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Economic Trends for Colorado Through October 2019

Colorado-based Business and Economic Research
Prepared
November 22, 2019

2019 Economic Trends for Colorado

Through October

For more than a year there have been numerous articles in the media suggesting a recession is right around the corner. The U.S. and Colorado economies are on solid footing, but most economists agree the economy is growing at a slower rate and there are more risks. Colorado is on track to add 52,300 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.

United States

- U.S. Real GDP, Employment, Job Openings, and Inflation
- U.S. Labor Productivity, Industrial Production and Capacity Utilization
- Manufacturing and Nonmanufacturing Indices
- Retail Sales, and Auto and Light Truck Sales
- NAHB HMI and Housing Starts, and Case Shiller Index
- S&P Performance
- Government and Consumer Debt and Personal Savings
- NFIB Index and Michigan Consumer Sentiment
- Summary

Colorado

- Colorado Real GDP and Contribution to Change
- Colorado Births and Deaths and Population Change
- Employment, Percent Change in Employment, and Unemployment
- DIA Passengers, New Vehicle Registrations, and Venture Capital
- Building Permits, Valuation, and Housing Prices
- Oil Production, Prices, Oil Production by State, Oil and Gas Production by County, U.S. Photovoltaic Module Shipments
- Summary

The 2019 forecast can be found at <https://cber.co/economic-forecasts/cber-co-economic-forecast/>. Monthly economic updates are available at <https://cber.co/economic-updates/>. The 2020 forecast will be available in January.

U.S. Economy





The U.S. Economy

Real Gross Domestic Product, Employment, Job
Openings, and Inflation

Quarterly Real GDP Growth

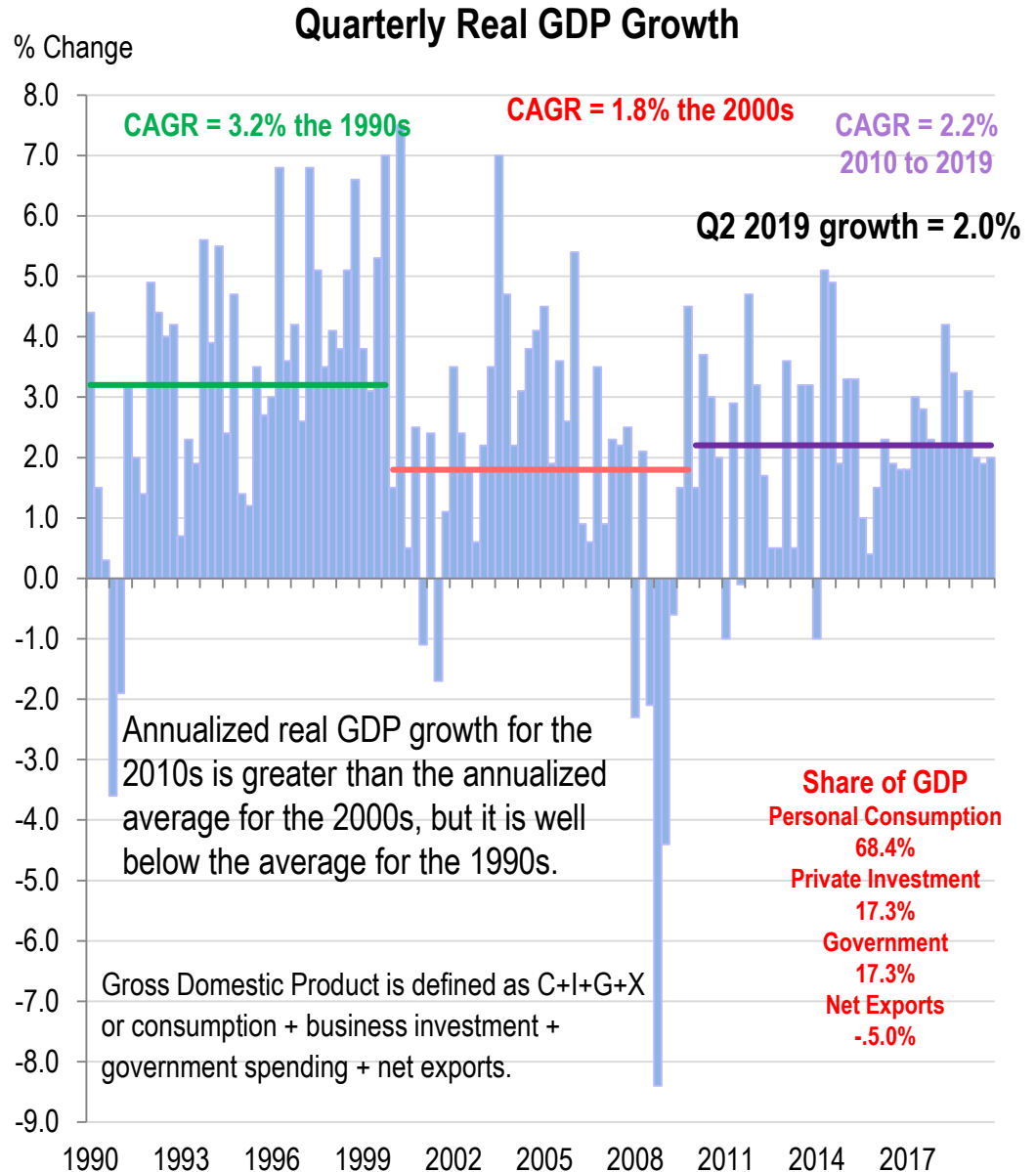
Historical

United States

The first estimate for Q3 2019 real GDP growth was 1.9%. 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% or slightly less in Q4. Overall growth for 2019 was projected to be in the range of 2.3% to 2.5%. It will be at the bottom end of that range.

Projected real GDP for 2020 will be 1.8% to 2.2%. Growth will continue to be driven by personal consumption. In 2020 there may be fiscal stimulus to sustain the expansion because it is an election year.

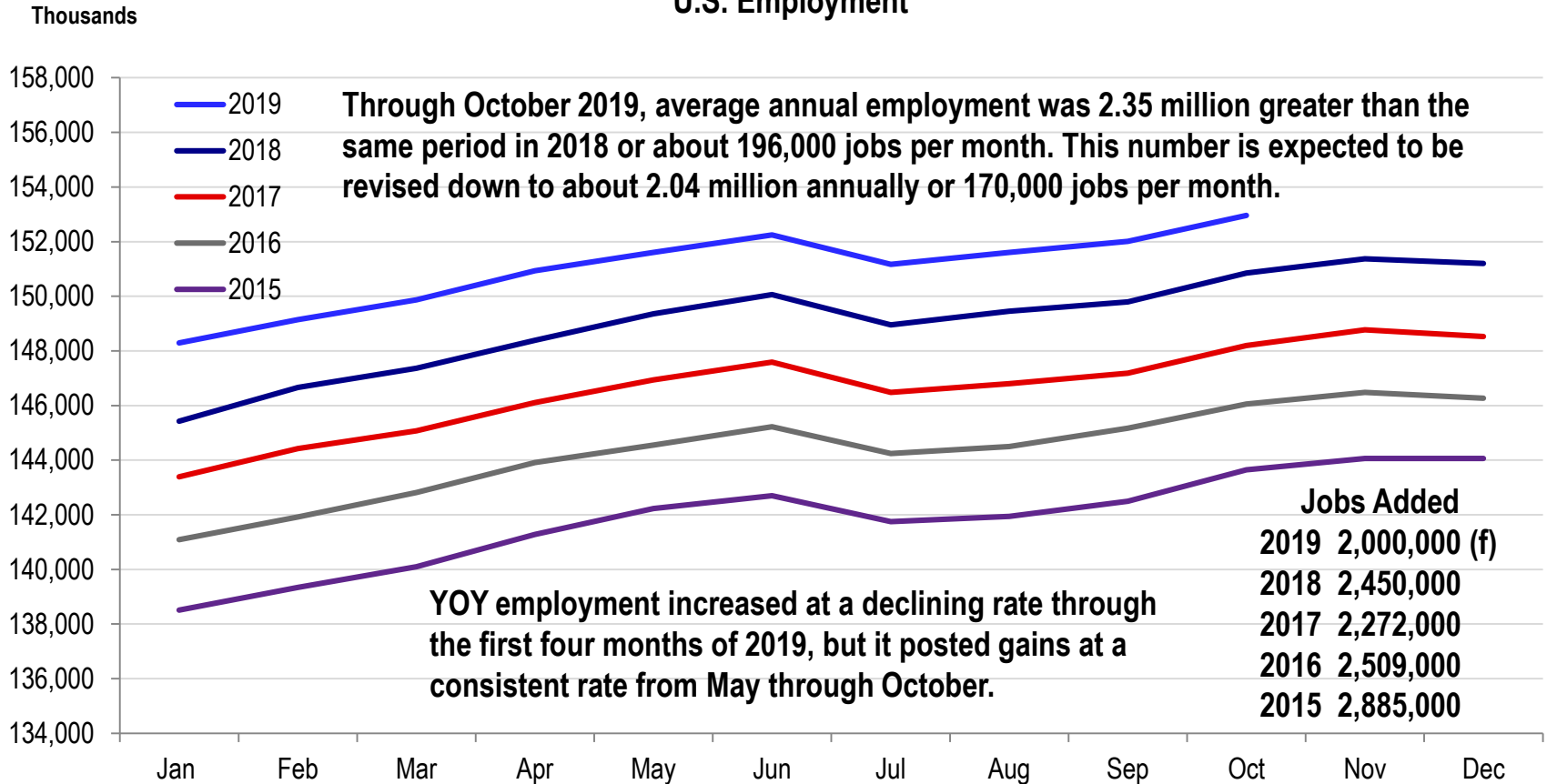


Source: Bureau of Economic Analysis, Table 1.1.1, Share of GDP based on 2017, cber.co.

U.S. Employment

2015 to 2019

U.S. Employment

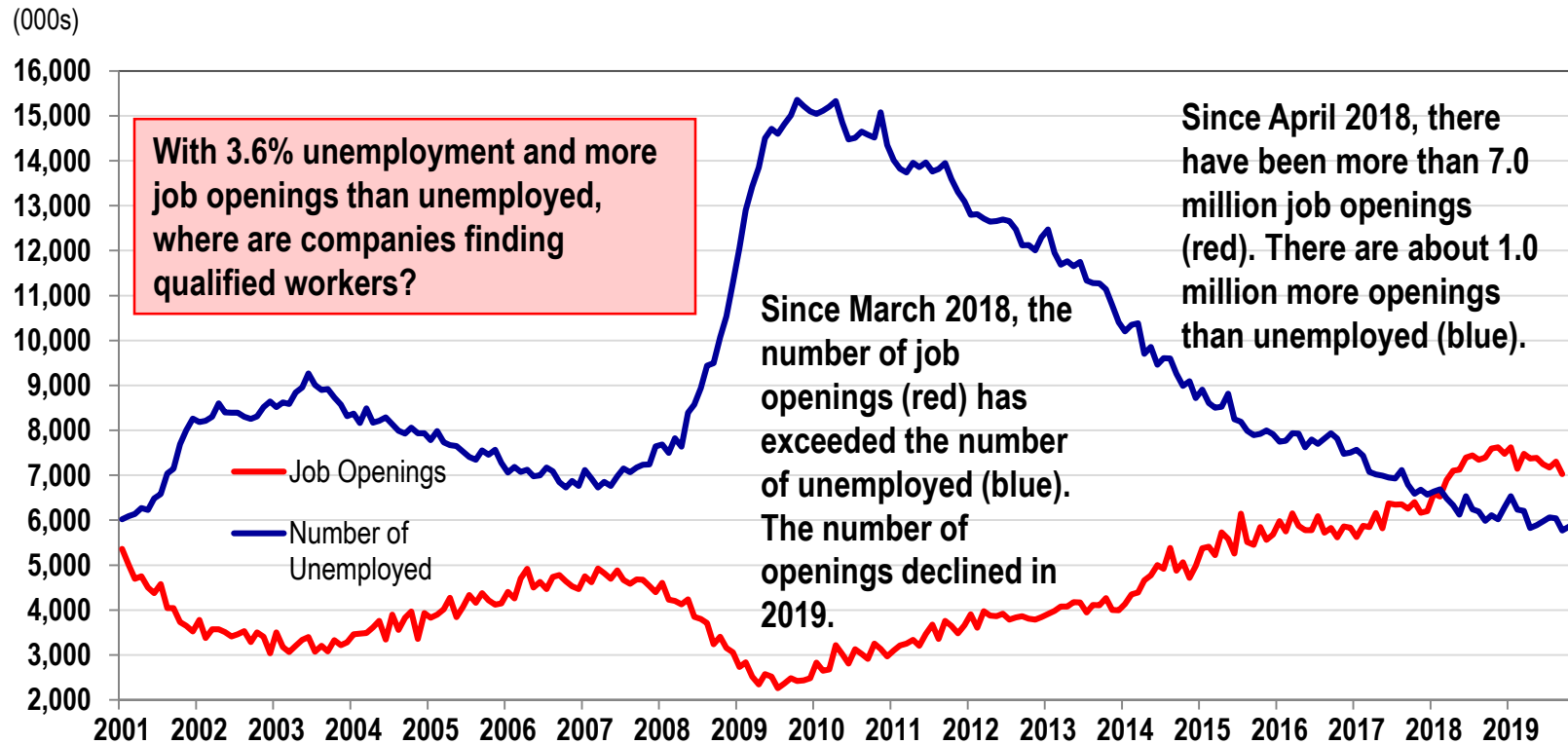


Source: BLS, NSA, cber.co. Note: CES Employment is also referred to as nonfarm wage and salary employment.

Job Openings vs. Number of Unemployed

United States

Job Openings vs. Number of Unemployed



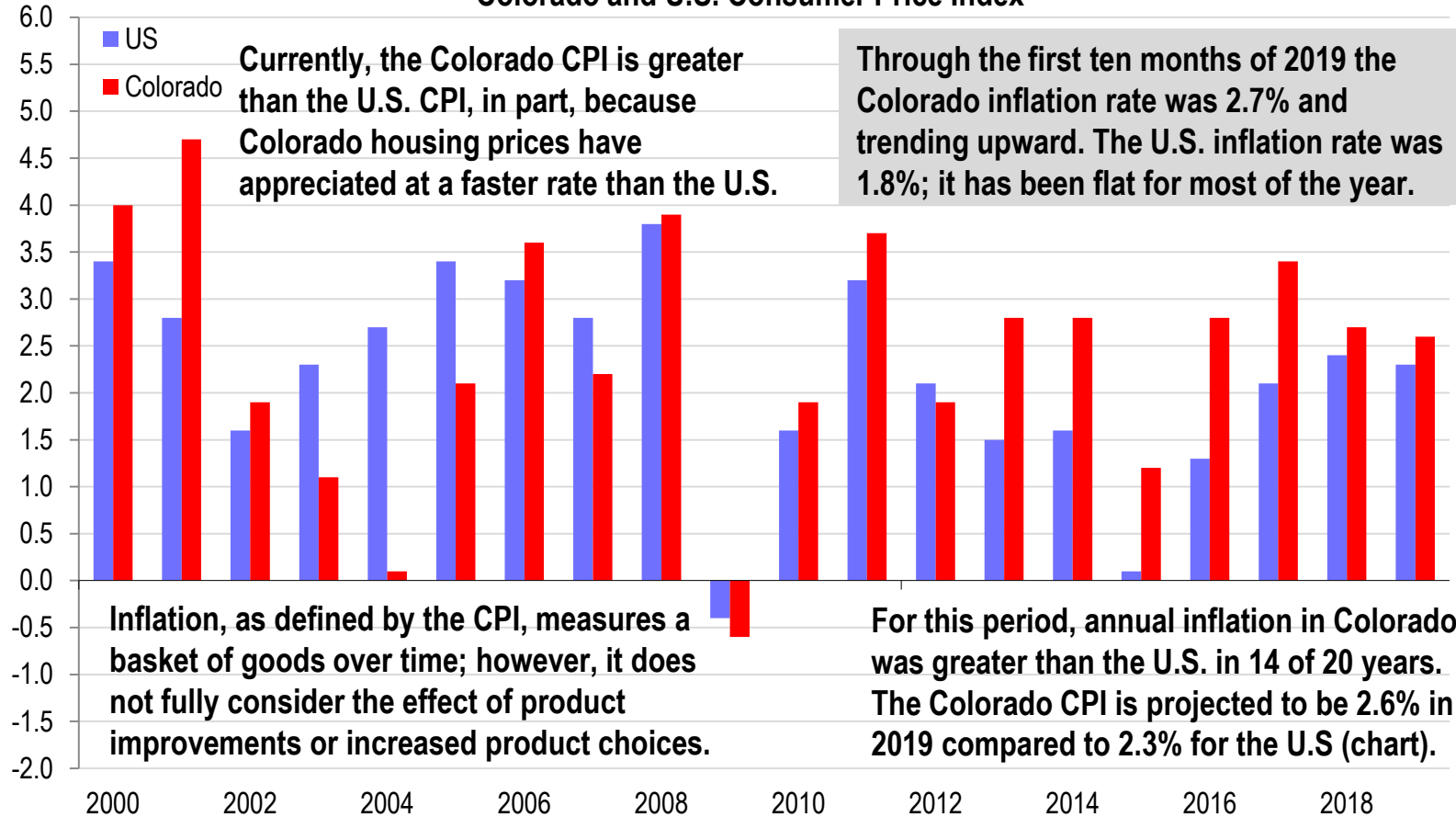
Source: Bureau of Labor Statistics, SA, cber.co.

Consumer Price Index (CPI)

Colorado vs. U.S.

1982-84=100,
% change

Colorado and U.S. Consumer Price Index



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 ten months of 2019 the Colorado inflation rate was 2.7% and trending upward. The U.S. inflation rate was 1.8%; it has been 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 (chart).

Source: Bureau of Labor Statistics, SA, cber.co.

