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Q1 2019 Economic Trends for Colorado

Colorado-based Business and Economic Research
Prepared
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Q1 Economic Trends for Colorado

Throughout the last half of Q4 2018 and the first half of Q1 2019 there has been an inordinate number of articles written about the recession that is projected to occur later this year or in 2020. Recent data shows the economy is stronger than predicted. This review looks at the latest release of data for the U.S. and Colorado to understand the change in employment for key sectors. The content of this chartbook is provided below.

United States

- Top Trends that Affect the Colorado Economy
- U.S. Real GDP
- Employment and Unemployment
- S&P Performance and Volatility
- Housing and Construction
- Performance of Key Industries
- Forward Looking Indicators
- Summary

Colorado

- Population
- Employment and Unemployment
- Employment by Strong Growth, Solid Growth, and Volatile Categories
- Key Industries
- Housing and Construction
- Extractive Industries
- Summary

The 2019 forecast can be found at https://cber.co/economic-forecasts/cber-co-economic-forecast/. Monthly economic updates can be found at **https://cber.co/economic-updates/**

Top Economic Trends
Colorado and the U.S.

- Real GDP growth for the U.S. is stronger than anticipated.
- Nationally, construction and manufacturing hit a bump in the road in late 2018, but they appear to be bouncing back.
- There are record levels of oil production in the U.S. and Colorado.
- The low rate of unemployment will make it difficult for many companies to find qualified workers in Colorado and the U.S.
- Housing prices are increasing at a decreasing rate and 30-year mortgage rates are down in Colorado and the U.S.
- Inflation will remain near the Fed's target rate in 2019.
- Currently, the U.S. economy appears to be on more solid ground than the Colorado economy.
- Most of the forward looking indicators point to solid growth for Colorado and the U.S., although some show mixed signals.
- There are likely to be fewer rate increases by the Federal Reserve in 2019.
- The performance of the equities market was strong in the first quarter and the volatility has diminished significantly.

The U.S. Economy

Real Gross Domestic Product

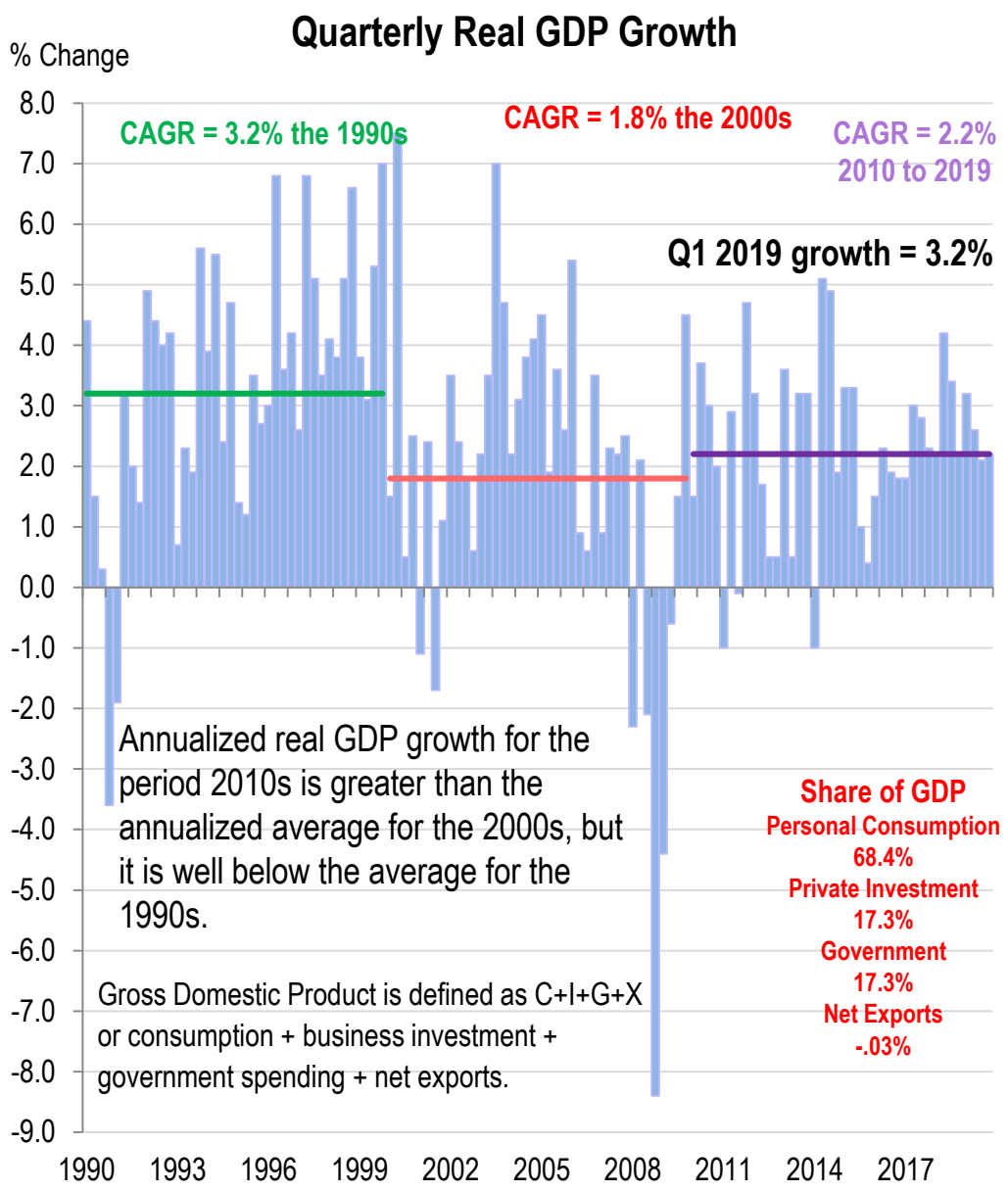
Quarterly Real GDP Growth Historical United States

Between 2010 and 2019, quarterly real GDP growth ranged from -1.0% to 5.1%.

The advanced release for Q1 real GDP growth came in stronger than expected at 3.2%. This is the strongest level of growth for Q1 since 2015, when it was 3.3%.

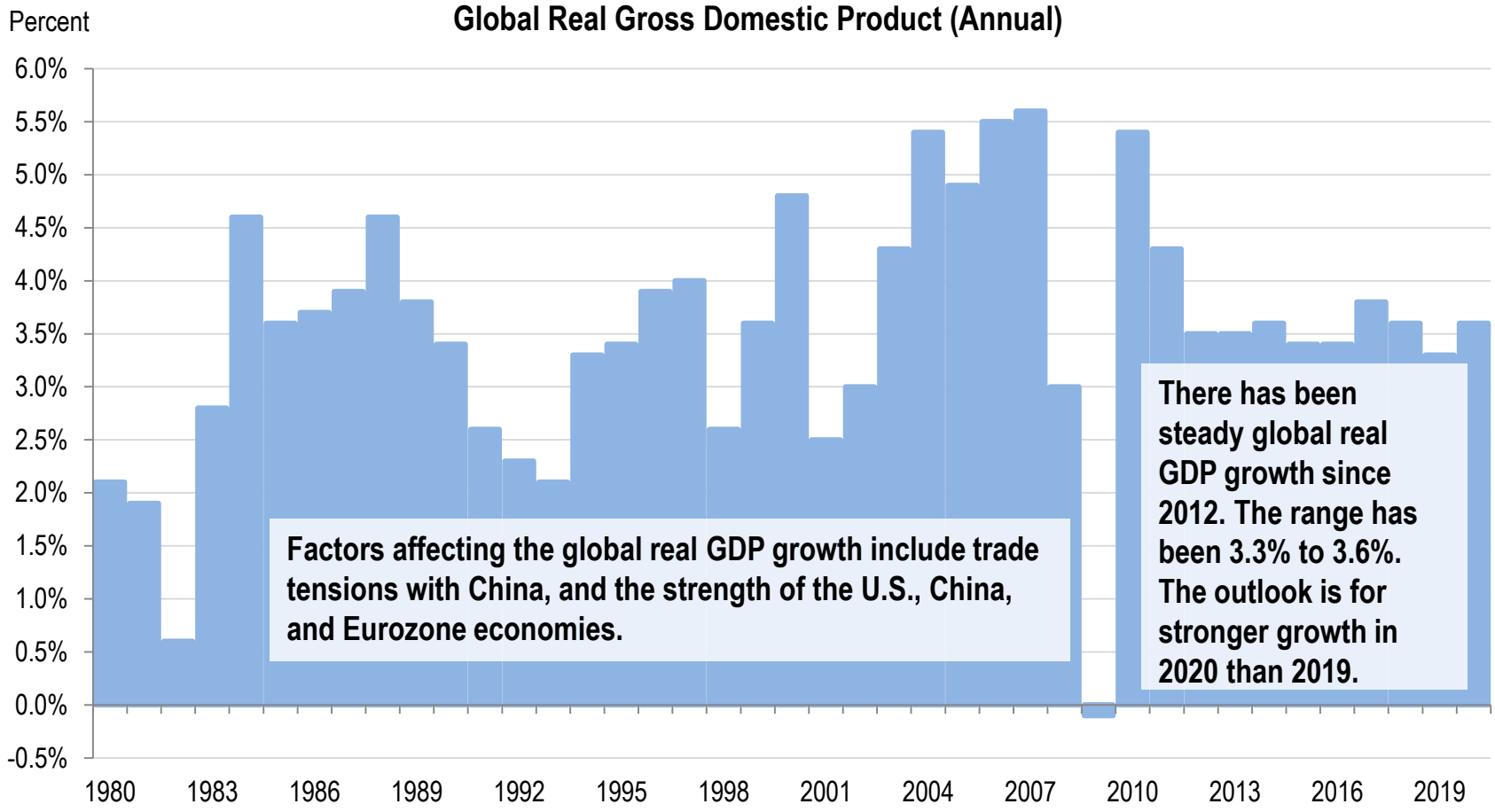
The growth was driven by personal consumption, private inventory investment, increased exports, and decreased imports.

Q1 2019 is the 20th consecutive quarter of positive growth since Q1, 2014, the last quarter when the quarterly GDP was negative.



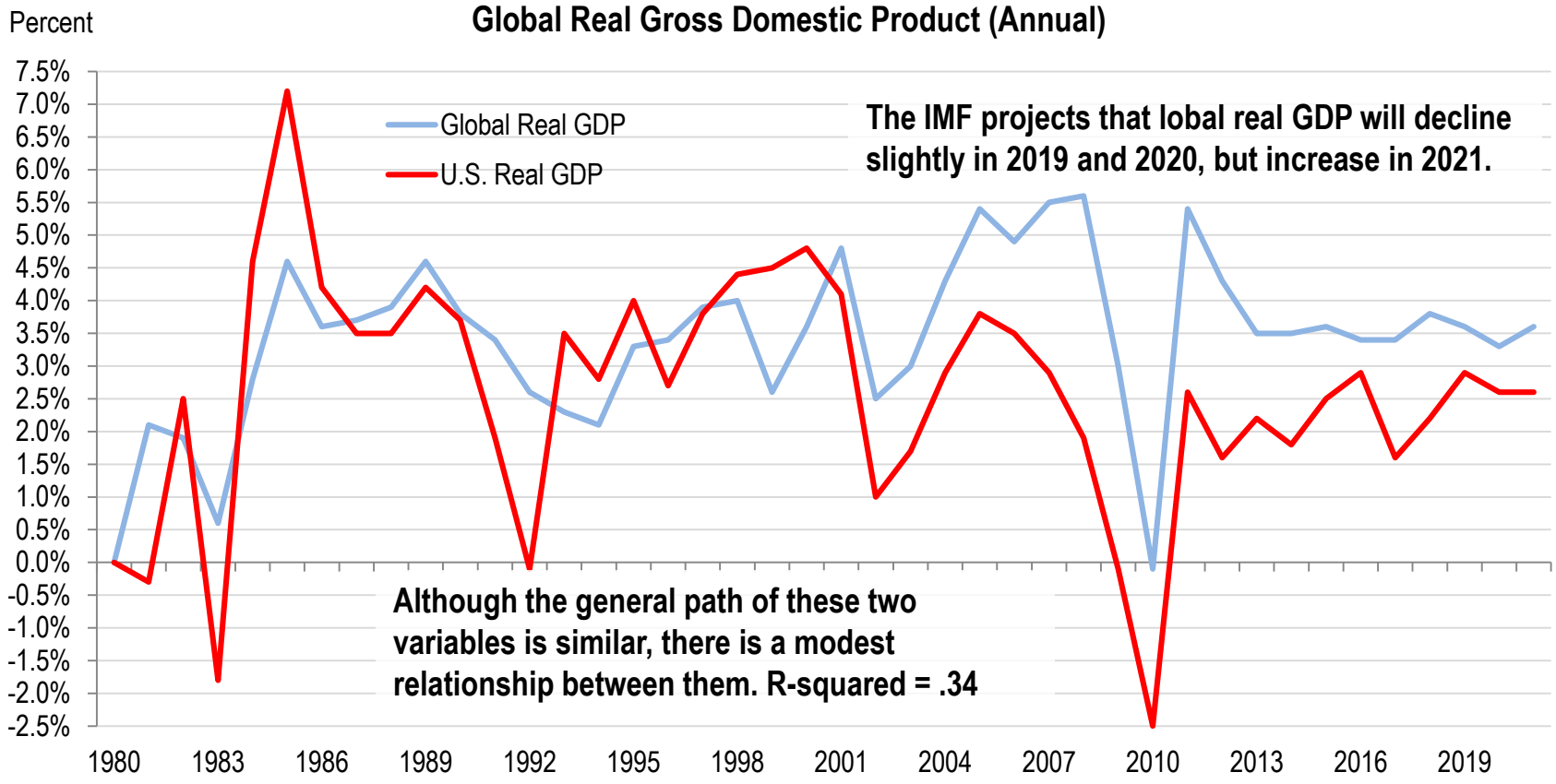
Source: Bureau of Economic Analysis, Table 1.1.1, Share of GDP based on 2017, cber.co.

