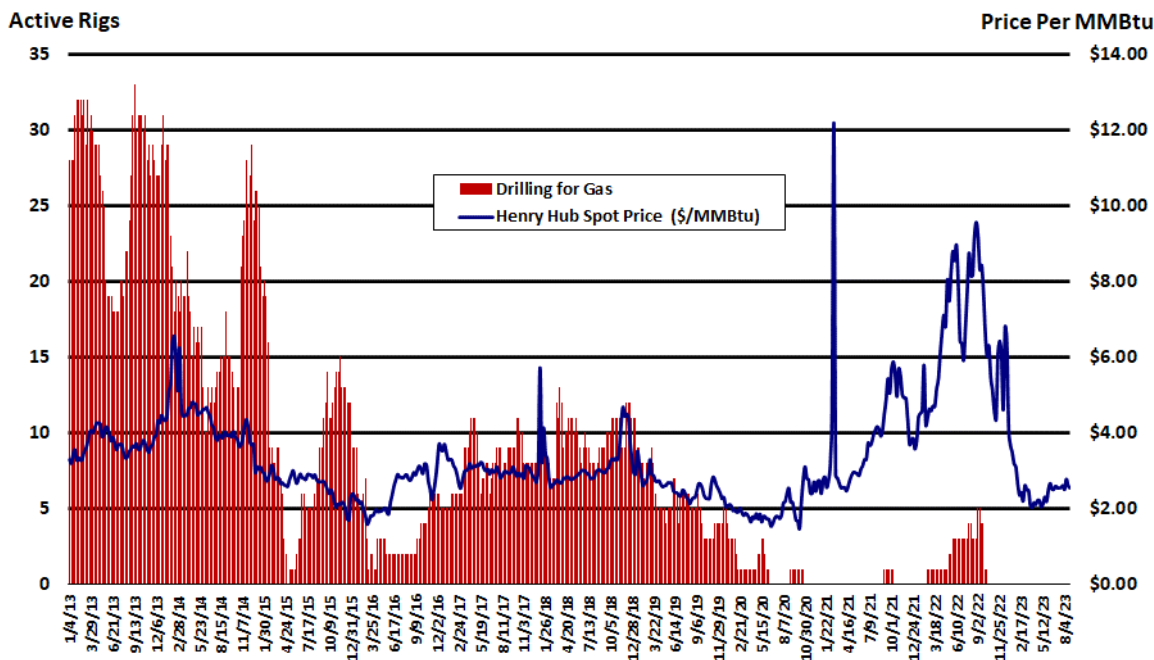
According to oil field services company Baker Hughes, oil-directed rig activity in the United States, which reflects crude oil drilling, was down 8 rigs to a level of 512 for the week ending August 25, 2023, while the nation's total rig count was down 10 to a level of 632. Compared to a year ago, the nation's total rig count was 133 less than 765 rigs reported on August 26, 2022.

For the week ending August 25, 2023, Oklahoma's total active rig count was at a level of 39, down 1 rig over the week, according to Baker Hughes. Oil-directed rigs accounted for all of total rig activity in August. Over the year, Oklahoma's active rig count was down 26 from 65 active rigs reported operating on August 26, 2022.

Oklahoma Active Rotary Rigs & Henry Hub Natural Gas Spot Price

January 2013 to August 2023

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's proved natural gas reserves are the 3rd-largest in the nation, after Texas and Pennsylvania. The state has 8 percent of the nation's total proved reserves and contains all or part of 14 of the 100 largest U.S. natural gas fields, as measured by proved reserves. In 2022, Oklahoma was the nation's 5th-largest producer of marketed natural gas. Statewide annual natural gas production was at an all-time high of more than 3.0 trillion cubic feet in 2019.

In 2022, Oklahoma was the nation's 6th-largest consumer of natural gas on a per capita basis. The electric power sector and the industrial sector together use slightly more than four-fifths of the

natural gas delivered to consumers in Oklahoma, and the residential and commercial sectors consume almost all the rest.

Current Developments

In the August [Short-Term Energy Outlook](#) (STEO), the U.S. Energy Information Administration (EIA) noted that associated natural gas production growth in the Permian Basin, driven by higher oil prices, has supported U.S. dry natural gas production in 2023 despite a decline in natural gas prices. EIA expects production to average about 104 billion cubic feet per day (Bcf/d) through the end of 2024, compared with 103 Bcf/d in 2nd quarter 2023. Flat production largely reflects continuing growth in associated natural gas production offset by declines in natural gas directed drilling.

Oklahoma natural gas production decreased over the month in June. Statewide natural gas gross withdrawals were at a preliminary level of 233,375 million cubic feet (MMcf) in June, down 4,150 MMcf (-1.7 percent) from the previous month's downwardly revised level of 237,525 MMcf. Over the year, statewide natural gas production was up 3,038 MMcf (1.3 percent) from the June 2022 level of 230,337 MMcf. For 2022, total statewide natural gas production was at a level of 2,744,470 MMcf, up 172,637 MMcf (6.7 percent) from the 2021 production level of 2,571,833 MMcf.

In August, the Henry Hub spot price averaged \$2.58 per million British thermal units (MMBtu), up 3 cents from \$2.55/MMBtu in July.

