Economic Trends for Colorado Through November 2019

Colorado-based Business and Economic Research
Prepared
December 22, 2019
2019 Economic Trends for Colorado Through November

For more than a year there have been numerous predictions suggesting a recession in the near-term. After 15 months of warnings, most economists now agree a recession is not on the horizon. The U.S. and Colorado economies are on solid footing, but they are expanding at a slower rate than 2018. Colorado is on track to add 52,900 jobs in 2019, an increase of 1.9%. The current unemployment rate is painfully low at 2.6% and businesses are struggling to find qualified workers. The contents of this chartbook are listed below.

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The U.S. Economy
Real Gross Domestic Product, Employment, and Inflation
The third estimate for Q3 2019 real GDP growth was 2.1%. Q3 2019 is the 23rd consecutive quarter of positive growth since Q1 2014. Real GDP growth for Q1 2019 was 3.1% followed by 2.0% in Q2.

Real GDP growth will be 2.0% in Q4. Overall growth for 2019 was projected to be in the range of 2.3% to 2.5%. The final rate of growth will be at the bottom of that range.

Annualized real GDP growth for the 2010s is greater than the annualized average for the 2000s, but it is well below the average for the 1990s.

Gross Domestic Product is defined as C+I+G+X or consumption + business investment + government spending + net exports.

Source: Bureau of Economic Analysis, Table 1.1.1, Share of GDP based on 2017, cber.co.
U.S. Employment
2015 to 2019

Through November 2019, average annual employment was 2.35 million greater than the same period in 2018 or about 196,000 jobs per month. This number is expected to be revised downward to about 2.1 million annually or 175,000 jobs per month.

YOY employment increased at a declining rate through the first four months of 2019, but it posted gains at a consistent rate from May through November.

Source: BLS, NSA, cber.co. Note: CES Employment is also referred to as nonfarm wage and salary employment.
Consumer Price Index (CPI) Colorado vs. U.S. Annual Rate

Currently, the Colorado CPI is greater than the U.S. CPI, in part, because Colorado housing prices have appreciated at a faster rate than the U.S.

Through the first 11 months of 2019 the Colorado inflation rate trended upward and was 2.8%. The U.S. inflation rate was 1.7%; it has been relatively flat for most of the year.

Inflation, as defined by the CPI, measures a basket of goods over time; however, it does not fully consider the effect of product improvements or increased product choices.

For this period, annual inflation in Colorado was greater than the U.S. in 14 of 20 years. The Colorado CPI is projected to be 2.6% in 2019 compared to 2.3% for the U.S.

The U.S. Economy
U.S. Labor Productivity, Industrial Production, Manufacturing and Nonmanufacturing Indices
The decline in productivity has been a result of insufficient investments in capital and labor, the impact of new technologies, as well as the failure to adopt new technologies. In addition, efficiencies have decreased because industries have been pressed to meet the needs of special interest groups. Apart from the spikes in 2002, 2003, and 2009/2010 (red), labor productivity trended downward between 2000 and 2012. Since 2017 it has been in the range of 1.0% to 1.8%.

Source: Bureau of Labor Statistics, Major Sector Productivity (NonFarm Business) NSA, cber.co.
The IPI posted steady gains between the end of the Great Recession (2009) and November 2014. At that point, it declined and bottomed out in March 2016. It showed steady gains until January 2019.

The IPI posted strong and steady growth during the go-go 1990s.

The IPI was flat from February through September 2019, with a decline in October. It ticked up in November.

Industrial production measures real output in the manufacturing, mining, electric, and gas industries, relative to a base year.

Source: FRED, Federal Reserve, cber.co.
ISM PMI Composite Indices
Manufacturing vs. Non-manufacturing

Since the end of the Great Recession, the PMI (blue) has been more volatile and less optimistic than the NMI (orange). This year the PMI Index declined for seven months ending in September. It has been below 50 for four consecutive months. The NMI has trended downward since 2018. In November 2019 it was 53.9, well above 50.

Values > 50 points represent an expansion and values < 50 points represent a contraction. A value of 50 is neutral.

Sources: Institute for Supply Management (ISM), FRED, cber.co.
The U.S. Economy
Retail Sales and Auto Sales
Cumulative Retail, Excluding Food Services Sales

Monthly

United States Cumulative Retail, Excluding Food Services Sales

Retail sales are forecasted to increase at a rate of 3.8 to 4.3% in 2019.

Source: U.S. Census Bureau, FRED, cber.co.