Global GDP



Source: IMF https://www.imf.org/external/datamapper/NGDP_RPCH@WEO/WEOWORLD **, cber.co.**

Global and U.S. Real GDP



Sources: BEA, IMF https://www.imf.org/external/datamapper/NGDP_RPCH@WEO/WEOWORLD **, cber.co.**

The U.S. Economy

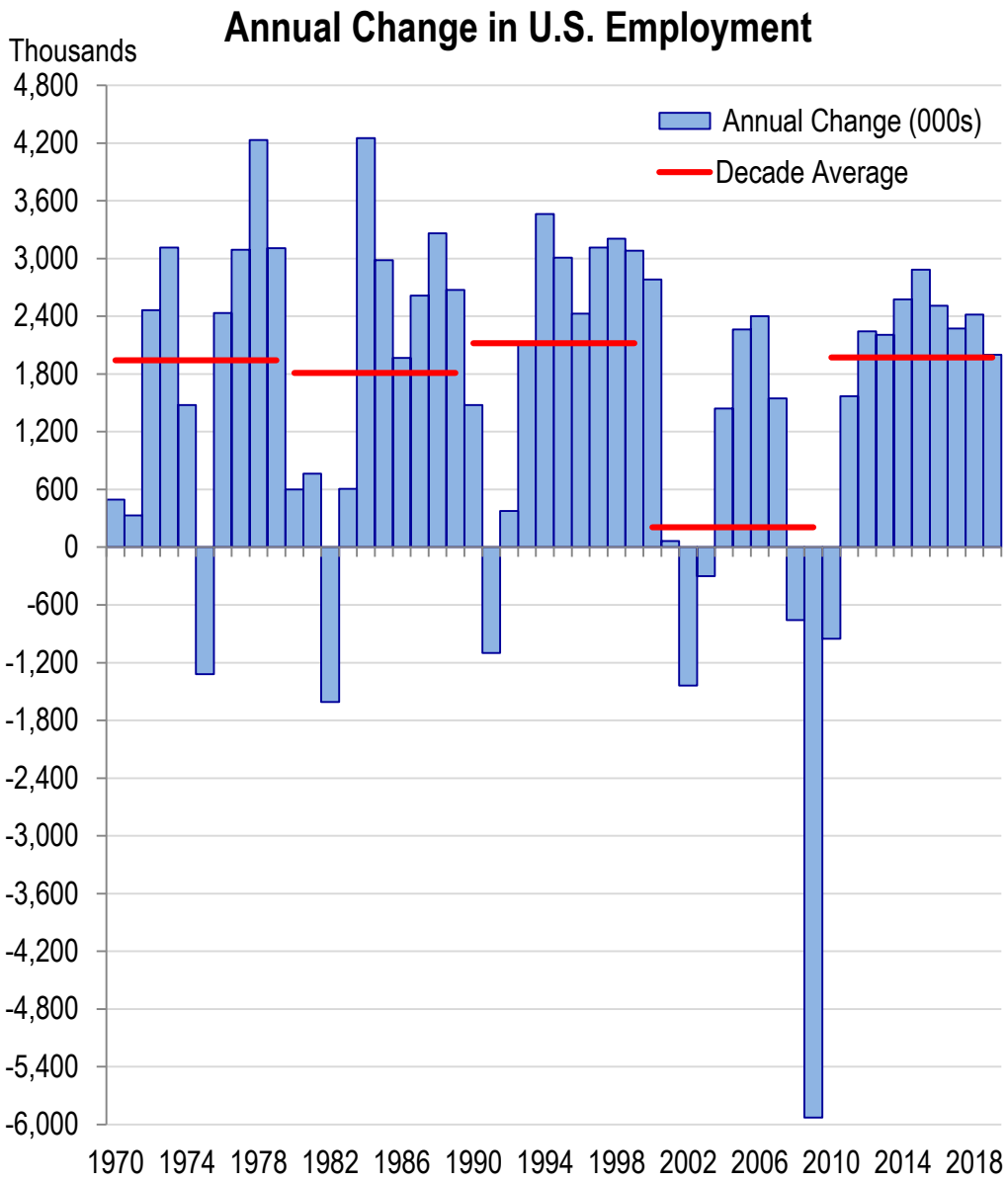
Employment, Unemployment Rate, Unemployment Claims, Job Openings vs. Number of Unemployed

Annual Change in U.S. Employment

The forecast is for two million jobs to be added in 2019, or an average of about 170,000 per month. Q1 2019 employment is about 2.6 million jobs greater than Q1 2018. This is an average of about 218,000 workers per month.

The average annual change in millions (red lines) by decade follows:

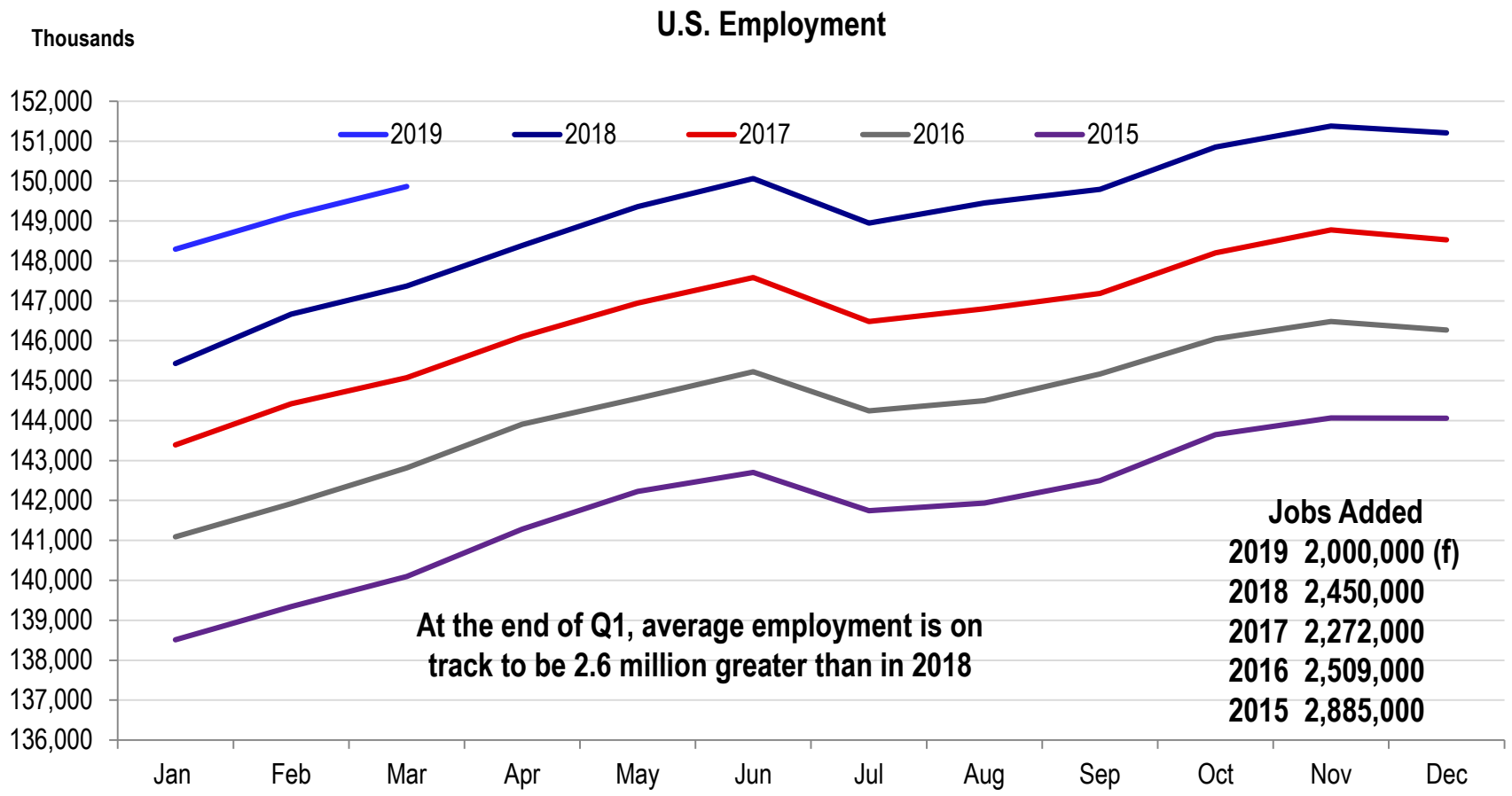
- 1.9 from 1970 to 1979.
- 1.8 from 1980 to 1989.
- 2.1 million from 1990 to 1999.
- 0.2 million from 2000 to 2009.
- 1.9 million from 2010 to 2019.



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

U.S. Employment

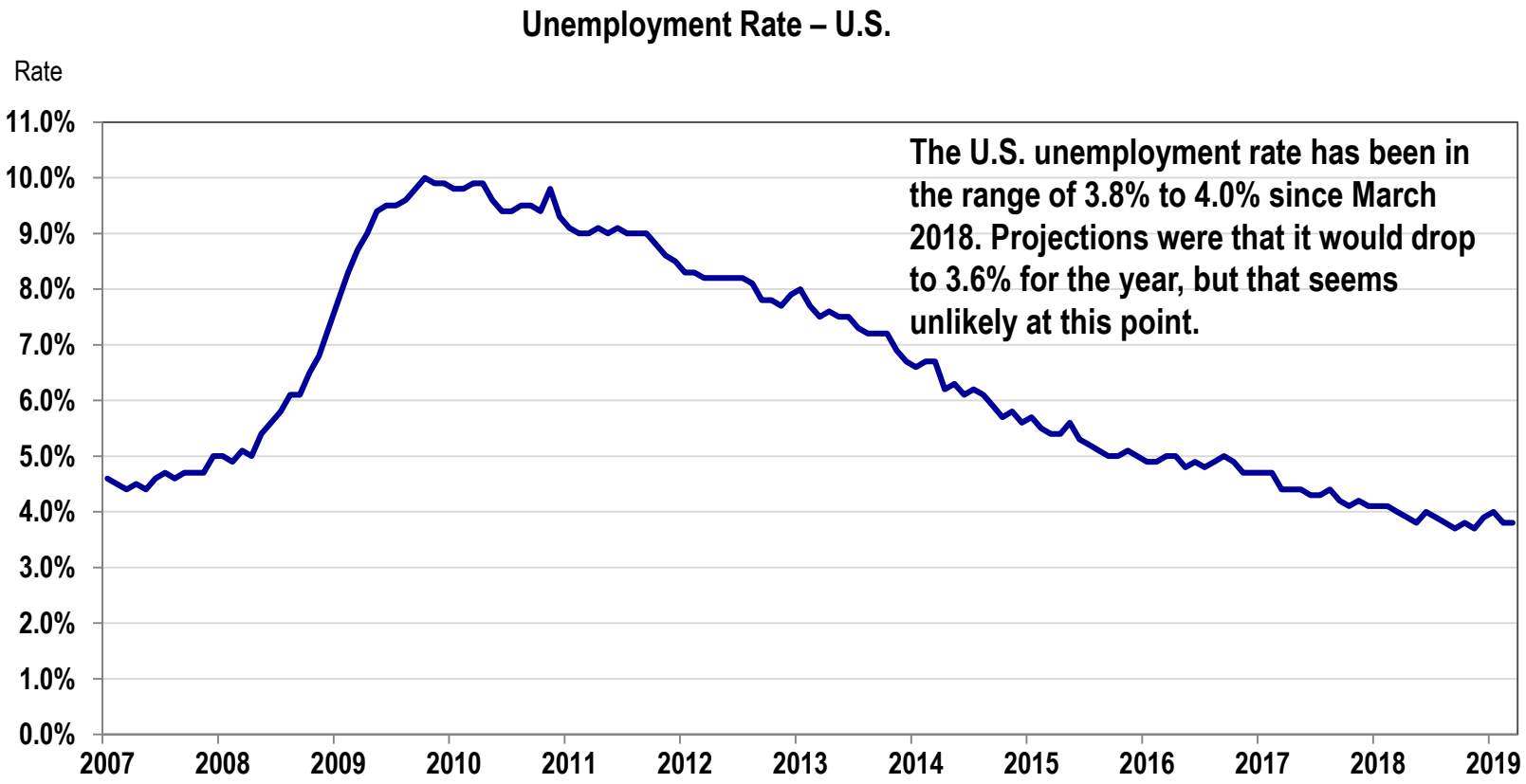
2015 to 2019



Source: BLS, cber.co.