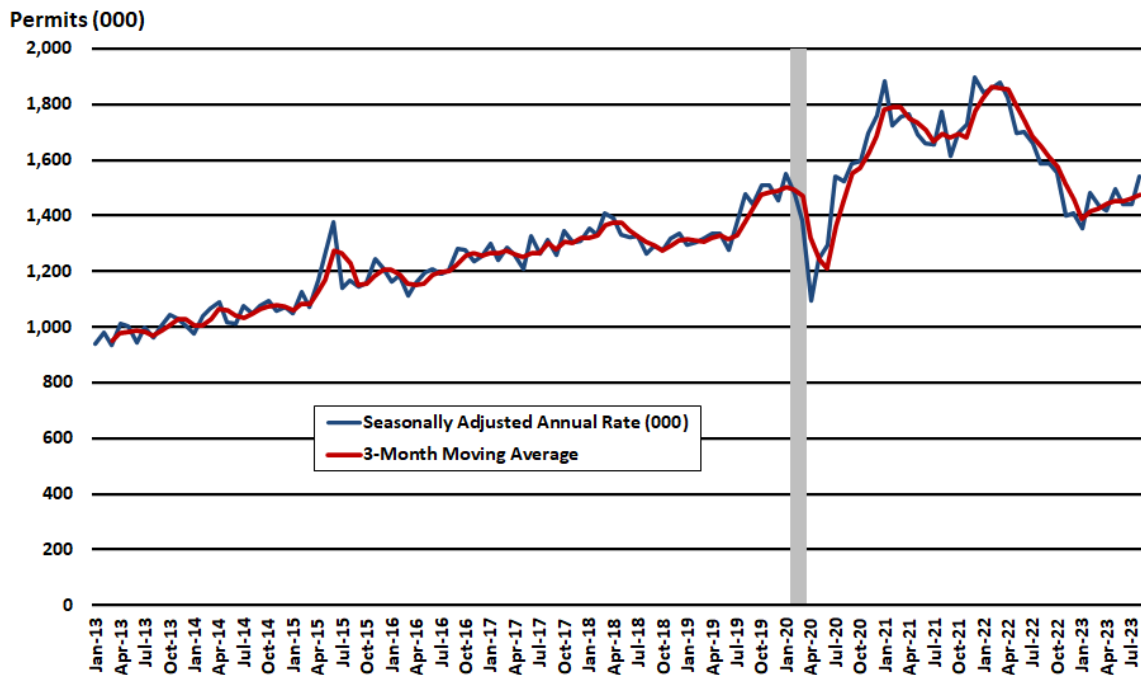
According to Baker Hughes, for the week ending August 25, 2023, the national natural gas rig count was down 2 rigs to a level of 115 over the week and down 43 rigs over the year.

Oklahoma drillers reported no active natural gas-directed rigs for the week ending August 25, 2023, unchanged over the month, according to Baker Hughes.

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

January 2013 to August 2023, 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.

Current Developments

U.S. applications to build, a sign of future residential construction activity, surged in August amid a severe shortage of previously owned houses. Privately-owned housing units authorized by building permits in August were at a seasonally adjusted annual rate of 1,543,000, 6.9 percent above the revised July rate of 1,443,000, but 2.7 percent below the August 2022 rate of 1,586,000, according to the U.S. Census Bureau and the U.S. Department of Housing and Urban Development.

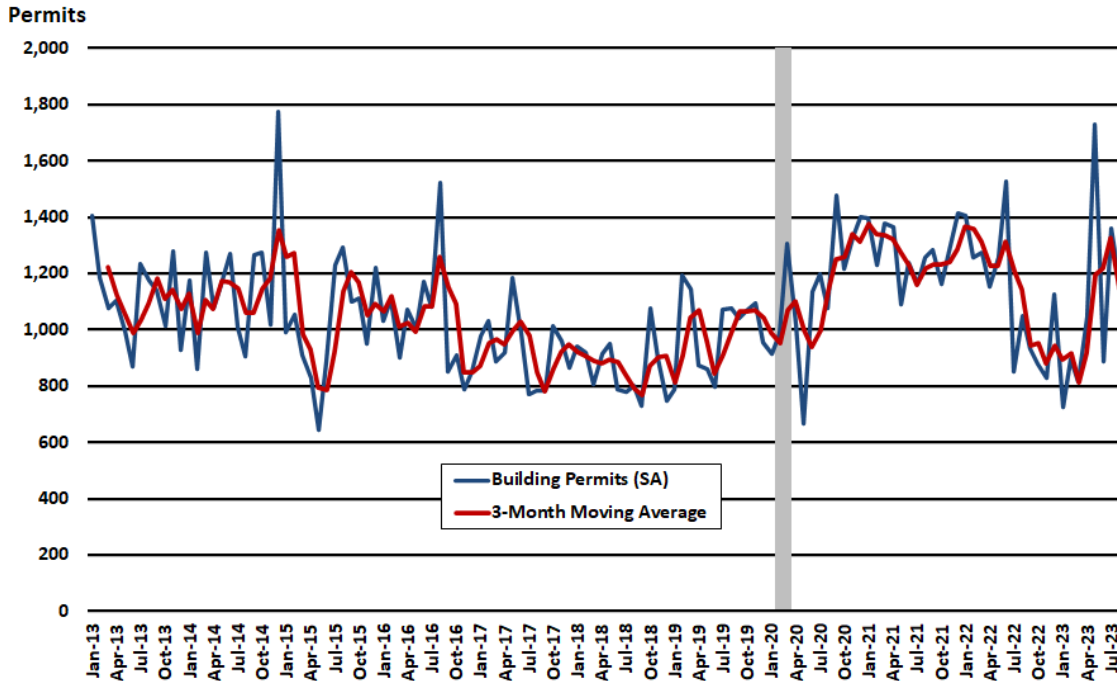
Permits for single-family homes increased 2.0 percent to a rate of 949,000 units in August, the highest since May 2022. Permits for multi-family housing projects jumped 14.8 percent to a rate of 535,000 units.

The National Association of Home Builders/Wells Fargo Housing Market Index (HMI) dropped below the break-even mark of 50 in September for the first time in five months.

Oklahoma New Private Housing Units Authorized by Building Permit

January 2013 to August 2023, 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 produce a seasonally adjusted series including monthly state level data on the number of new housing units authorized by building permits. These adjustments are made using the X-12 Procedure of SAS to remove the seasonal component of the series so that non-seasonal trends can be analyzed. This procedure is based on the U.S. Bureau of the Census X-12-ARIMA Seasonal Adjustment Program.

Current Developments

Statewide residential permitting slipped in August, as a rise in applications for single family homes was offset by a decline in multi-family housing permits. total residential permitting. Total residential permitting in August was at a seasonally adjusted level of 1,187, down 175 (-12.8 percent) from the upwardly revised July level of 1,361, but up 139 (13.2 percent) from the August 2022 level of 1,048 permits, according to figures from the U.S. Census Bureau and the Federal Reserve Bank of St. Louis.