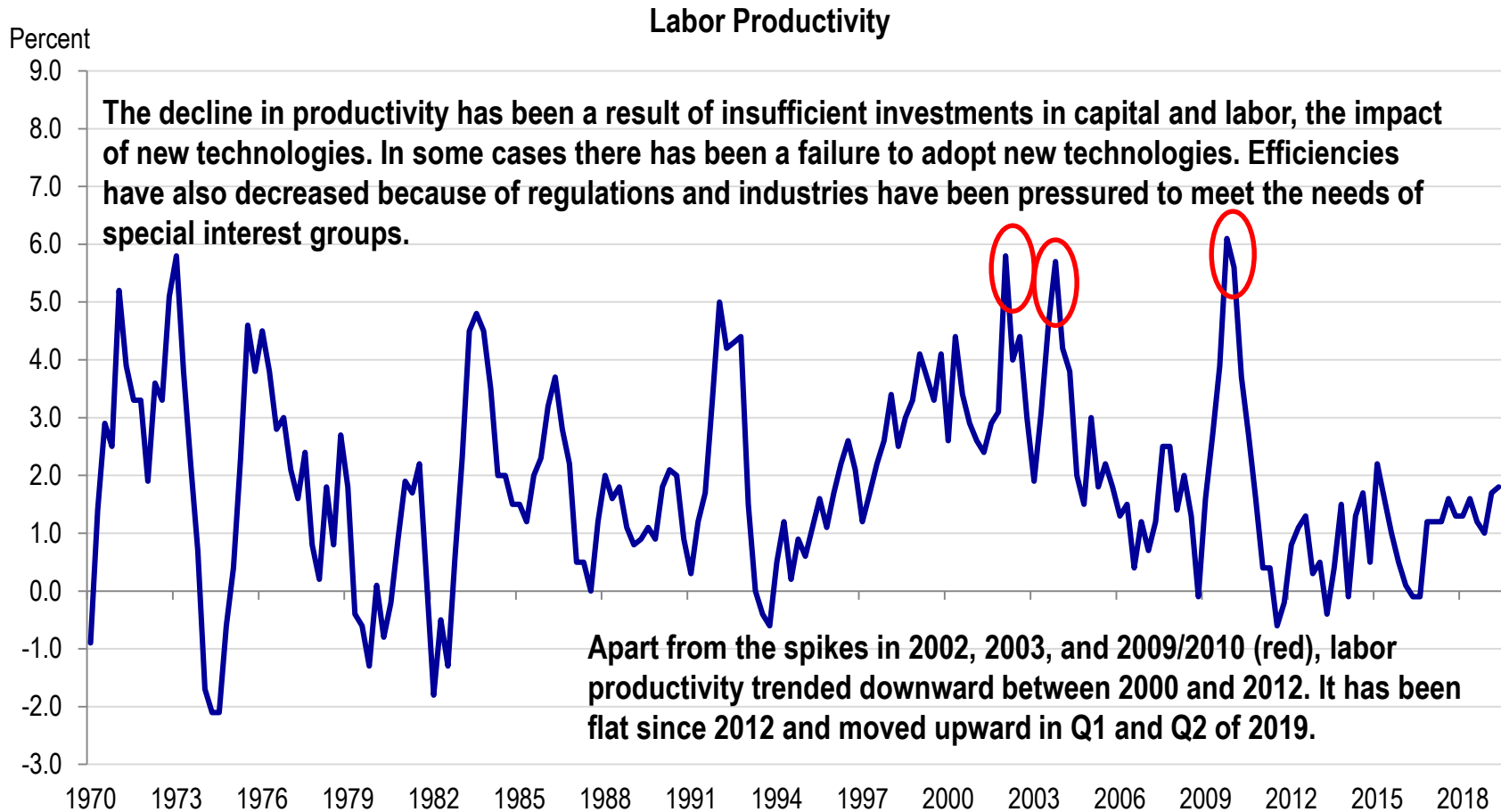


The U.S. Economy

U.S. Labor Productivity, Industrial Production and Capacity Utilization – All Industries

U.S. Labor Productivity (Output per Hour)

Percent Change Same Quarter Prior Year Nonfarm Business



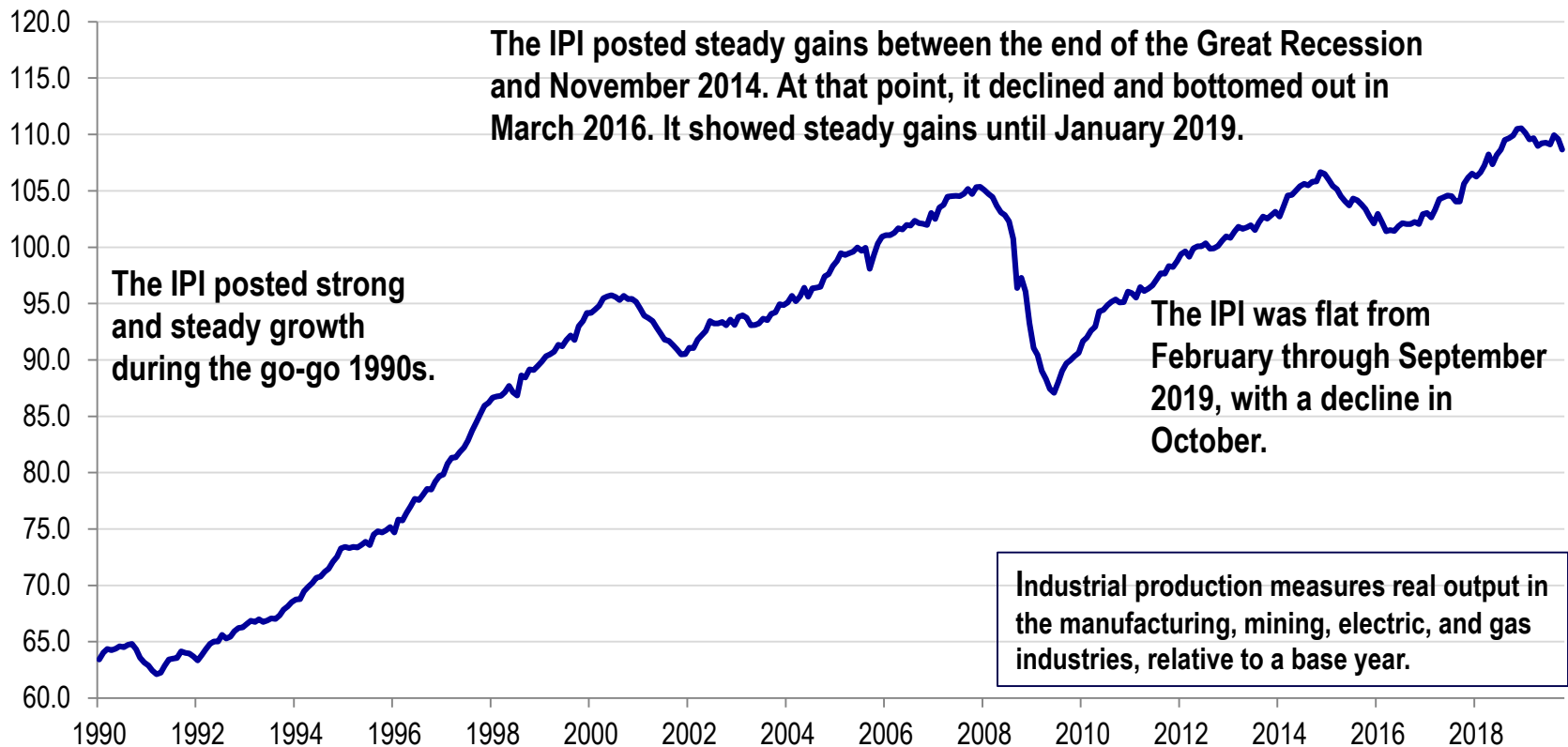
Source: Bureau of Labor Statistics, Major Sector Productivity (NonFarm Business) NSA, cber.co.

Industrial Production Index

All Industries

Industrial Production, All Industries

Index, 2012 = 100



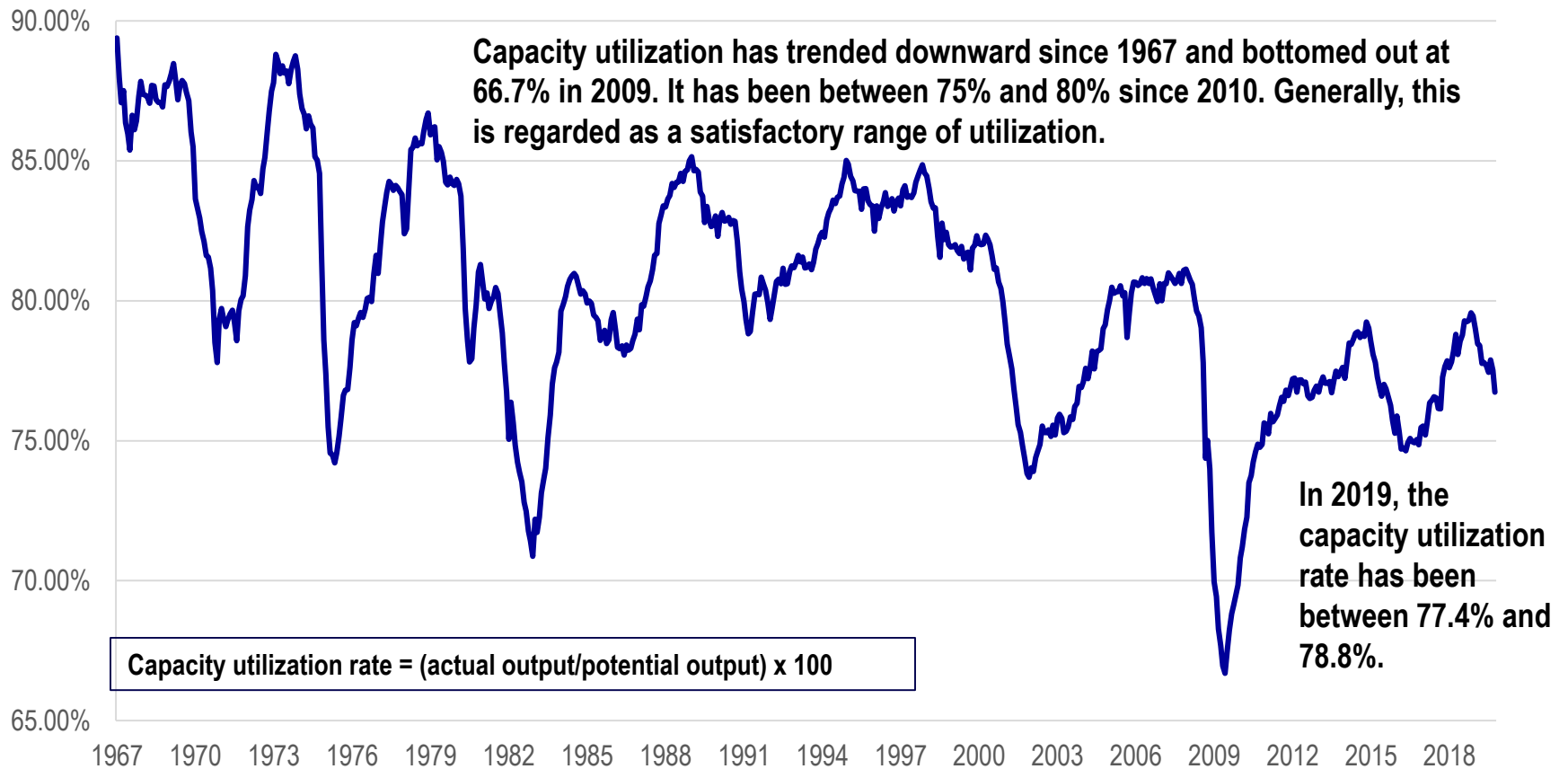
Source: FRED, Federal Reserve, cber.co.

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Capacity Utilization

Total Industry

Capacity Utilization



Source: FRED, Federal Reserve, cber.co.

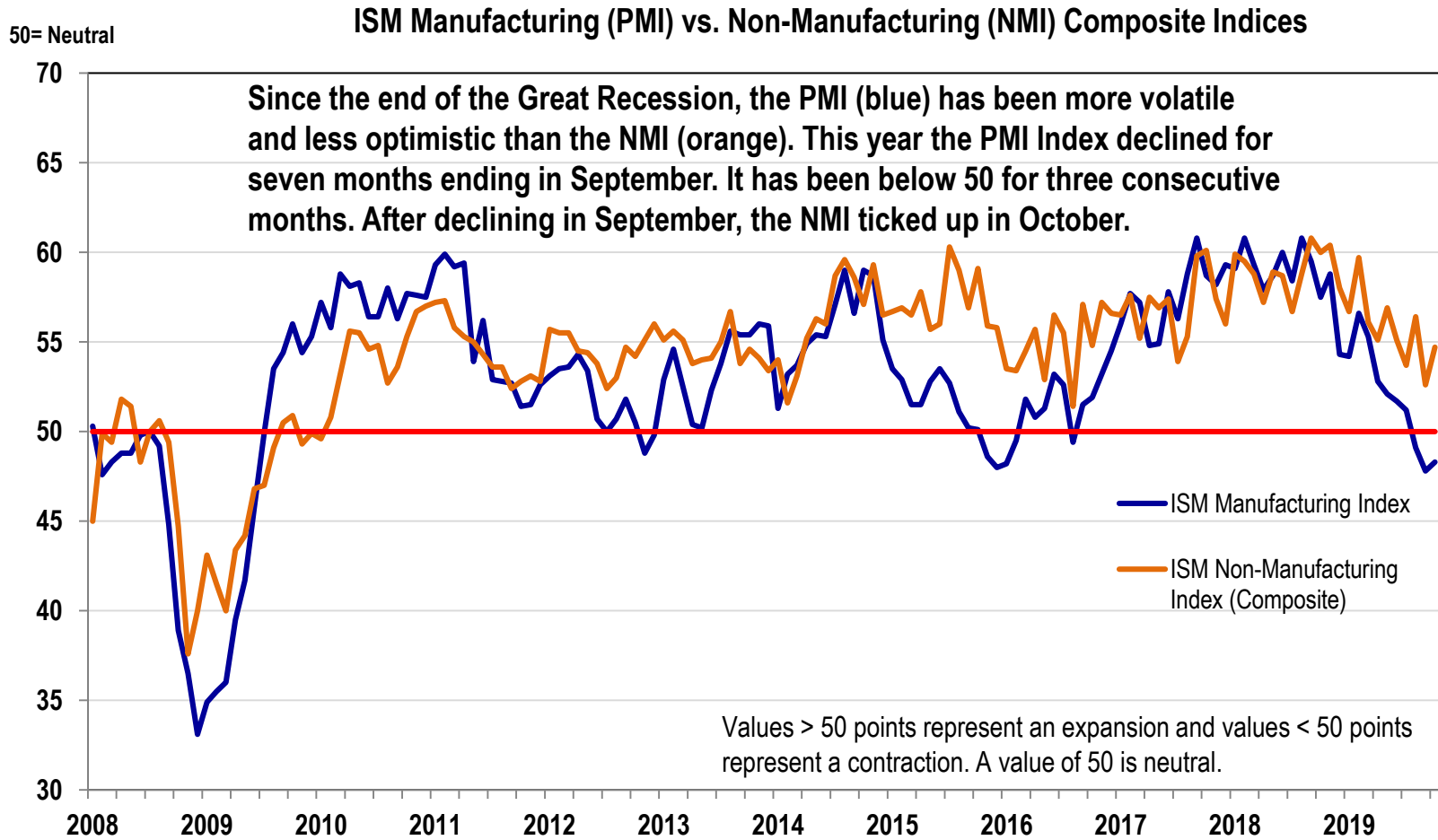


The U.S. Economy

Manufacturing and Nonmanufacturing Indices

ISM PMI Composite Indices

Manufacturing vs. Non-manufacturing



Sources: Institute for Supply Management (ISM), FRED, cber.co.

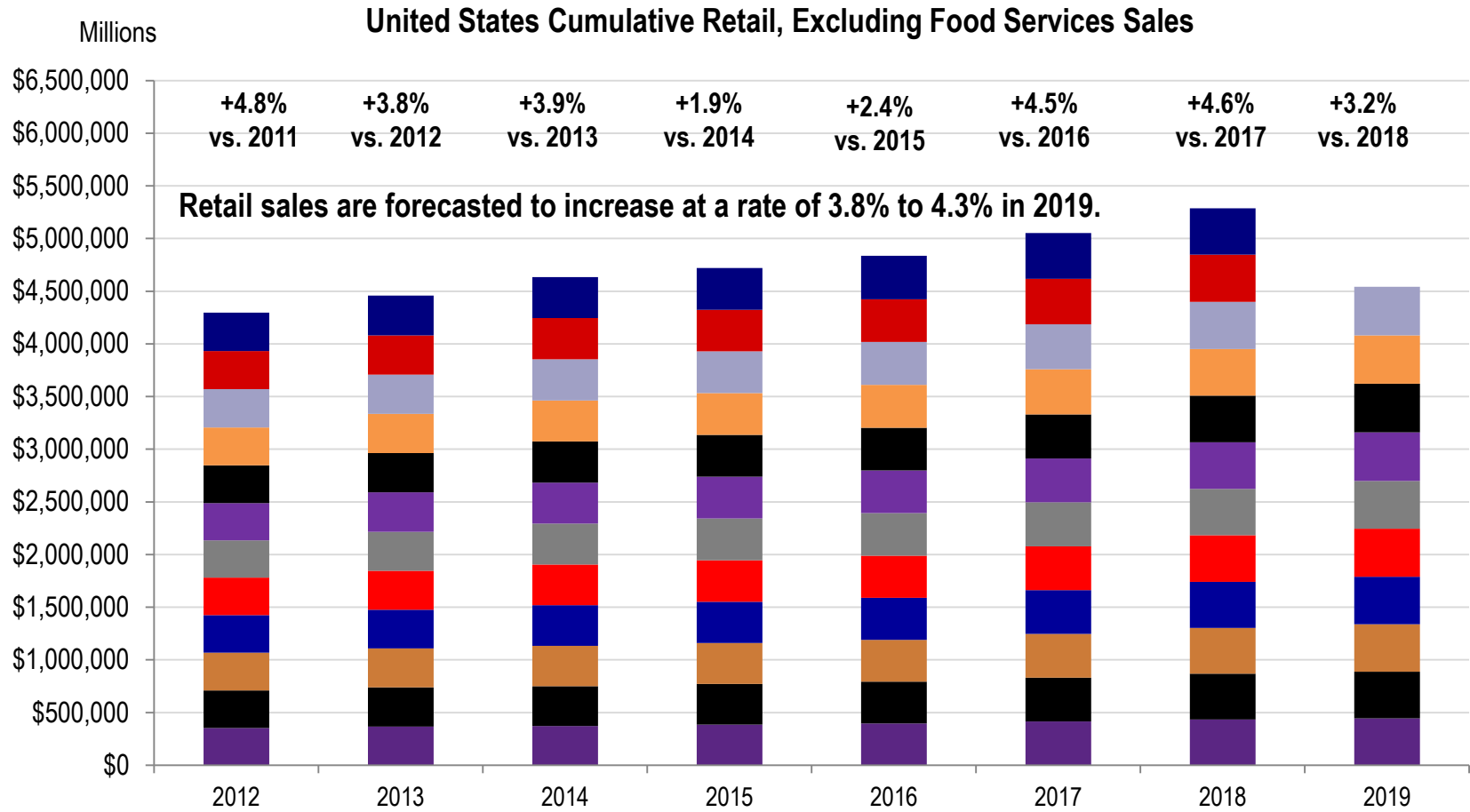


The U.S. Economy

Retail Sales and Auto Sales

Cumulative Retail, Excluding Food Services Sales

Monthly



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.