Unemployment Rate

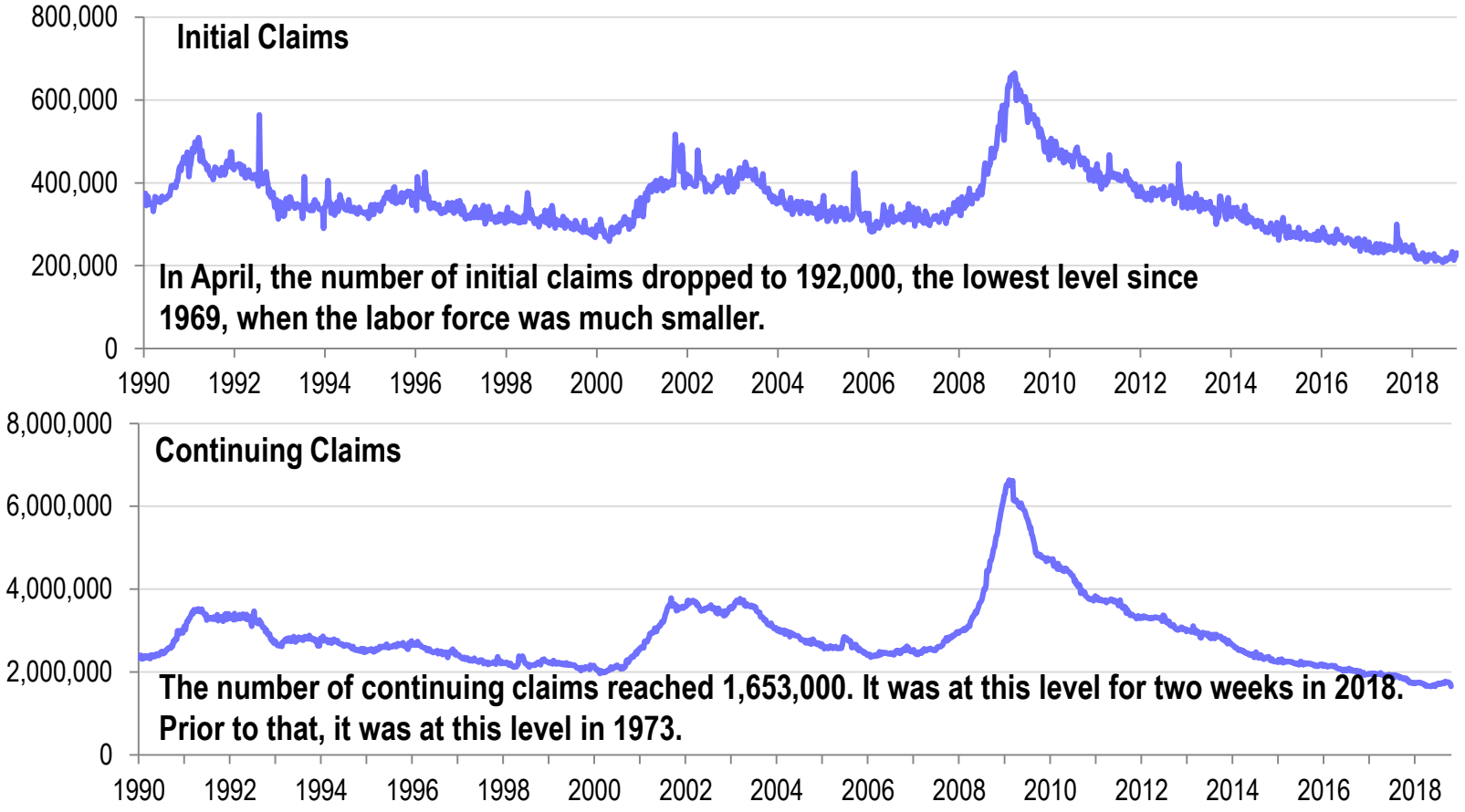
United States



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

Initial and Continuing Unemployment Claims

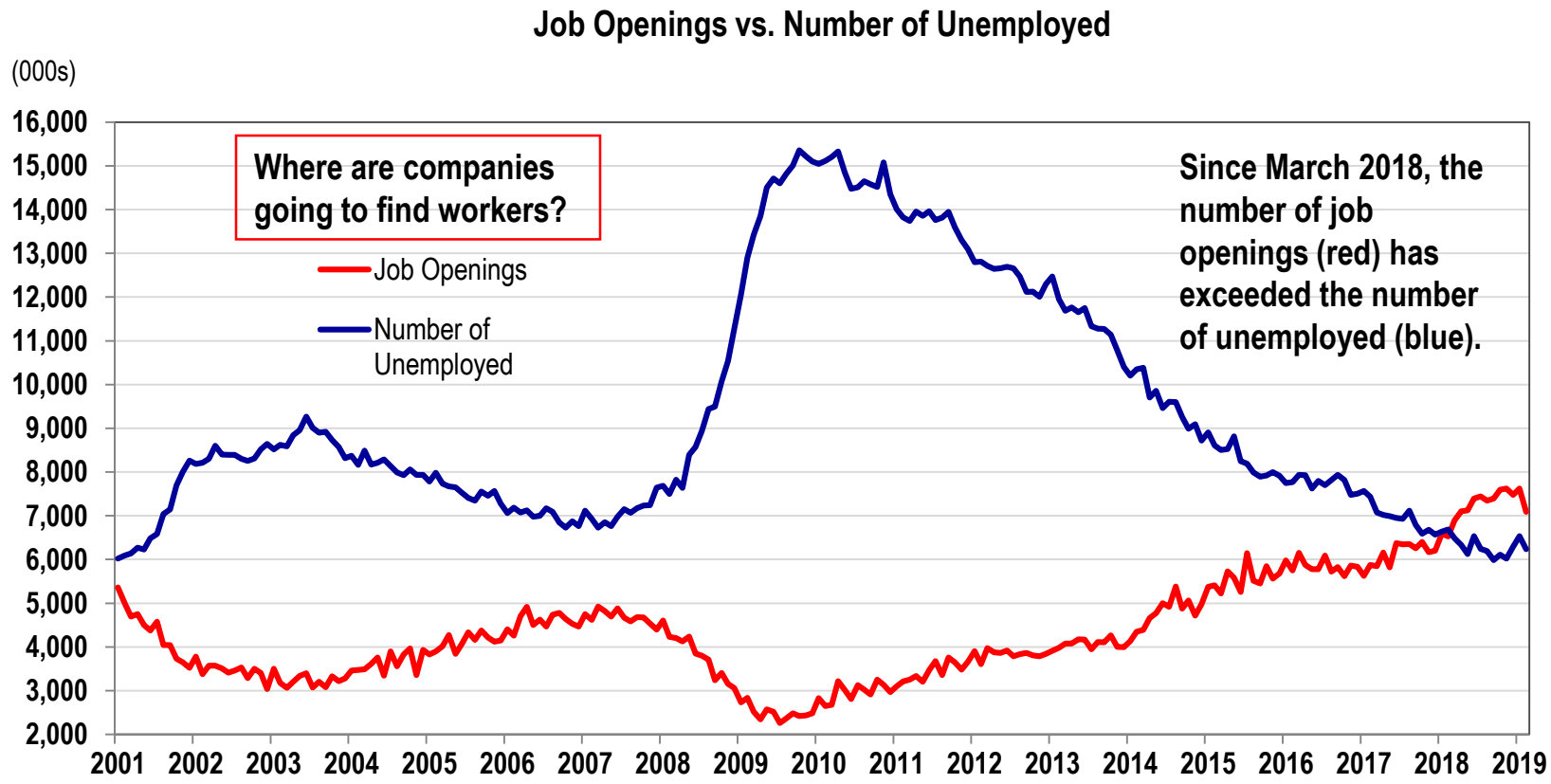
1990 to 2019



Source: FRED, Department of Labor, SA, cber.co.

Job Openings vs. Number of Unemployed

United States

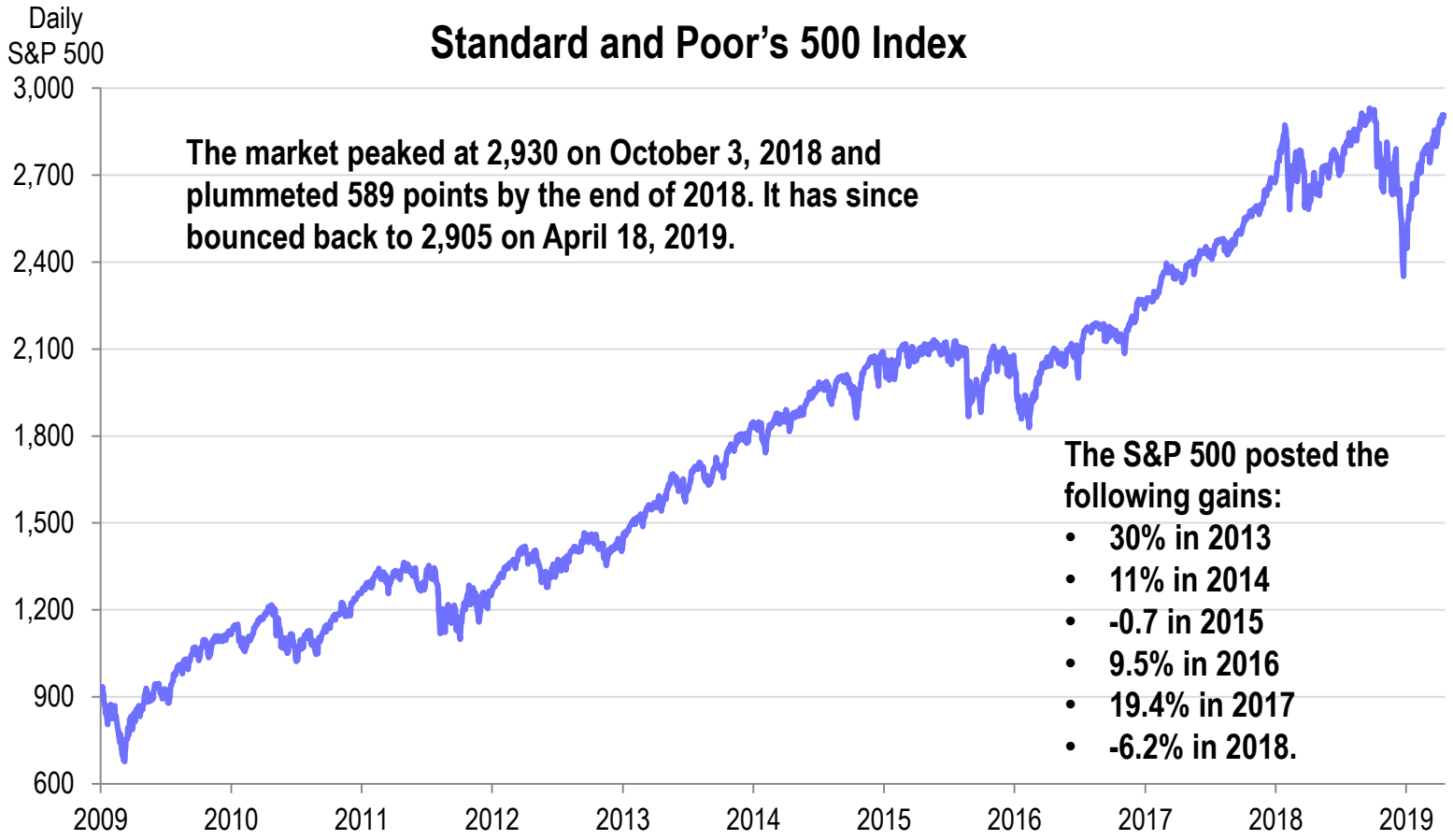


Source: Bureau of Labor Statistics, SA, cber.co.

United States Economy

S&P Performance and Volatility

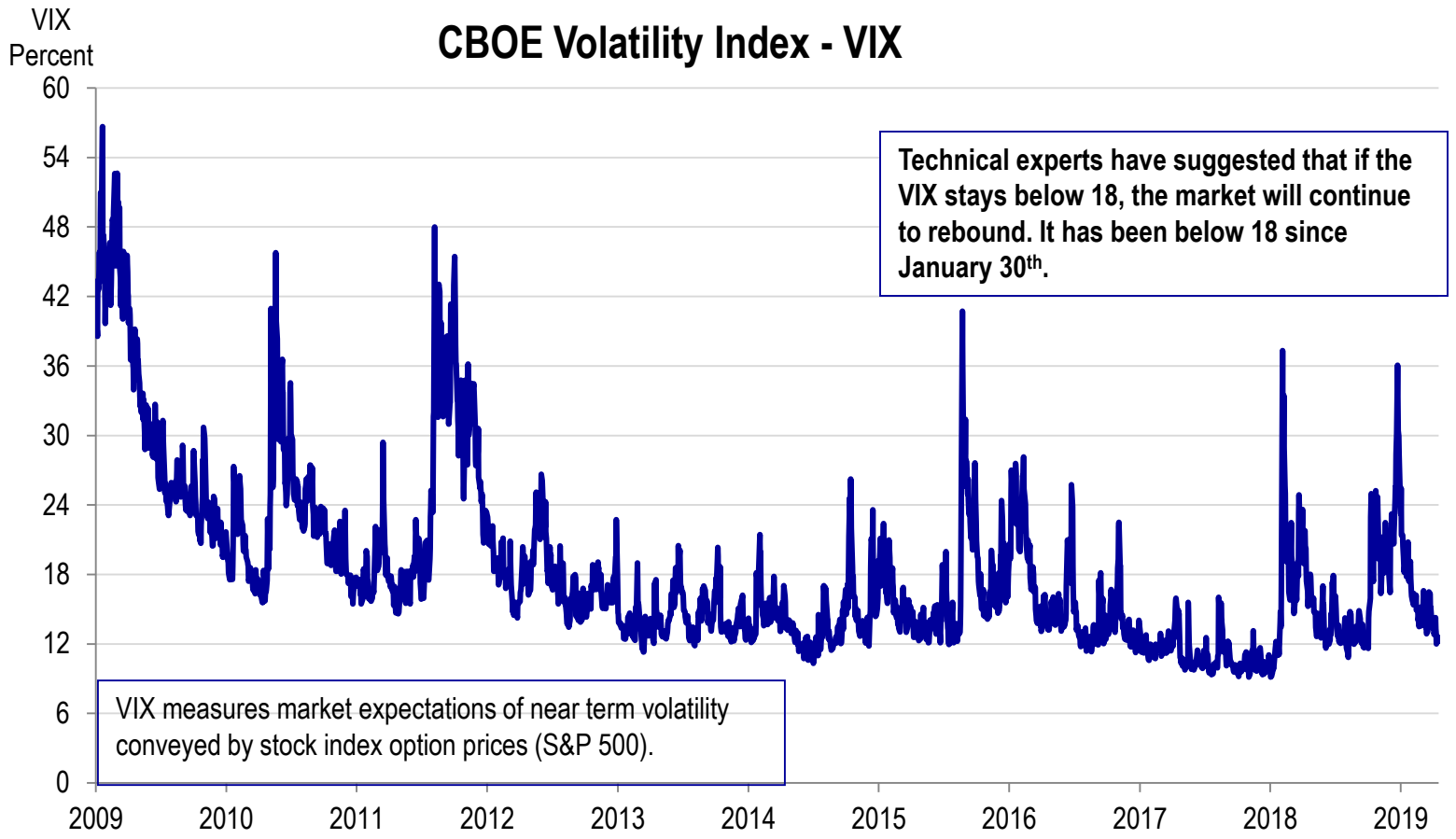
Standard and Poor's 500 Index



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

CBOE Volatility Index

VIX (VIXCLS)

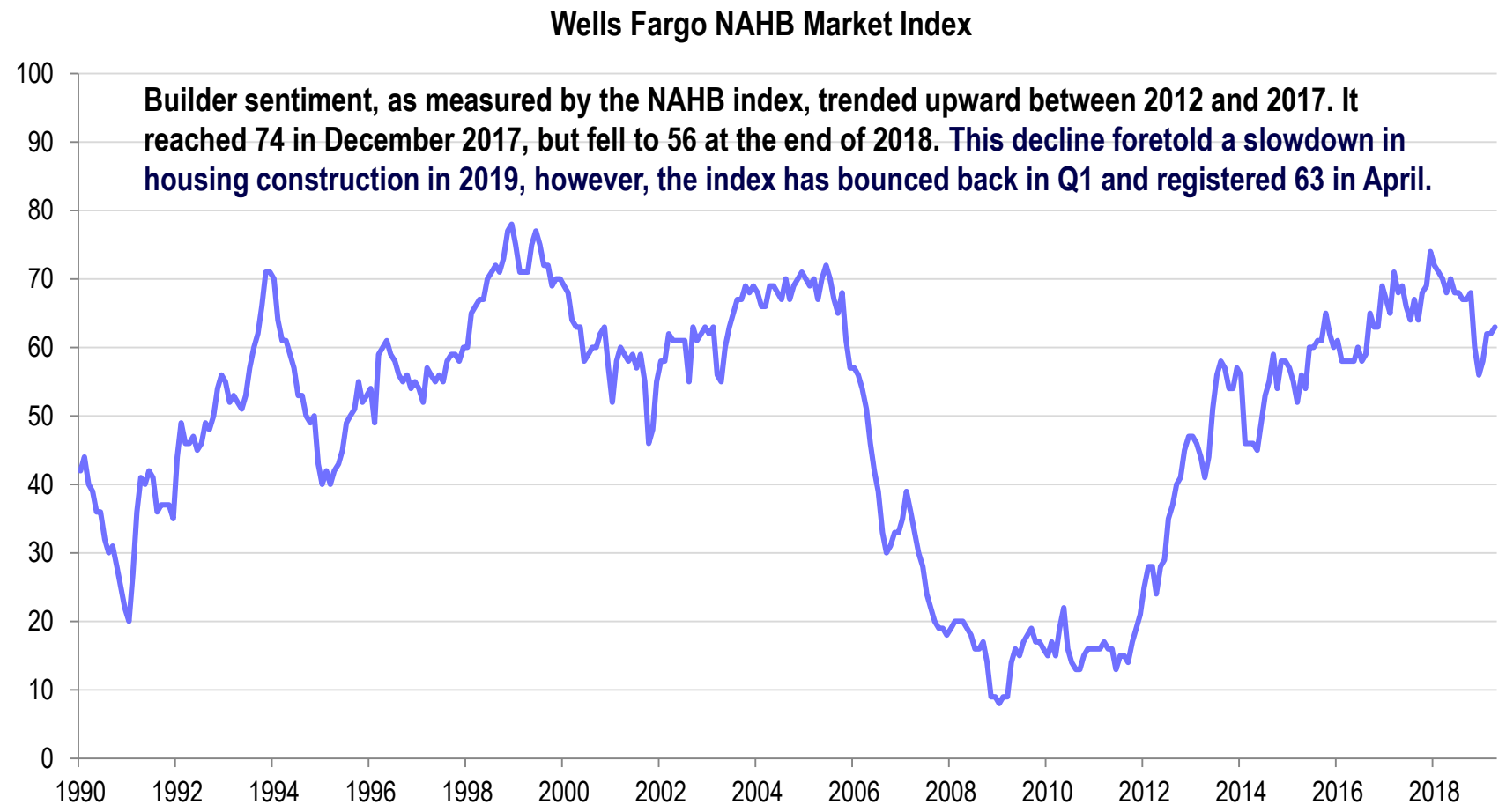


Source: FRED, Chicago Board Options Exchange, cber.co.