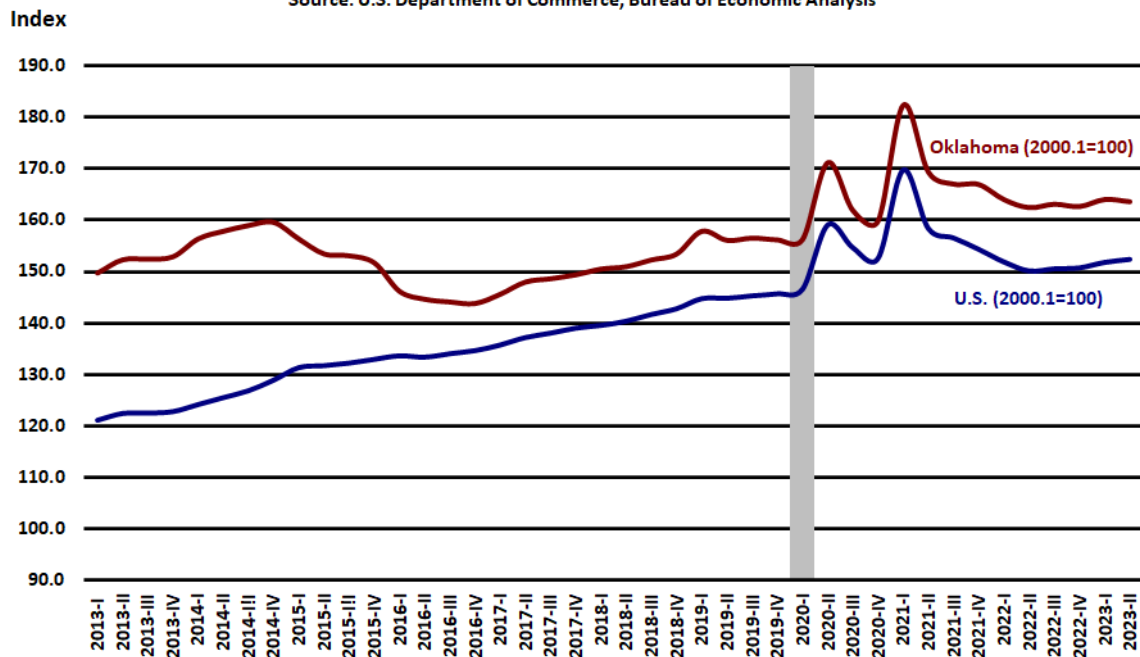
In August, permitting for single family homes was at a seasonally adjusted level of 934 units, up 106 (12.8 percent), from a level of 828 in the previous month. Multi-family permitting was at a seasonally adjusted level of 253 in August, down 280 (-52.6 percent), from the previous month's level of 533 permits. Single-family permitting accounted for 78.7 percent of total residential permitting activity in August while the more volatile multi-family permitting accounted for 21.3 percent.

In 2022, statewide residential construction slipped from a 15-year high set in 2021. Oklahoma total residential permitting for 2022 was at a seasonally adjusted level of 13,533 permits. This is 1,705 fewer permits (-11.2 percent) less than the 15,238 total permits issued during 2021.

U.S. and Oklahoma Real Personal Income, Q1/13 to Q2/23

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

Americans pulled back on spending in August, although at a much more modest pace, and personal income showed some strength. Personal income increased \$87.6 billion (0.4 percent at a monthly rate) in August, according to estimates by the Bureau of Economic Analysis (BEA). Disposable personal income (DPI), personal income less personal current taxes, increased \$46.6 billion (0.2 percent) and personal consumption expenditures (PCE) increased \$83.6 billion (0.4 percent). The PCE price index increased 0.4 percent. Excluding food and energy, the PCE price index increased 0.1 percent.

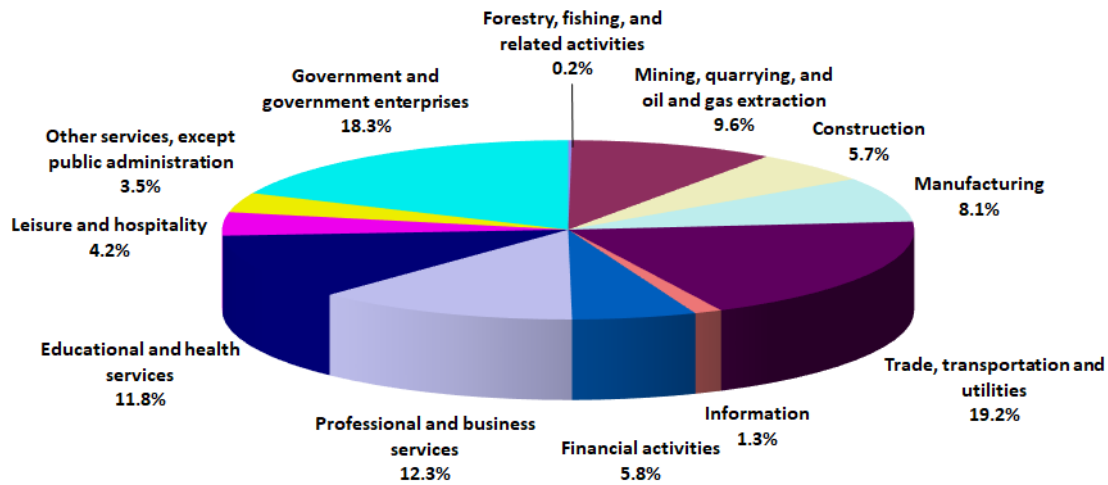
In August, outlays on goods rose 0.6 percent as purchases of durable goods, such as motor vehicles and parts, decreased 0.6 percent. Non-durable goods spending jumped 1.2 percent, led by gasoline and other energy goods. Spending on services rose 0.8 percent, driven by spending on housing and utilities, transportation services and health care.

The personal savings rate—personal saving as a percentage of disposable personal income—fell to 3.9 percent in August, the lowest rate since December 2022.

Oklahoma Nonfarm Industry Contribution to Earnings

Second Quarter 2023

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—a measure of nationwide income calculated as the sum of personal income of all states and the District of Columbia—increased in 49 states and the District of Columbia in the 2nd quarter of 2023, with the percent change ranging from 6.1 percent in New York and the District of Columbia to -2.7 percent in Maine, according to estimates by the U.S. Bureau of Economic Analysis (BEA).

Oklahoma's personal income decelerated to a 1.7 percent rate in the 2nd quarter of 2023, to a level of \$235.4 billion, ranking the state 44th among all states. For the 1st quarter of 2023, Oklahoma's personal income was revised upward to \$234.4 billion (7.3 percent) from the previous estimate of \$230.4 billion (6.3 percent).