Retail Sales

Deck the Halls, Hit the Malls

Montgomery Wards, Robert May, Johnny Marks, and Gene Autry were at the forefront of commercializing Christmas with the release of the book and classic song *Rudolph the Red-Nosed Reindeer*.

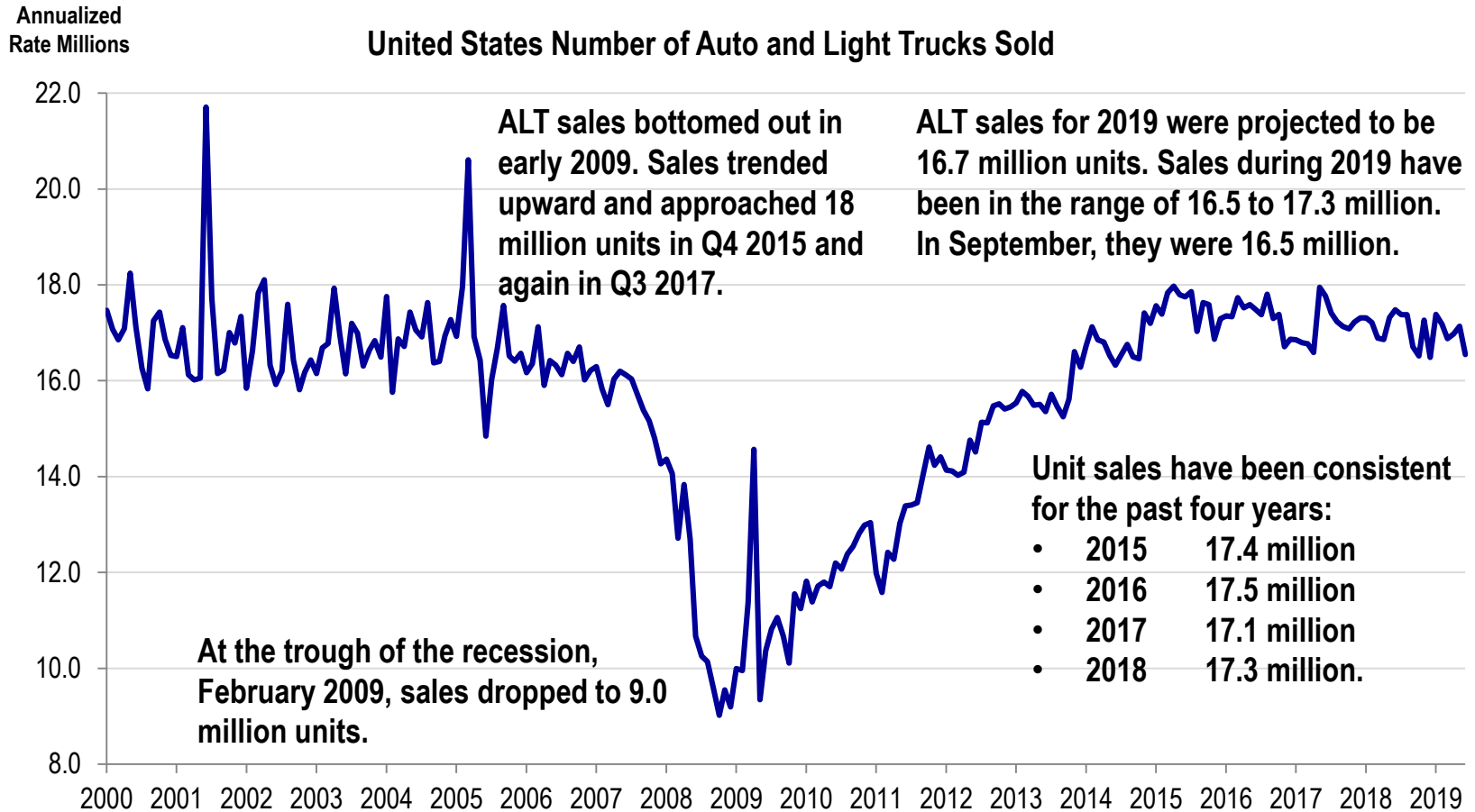
Rudolph will be shining his nose brightly on the 2019 holiday season. The National Retail Federation projects that current holiday sales will be 3.8% to 4.2% greater than in 2018. This compares to 2.1% last year and an average of 3.7% for the past five years.

Deck the halls, hit the malls. Break out your credit cards and keep the Colorado economy strong!



U.S. Auto and Light Truck (ALT) Sales

Monthly (Annualized Rate Millions)



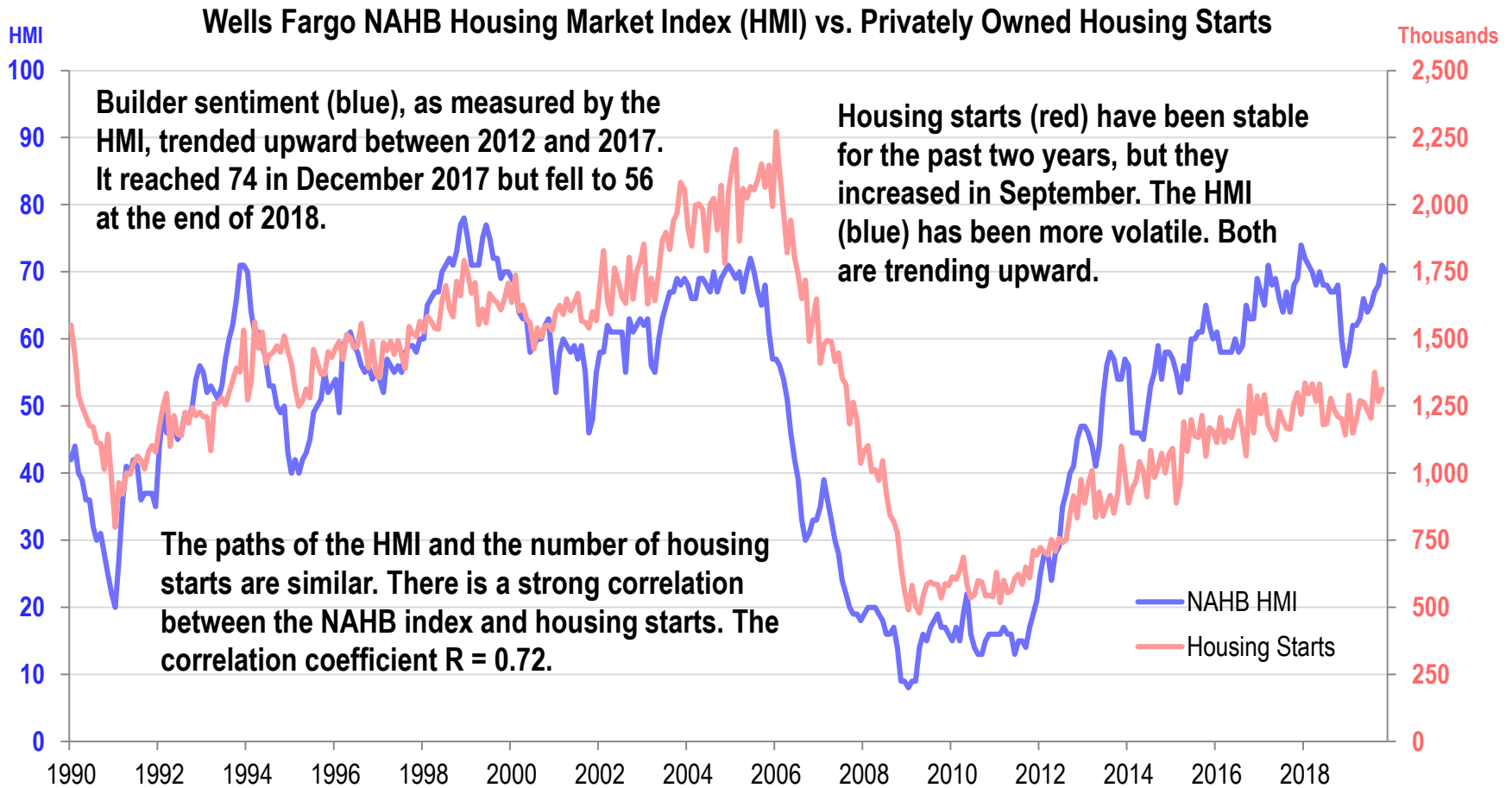
Source: FRED, BEA, SAAR, cber.co.



The U.S. Economy

NAHB HMI and Housing Starts, S&P CoreLogic Case-Shiller

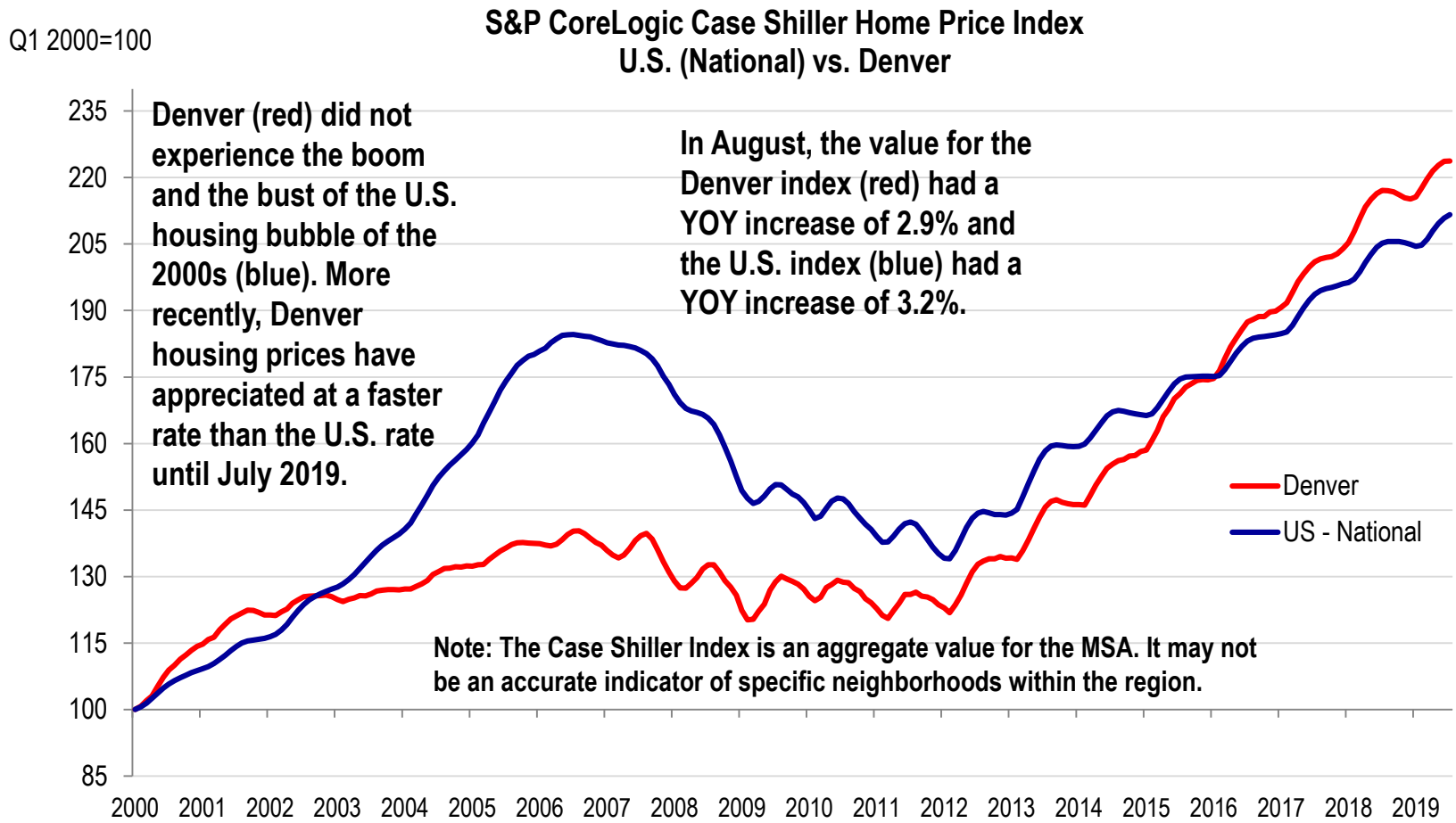
Wells Fargo NAHB HMI vs. Housing Starts



Source: NAHB, cber.co.

Case Shiller Home Price Index

National vs. Denver Index Value



Source: S&P Core-Logic Case-Shiller, cber.co.



United States Economy

S&P Performance

● Standard and Poor's 500 Index



Source: FRED, S&P 500, cber.co.



The U.S. Economy

Government and Consumer Debt and Savings

Debt – Reason for Concern?

Debt is justified if it is responsibly used to make purchases that stimulate consumption and growth.

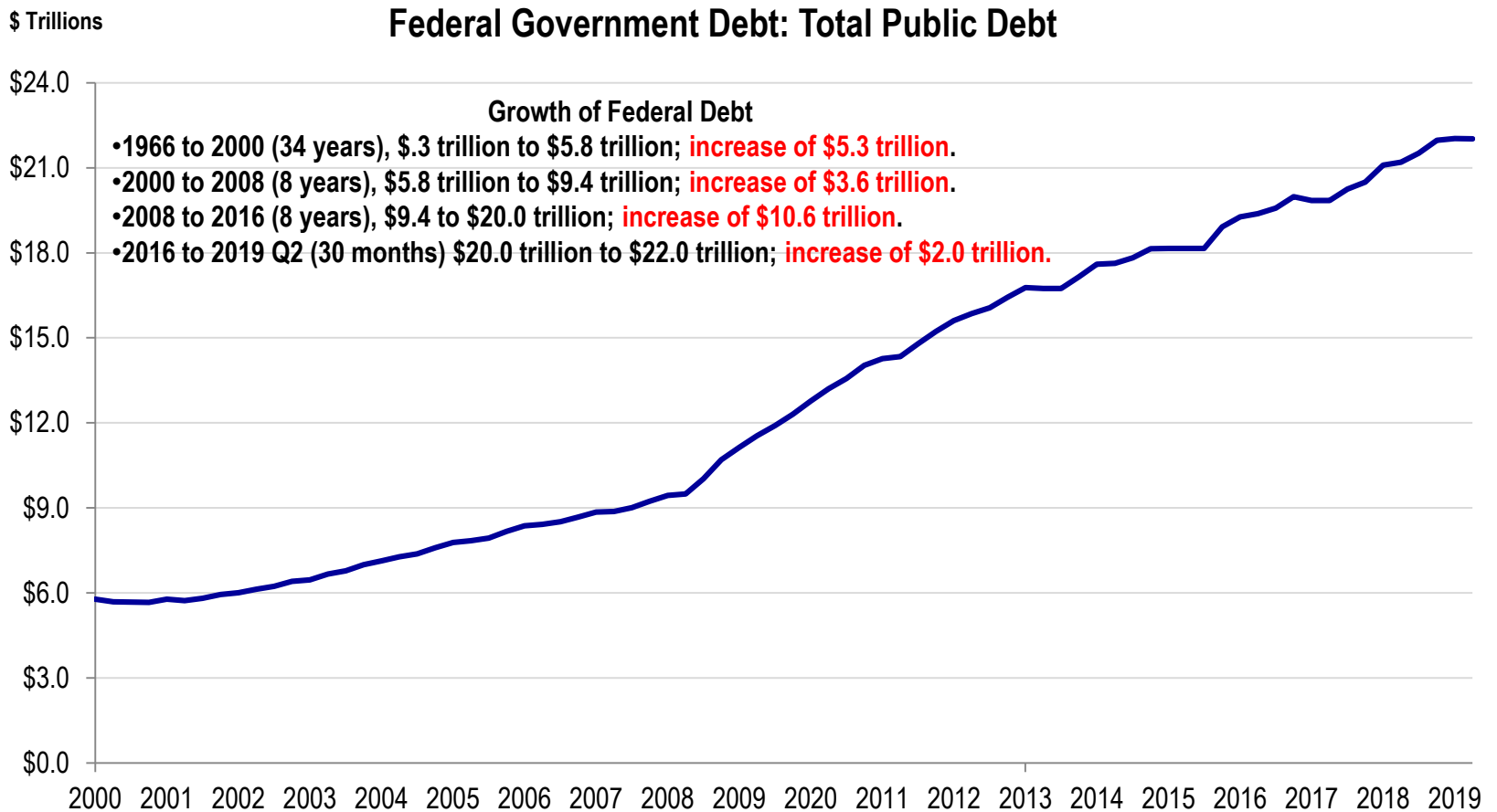
Debt is criticized if debt service obligations prevent consumption and growth.

“The federal budget is on an unsustainable path, with high and rising debt,” Powell told lawmakers. “Over time, this outlook could restrain fiscal policymakers’ willingness or ability to support economic activity during a downturn.”