The U.S. Economy

NAHB Market Index, Construction Employment, Permits, Construction Spending, Mortgage Rates, and Housing Prices

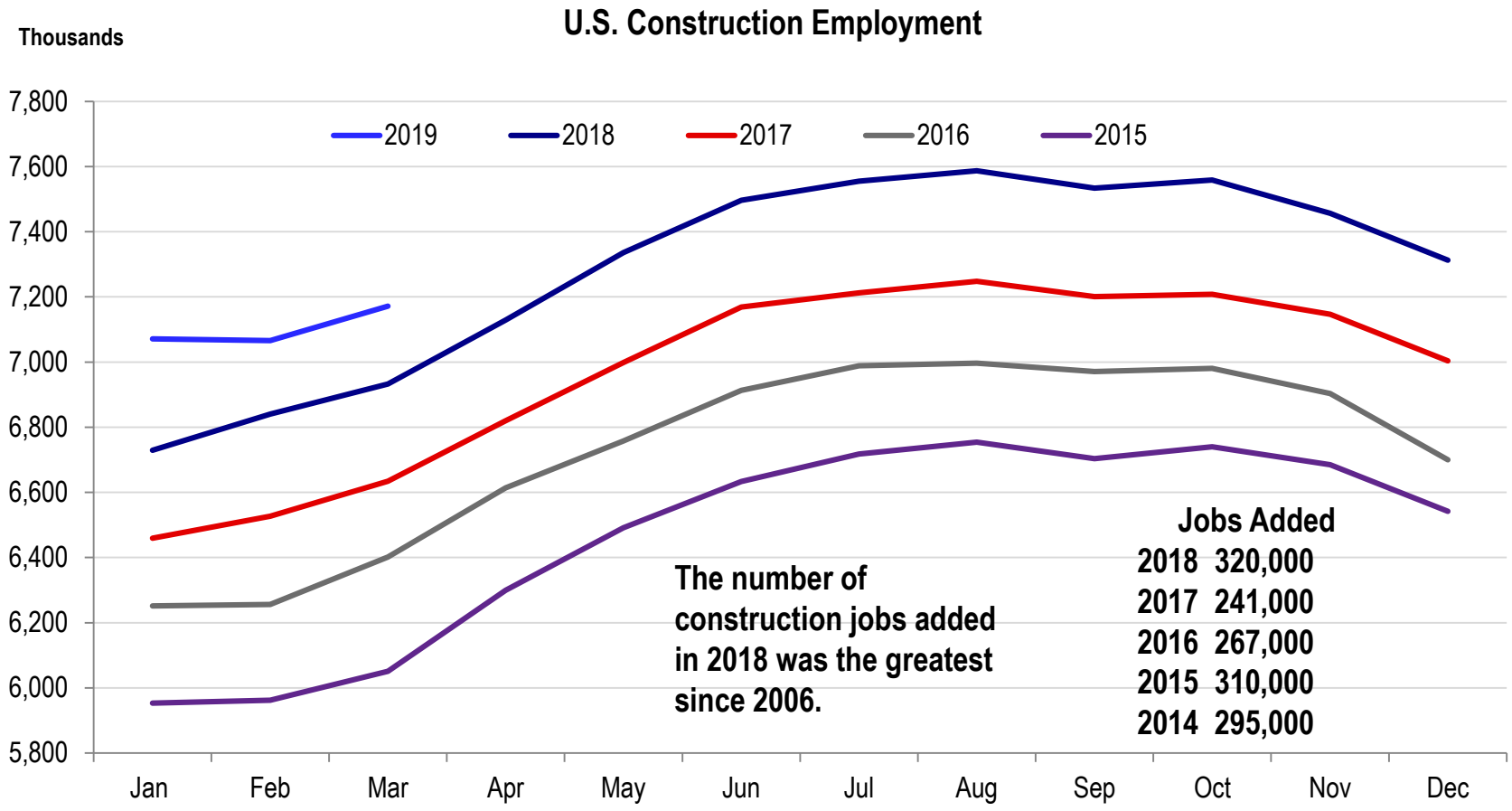
Wells Fargo NAHB Market Index



Source: NAHB, cber.co.

U.S. Construction Employment

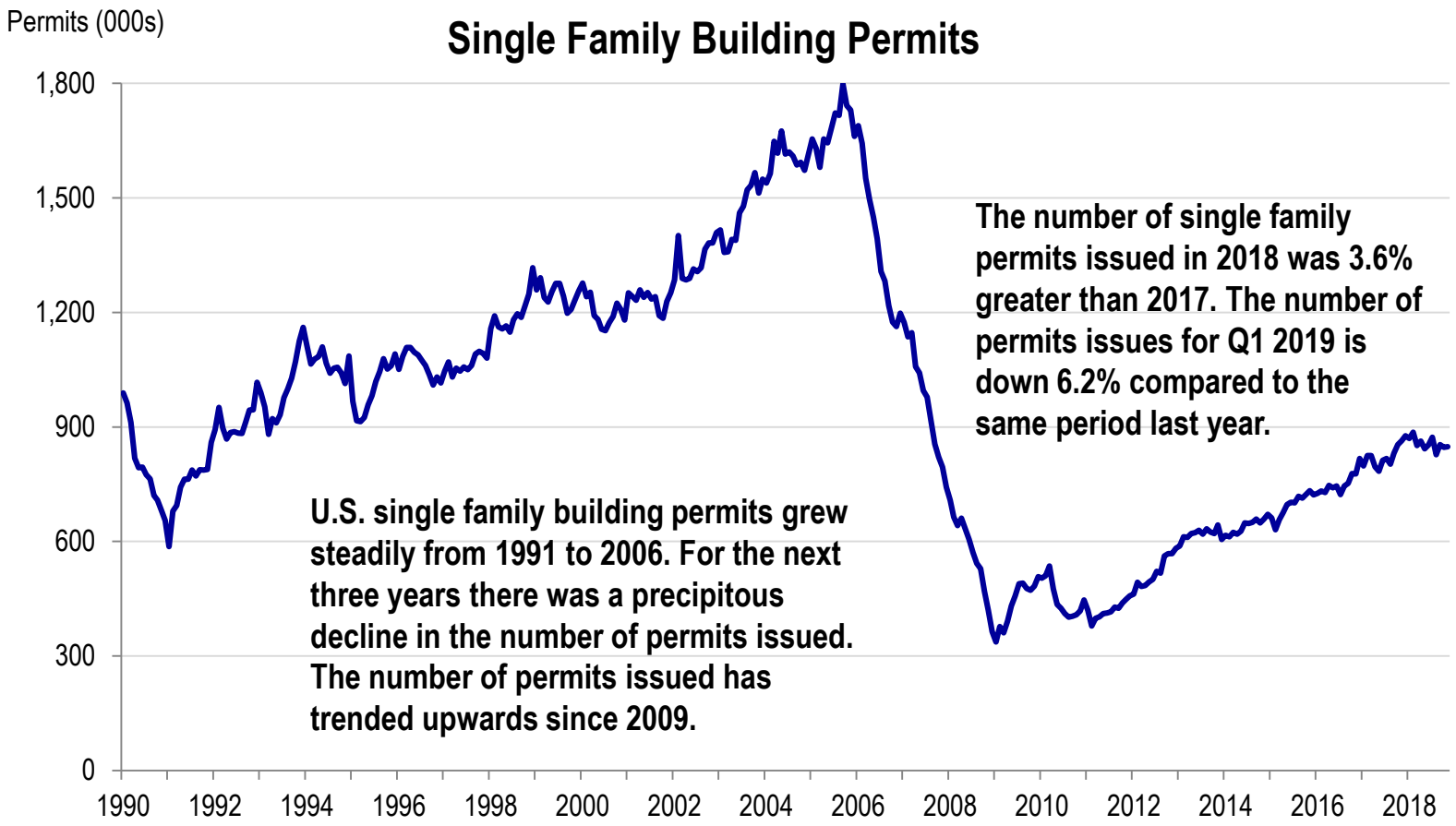
2015 to 2019



Source: BLS, cber.co.

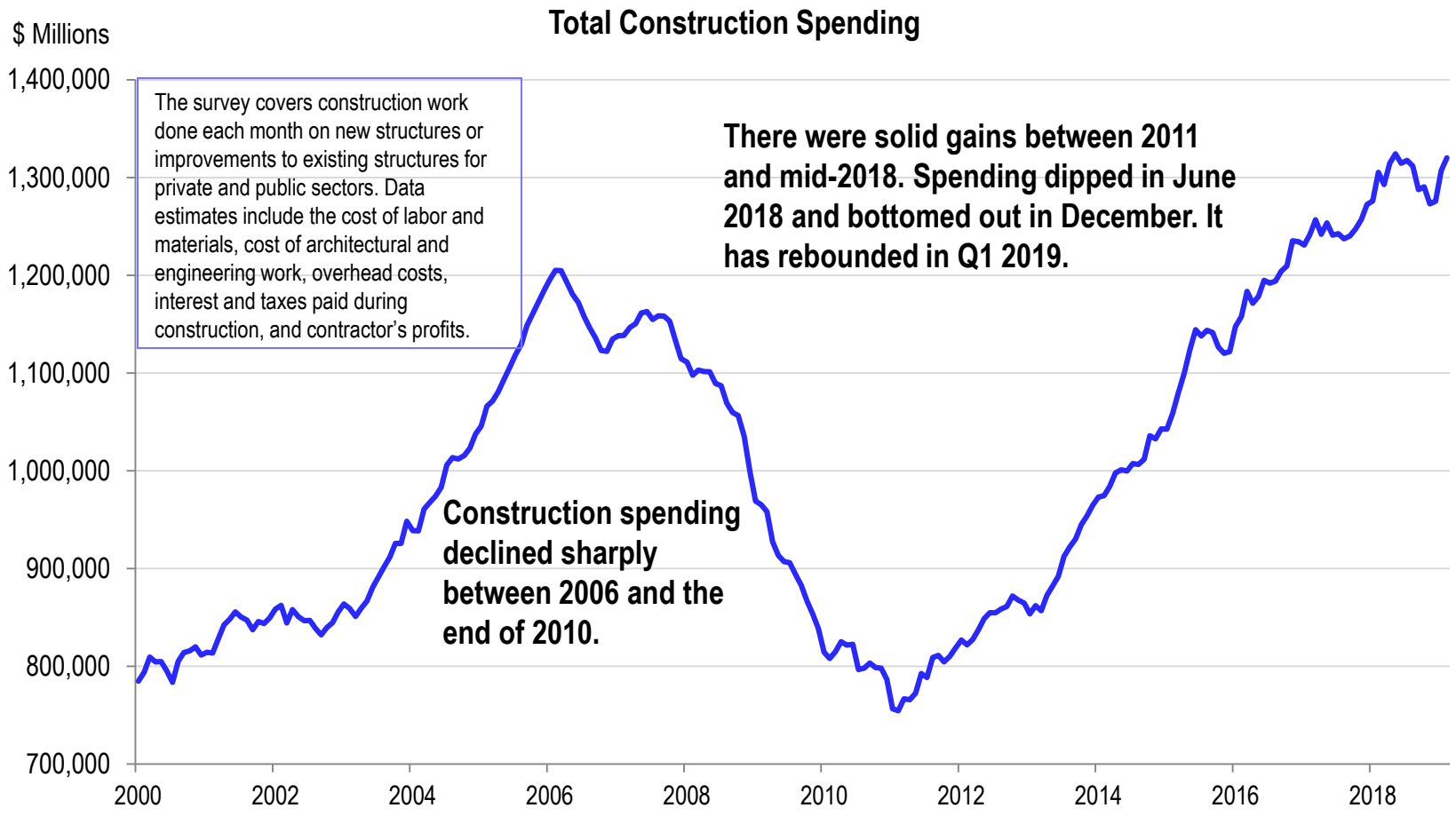
New Single Family Building Permits

United States



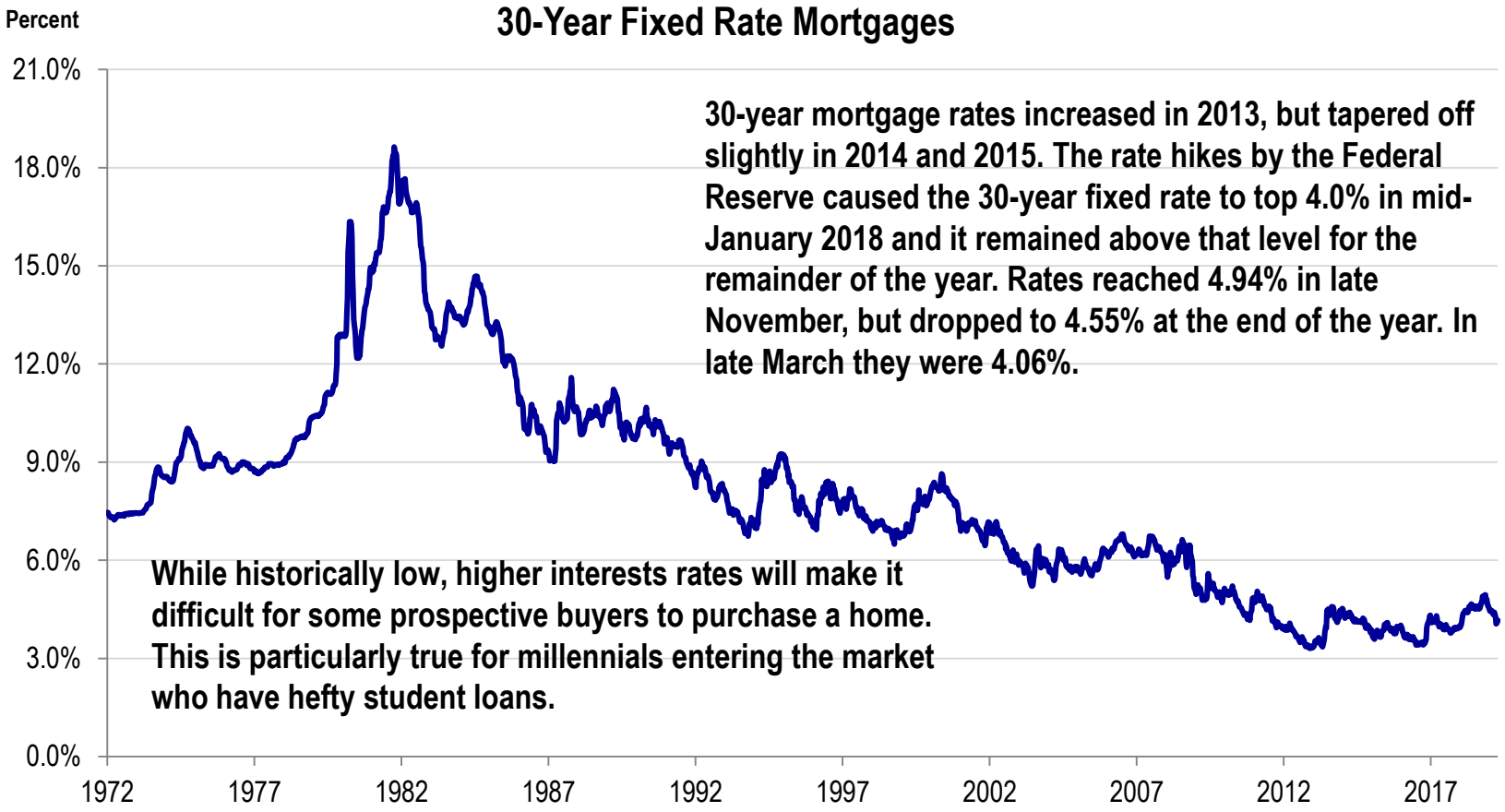
Source: FRED, U.S. Census Bureau, cber.co.