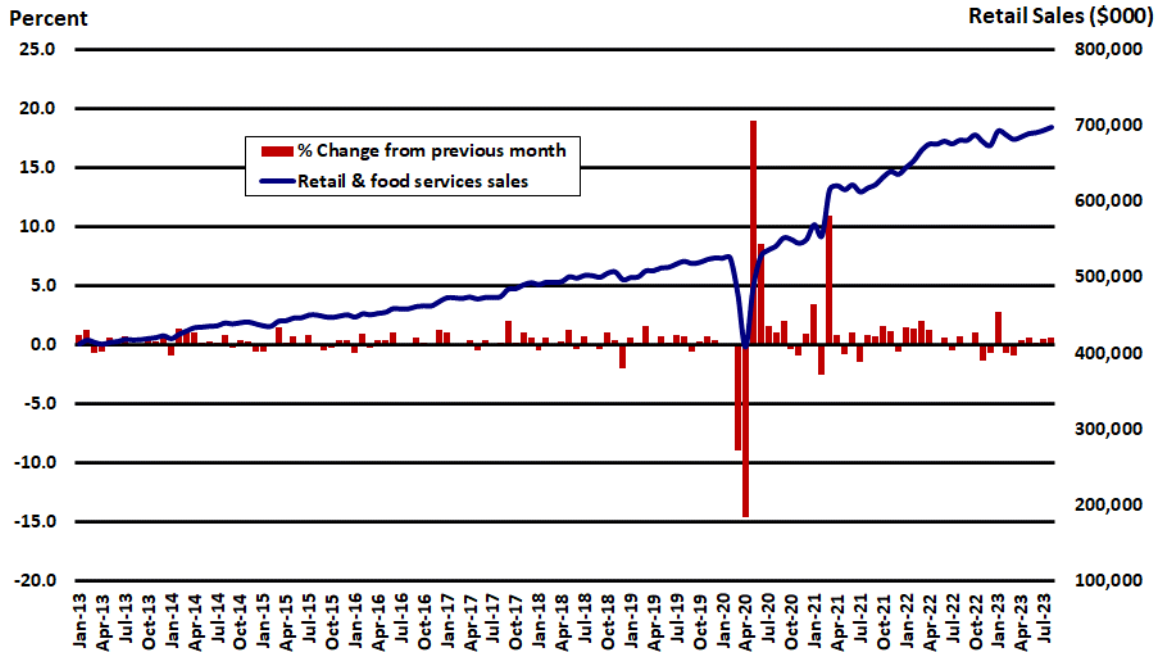
Earnings increased in 48 states and the District of Columbia, while growing 5.3 percent nationally. The percent change in earnings ranged from 7.1 percent in Florida to -0.8 percent in North Dakota. Earnings was the leading contributor to growth in personal income in 44 states and the District of Columbia. In Oklahoma, earnings increased 0.6 percent in the 2nd quarter of 2023.

Earnings increased in 20 of the 24 industries for which BEA prepares quarterly estimates. Professional, scientific, and technical services; health care and social assistance; and finance and insurance were the leading contributors to the overall growth in earnings nationally. In Oklahoma, state and local government; health care and social assistance; and professional, scientific, and technical services were the leading contributors to the overall growth in earnings in the 2nd quarter of 2023.

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

January 2013 to August 2023

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 rose modestly in August, as a jump in the price of gasoline boosted receipts at service stations but also cut into household budgets. Advance estimates of U.S. retail and food services sales for August 2023, adjusted for seasonal variation and holiday and trading-day differences, but not for price changes, were \$697.6 billion, up 0.6 percent from the previous month, and up 2.5 percent above August 2022, according to the U.S. Census Bureau. Total sales for the June 2023 through August 2023 period were up 2.2 percent from the same period a year ago. The June 2023 to July 2023 percent change was revised from up 0.7 percent to up 0.5 percent.

Sales at motor dealerships increased 0.3 percent in August, after sinking 0.4 percent in July. Receipts at gasoline stations soared 5.2 percent, on higher pump prices. Excluding sales at gasoline stations and on cars and parts, retail sales rose only 0.2 percent in August.

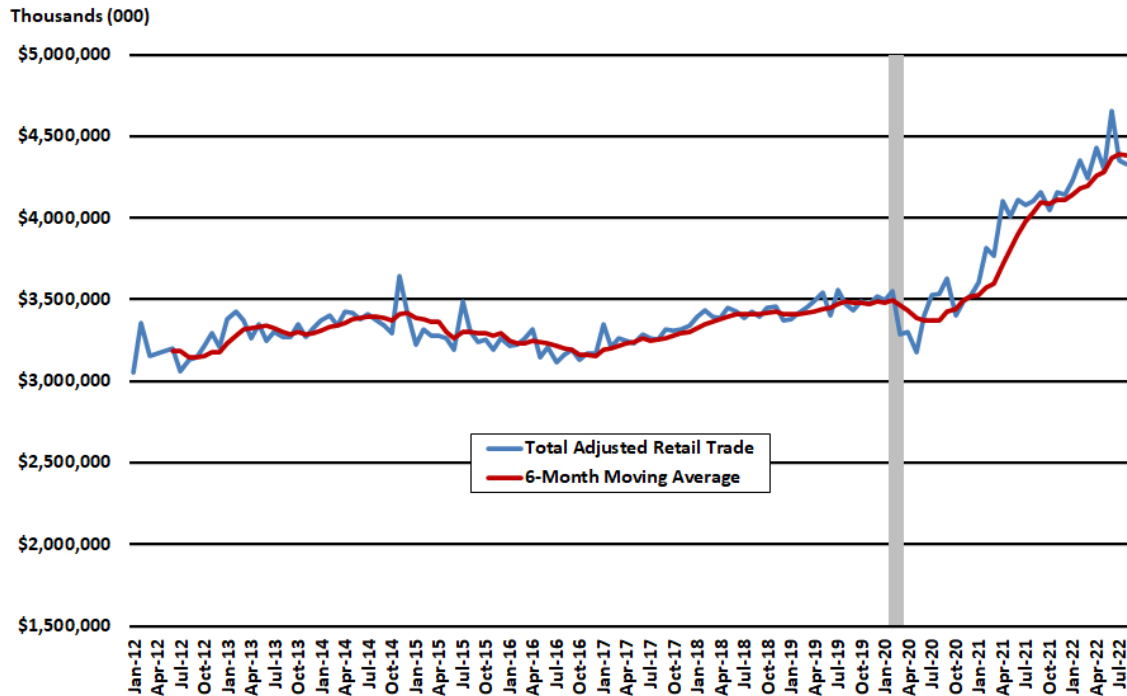
Receipts at furniture stores dropped 1.0 percent in August. But electronics and appliance store sales rose 0.7 percent, while clothing store sales increased 0.9 percent. Receipts at building material and garden equipment supplies dealers gained 0.1 percent. Online sales were unchanged after accelerating 1.5 percent in July.