Jay Powell - Federal Reserve Chairman

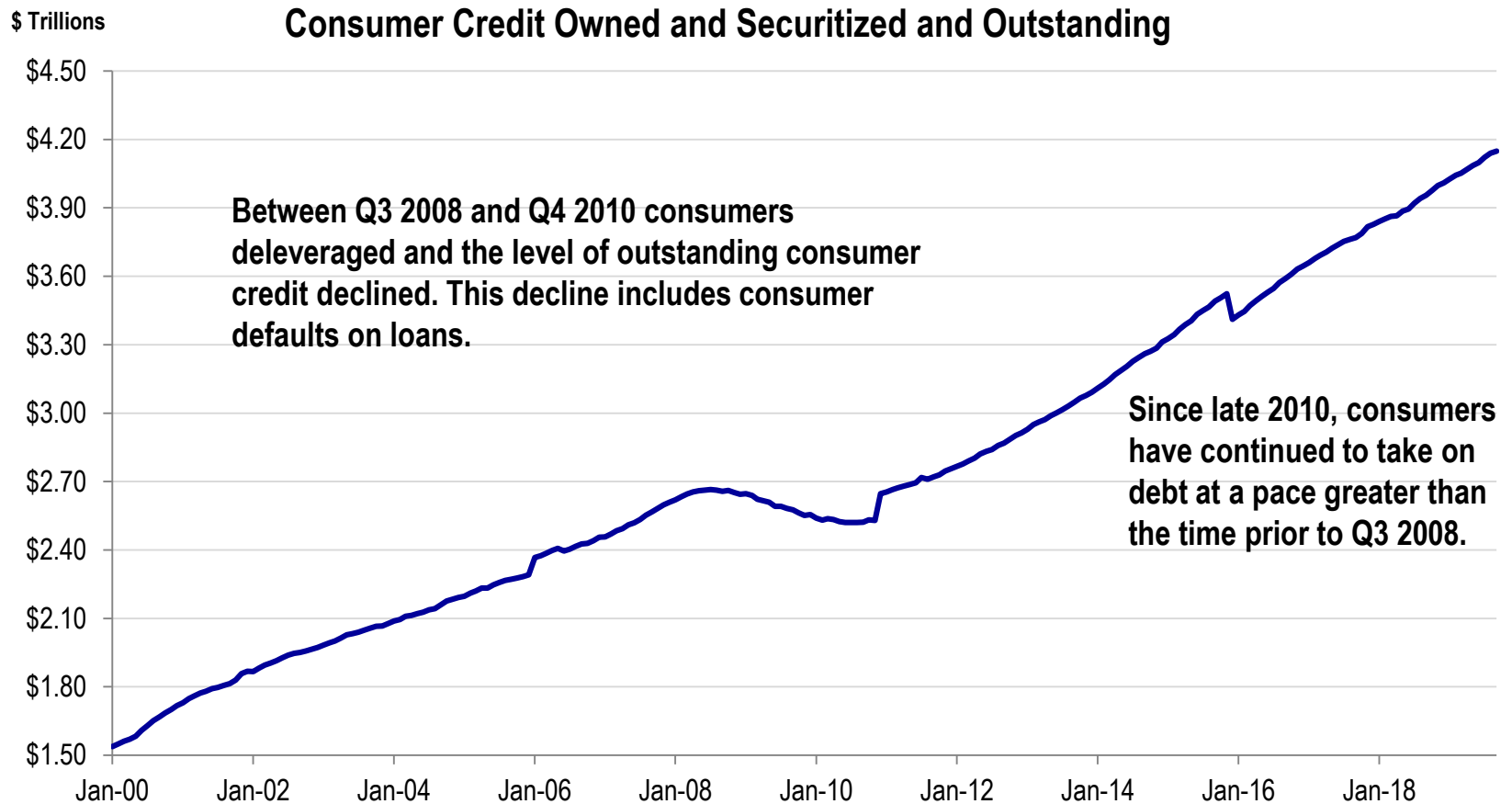
November 2019

U.S. Federal Government Debt



Source: FRED, cber.co.

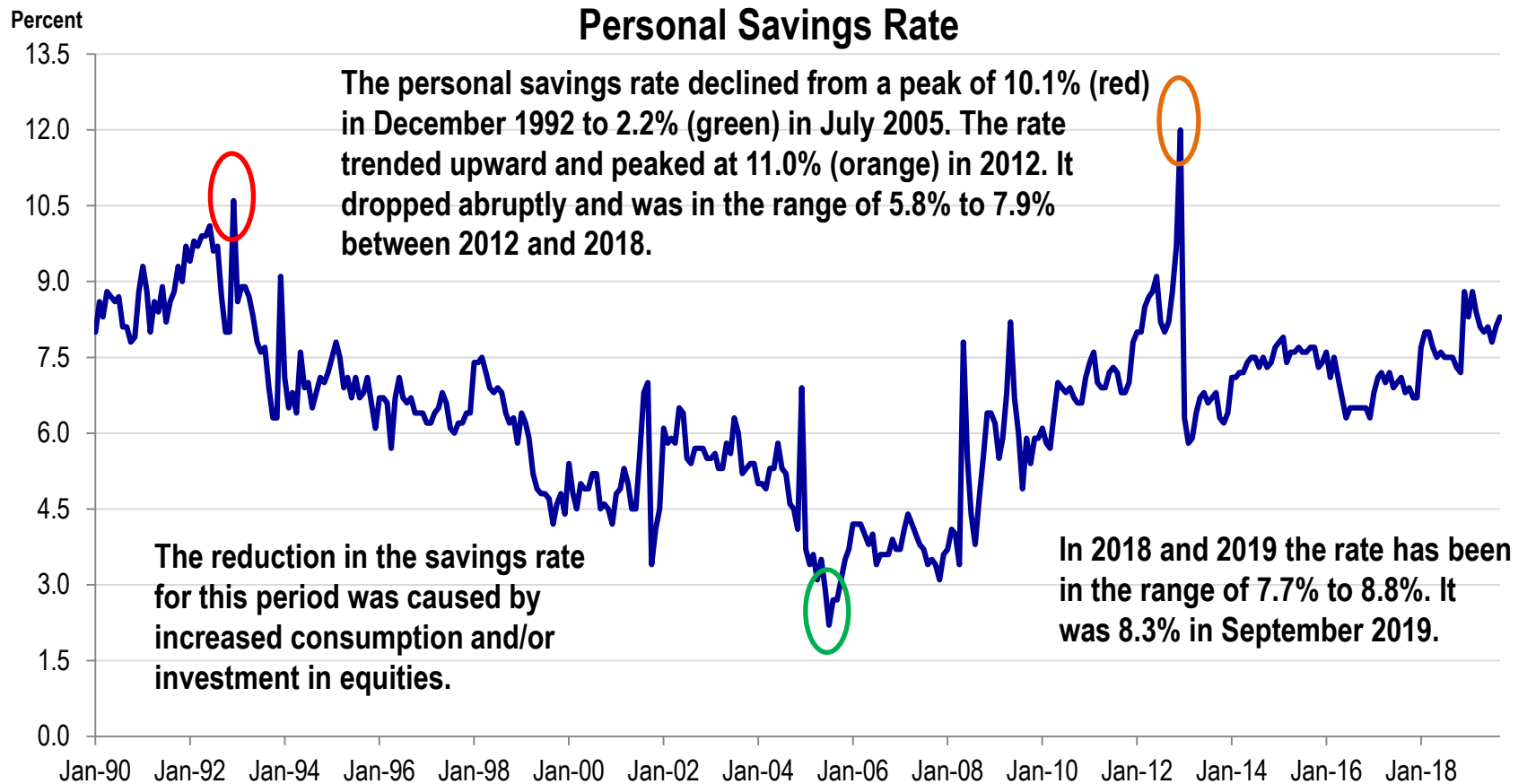
U.S. Consumer Credit Outstanding



Source: FRED, Federal Reserve, G.19, SA.

U.S. Personal Savings Rate

Percentage of Disposable Personal Income



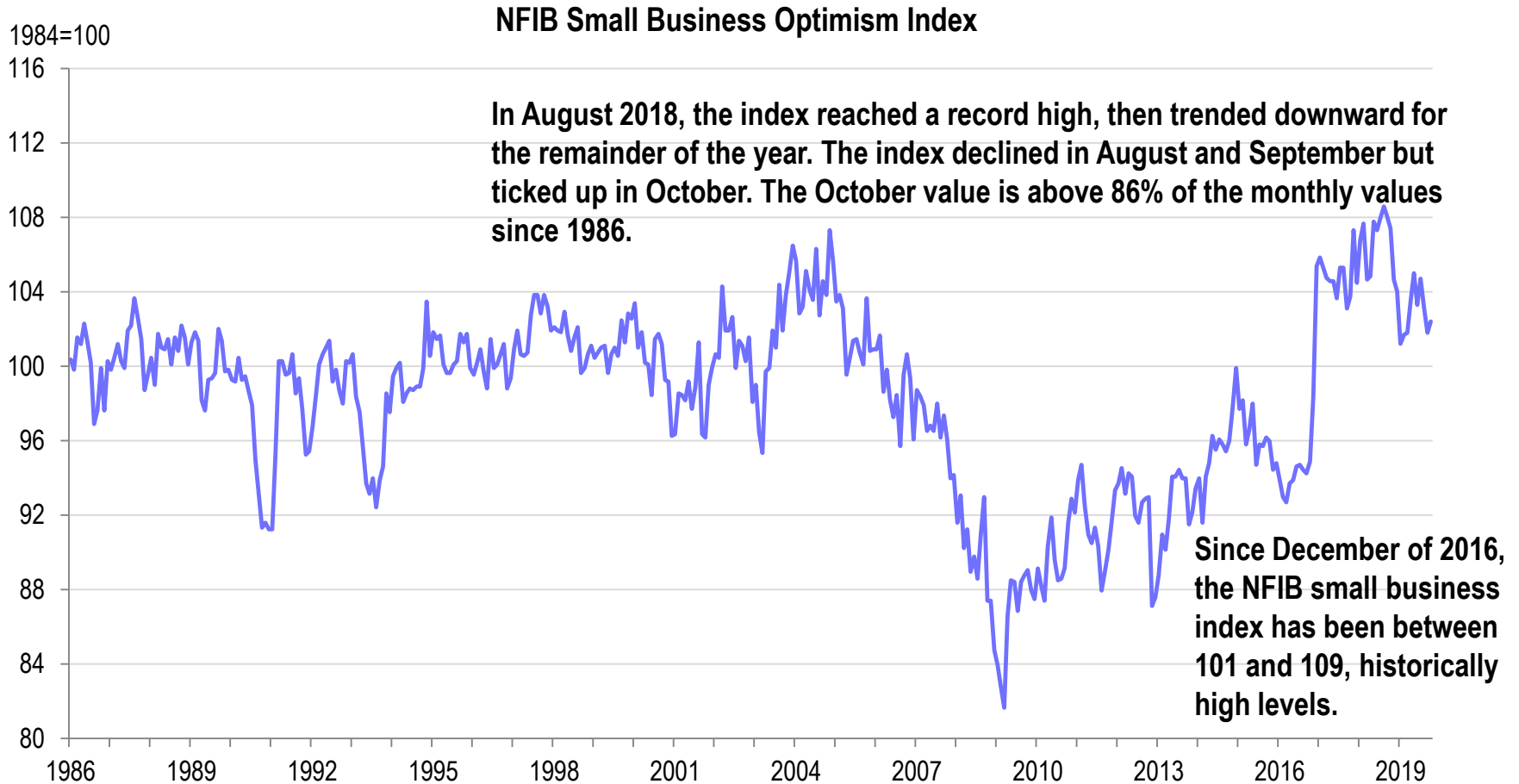
Source: FRED, SA.



The U.S. Economy

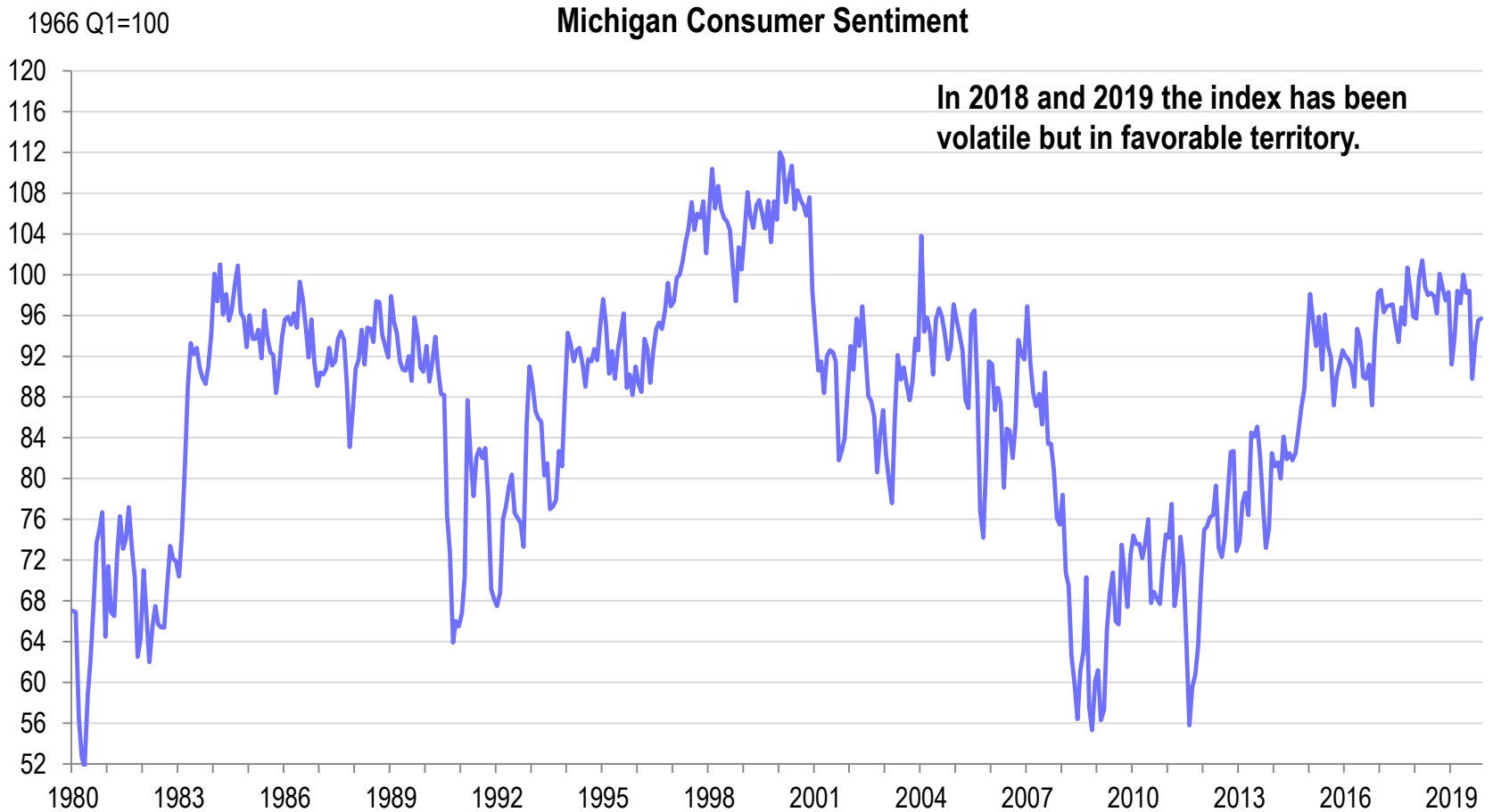
NFIB Index, Michigan Consumer Sentiment

NFIB Small Business Optimism Index



Source: NFIB, cber.co. Index 1984=100

University of Michigan Consumer Sentiment



Source: University of Michigan, cber.co.

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The U.S. Economy

Summary

U.S. Summary

U.S. Economic Growth is Expected to Continue

- 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.
- There will continue to be steady employment growth.
- Wages will continue to increase.
- Interest rates will remain low for an extended period.
- There is a strong possibility of fiscal or monetary stimulus in 2020.

Risks Have Accelerated

- Slower global growth is expected in the short-term.
 - UK, EU, and the Far East economies have slowed.
- Trade policy
 - It is estimated that tariffs have negatively impacted real GDP growth by 0.5% points.
 - Trade talks have begun with China.
 - NAFTA/USMCA is waiting to be ratified by Congress.
- Political gridlock had sidetracked the economic agenda.
- The current level of debt is a concern.

Many economists believe there is greater downside risk than upside potential in the near-term.

A grayscale photograph of a dense forest with a waterfall cascading down a rocky cliff face. The waterfall is the central focus, flowing vertically down a dark, craggy rock wall. The surrounding forest is thick with evergreen trees, their branches and needles creating a complex, textured pattern. The lighting is soft, highlighting the textures of the rocks and the foliage. The overall mood is serene and natural.

The Colorado Economy



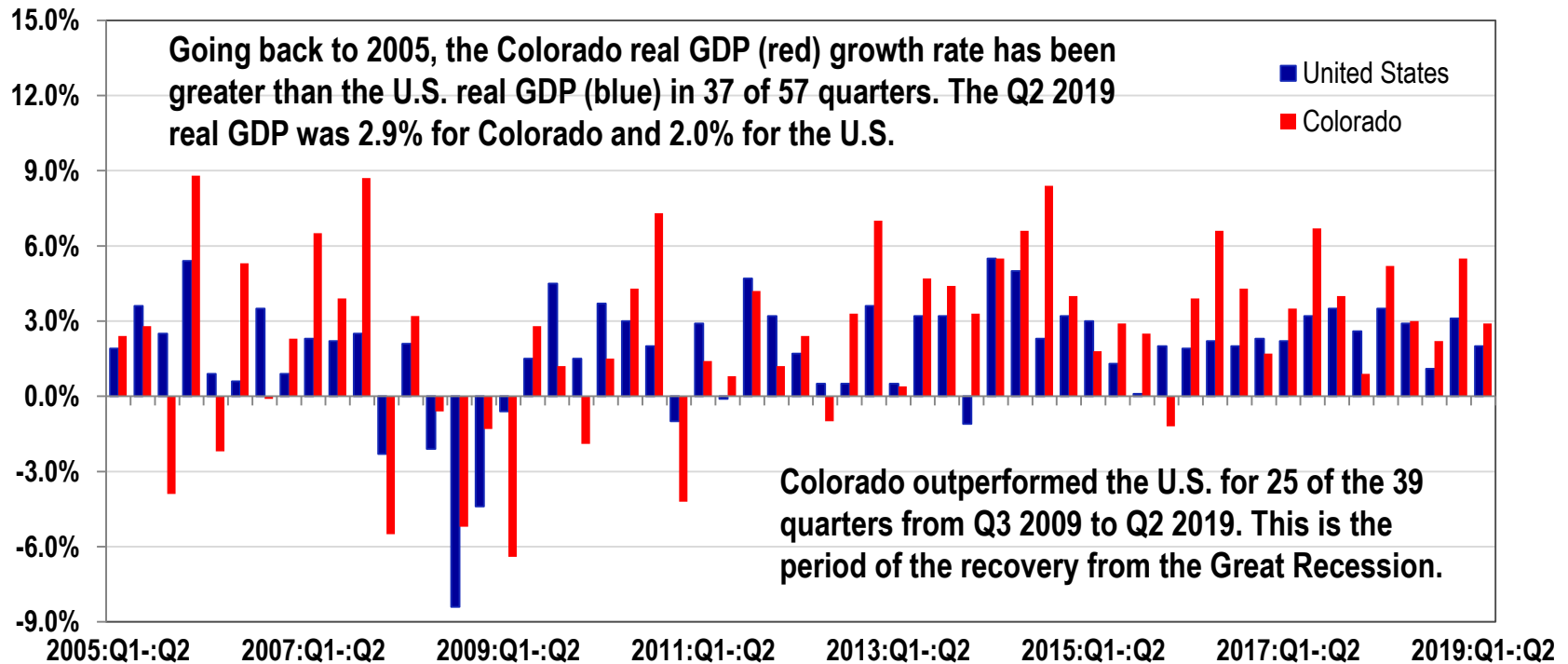
The Colorado Economy

Gross Domestic Product and Contribution to GDP by Sector

Real Gross Domestic Product

Colorado vs. U.S. (Quarterly)