Total U.S. Construction Spending



Source: FRED, Census Bureau, not adjusted for inflation, SAAR, cber.co.

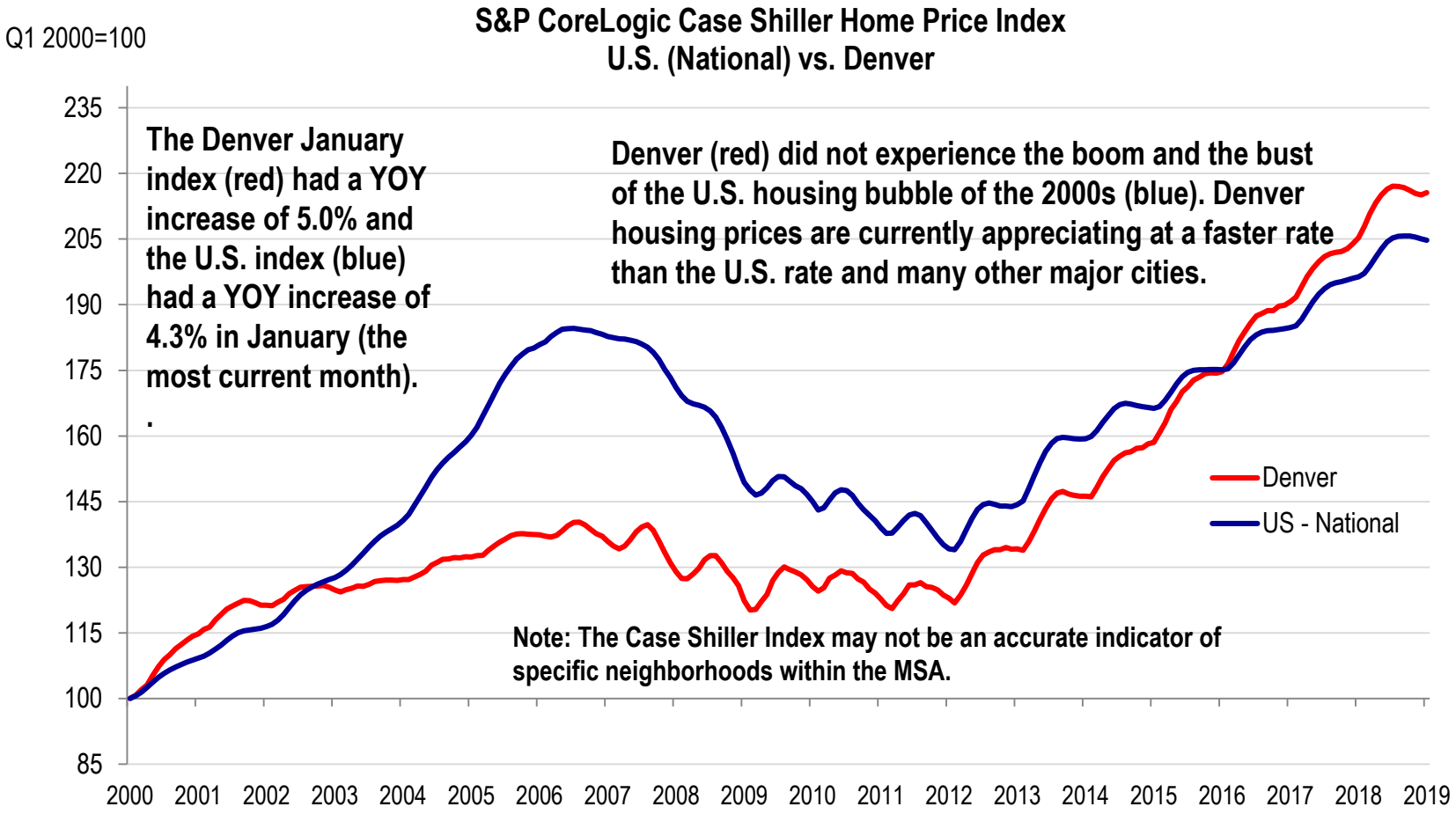
30-Year Fixed Rate Mortgages



Source: FRED, Freddie MAC, cber.co.

Case Shiller Home Price Index

National vs. Denver Index Value



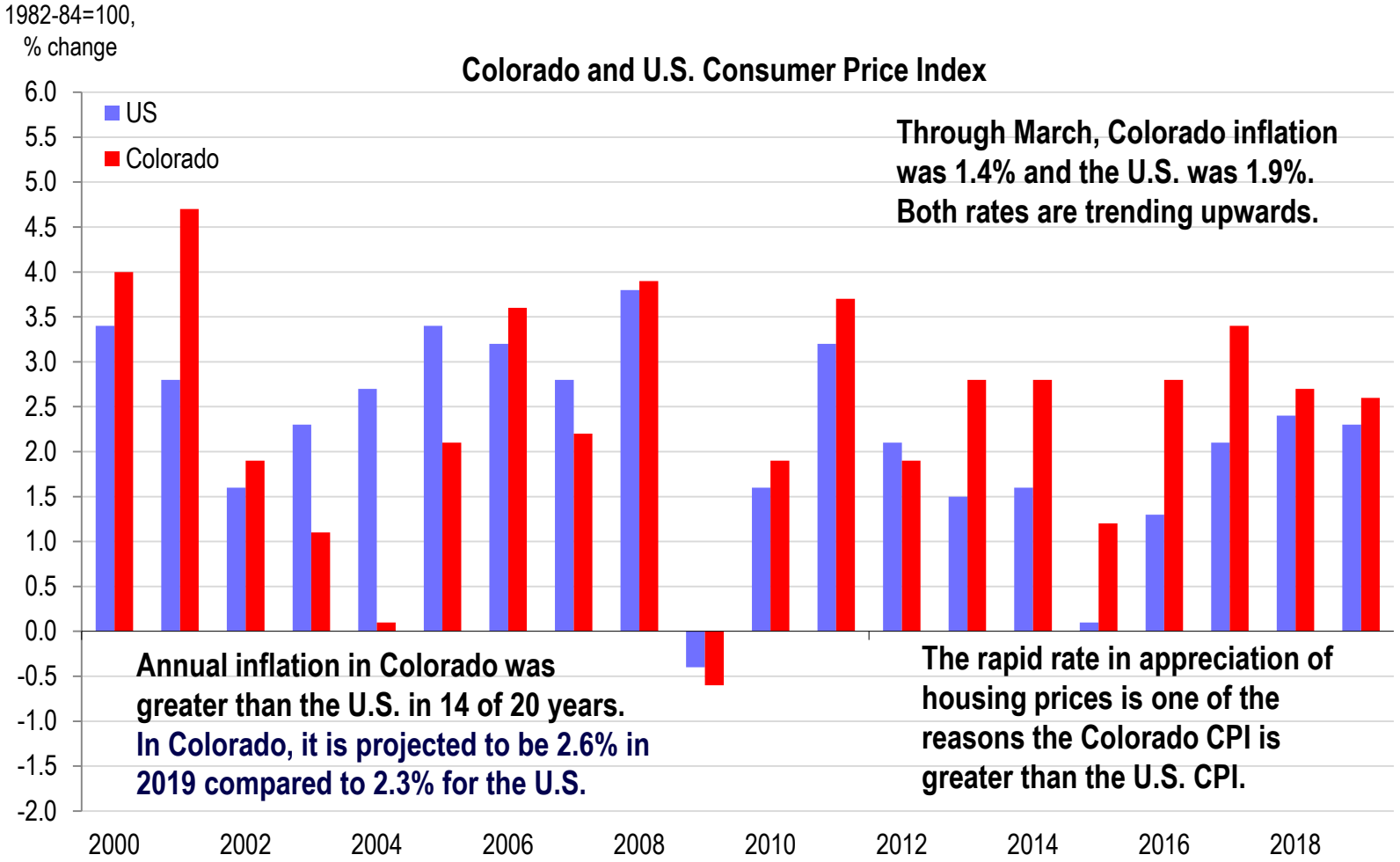
Source: S&P Core-Logic Case-Shiller, cber.co.

The U.S. Economy

Inflation (CPI), Industrial Production Index, Capacity Utilization, Manufacturing/Non-manufacturing Indices, Auto Sales, and Retail Sales

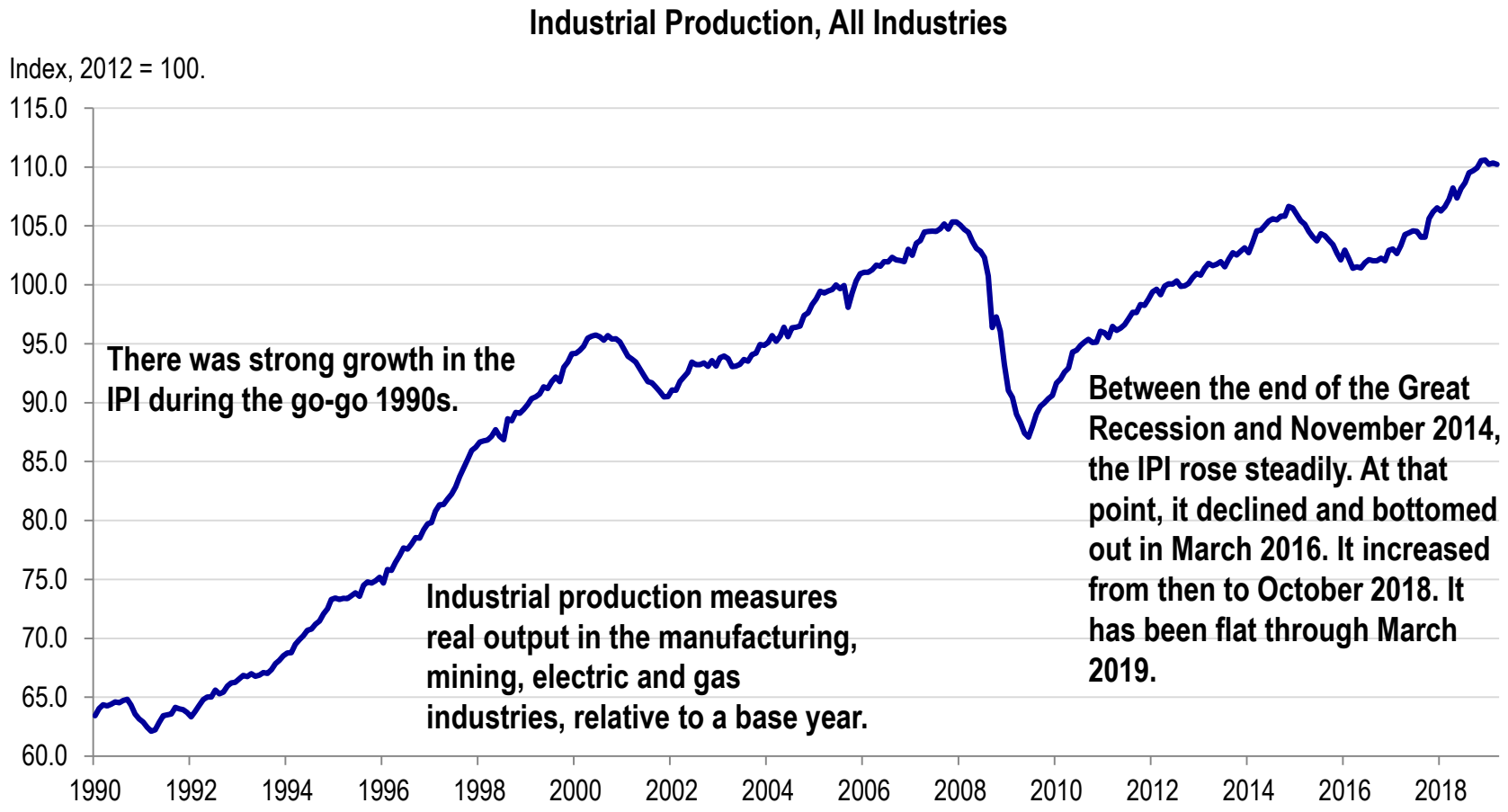
Consumer Price Index (CPI)

Colorado vs. U.S.