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 increased just 0.1 percent in August, following a revised 0.7 percent increase in July.

Oklahoma Total Adjusted Retail Trade

January 2012 to August 2022

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 take out monthly volatility, we have used a six-month moving average.

Current Developments

NOTE: As of August 2022, the Center for Economic and Management Research (CEMR) Price College of Business, at the University of Oklahoma discontinued publication of the Oklahoma Business Bulletin and the Oklahoma Monthly Retail Sales Series. We are currently exploring options for replacing this dataset.

APPENDIX

Year	3 months ended	Net change ¹	Gross job gains			Gross job losses		
			Total	Expanding establishments	Opening establishments	Total	Contracting establishments	Closing establishments
2012	March	10,738	76,723	62,674	14,049	65,985	51,844	14,141
	June	8,259	76,231	60,473	15,758	67,972	57,706	10,266
	September	-524	73,500	59,201	14,299	74,024	58,629	15,395
	December	13,382	81,803	65,976	15,827	68,421	56,136	12,285
2013	March	207	74,070	59,077	14,993	73,863	58,895	14,968
	June	6,364	78,751	61,649	17,102	72,387	58,716	13,671
	September	8,210	78,714	61,570	17,144	70,504	60,638	9,866
	December	-726	76,708	61,106	15,602	77,434	62,876	14,558
2014	March	5,914	78,078	63,312	14,766	72,164	57,960	14,204
	June	4,426	78,581	64,018	14,563	74,155	60,997	13,158
	September	6,688	77,401	62,466	14,935	70,713	59,797	10,916
	December	15,419	84,970	68,341	16,629	69,551	57,138	12,413
2015	March	-6,323	73,242	58,991	14,251	79,565	67,373	12,192
	June	-6,412	76,605	62,518	14,087	83,017	69,151	13,866
	September	-1,684	75,998	61,438	14,560	77,682	63,621	14,061
	December	-3,078	79,006	63,401	15,605	82,084	65,983	16,101
2016	March	-7,561	73,005	58,982	14,023	80,566	67,285	13,281
	June	-11,226	72,329	57,687	14,642	83,555	68,024	15,531
	September	3,564	78,789	62,091	16,698	75,225	62,404	12,821
	December	2,138	80,769	63,586	17,183	78,631	62,210	16,421
2017	March	1,432	80,160	63,880	16,280	78,728	60,339	18,389
	June	8,737	82,959	63,198	19,761	74,222	60,973	13,249
	September	8,423	83,197	65,459	17,738	74,774	60,167	14,607
	December	6,175	81,361	65,881	15,480	75,186	59,357	15,829
2018	March	7,043	79,556	62,844	16,712	72,513	58,701	13,812
	June	1,794	82,243	65,312	16,931	80,449	64,852	15,597
	September	7,379	85,753	68,506	17,247	78,374	63,334	15,040
	December	4,216	83,202	65,790	17,412	78,986	62,713	16,273
2019	March	1,118	76,951	62,294	14,657	75,833	62,061	13,772
	June	-2,794	77,730	61,980	15,750	80,524	65,367	15,157
	September	2,094	82,314	64,698	17,616	80,220	65,031	15,189
	December	1,483	82,709	65,074	17,635	81,226	66,517	14,709
2020	March	-15,401	70,470	56,968	13,502	85,871	71,059	14,812
	June	-83,174	69,551	52,956	16,595	152,725	131,951	20,774
	September	7,411	86,514	71,624	14,890	79,103	63,895	15,208
	December	25,464	96,851	69,694	27,157	71,387	56,644	14,743
2021	March	4,356	77,139	60,039	17,100	72,783	58,162	14,621
	June	5,025	81,929	64,422	17,507	76,904	62,727	14,177
	September	7,361	89,669	70,653	19,016	82,308	61,082	21,226
	December	21,729	96,147	75,018	21,129	74,418	56,534	17,884
2022	March	7,544	80,662	62,879	17,783	73,118	60,167	12,951
	June	3,962	83,248	63,349	19,899	79,286	64,005	15,281
	September	22,080	93,595	78,712	14,883	71,515	58,129	13,386
	December	8,566	87,704	67,807	19,897	79,138	61,883	17,255

¹Net change is the difference between total gross job gains and total gross job losses.