Note: Data is in descending order with December at the top and January at the bottom, not adjusted for inflation.
U.S. Auto and Light Truck (ALT) Sales
Monthly (Annualized Rate Millions)

ALT sales bottomed out in early 2009. Sales trended upward and approached 18 million units in Q4 2015 and again in Q3 2017. ALT sales for 2019 were projected to be 16.7 million units. They were 17.1 million in September. Sales during 2019 have been in the range of 16.5 to 17.3 million, SAAR.

Unit sales have been consistent for the past four years:
- 2015  17.4 million
- 2016  17.5 million
- 2017  17.1 million
- 2018  17.3 million

At the trough of the recession, February 2009, sales dropped to 9.0 million units.

Source: FRED, BEA, Seasonally Adjusted Annualized Rates (SAAR), cber.co.
The U.S. Economy
NAHB HMI and Housing Starts and S&P CoreLogic Case-Shiller
Builder sentiment (blue), as measured by the HMI, trended upward between 2012 and 2017. It reached 74 in December 2017 but fell to 56 at the end of 2018.

Housing starts (red) has a slight upward trend for the past year. The HMI (blue) has increased since June.

The paths of the HMI and the number of housing starts are similar. There is a strong correlation between the NAHB index and housing starts. The correlation coefficient is $R = 0.72$.

Source: NAHB, cber.co.
S&P Case Shiller Home Price Index
National vs. Denver Index Value

Denver (red) did not experience the housing bubble of the 2000s (blue).

In September 2019, the index (red) value for Denver had a YOY increase of 3.0% and the U.S. index (blue) had a YOY increase of 3.2%.

Note: The Case Shiller Index is an aggregate value for the MSA. It may not be an accurate indicator of specific neighborhoods within a region.

Source: S&P Core-Logic Case-Shiller, cber.co.
United States Economy
S&P 500 Performance
Despite three significant downturns in 2019, the S&P 500 closed at 3,221 on December 20, 2019. This is an increase of 28.5% since the end of 2018.

On October 3, 2018, the S&P 500 peaked at 2,930. It then plummeted 589 points by the end of 2018.

The S&P 500 posted the following gains:
- -6.2% in 2018
- 19.4% in 2017
- 9.5% in 2016
- -0.7 in 2015
- 11% in 2014
- 30% in 2013

Source: FRED, S&P 500, cber.co.
The U.S. Economy
NFIB Index, Michigan Consumer Sentiment
In August 2018, the index reached a record high, then trended downward for the remainder of the year. The index declined in August and September but ticked up in October and November.

Since December of 2016, the NFIB small business index has been between 101 and 109, historically high levels.

Source: NFIB, cber.co. Index 1984=100
During 2019 the range of the index was 89.8 to 100. From a historical perspective the index is extremely positive, despite the volatility.

Source: University of Michigan, cber.co.
The U.S. Economy
Summary
U.S. Summary

For the past 15 months there have been numerous predictions suggesting a near-term recession. Instead the economy has remained resilient and a downturn is not expected in the next year. The country is in its longest expansion, but the tradeoff is growth at a slower rate. Some of the headwinds have subsided, specifically, trade policy with China has been advanced, UCMCA is moving forward in Congress, Brexit is closer to being history, and the impeachment proceedings are closer to an end.

U.S. Economic Growth is Expected to Continue

- Consumer confidence remains high.
- Wages will continue to increase.
- There will continue to be steady employment growth.
- Personal consumption remains solid.
- Interest rates will remain low for an extended period.
- The unemployment rate will remain low – too low in most states.
- U.S. inflation will be low – maybe too low in the eyes of the Federal Reserve.
- Interest rate cuts are unlikely by the Fed – a sign of confidence in the economy.

There are Always Headwinds

- Slower global growth is expected in the short-term.
- Foreign trade policies will continue to be adjusted and updated.
- There will continue to be global unrest in some countries.
- The public deficit and the current level of debt are a concern to some public and private leaders.
- There are some concerns about the level of private debt.
- Political gridlock will continue to be a challenge through the 2020 election.
The Colorado Economy
U.S. vs. Colorado Gross Domestic Product
Going back to 2005, the Colorado real GDP (red) growth rate has been greater than the U.S. real GDP (blue) in 37 of 57 quarters. The Q2 2019 real GDP was 2.9% for Colorado and 2.0% for the U.S.

Colorado outperformed the U.S. for 25 of the 39 quarters from Q3 2009 to Q2 2019. This is the period of the recovery from the Great Recession.