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

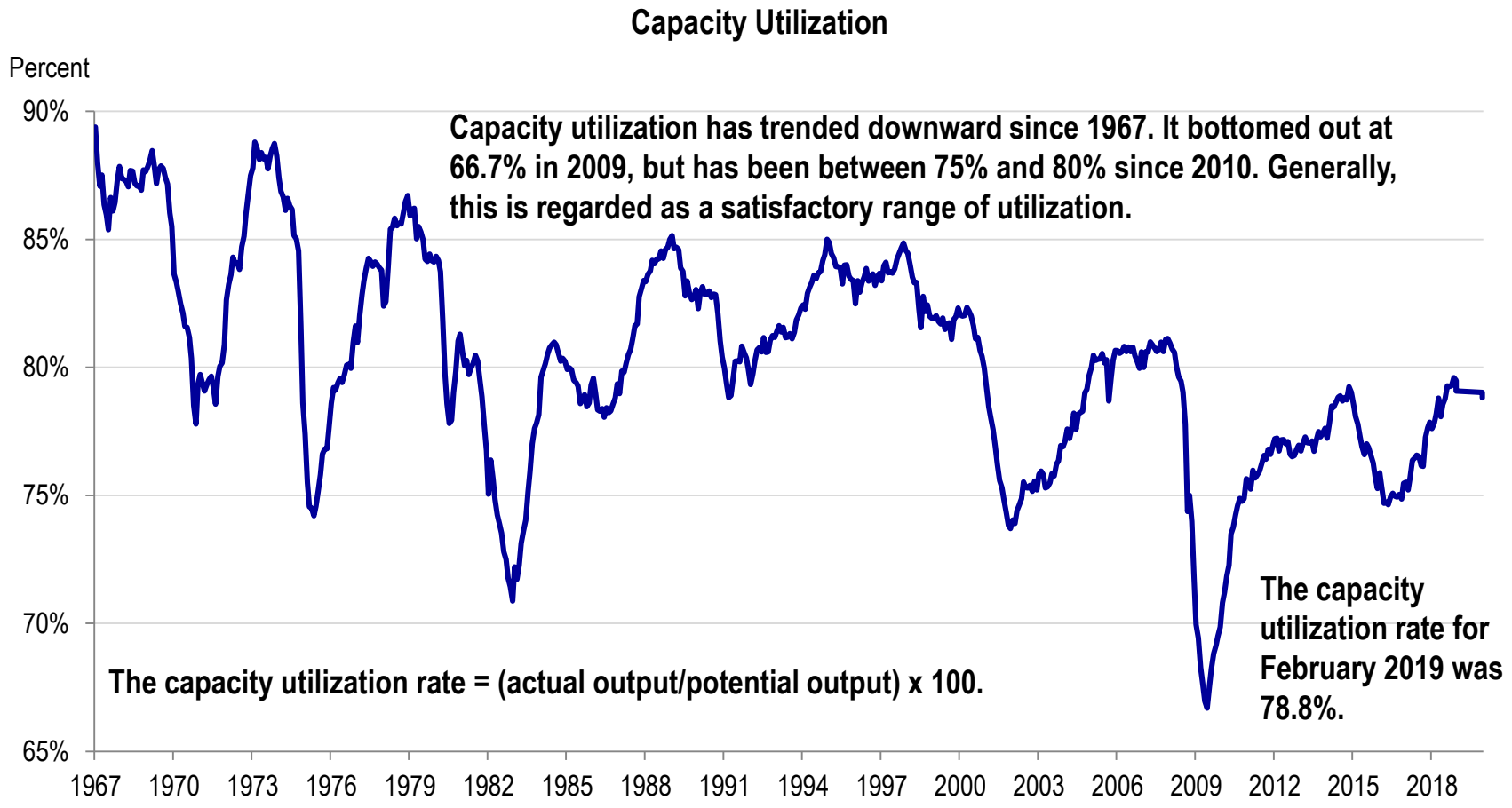
Industrial Production Index



Source: FRED, Federal Reserve, cber.co.

Capacity Utilization

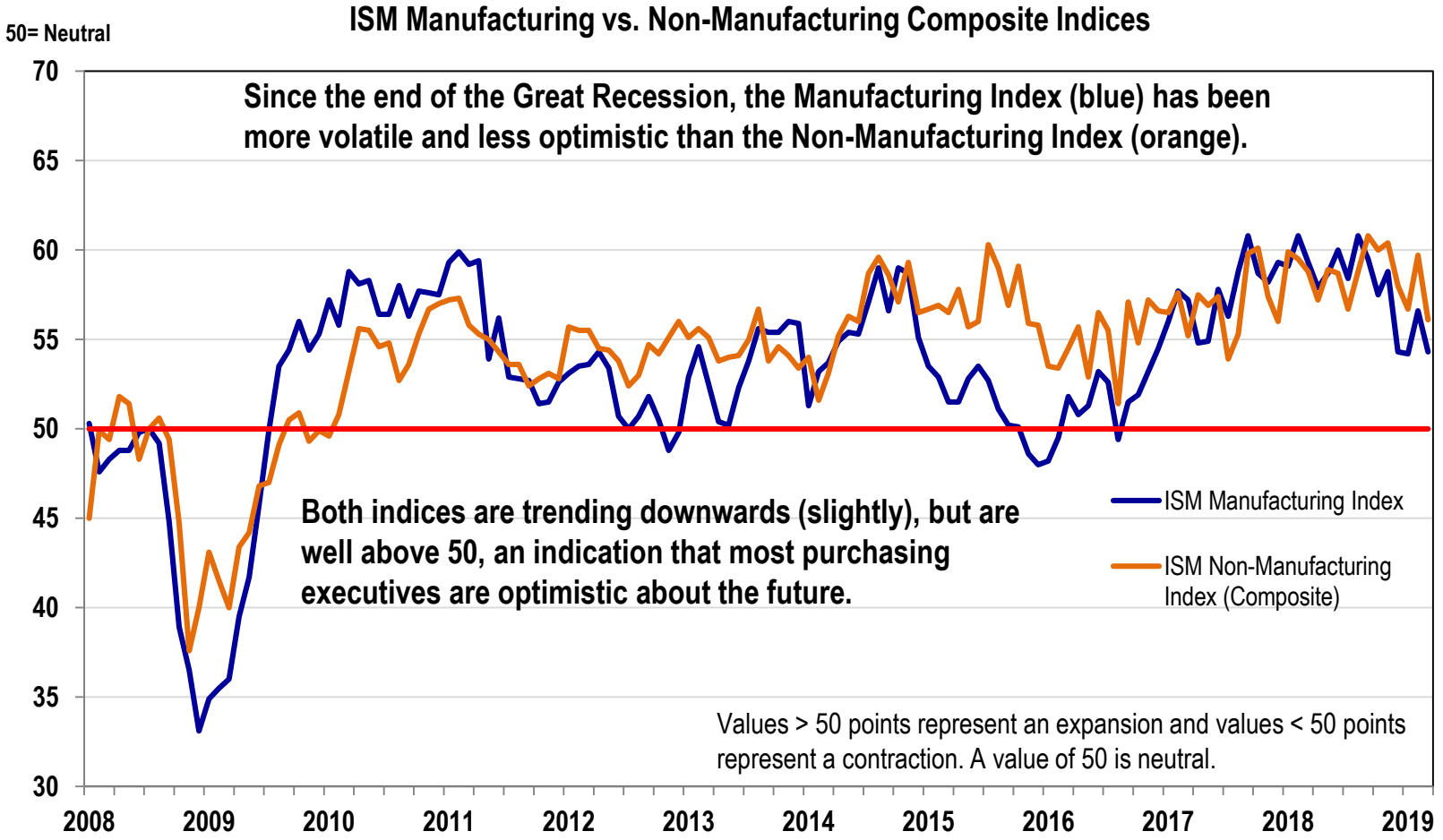
Total Industry



Source: FRED, Federal Reserve, cber.co.

ISM PMI Composite Indices

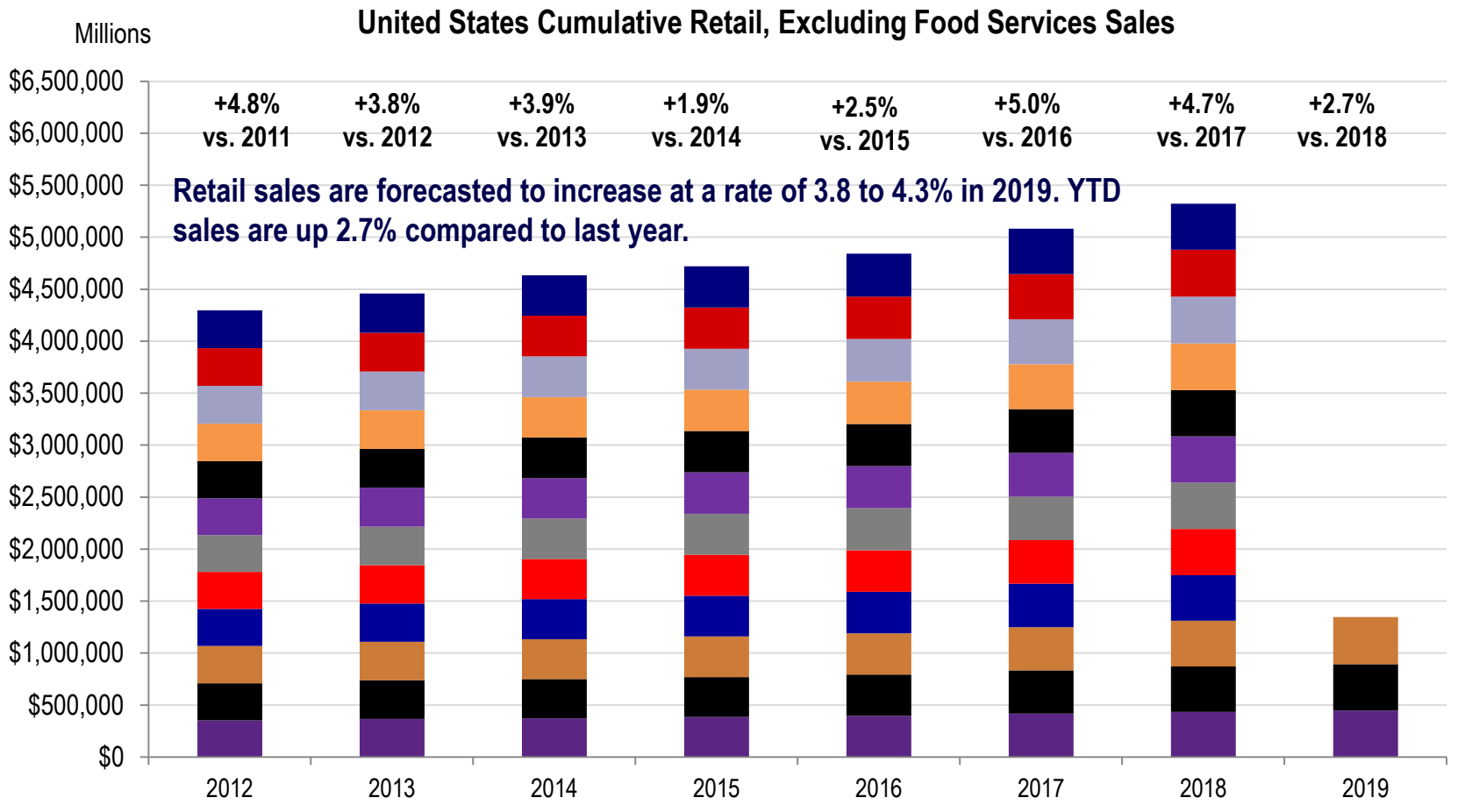
Manufacturing vs. Non-manufacturing



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

Cumulative Retail, Excluding Food Services Sales

Monthly

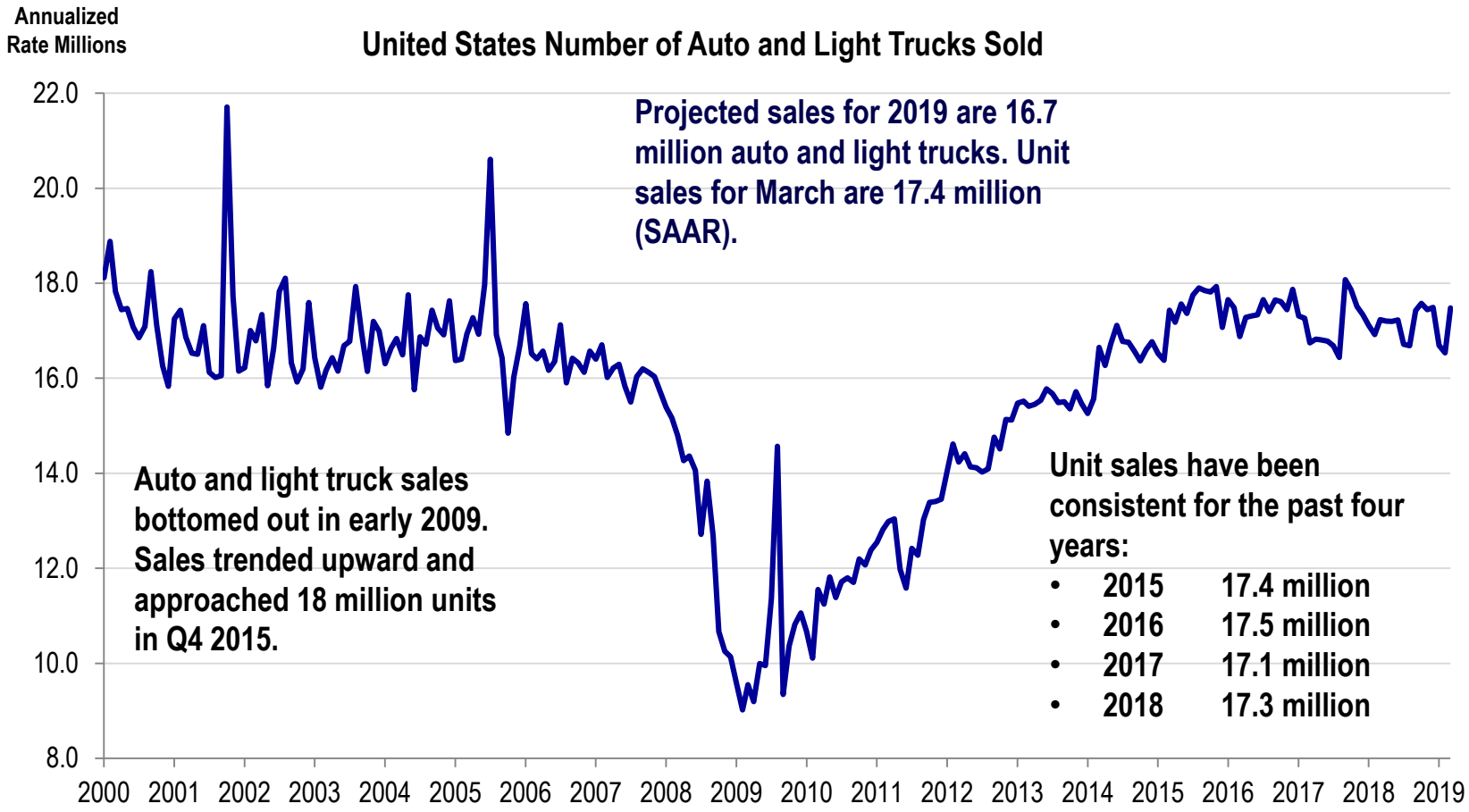


Source: U.S. Census Bureau, FRED, cber.co.

Note: Data is in descending order with December at the top and January at the bottom, not adjusted for inflation.