APPENDIX

			Gross job gains			Gross job losses		
Year	3 months ended	Net change ²	Total	Expanding establishments	Opening establishments	Total	Contracting establishments	Closing establishments
2012	March	0.9	6.4	5.2	1.2	5.5	4.3	1.2
	June	0.8	6.3	5.0	1.3	5.5	4.7	0.8
	September	-0.1	6.0	4.8	1.2	6.1	4.8	1.3
	December	1.1	6.7	5.4	1.3	5.6	4.6	1.0
2013	March	0.0	6.0	4.8	1.2	6.0	4.8	1.2
	June	0.6	6.4	5.0	1.4	5.8	4.7	1.1
	September	0.7	6.4	5.0	1.4	5.7	4.9	0.8
	December	0.0	6.2	4.9	1.3	6.2	5.0	1.2
2014	March	0.6	6.3	5.1	1.2	5.7	4.6	1.1
	June	0.4	6.3	5.1	1.2	5.9	4.9	1.0
	September	0.6	6.2	5.0	1.2	5.6	4.7	0.9
	December	1.2	6.7	5.4	1.3	5.5	4.5	1.0
2015	March	-0.6	5.7	4.6	1.1	6.3	5.3	1.0
	June	-0.5	6.0	4.9	1.1	6.5	5.4	1.1
	September	-0.1	6.0	4.9	1.1	6.1	5.0	1.1
	December	-0.3	6.2	5.0	1.2	6.5	5.2	1.3
2016	March	-0.6	5.8	4.7	1.1	6.4	5.3	1.1
	June	-0.8	5.8	4.6	1.2	6.6	5.4	1.2
	September	0.3	6.3	5.0	1.3	6.0	5.0	1.0
	December	0.2	6.5	5.1	1.4	6.3	5.0	1.3
2017	March	0.1	6.4	5.1	1.3	6.3	4.8	1.5
	June	0.6	6.6	5.0	1.6	6.0	4.9	1.1
	September	0.6	6.6	5.2	1.4	6.0	4.8	1.2
	December	0.5	6.4	5.2	1.2	5.9	4.7	1.2
2018	March	0.5	6.2	4.9	1.3	5.7	4.6	1.1
	June	0.1	6.4	5.1	1.3	6.3	5.1	1.2
	September	0.5	6.6	5.3	1.3	6.1	4.9	1.2
	December	0.3	6.4	5.1	1.3	6.1	4.8	1.3
2019	March	0.0	5.9	4.8	1.1	5.9	4.8	1.1
	June	-0.2	6.0	4.8	1.2	6.2	5	1.2
	September	0.2	6.4	5.0	1.4	6.2	5.0	1.2
	December	0.2	6.4	5.0	1.4	6.2	5.1	1.1
2020	March	-1.2	5.4	4.4	1.0	6.6	5.5	1.1
	June	-6.7	5.6	4.3	1.3	12.3	10.6	1.7
	September	0.5	7.1	5.9	1.2	6.6	5.3	1.3
	December	2.1	7.9	5.7	2.2	5.8	4.6	1.2
2021	March	0.3	6.2	4.8	1.4	5.9	4.7	1.2
	June	0.5	6.6	5.2	1.4	6.1	5.0	1.1
	September	0.5	7.1	5.6	1.5	6.6	4.9	1.7
	December	1.7	7.6	5.9	1.7	5.9	4.5	1.4
2022	March	0.6	6.3	4.9	1.4	5.7	4.7	1.0
	June	0.2	6.4	4.9	1.5	6.2	5.0	1.2
	September	1.6	7.1	6.0	1.1	5.5	4.5	1.0
	December	0.6	6.6	5.1	1.5	6.0	4.7	1.3

¹The rates measure gross job gains and job losses as a percentage of the average of the previous and current employment levels.

²Net change is the difference between total gross job gains and total gross job losses.

APPENDIX

Year	3 months ended	Births ¹		Deaths ²	
		Establishments	Employment	Establishments	Employment
2012	March	2,109	8,288	2,164	7,963
	June	2,178	9,883	1,558	5,420
	September	2,369	9,822	2,279	8,827
	December	1,962	9,329	1,775	7,238
2013	March	2,463	10,200	2,396	8,486
	June	2,315	11,058	2,079	7,952
	September	2,545	10,534	1,684	6,388
	December	2,329	11,139	2,158	9,012
2014	March	2,356	10,025	2,484	8,500
	June	2,449	9,512	1,965	7,301
	September	2,338	9,051	1,685	6,583
	December	2,496	11,401	2,072	7,420
2015	March	2,392	9,500	2,341	7,402
	June	2,345	9,784	2,537	9,080
	September	2,354	9,997	2,412	8,956
	December	2,344	9,928	2,446	9,616
2016	March	2,271	8,764	2,308	7,347
	June	2,298	8,892	2,367	9,028
	September	2,343	10,368	2,325	8,034
	December	2,396	11,119	2,371	9,995
2017	March	2,574	10,608	2,915	10,694
	June	2,543	12,087	1,951	8,626
	September	2,520	11,386	2,121	10,025
	December	2,376	10,531	2,735	10,790
2018	March	2,292	11,268	2,235	8,315
	June	2,553	11,932	2,710	10,215
	September	2,467	11,316	2,502	10,606
	December	2,698	12,828	2,481	10,380
2019	March	2,336	9,707	2,412	8,519
	June	2,686	11,352	2,582	10,475
	September	2,796	11,992	2,437	10,214
	December	2,581	12,588	2,579	9,715
2020	March	2,120	9,330	2,243	8,136
	June	2,443	10,543	3,106	10,847
	September	1,967	7,529	2,326	7,803
	December	3,221	19,724	2,245	8,551
2021	March	2,842	10,845	2,489	8,556
	June	3,345	11,839	2,511	9,044
	September	3,524	12,921	3,367	12,519
	December	3,441	12,033	2,782	10,569
2022	March	3,482	11,176	2,628	9,274
	June	3,868	12,831	N/A	N/A
	September	3,223	10,762	N/A	N/A
	December	4,278	14,548	N/A	N/A

¹ Values for births are not available for the first three quarters

² Values for death s are not available for the most recent three quarters by definition.

APPENDIX

Table 4. Oklahoma: Rates ¹ of private sector establishment births and deaths, seasonally adjusted					
		Births ²		Deaths ³	
Year	3 months ended	Establishments	Employment	Establishments	Employment
2012	March	2.5	0.7	2.6	0.7
	June	2.6	0.8	1.9	0.4
	September	2.8	0.8	2.7	0.7
	December	2.3	0.8	2.1	0.6
2013	March	2.9	0.8	2.8	0.7
	June	2.7	0.9	2.4	0.6
	September	3.0	0.8	2.0	0.5
	December	2.7	0.9	2.5	0.7
2014	March	2.7	0.8	2.9	0.7
	June	2.8	0.8	2.3	0.6
	September	2.7	0.7	1.9	0.5
	December	2.8	0.9	2.3	0.6
2015	March	2.7	0.7	2.6	0.6
	June	2.6	0.8	2.9	0.7
	September	2.7	0.8	2.7	0.7
	December	2.6	0.8	2.8	0.8
2016	March	2.6	0.7	2.6	0.6
	June	2.6	0.7	2.7	0.7
	September	2.6	0.8	2.6	0.6
	December	2.7	0.9	2.7	0.8
2017	March	2.9	0.8	3.3	0.9
	June	2.9	1.0	2.2	0.7
	September	2.8	0.9	2.4	0.8
	December	2.6	0.8	3.0	0.8
2018	March	2.6	0.9	2.5	0.7
	June	2.8	0.9	3.0	0.8
	September	2.7	0.9	2.8	0.8
	December	3.0	1.0	2.8	0.8
2019	March	2.6	0.7	2.7	0.7
	June	3.0	0.9	2.9	0.8
	September	3.1	0.9	2.7	0.8
	December	2.8	1.0	2.8	0.7
2020	March	2.3	0.7	2.5	0.6
	June	2.7	0.8	3.5	0.9
	September	2.2	0.6	2.6	0.6
	December	3.6	1.6	2.5	0.7
2021	March	3.1	0.9	2.7	0.7
	June	3.7	0.9	2.7	0.7
	September	3.8	1.0	3.7	1.0
	December	3.7	0.9	3.0	0.8
2022	March	3.7	0.9	2.8	0.7
	June	4.1	1.0	N/A	N/A
	September	3.4	0.8	N/A	N/A
	December	4.4	1.1	N/A	N/A