Change in the Real Gross Domestic Product Quarterly Rate

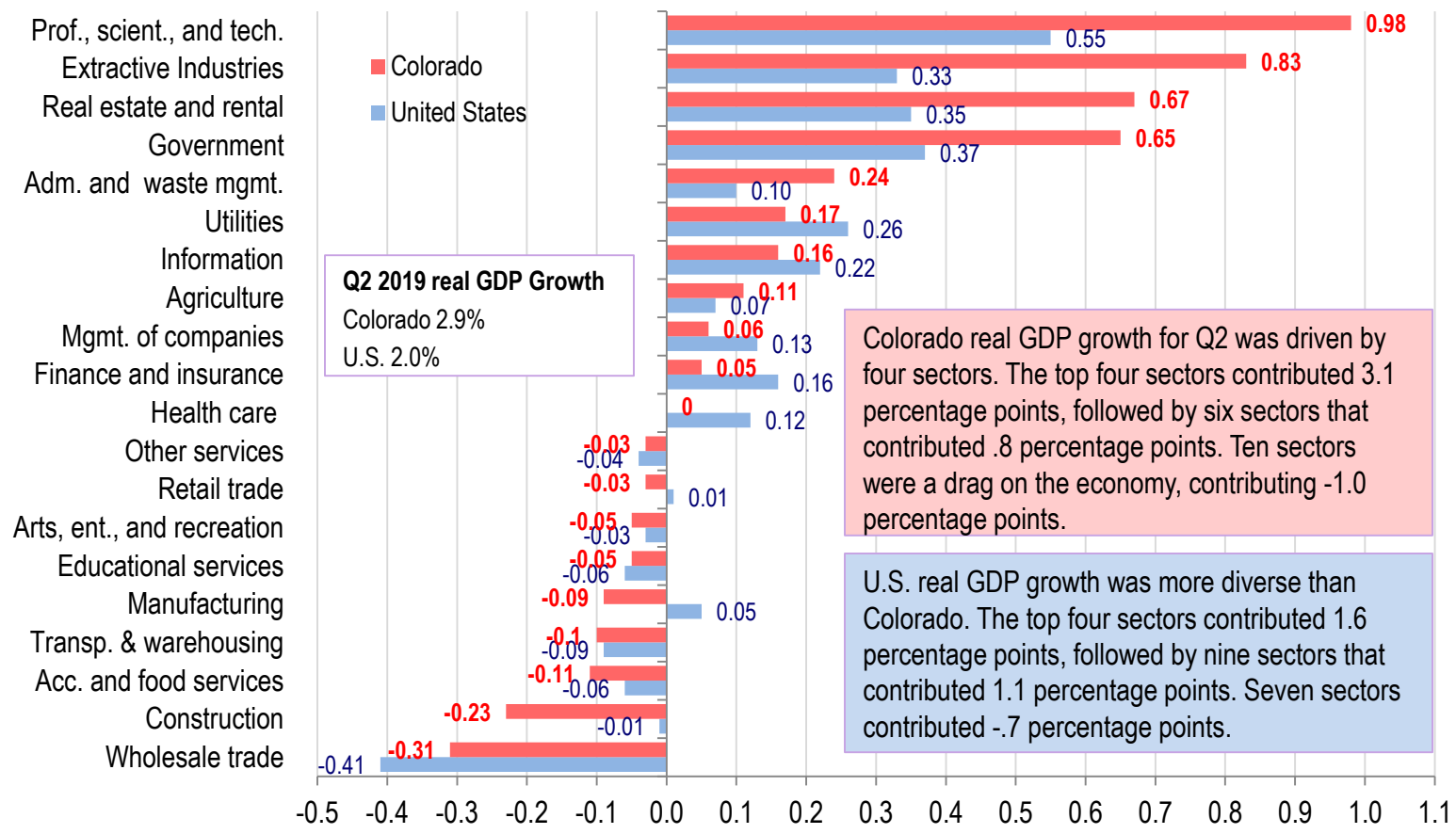


Source: Bureau of Economic Analysis. Note: U.S. real GDP is summary of states GDP.

2019 Q2 Contribution to Real GDP by Sector

Colorado vs. U.S

Percentage Points of Contribution to Colorado and U.S. Real GDP Q2 2019



Source: Bureau of Economic Analysis. Note: This reflects change from the prior period.



The Colorado Economy

Colorado Births and Deaths and Population Change

Colorado Population

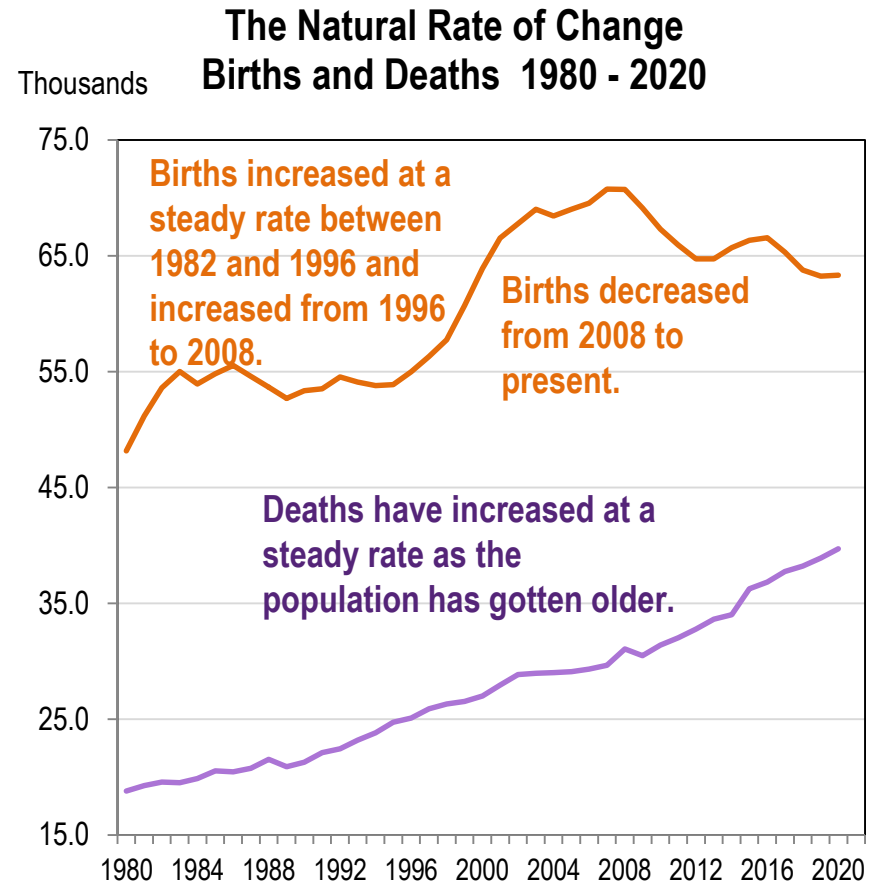
The Natural Rate of Change

Population increases and decreases are a result of the natural rate of change (births minus deaths) and the change in net migration (people moving into the state minus people moving out of the state).

The number of births was flat from 1984 to 1996, but between 1996 and 2008 they increased. Since 2008, the number of births has decreased.

The number of deaths has increased at a steady rate as the population has gotten older.

The increase in the number of deaths and the decline in the rate of births has caused the natural rate of change to increase at a slower rate since 2009.



Colorado Population

Components of Change

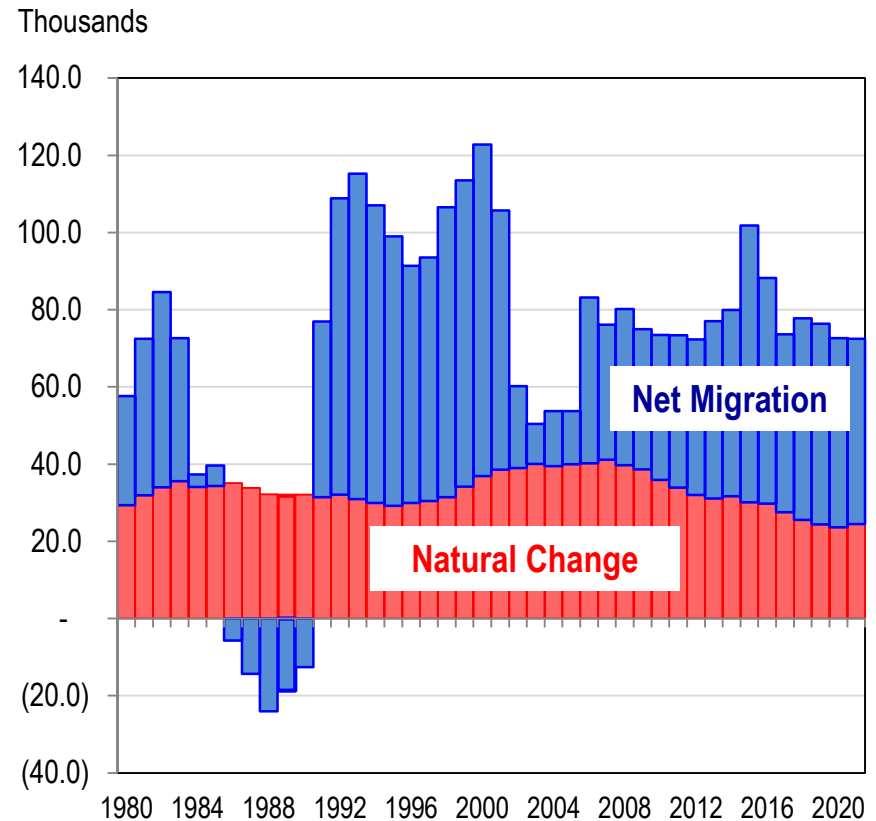
Population increases and decreases are a result of the natural rate of change (births minus deaths) and the change in net migration (people moving into the state minus people moving out of the state).

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 a 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.

Change in Colorado Population 1980 - 2020



Colorado Population Trends

Population Trends That Affect the Colorado Economy

- The state's population is not growing evenly across all counties. In fact, the population in about half the counties did not increase between 2010 and 2018.
- The 65+ population is small compared to other age categories. It is growing at different rates across the state.
- The ethnic mix in Colorado is changing. Minorities will be a greater share of the population in the future.
- There are fewer job opportunities and wages are lower in rural counties.
- A majority of the school districts are in rural counties. For financial reasons, 104 of 178 school districts have four-day school weeks.
- The fertility rate is declining. As a result, the under 18 population has decreased in 40 of the state's 64 counties. As a result, K-12 FTE enrollment numbers are increasing at a slower rate.

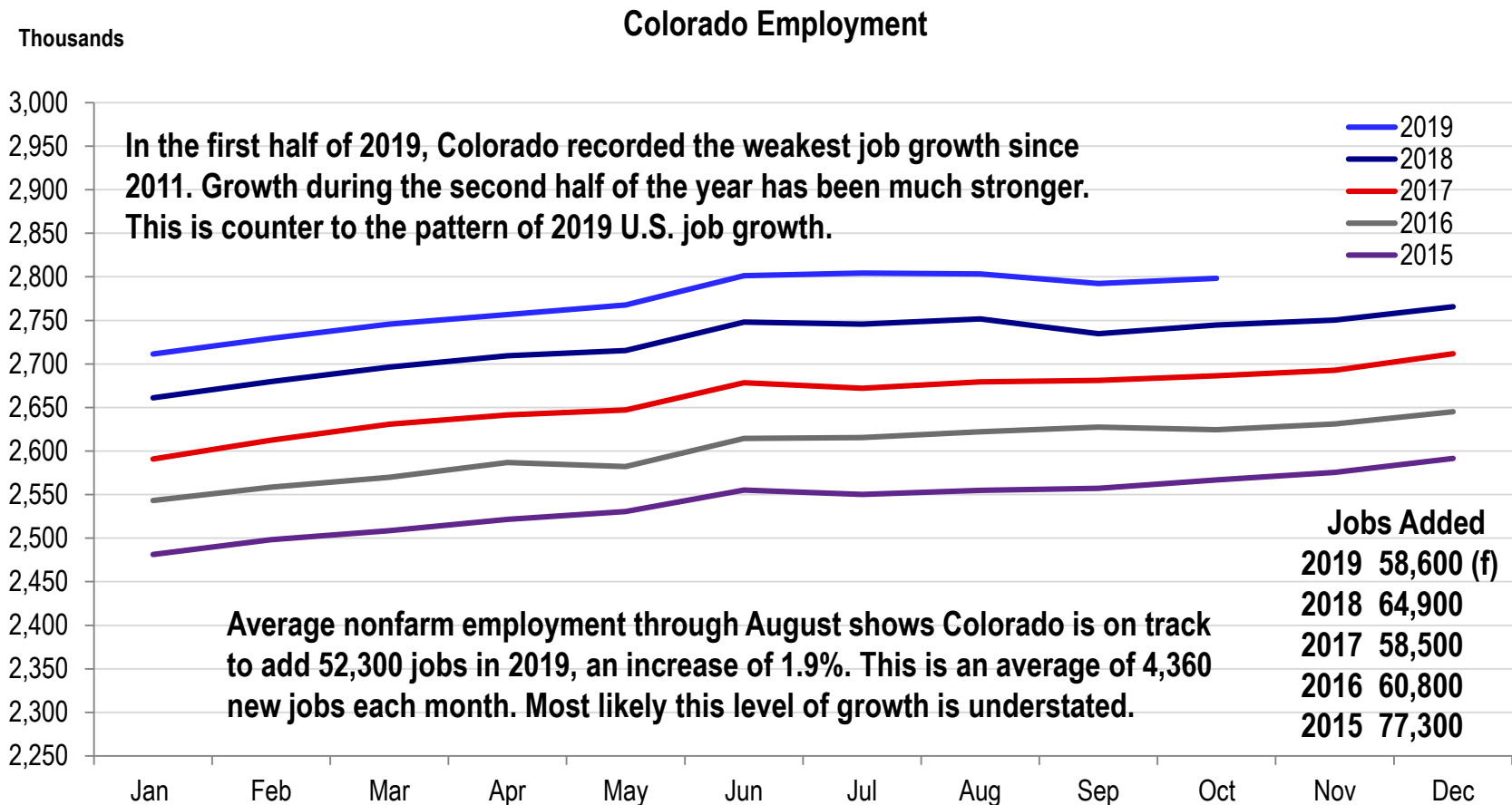


The Colorado Economy

Employment, Rate of Employment Growth, and
Unemployment Rate

Colorado Employment

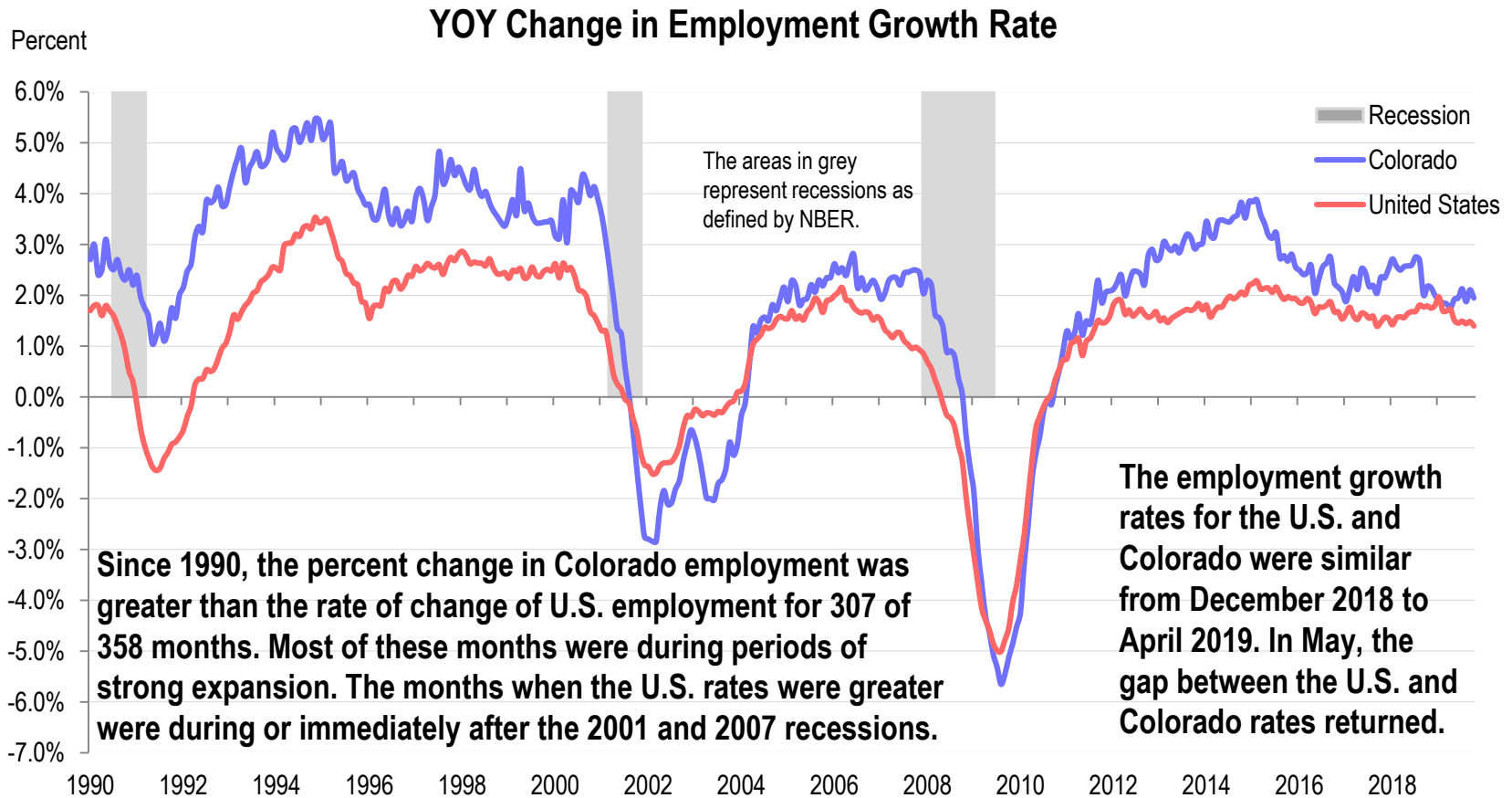
2015 to 2019



Source: BLS, cber.co. Note: CES Employment is also referred to as nonfarm wage and salary employment.