Source: Bureau of Economic Analysis. Note: U.S. real GDP is the summary of states GDP.
The Colorado Economy
Colorado Components of Change
Colorado Population
Components of Change

Over the past 3½ decades the natural rate of change (red bars) varied from a low of 26,700 in 2018 to a peak of 41,124 in 2007. The natural rate for 2019 is projected to be 26,200, a new low, as a result of the decline in fertility rates.

Changes resulting from net migration (blue bars) are closely tied to the strength of the economy and the change in state employment. For example, there were five years, from 1986 to 1990, when net migration was negative. More people moved out of state than moved into the state to escape the regional recession. During the past two recessions, 2001 and 2007, net migration declined, but did not turn negative. It was difficult for people to move anywhere to escape the bad economy.

The Colorado population will increase by about 75,000 for each of the years from 2016 to 2020. In 2019, the state’s population will increase by 1.3%, or 76,200, to 5,765,527.

Sources: State Demography Office and cber.co.
The Colorado Economy

Employment, Rate of Employment Growth, and Unemployment Rate
In the first half of 2019, Colorado recorded the weakest job growth for H1 since 2011. Growth during the second half of the year has been much stronger. This is counter to the pattern of 2019 U.S. job growth.

Average nonfarm employment through November shows Colorado is on track to add 52,900 jobs in 2019, an increase of 1.9%. This is an average of 4,405 new jobs each month.

Source: BLS, cber.co. Note: CES Employment is also referred to as nonfarm wage and salary employment.
Since 1990, the percent change in Colorado employment was greater than the rate of change of U.S. employment for 308 of 359 months. Most of these months were during periods of strong expansion. The months when the U.S. rates were greater were during or immediately after the 2001 and 2007 recessions.

The areas in grey represent recessions as defined by NBER.

The employment growth rates for the U.S. and Colorado were similar from December 2018 to April 2019. In May 2019, the gap between the U.S. and Colorado rates became more pronounced. The employment growth rates have trended downwards since February 2015.
In November 2019, the unemployment rate for Colorado remained at 2.6% while the U.S. rate dropped to 3.5%.

The U.S. and Colorado unemployment rates have declined since 2010 when the U.S. rate was 9.9% and the Colorado rate was 8.8%.

The U.S. rate fell below 4.5% in March 2017 and has been there for 33 months. By comparison, there was a 31-month period from November 1998 to May 2001 (not shown) when the U.S. rate was below 4.5%.

The Colorado rate dropped below 4.5% in October 2014 and has been there for 62 months. By comparison, there was an 89-month period from May 1994 to September 2001 (not shown) when Colorado’s rate of unemployment was less than 4.5%.

The natural rate of unemployment is an academic concept. It is reached when the labor market is in equilibrium. In most cases this rate is in the range of 4.5% to 5.5%. At rates above and below this level, the economy operates inefficiently – for different reasons.

Source: Bureau of Labor Statistics, SA; cber.co.
The Colorado Economy
DIA Passengers and Vehicle Registrations
Denver International Airport
Passenger Count

Denver International Airport – Number of Passengers by Month

Through the first 10 months of 2019, the total passenger count was 7.3% greater than the same period in 2018.

Annual Passengers
2018 – 64.5 million
2017 – 61.4 million
2016 – 58.3 million
2015 – 54.0 million
2014 – 53.4 million

DIA and the surrounding area are becoming a strong economic engine for the state with the addition of the Gaylord Hotel, the approval of the Spaceport for Front Range Airport, and the development of the “aerotropolis”.

Source: FlyDenver.com, cber.co.
New Vehicle Registrations

Colorado

There were 207,863 new vehicles registered in 2000. After the 2001 and 2007 recessions, the number of new vehicle registrations bottomed out in 2009 at 104,540. In 2017, the number of new vehicle registrations finally surpassed the 2000 total.

The reduction in new vehicle registrations has been accompanied by an increase in used vehicle sales.

Through 10 months, there were 166,778 new vehicle registrations, a change of -3.6%. There were 312,874 used vehicle registrations, a change of +5.3%.

Source: Colorado Auto Dealers Association, cber.co.
The Colorado Economy
Building Permits, Valuation, and Case Shiller Index
In a market where there is a perceived housing shortage, the number of single-family permits (blue) has changed -6.7% and the number of multi-family permits (red) has changed -17.6% in the first 10 months, compared to the same period in 2018. About 66% of the permits were single family, compared to 63% during the same period in 2018.
Through ten months, the valuation of single-family permits (blue) is 3.0% greater than 2018 and the change in the valuation for multi-family permits (red) is -6.0% compared to the same period last year. About half of the valuation was for single-family units in 2018 and 2019.