¹The rates measure births and deaths as a percentage of the average of the previous and current quarter employment levels or total number of establishments.

³Values for deaths are not available for the most recent three quarters by definition.

APPENDIX

Table 5. Private sector gross job gains and losses by industry, Oklahoma, seasonally adjusted

Category	Gross job gains and job losses (3 months ended)					Gross job gains and job losses as a percent of employment (3 months ended)				
	Dec. 2021	Mar. 2022	Jun. 2022	Sep. 2022	Dec. 2022	Dec. 2021	Mar. 2022	Jun. 2022	Sep. 2022	Dec. 2022
	Total private ¹									
Gross job gains	96,147	80,662	83,248	93,595	87,704	7.6	6.3	6.4	7.1	6.6
At expanding establishments ...	75,018	62,879	63,349	78,712	67,807	5.9	4.9	4.9	6.0	5.1
At opening establishments ...	21,129	17,783	19,899	14,883	19,897	1.7	1.4	1.5	1.1	1.5
Gross job losses	74,418	73,118	79,286	71,515	79,138	5.9	5.7	6.2	5.5	6.0
At contracting establishments ...	56,534	60,167	64,005	58,129	61,883	4.5	4.7	5.0	4.5	4.7
At closing establishments ...	17,884	12,951	15,281	13,386	17,255	1.4	1.0	1.2	1.0	1.3
Net employment change ²	21,729	7,544	3,962	22,080	8,566	1.7	0.6	0.2	4.5	4.5
Construction										
Gross job gains	7,767	7,280	6,452	6,343	6,658	9.9	9.1	8.1	8.0	8.3
At expanding establishments ...	5,709	5,684	4,856	5,392	5,025	7.3	7.1	6.1	6.8	6.3
At opening establishments ...	2,058	1,596	1,596	951	1,633	2.6	2.0	2.0	1.2	2.0
Gross job losses	6,529	6,377	7,281	6,212	6,513	8.3	7.9	9.1	7.9	8.2
At contracting establishments ...	4,943	5,011	5,987	5,037	4,931	6.3	6.2	7.5	6.4	6.2
At closing establishments ...	1,586	1,366	1,294	1,175	1,582	2.0	1.7	1.6	1.5	2.0
Net employment change ²	1,238	903	-829	131	145	1.6	1.2	-1.0	0.1	0.1
Manufacturing										
Gross job gains	6,968	4,674	5,092	5,465	5,762	5.4	3.6	3.9	4.1	4.3
At expanding establishments ...	5,268	4,061	4,348	4,774	5,127	4.1	3.1	3.3	3.6	3.8
At opening establishments ...	1,700	613	744	691	635	1.3	0.5	0.6	0.5	0.5
Gross job losses	4,437	3,659	3,919	3,919	4,451	3.4	2.8	2.9	2.9	3.3
At contracting establishments ...	3,595	3,043	3,209	3,479	3,528	2.8	2.3	2.4	2.6	2.6
At closing establishments ...	842	616	710	440	923	0.6	0.5	0.5	0.3	0.7
Net employment change ²	2,531	1,015	1,173	1,546	1,311	2.0	0.8	1.0	1.2	1.0
Wholesale trade										
Gross job gains	3,543	3,083	3,199	3,370	3,472	6.5	5.5	5.6	5.9	5.9
At expanding establishments ...	2,682	2,541	2,556	2,990	2,520	4.9	4.5	4.5	5.2	4.3
At opening establishments ...	861	542	643	380	952	1.6	1.0	1.1	0.7	1.6
Gross job losses	2,758	2,359	2,694	2,560	2,799	5.0	4.2	4.8	4.5	4.8
At contracting establishments ...	1,982	1,848	1,949	2,061	1,947	3.6	3.3	3.5	3.6	3.3
At closing establishments ...	776	511	745	499	852	1.4	0.9	1.3	0.9	1.5
Net employment change ²	785	724	505	810	673	1.5	1.3	0.8	1.4	1.1

Note: See footnotes at end of table

APPENDIX

Table 5. Private sector gross job gains and losses by industry, Oklahoma, seasonally adjusted (cont.)