YOY Percent Change in Employment

Colorado vs. U.S.



Source: Bureau of Labor Statistics, NSA, NBER, cber.co.

Unemployment Rate U.S. vs. Colorado

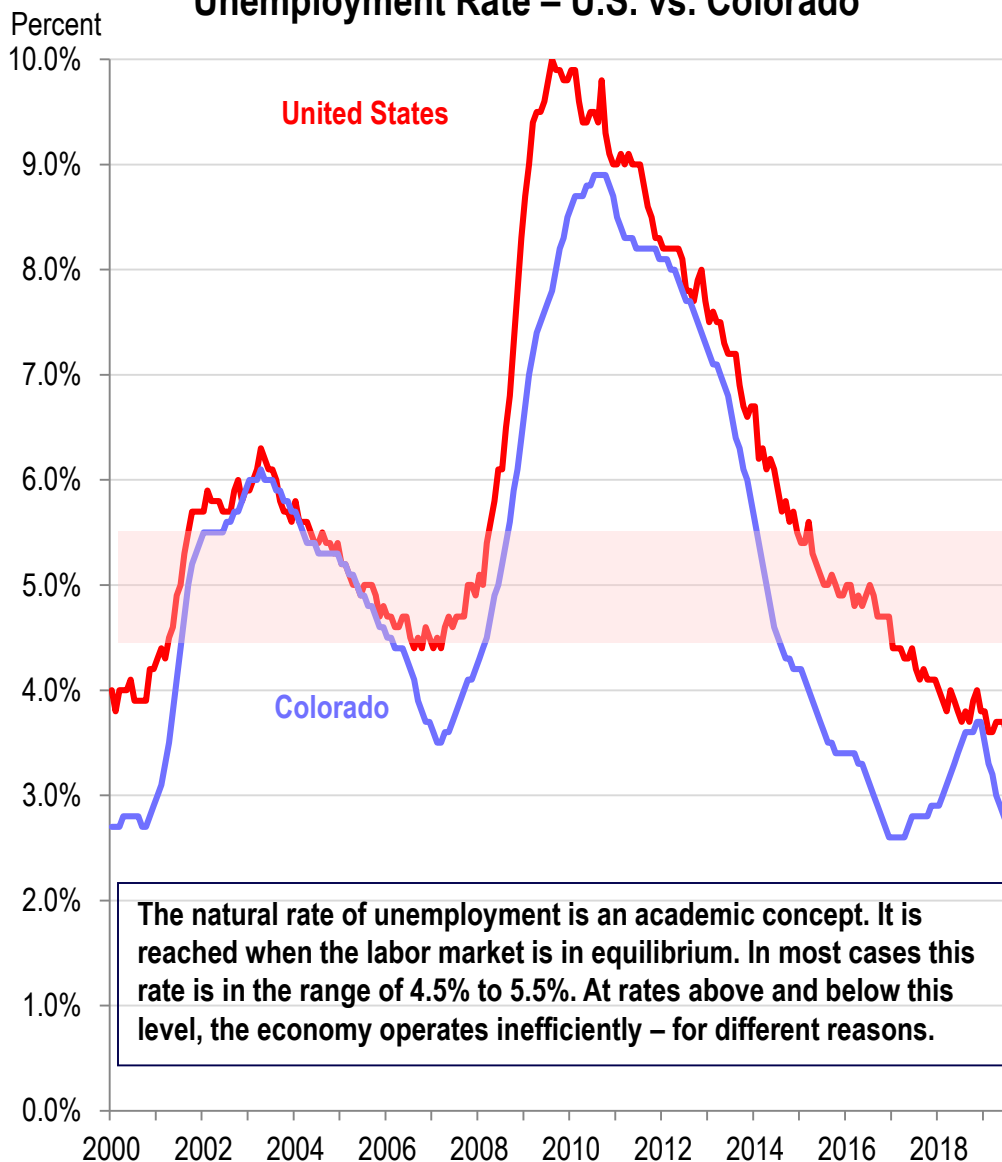
In October 2019, the unemployment rate for Colorado dropped to 2.6% compared to 3.6% for the U.S.

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 31 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 61 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%.

Unemployment Rate – U.S. vs. Colorado



Source: Bureau of Labor Statistics, SA; cber.co.



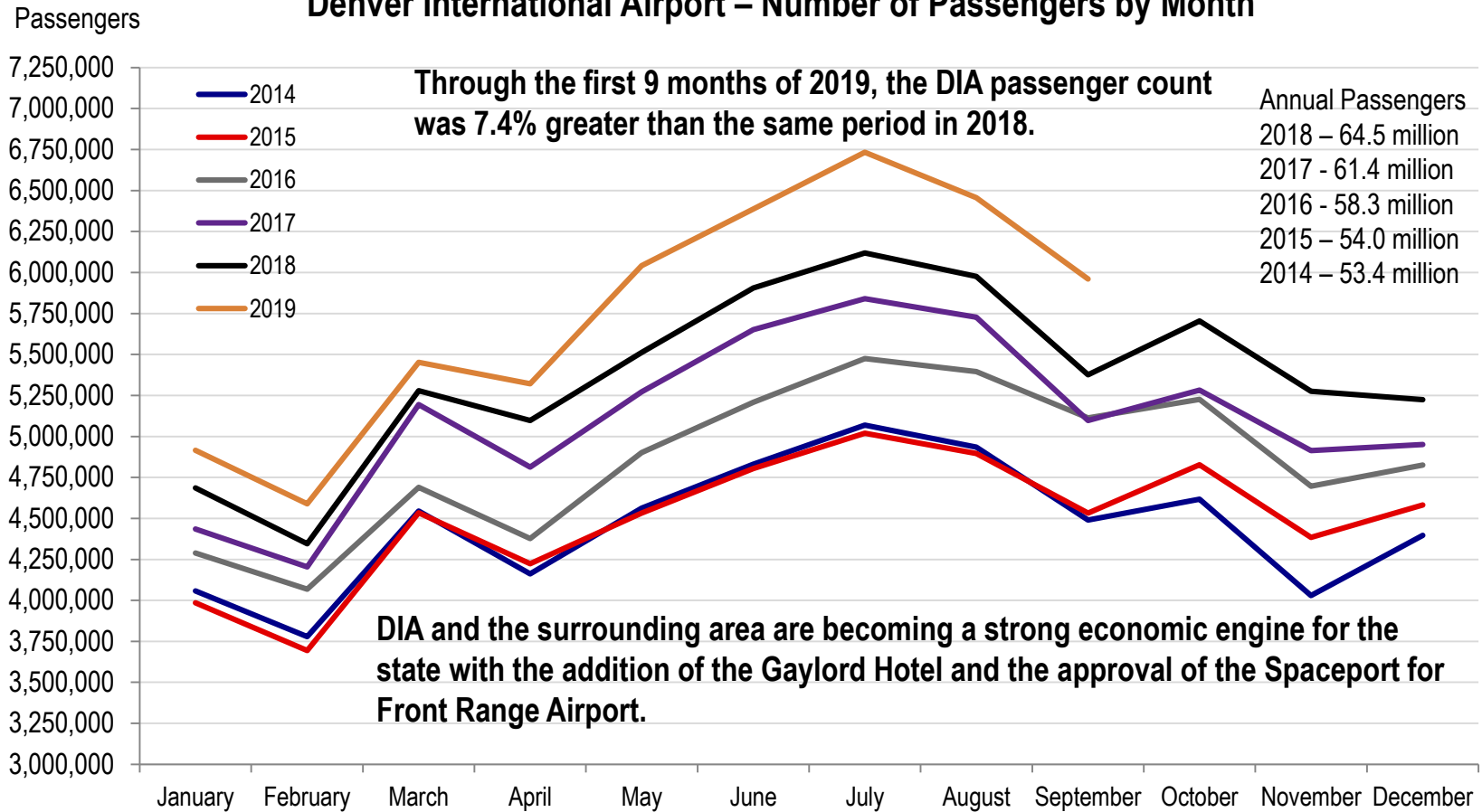
The Colorado Economy

DIA Passengers, Vehicle Registrations, and Venture Capital

Denver International Airport

Passenger Count

Denver International Airport – Number of Passengers by Month



Source: FlyDenver.com, cber.co.

● DIA Construction Continues

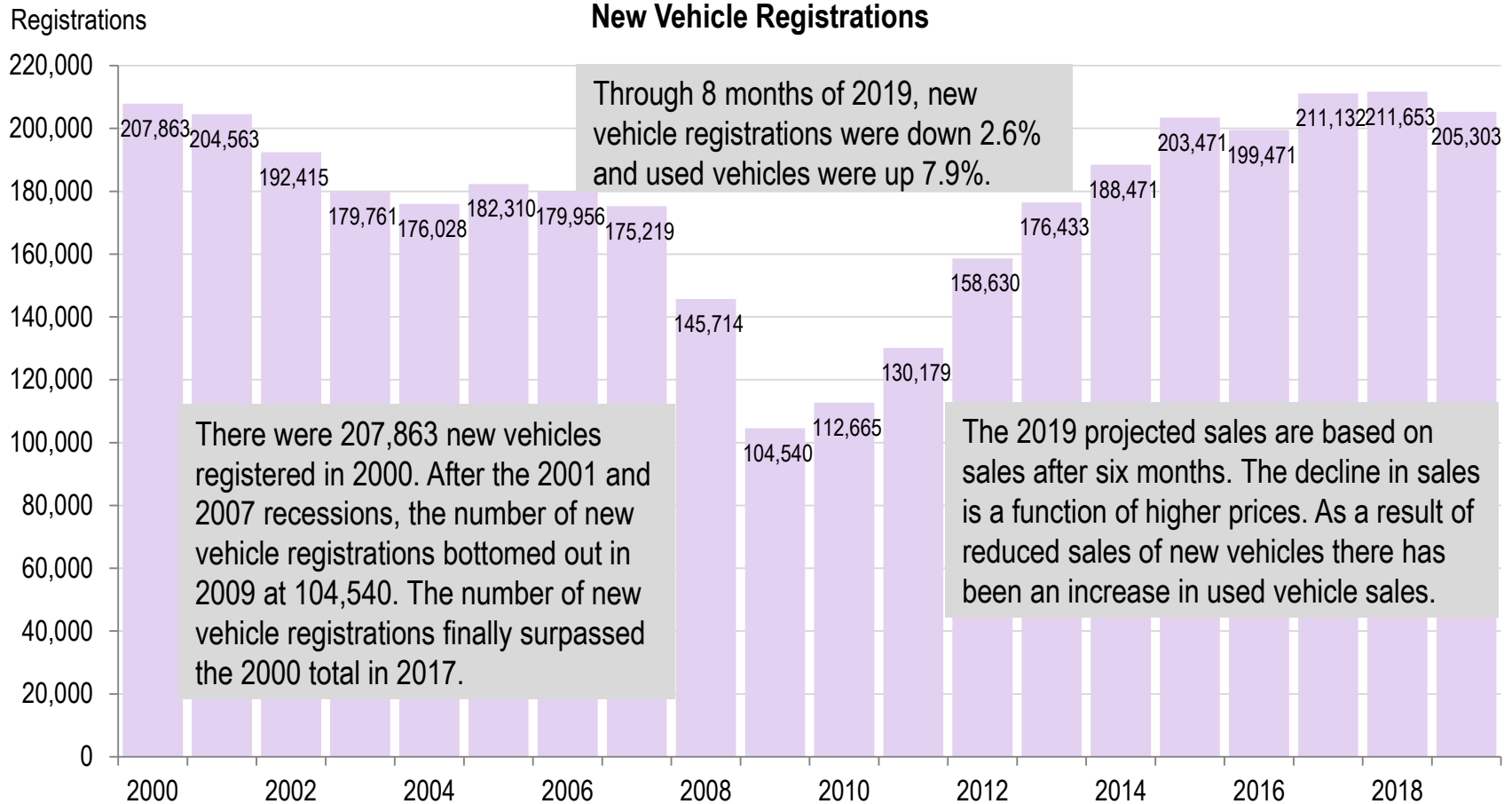


The \$1.5 billion DIA gate expansion project is moving forward on schedule.



New Vehicle Registrations

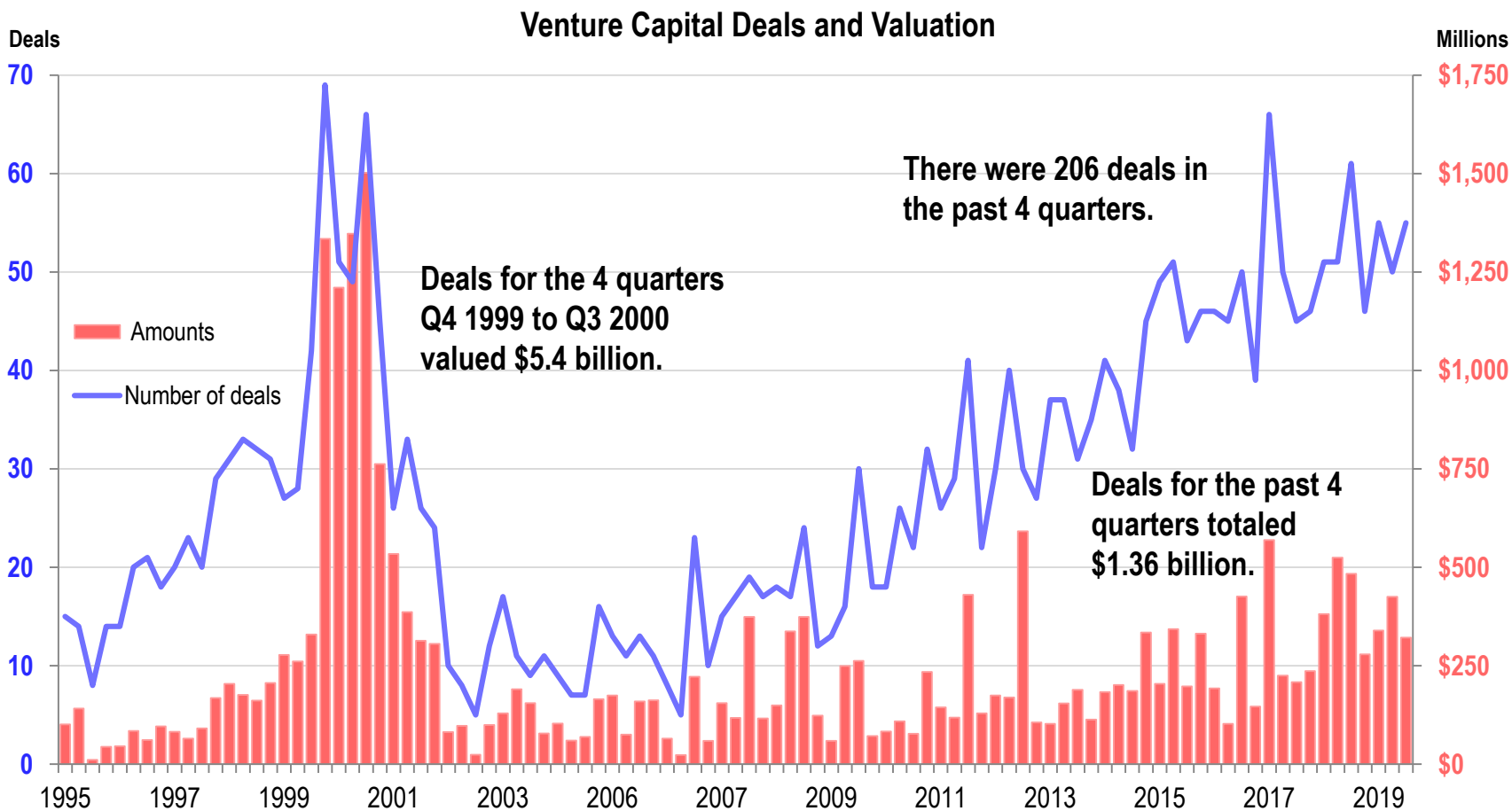
Colorado



Source: Colorado Auto Dealers Association, cber.co.

PWC Venture Capital Deals and Value

Colorado



Source: PWC, cber.co.