U.S. Weekly Auto and Light Truck Sales

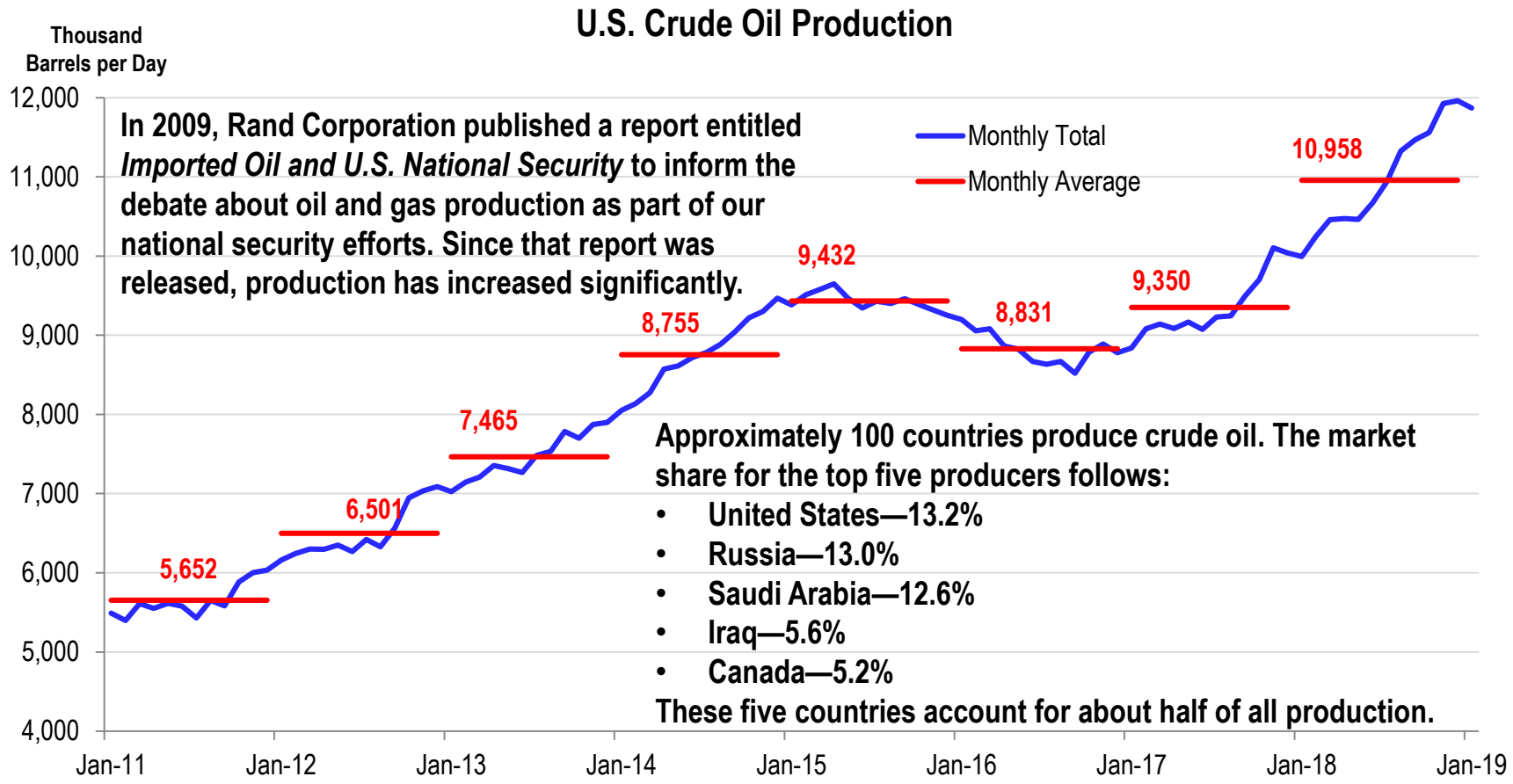
Monthly (Annualized Rate Millions)



Source: FRED, BEA, cber.co.
Note: Seasonally Adjusted Annualized Rate.

U.S. Field Production of Crude Oil

2011 to 2019 (Thousand Barrels per Day)



Source: EIA, cber.co.

The U.S. Economy

Federal Reserve Leading and Coincident Indicators, the University of Michigan Consumer Sentiment Survey, the NFIB survey, and the R-word.

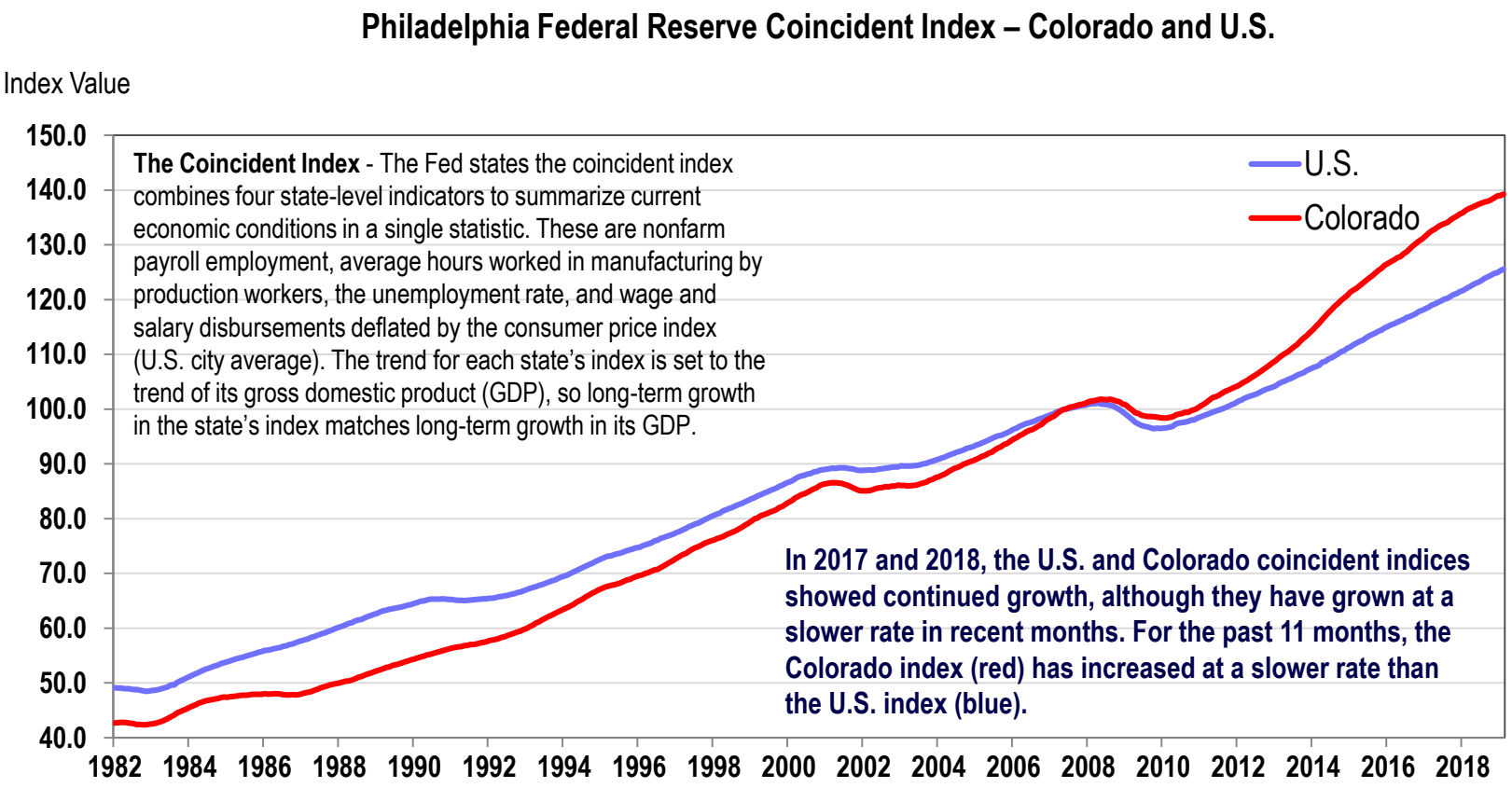
Forward Looking Indicators

Stronger than Expected

The leading and coincident indices produced by the Philadelphia Federal Reserve are two of many indicators that show the U.S. economy is on solid footing, although the leading index for Colorado is sending mixed signals about growth in the state. In addition, the Michigan Consumer Sentiment Survey and the NFIB Optimism Index foretell continued growth in the upcoming months.

Philadelphia Fed Coincident Index

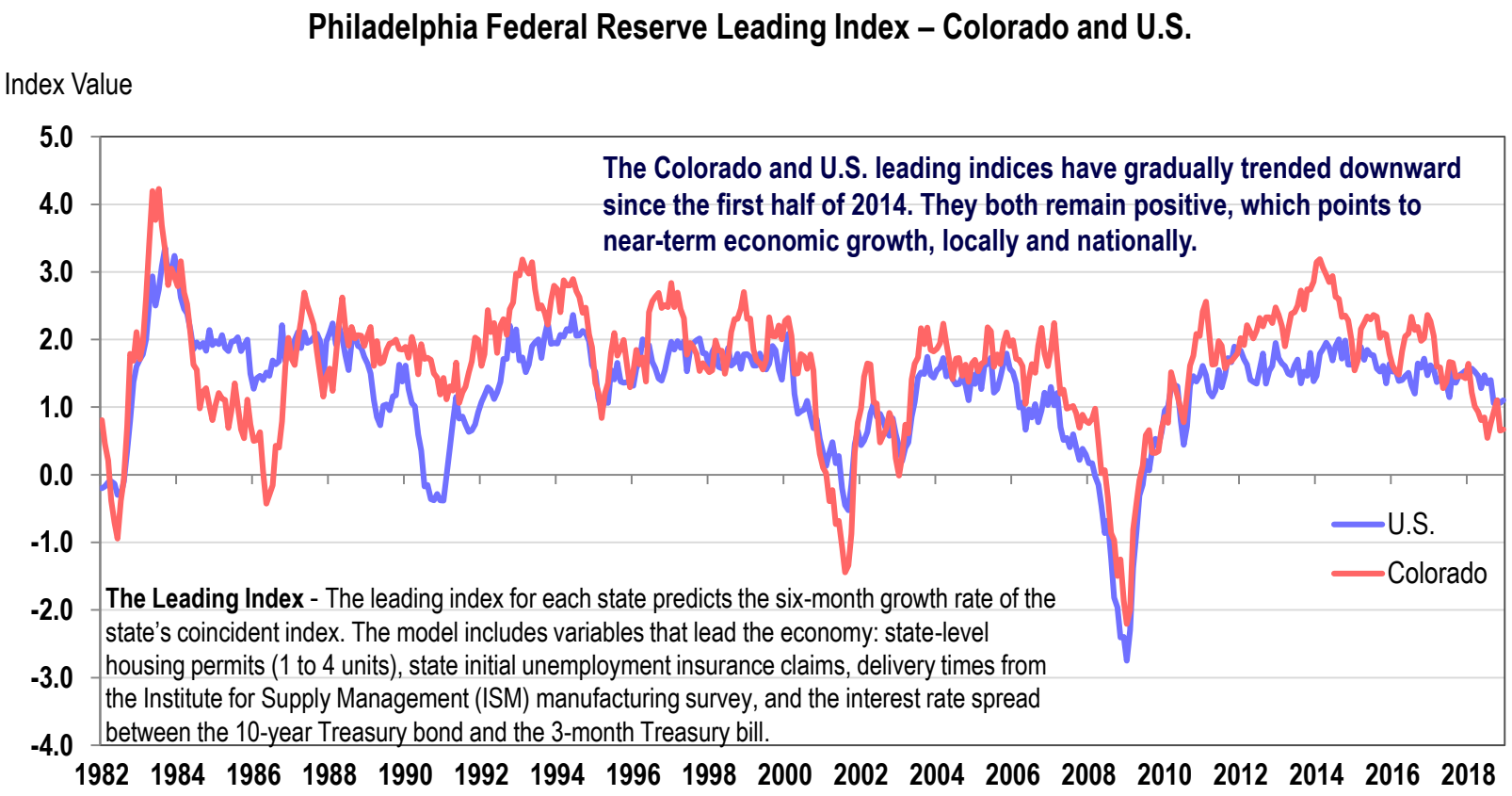
Colorado vs. U.S.



Source: Philadelphia Federal Reserve, cber.co. Note: The leading index predicts the six-month growth rate of the U.S. and state's coincident index.

Philadelphia Fed Leading Index

Colorado vs. U.S.



Source: Philadelphia Federal Reserve, cber.co. Note: The leading index predicts the six-month growth rate of the U.S. and state's coincident index.

The Fed Leading Economic Indicators

Stronger Than Expected

The maps on the following two pages show the leading economic indicator for all 50 states for the months of February 2018 and February 2019.

February 2018 Map

The 2018 map was unusual because all states were in positive territory.

- 19 were light green – modest growth
- 31 were dark green – solid growth

February 2019 Map

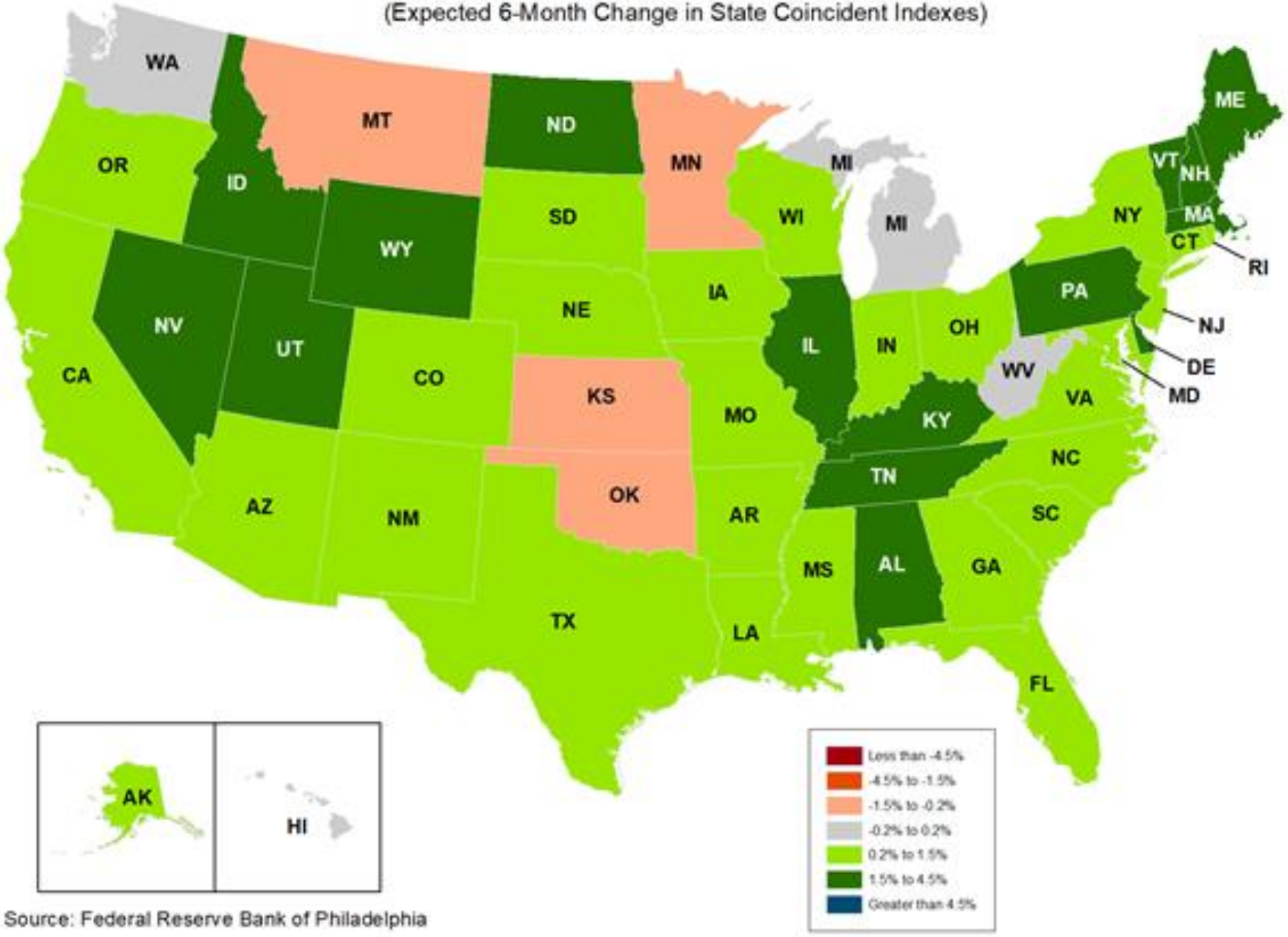
The 2019 map shows weaker growth than in 2018.