Through nine months, the total valuation of all permits is about the same for 2018 and 2019 while the total number of permits is down significantly.

Source: TAMU Real Estate Center, U.S. Census Bureau, cber.co. Note: Not adjusted for inflation.
After the bubble burst in 2006, the U.S. index bottomed out in 2009 at a YOY rate of -12.8% and the Denver index fell by a YOY rate of -5.7%. During the recovery, the rate of increase for the Denver index has been greater than the rate of increase for the U.S. index in most months.

At the peak of the housing bubble (2006), the YOY increase in the U.S. index (blue) was about +14.5%. At the same time, the Denver index (red) increased by a YOY rate of only +4.4%.

In September, the YOY rate of appreciation was 3.22% for the U.S. and 2.99% for Denver. Since December 2018, the rate of appreciation for the U.S. is 3.55% compared to 3.76% for Denver.
The Colorado Economy
Oil Production and Oil Prices
In September 2019, the United States became a net exporter of crude and petroleum fuels for the first time in 70 years.

Colorado’s production of crude oil reached record levels in 2015, despite the drop in the price of oil. In 2016, rig count was down, but production remained strong, albeit at a slightly lower level than 2015.

New records for production were set in 2017 and 2018, even as the price per barrel increased. Production in 2019 will be slightly stronger than 2018. Average monthly production through 9 months of 2019 is about 15.2 million barrels per month.

Source: EIA, cber.co.
Crude Oil Prices
West Texas Intermediate

Prices were expected to average $54 in 2019, with a range of $36 to $77. On December 20, 2019, the price for a barrel of oil was about $60.

On the last trading day of 2017, the price for a barrel of oil was $60 and on the last day of 2018 it was $44.

Since 2005, average annual prices for crude oil have ranged from $46 to $100 per barrel. There has been greater volatility in the daily prices, $26 to $146.

Source: FRED, EIA, cber.co.

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The Colorado Economy
Summary
Colorado Summary

Colorado Economic Growth is Expected to Continue Growth at a Slower Rate

- The state economy has momentum that will carry into Q1 2020.
- Job growth is solid.
- The population continues to grow at a manageable rate, although there is reduced net migration and a slower natural rate of change.
- Job growth is diversified across many sectors.
- Economic development organizations are laying a solid foundation for the future, although they are recruiting companies that provide a different mix of companies in the state.
- Wage growth varies by sector and occupation.

The outlook for Colorado is positive, but there are more downside risks than upside potential.

Risks Have Accelerated

- There is a lack of qualified workers to fill vacant positions.
- The forecasts published by the state call for much lower employment growth and a projected reduction in individual and corporate income taxes.
- There is increased opposition to growth – “the 1% growth limitation”.
- During the 2019 legislative session there was overreach by the legislative and executive branches that have caused problems.
- The legislature faces challenges because the state’s infrastructure (transportation) is not being adequately funded, teachers are angry about their funding, college costs are out-of-control, fewer residents are attending college in Colorado, a proposed paid family leave could cost $2 billion, and health care costs are soaring.
- Colorado inflation is greater than the U.S.
- Colorado is becoming less business-friendly.
Annual Employment Change in Colorado Employment

Through the first 11 months of 2019, average employment is 52,900 jobs, or 1.9%, greater than the same period in 2018.

Job growth in the first half of 2019 was the weakest H1 since 2011. The state's rate of job growth in the second half accelerated in contrast to the U.S. where it decelerated.

Average annual change (red lines) by decade are as follows:
- 26,400 jobs from 1980 to 1989.
- 65,000 jobs from 1990 to 1999.
- 11,300 jobs from 2000 to 2009.
- 62,500 jobs from 2010 to 2019.

Economic Trends for Colorado Through November 2019

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ACKNOWLEDGEMENTS
A special thank you to Ana and Allyson Horvath for the review and comments of this publication.

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Horvath was the principal investigator for a state and federally funded project to prepare a nanotechnology roadmap for Colorado. As well, he was a co-founder of the Colorado Photonics Industry Association, a trade group for Colorado’s Photonics cluster. Horvath has been an active board member of the group since its inception.

Horvath has also served on the Board of Directors for the Economic Development Council of Colorado, Northwest Denver Business Partnership, Adams County Economic Development, and Broomfield Economic Development Corporation. Horvath has also been the lead for the photonics/electronics cluster in OEDIT’s early stage and proof of concept grant program.