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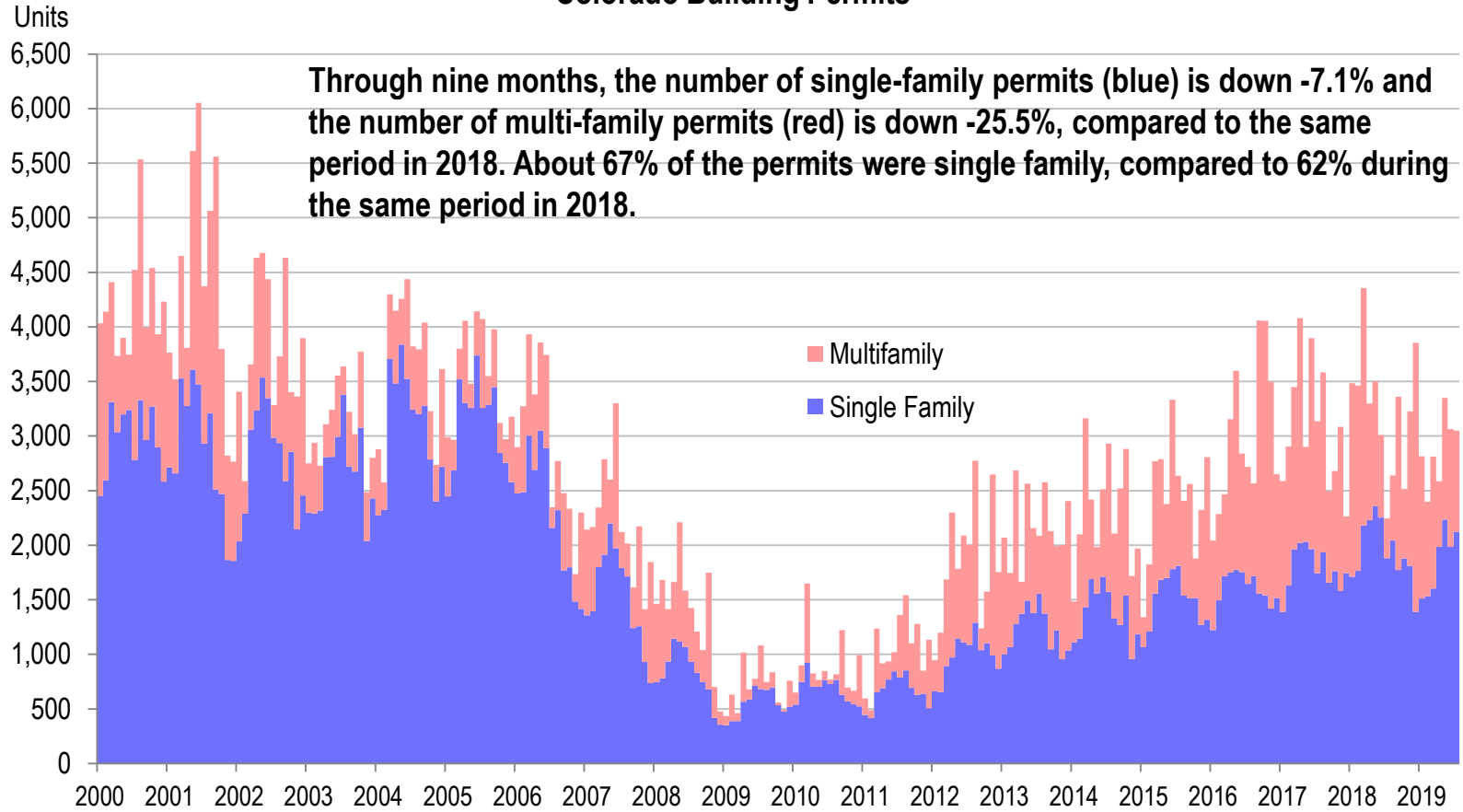
The Colorado Economy

Building Permits, Valuation, and Case Shiller

Colorado Residential Building Permits

Units

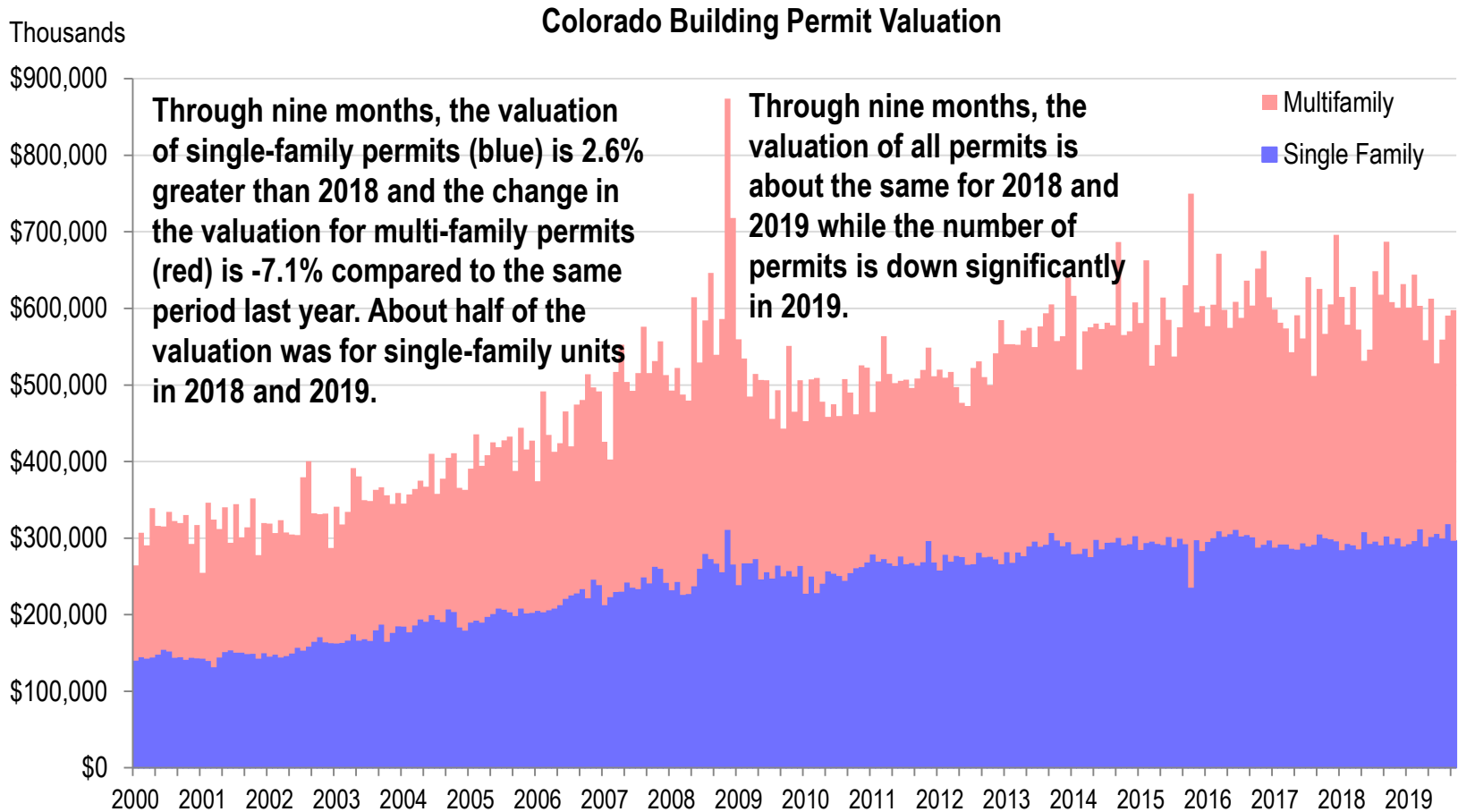
Colorado Building Permits



Source: TAMU Real Estate Center, U.S. Census Bureau, cber.co.

Colorado Residential Building Permits

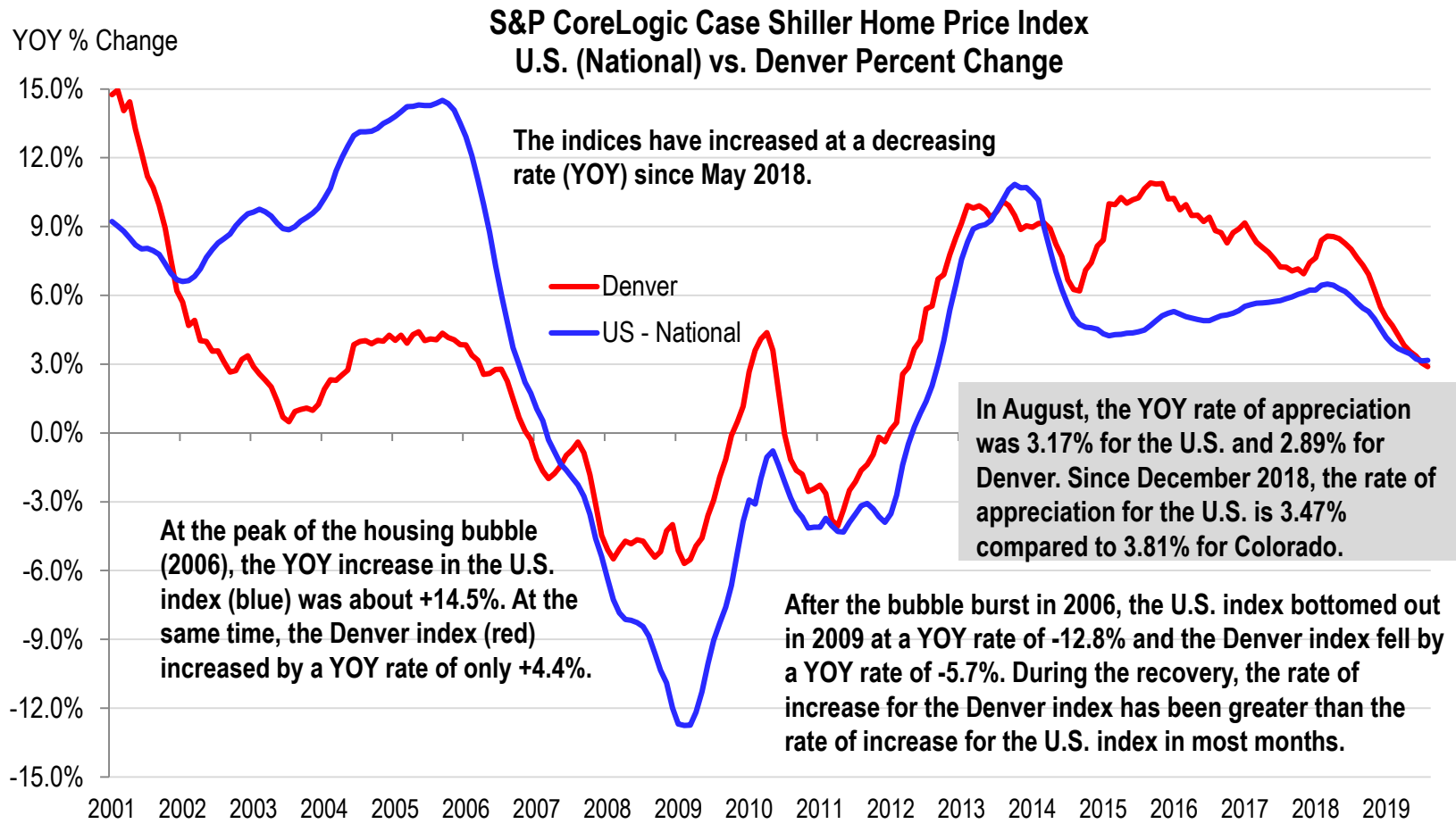
Valuation



Source: TAMU Real Estate Center, U.S. Census Bureau, cber.co. Note: Not adjusted for inflation.

Case Shiller Home Price Index

National vs. Denver Rate of Change



Source: S&P Core-Logic Case-Shiller, cber.co.

Public Policy Will Drive Housing Prices Higher

On November 14, 2019, the Boulder Daily Camera featured the article, “Attempt to emulate Boulder 1% growth limit across Front Range stirs controversy.”

There about at least a dozen municipalities discussing policies that are intended to curtail growth. They will artificially increase housing prices and increase congestion on the highways as workers will be forced to commute from communities that have affordable housing.

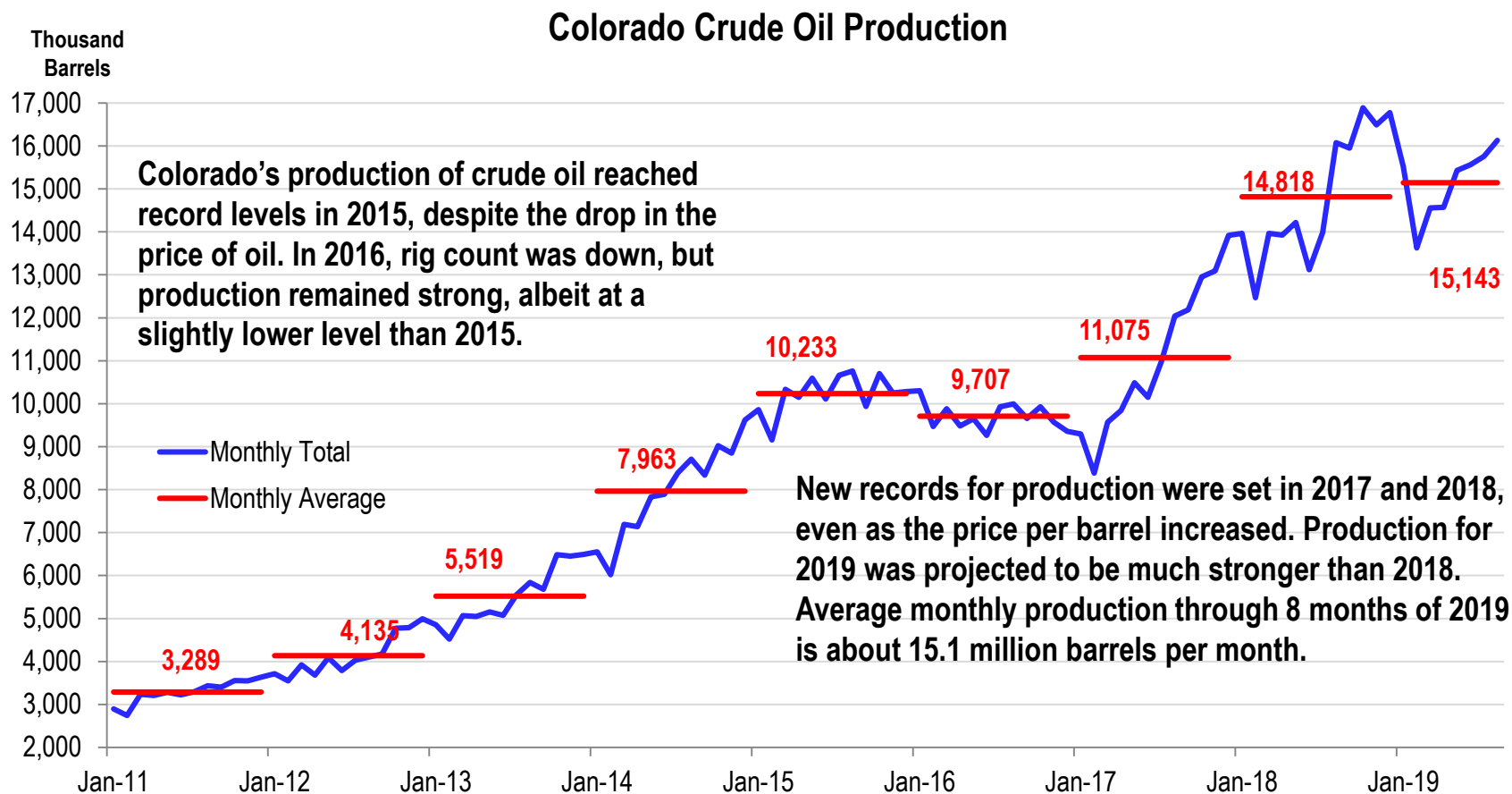


The Colorado Economy

Oil Production and Photovoltaic Module Shipments

Colorado Field Production of Crude Oil

2011 to 2019 (Thousand Barrels)

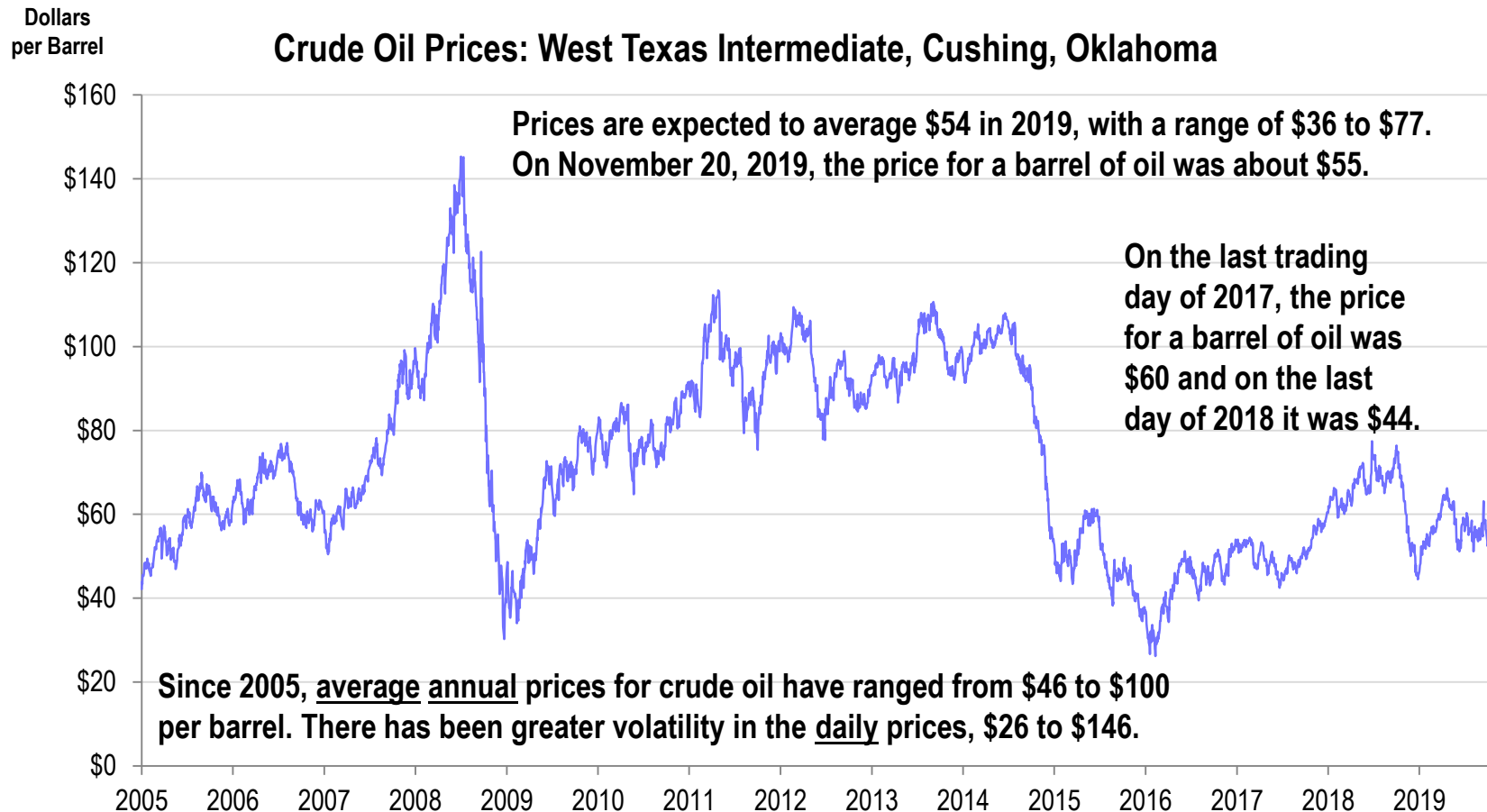


Source: EIA, cber.co.

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Crude Oil Prices

West Texas Intermediate



Source: FRED, EIA, cber.co.

Crude Oil Production by State

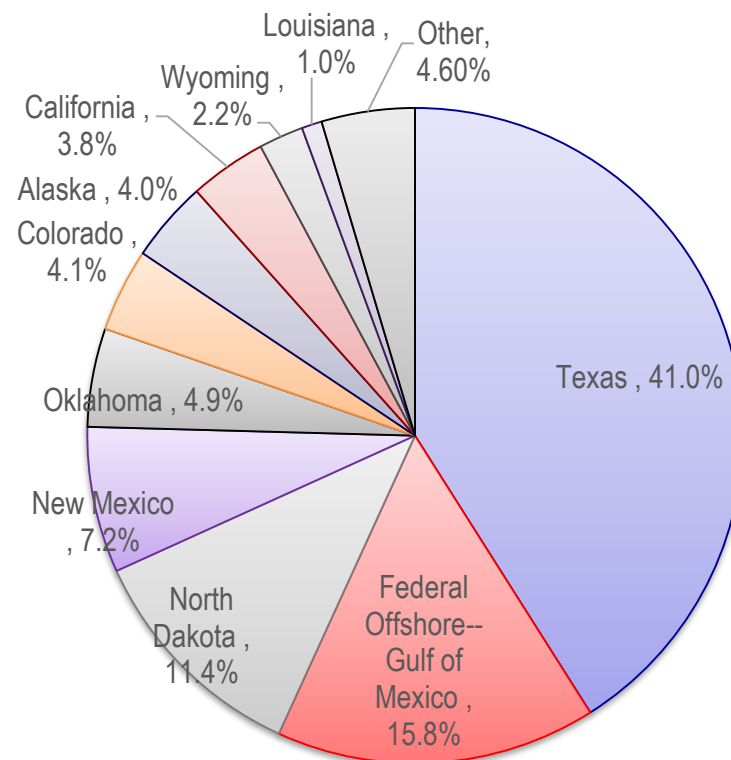
January - June 2019

Percent of Oil Production by State

Oil is produced in 32 states plus two federal offshore regions (Gulf of Mexico and West Coast). Over the course of a year, there is very little change in the ranking of the top 10 oil-producing.