Category	Gross job gains and job losses (3 months ended)					Gross job gains and job losses as a percent of employment (3 months ended)				
	Dec. 2021	Mar. 2022	Jun. 2022	Sep. 2022	Dec. 2022	Dec. 2021	Mar. 2022	Jun. 2022	Sep. 2022	Dec. 2022
	Retail trade									
Gross job gains	11,625	11,089	10,023	11,651	10,262	6.3	6.1	5.4	6.3	5.5
At expanding establishments ...	9,620	9,325	7,656	10,131	8,345	5.2	5.1	4.1	5.5	4.5
At opening establishments ...	2,005	1,764	2,367	1,520	1,917	1.1	1.0	1.3	0.8	1.0
Gross job losses	10,897	9,557	11,868	10,271	12,161	6.0	5.2	6.5	5.6	6.6
At contracting establishments ...	9,485	8,217	10,477	8,998	10,195	5.2	4.5	5.7	4.9	5.5
At closing establishments ...	1,412	1,340	1,391	1,273	1,966	0.8	0.7	0.8	0.7	1.1
Net employment change ²	728	1,532	-1,845	1,380	-1,899	0.3	0.9	-1.1	0.7	-1.1
Transportation and warehousing										
Gross job gains	7,332	3,019	2,606	6,991	4,824	10.8	4.3	3.9	10.3	6.9
At expanding establishments ...	6,289	2,511	1,971	6,494	4,272	9.3	3.6	2.9	9.6	6.1
At opening establishments ...	1,043	508	635	497	552	1.5	0.7	1.0	0.7	0.8
Gross job losses	2,790	4,955	5,771	3,101	3,424	4.1	7.1	8.6	4.6	4.8
At contracting establishments ...	1,980	4,525	5,276	2,716	2,833	2.9	6.5	7.9	4.0	4.0
At closing establishments ...	810	430	495	385	591	1.2	0.6	0.7	0.6	0.8
Net employment change ²	4,542	-1,936	-3,165	3,890	1,400	6.7	-2.8	-4.7	5.7	2.1
Information										
Gross job gains	1,049	1,309	1,140	1,141	940	5.9	7.5	6.5	6.4	5.3
At expanding establishments ...	771	938	901	995	554	4.3	5.4	5.1	5.6	3.1
At opening establishments ...	278	371	239	146	386	1.6	2.1	1.4	0.8	2.2
Gross job losses	1,244	908	814	1,050	1,082	7.0	5.3	4.6	5.9	6.2
At contracting establishments ...	1,013	722	624	852	874	5.7	4.2	3.5	4.8	5.0
At closing establishments ...	231	186	190	198	208	1.3	1.1	1.1	1.1	1.2
Net employment change ²	-195	401	326	91	-142	-1.1	2.2	1.9	0.5	-0.9
Financial activities										
Gross job gains	4,800	4,193	4,467	4,505	4,328	6.3	5.4	5.7	5.8	5.5
At expanding establishments ...	3,443	3,084	3,277	3,657	3,082	4.5	4.0	4.2	4.7	3.9
At opening establishments ...	1,357	1,109	1,190	848	1,246	1.8	1.4	1.5	1.1	1.6
Gross job losses	3,997	3,866	4,118	3,810	4,009	5.2	5.0	5.3	4.9	5.0
At contracting establishments ...	2,772	2,955	2,906	2,950	2,871	3.6	3.8	3.7	3.8	3.6
At closing establishments ...	1,225	911	1,212	860	1,138	1.6	1.2	1.6	1.1	1.4
Net employment change ²	803	327	349	695	319	1.1	0.4	0.4	0.9	0.5

Note: See footnotes at end of table

APPENDIX

Table 5. Private sector gross job gains and losses by industry, Oklahoma, seasonally adjusted (cont.)

Category	Gross job gains and job losses (3 months ended)					Gross job gains and job losses as a percent of employment (3 months ended)				
	Dec.	Mar.	Jun.	Sep.	Dec.	Dec.	Mar.	Jun.	Sep.	Dec.
	2021	2022	2022	2022	2022	2021	2022	2022	2022	2022
Professional and business services										
Gross job gains	19,011	17,204	15,868	18,308	16,479	9.7	8.6	7.9	8.9	7.9
At expanding establishments ...	14,505	12,157	11,676	15,812	11,653	7.4	6.1	5.8	7.7	5.6
At opening establishments ...	4,506	5,047	4,192	2,496	4,826	2.3	2.5	2.1	1.2	2.3
Gross job losses	13,227	13,803	15,449	13,724	15,642	6.8	6.9	7.7	6.7	7.5
At contracting establishments ...	9,508	10,572	12,414	10,638	12,220	4.9	5.3	6.2	5.2	5.9
At closing establishments ...	3,719	3,231	3,035	3,086	3,422	1.9	1.6	1.5	1.5	1.6
Net employment change ²	5,784	3,401	419	4,584	837	2.9	1.7	0.2	2.2	0.4
Education and health services										
Gross job gains	10,962	10,212	12,831	12,309	13,001	5.1	4.8	6.0	5.6	5.8
At expanding establishments ...	8,136	8,343	10,140	10,417	10,731	3.8	3.9	4.7	4.7	4.8
At opening establishments ...	2,826	1,869	2,691	1,892	2,270	1.3	0.9	1.3	0.9	1.0
Gross job losses	10,370	9,325	8,797	8,907	9,911	4.9	4.4	4.1	4.1	4.4
At contracting establishments ...	7,216	7,899	6,572	6,764	7,600	3.4	3.7	3.1	3.1	3.4
At closing establishments ...	3,154	1,426	2,225	2,143	2,311	1.5	0.7	1.0	1.0	1.0
Net employment change ²	592	887	4,034	3,402	3,090	0.2	0.4	1.9	1.5	1.4
Leisure and hospitality										
Gross job gains	15,828	12,875	15,099	15,331	15,559	9.3	7.5	8.9	8.9	8.8
At expanding establishments ...	12,921	9,723	11,393	13,157	11,821	7.6	5.7	6.7	7.6	6.7
At opening establishments ...	2,907	3,152	3,706	2,174	3,738	1.7	1.8	2.2	1.3	2.1
Gross job losses	12,691	13,512	13,261	13,253	13,500	7.5	7.9	7.8	6.3	7.7
At contracting establishments ...	9,852	11,487	10,595	10,973	10,551	5.8	6.7	6.2	1.3	6.0
At closing establishments ...	2,839	2,025	2,666	2,280	2,949	1.7	1.2	1.6	6.5	1.7
Net employment change ²	3,137	-637	1,838	2,078	2,059	1.8	-0.4	1.1	2.6	1.1
Other services ³										
Gross job gains	3,395	2,757	3,483	2,976	3,221	9.7	7.8	9.8	8.1	8.7
At expanding establishments ...	2,546	2,181	2,299	2,249	2,338	7.3	6.2	6.5	6.1	6.3
At opening establishments ...	849	576	1,184	727	883	2.4	1.6	3.3	2.0	2.4
Gross job losses	2,446	2,602	2,616	2,384	2,883	7.0	7.4	7.4	6.5	7.7
At contracting establishments ...	1,813	2,077	1,947	1,894	2,060	5.2	5.9	5.5	5.2	5.5
At closing establishments ...	633	525	669	490	823	1.8	1.5	1.9	1.3	2.2
Net employment change ²	949	155	867	592	338	2.7	0.4	2.4	1.6	1.0

Footnotes:

- (1) Includes unclassified sector not shown separately.
- (2) The net employment change is the difference between total gross job gains and total gross job losses.
- (3) Except public administration.

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