Colorado accounted for 4.1% of the total oil produced. The industry plays an important role in the U.S. and Colorado economies and the country's efforts to be energy independent.

Percent of U.S. Production, 2019

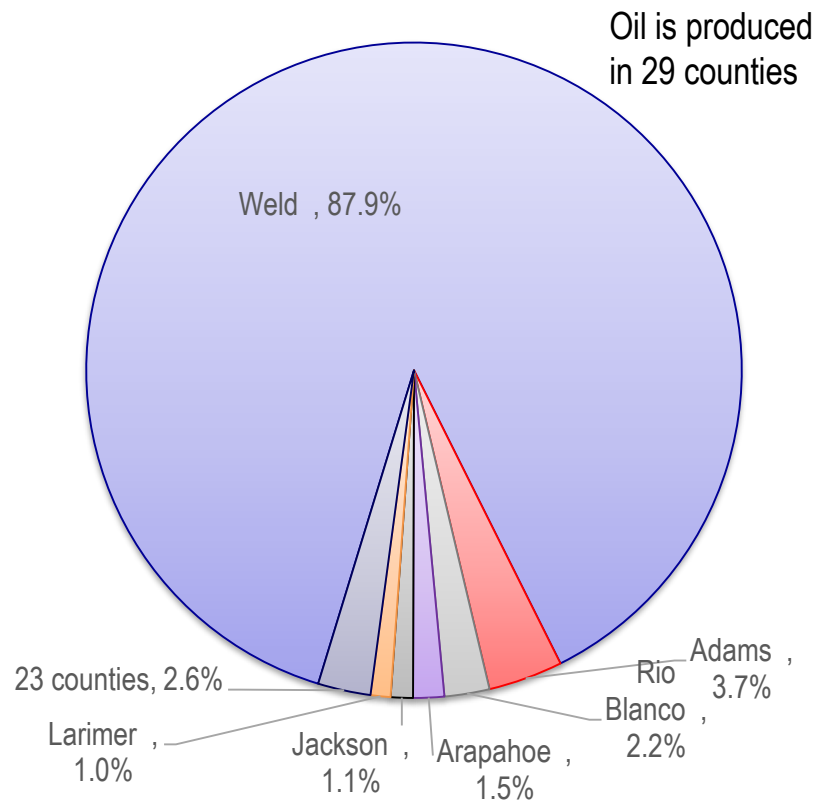


Source: EIA, cber.co.

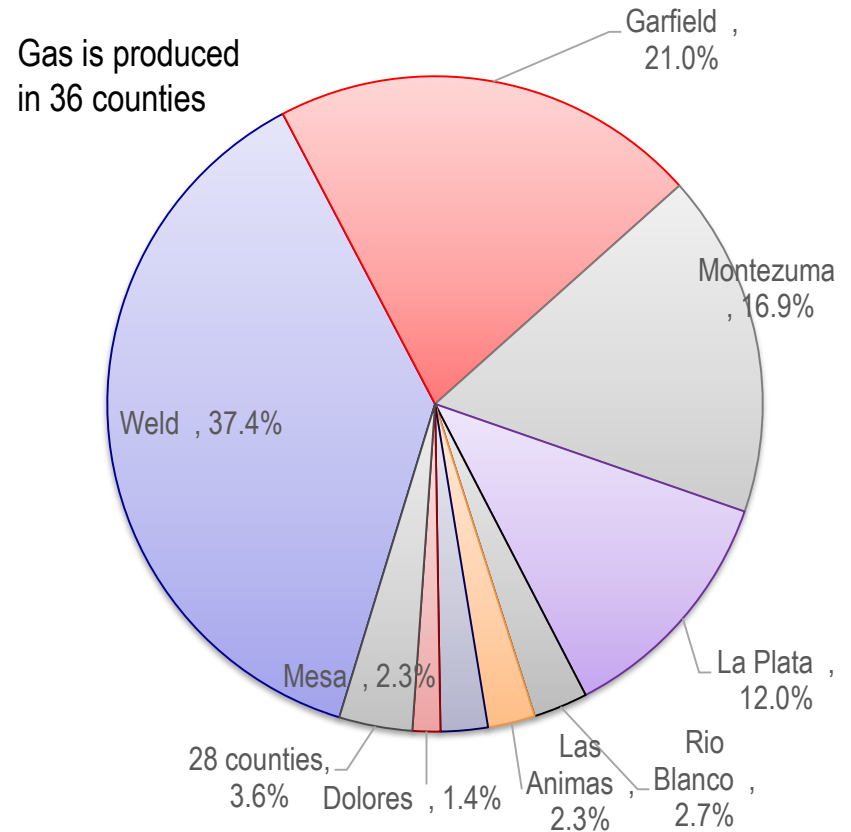
Production of Colorado Oil and Gas by County

2019

Percent of Oil Production 2019



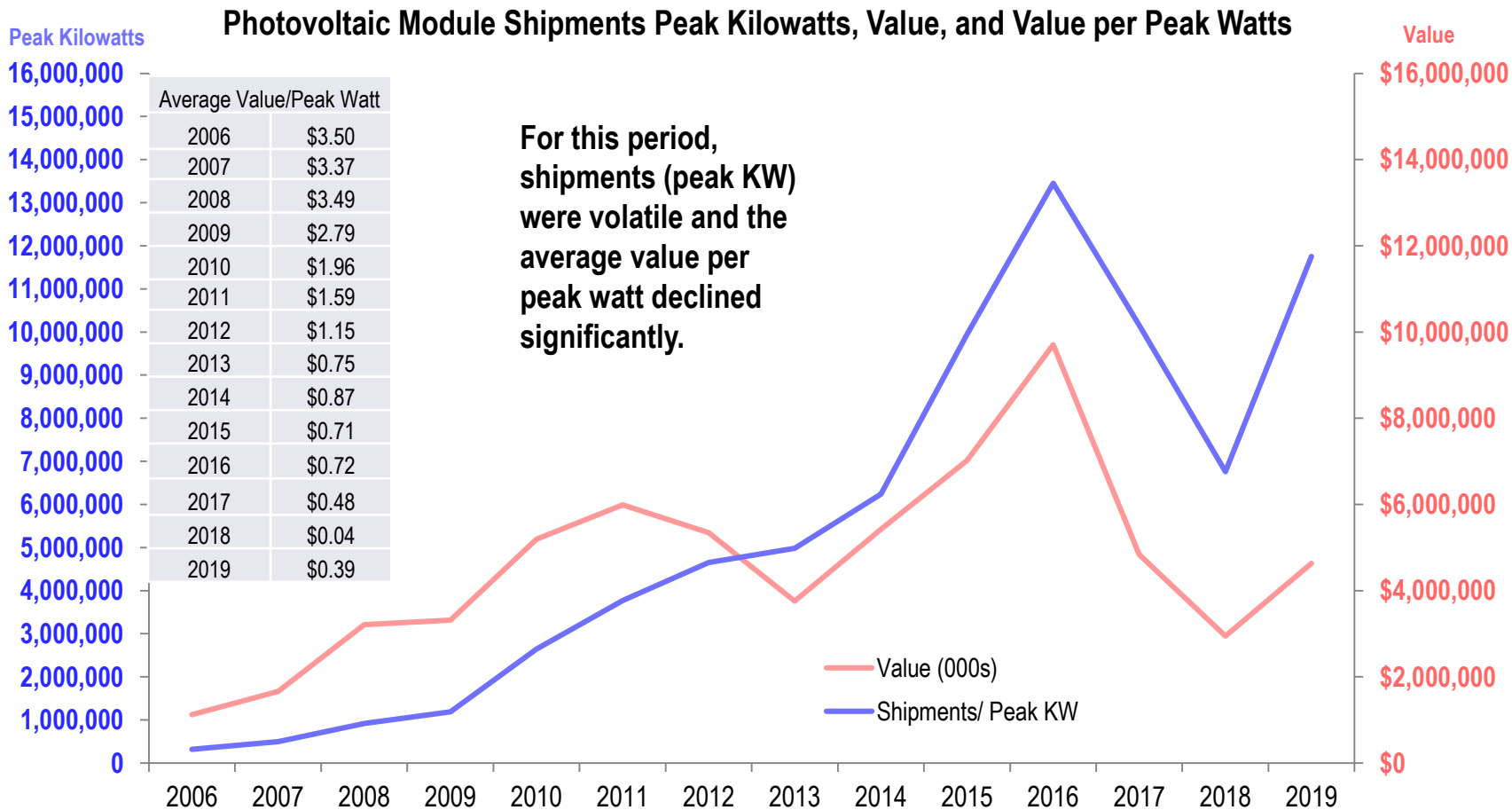
Percent of Gas Production 2019



Source: COGCC, cber.co.

Photovoltaic Module Shipments

Peak Kilowatts, Value, and Value per Peak Watts

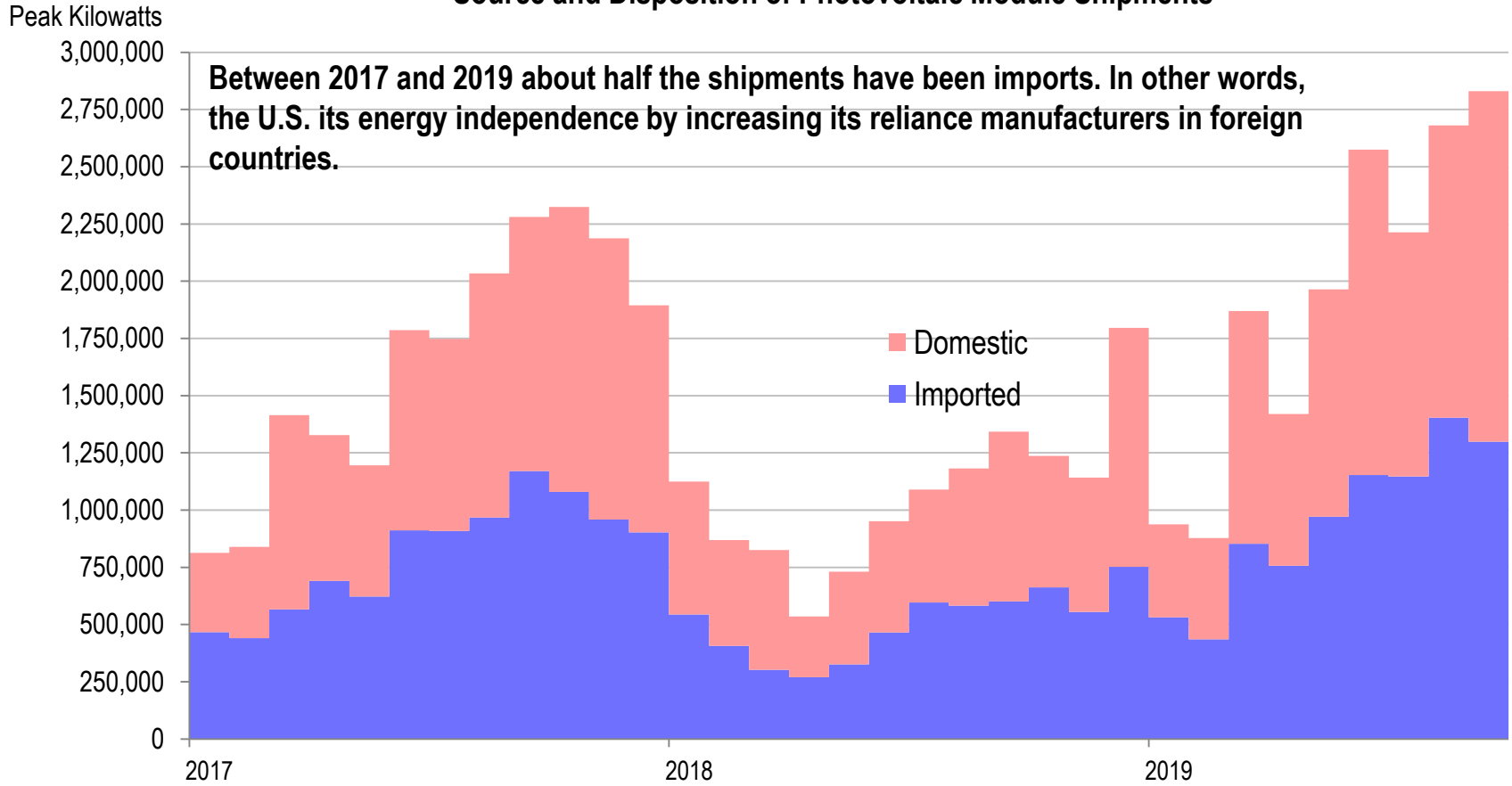


Source: EIA, cber.co. Note: 2019 is estimated based on YTD shipments.

Source and Disposition of Photovoltaic Module Shipments



Source and Disposition of Photovoltaic Module Shipments



Source: EIA, cber.co.



The Colorado Economy

Summary

Annual Employment Change in Colorado Employment

Through the first 10 months of 2019, average employment is 52,300 jobs, or 1.9%, greater than the same period in 2018. Job growth in the first half of 2019 was the weakest since 2011. The state's job growth in the second half has accelerated in contrast to the U.S. where it has declined.

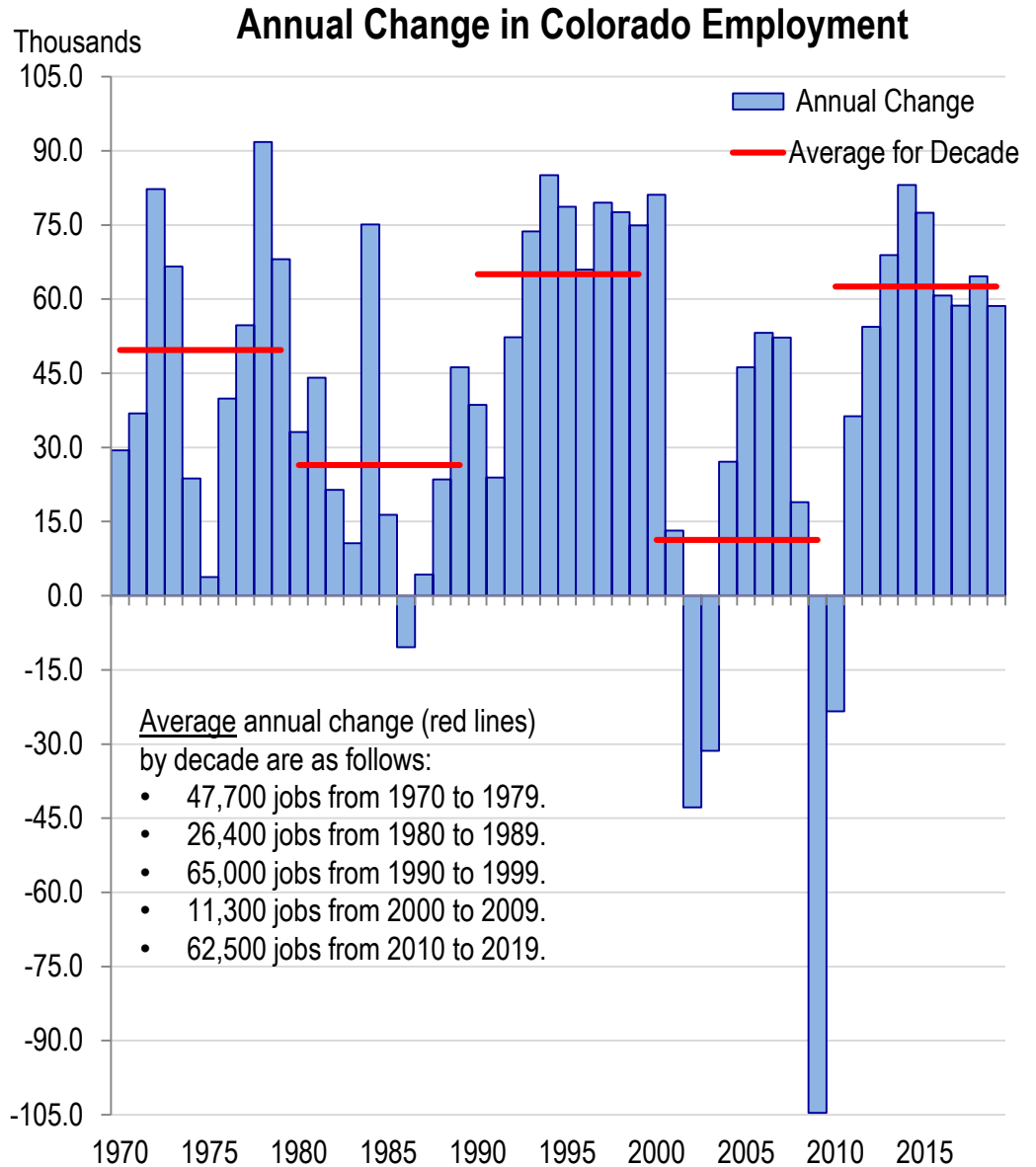
Strengths

- Job growth is solid.
- Economic development organizations are laying a solid foundation for the future.
- Wage growth varies by sector.

Concerns

- There is a lack of qualified workers to fill vacant positions.
- The state has not sufficiently invested in its infrastructure, i.e. transportation and water.
- The state has limited funding to provide necessary services for residents.
- Increased opposition to growth.
- Overreach of legislative and executive branches.
- Colorado inflation is greater than the U.S.
- Colorado is becoming less business-friendly.

Source: Bureau of Labor Statistics, cber.co.





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Economic Trends for Colorado Through October 2019

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ABOUT THE AUTHOR

Gary Horvath has produced annual employment forecasts of the state economy for over 25 years. They have been supplemented by monthly economic updates and indices that track economic performance over the short term. In addition, he has directed three statewide analyses that included reviews of all 64 county economies.

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.