- 4 were light orange – modest decline
- 4 were grey - flat
- 15 were light green – modest growth
- 27 were dark green – solid growth

Key for Maps for Fed State LEI (Six Months)
Change in Index
Brown <-4.5%
Dark Orange -4.5% to -1.5%
Light Orange -1.5% to -0.2%
Grey -0.2% to 0.2%
Light Green 0.2% to 1.5%
Dark Green 1.5% to 4.5%
Blue > 4.5%

February 2019 State Leading Indexes

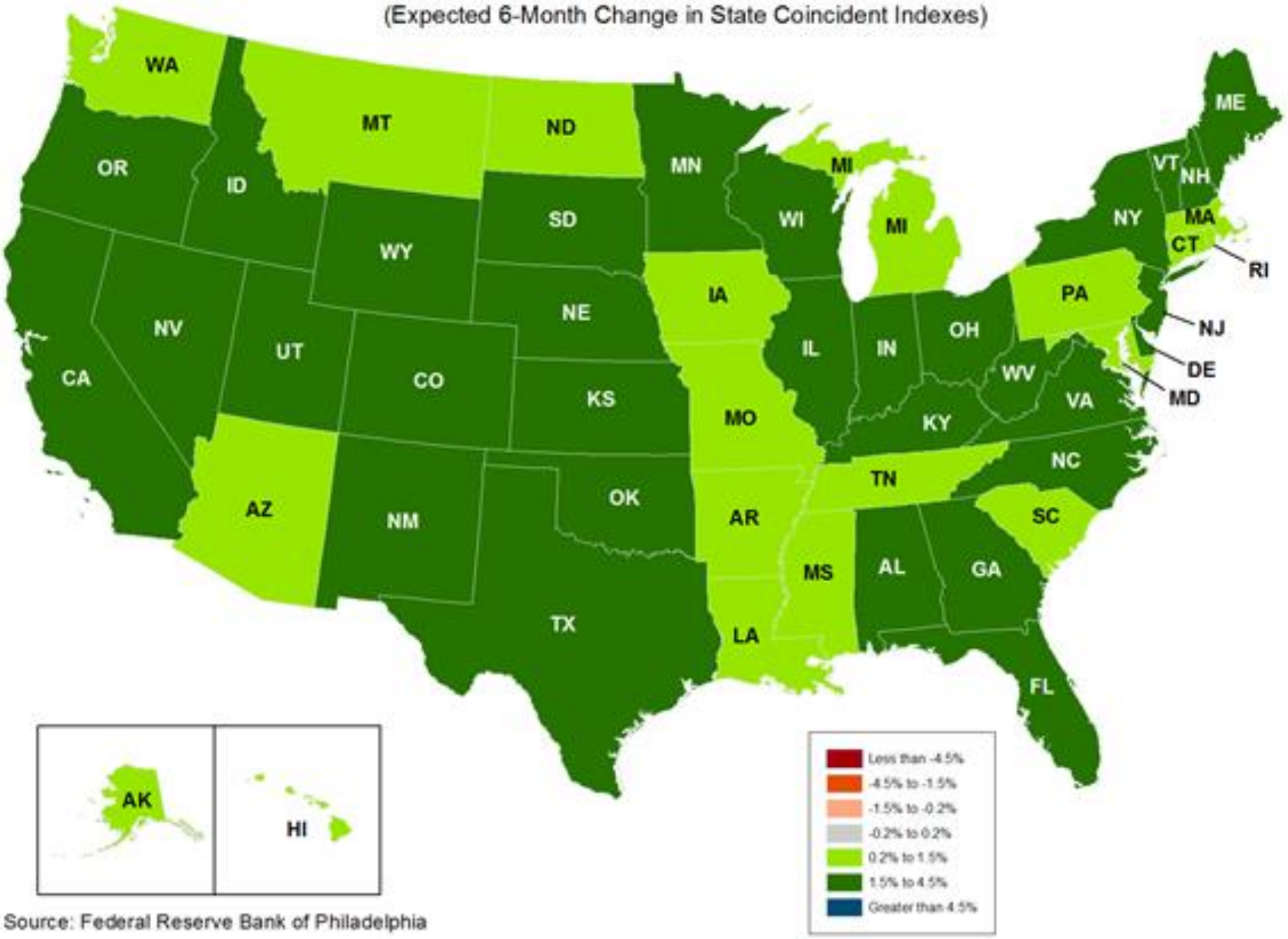
(Expected 6-Month Change in State Coincident Indexes)



Source: Federal Reserve Bank of Philadelphia

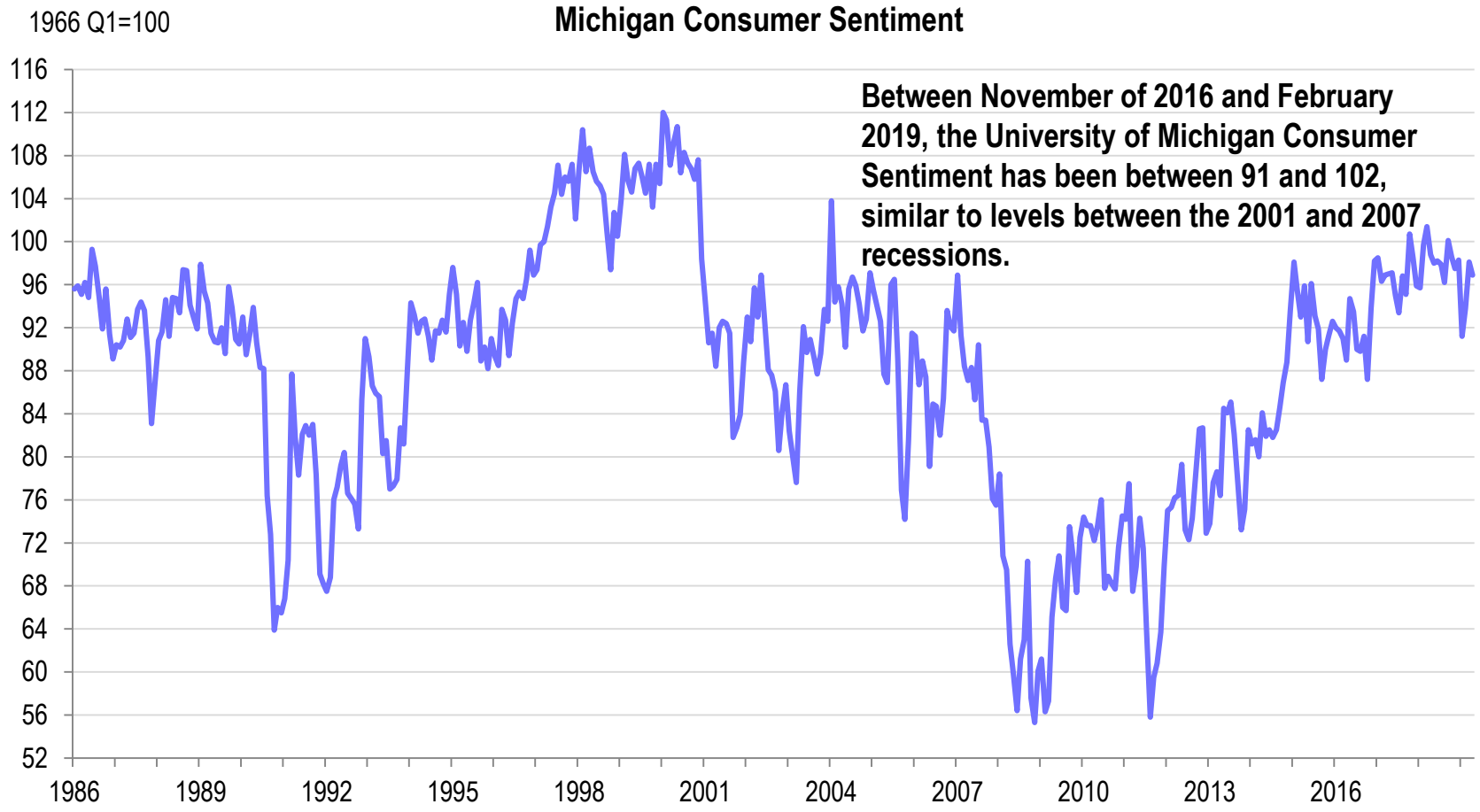
February 2018 State Leading Indexes

(Expected 6-Month Change in State Coincident Indexes)



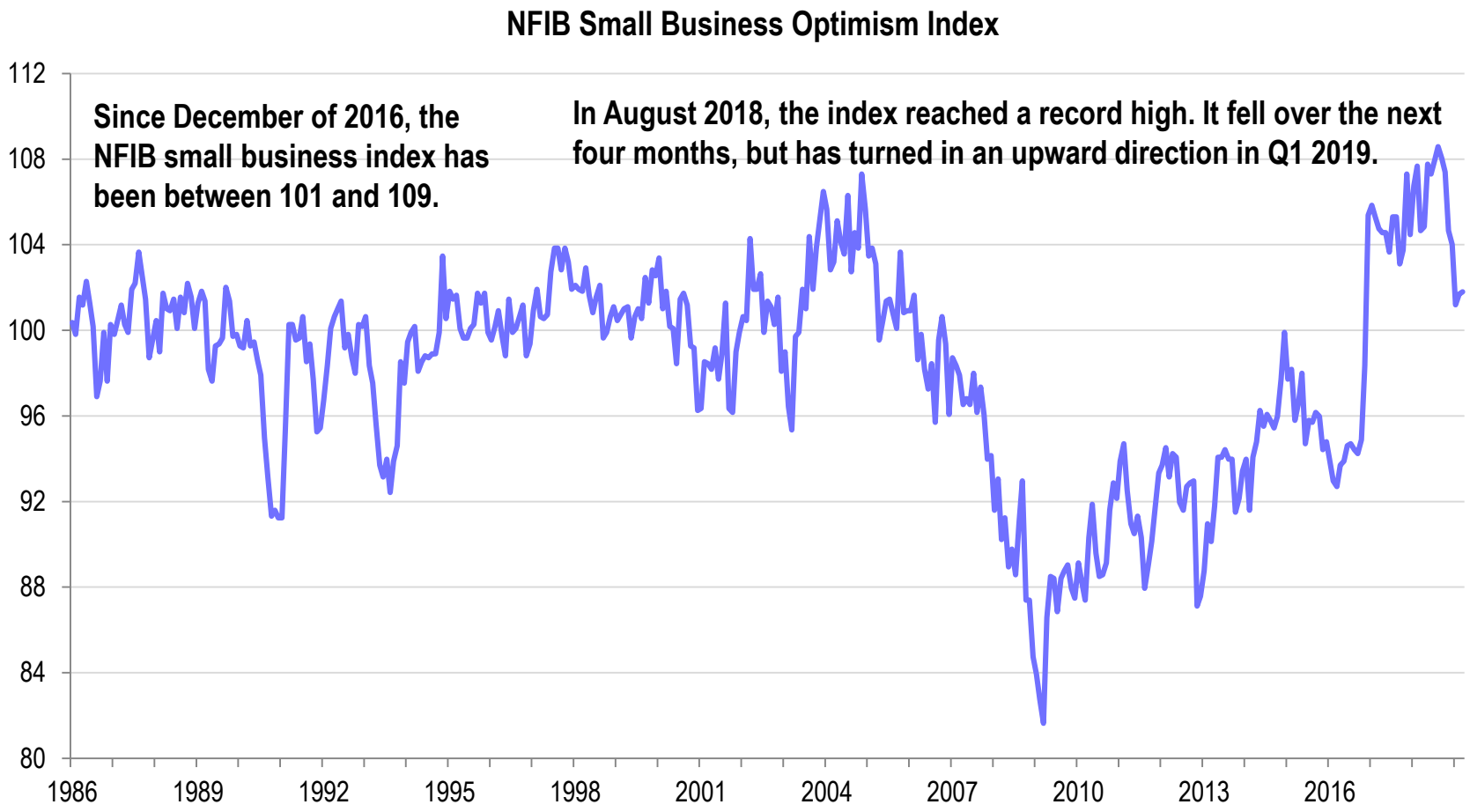
Source: Federal Reserve Bank of Philadelphia

University of Michigan Consumer Sentiment



Source: University of Michigan, FRED, cber.co.

NFIB Small Business Optimism Index



Source: NFIB, cber.co.

Forecasting Recessions

It is a tough task!

"Why are economists so bad at forecasting recessions?"

----Andrew Bridgen, *Bloomberg*, March 28, 2019

In February, Andrew Bridgen, chief economist at London-based Fathom Consulting, worked out that of 469 downturns since 1988, the International Monetary Fund had predicted only four by the spring of the preceding year. By the spring of the year in which the downturn occurred, the IMF was projecting 111 slumps, fewer than a quarter of those that actually happened.

In a post on his firm's website, Bridgen wrote "The economist who cried wolf." While IMF economists monitoring Equatorial Guinea, Papua New Guinea, and Nauru can walk tall for their recession calls, the rest pretty much flopped. "Since 1988 the IMF has never forecast a developed economy recession with a lead of anything more than a few months," he says.

IMF economists point out that they're not alone in missing downturns. A recent working paper by Zidong An, Joao Tovar Jalles, and Prakash Loungani discovered that of 153 recessions in 63 countries from 1992 to 2014, only five were predicted by a consensus of private-sector economists in April of the preceding year. And the economists tended to underestimate the magnitude of the slump until the year was almost over.

Links to articles

https://www.bloomberg.com/news/articles/2019-03-28/economists-are-actually-terrible-at-forecasting-recessions

https://www.imf.org/en/Publications/WP/Issues/2018/03/05/How-Well-Do-Economists-Forecast-Recessions-45672

The U.S. Economy

Summary

Summary
U.S. Trends for Q1

The economy is performing stronger than expected.

- Global real GDP growth is reported to be slowing; however, real GDP growth for the U.S. is stronger than anticipated.
- The rate of employment and wage growth will be solid, but less than 2018. Nationally, companies in some states cannot find workers because of the low unemployment rate.
- The rate of Inflation remains within the Fed's target range.
- Some indicators show the construction industry has bounced back from a short slowdown, for example, the NAHB housing index and construction spending have increased. There is solid construction employment; however, Q1 permits are down compared to last year.
- Housing prices are increasing at a decreasing rate and 30-year mortgage rates are down.
- Industrial production has been flat for two quarters; however capacity utilization remains high.
- The price for a barrel of oil has risen and record production is projected.
- Most of the forward looking-indicators point to solid growth; however, some data provides mixed messages.
- The Federal Reserve has signaled fewer rate hikes in 2019 than last year.
- The performance of the equities market was strong in the first quarter and the volatility has diminished significantly.

The Colorado Economy

Population Components of Change

Colorado Population

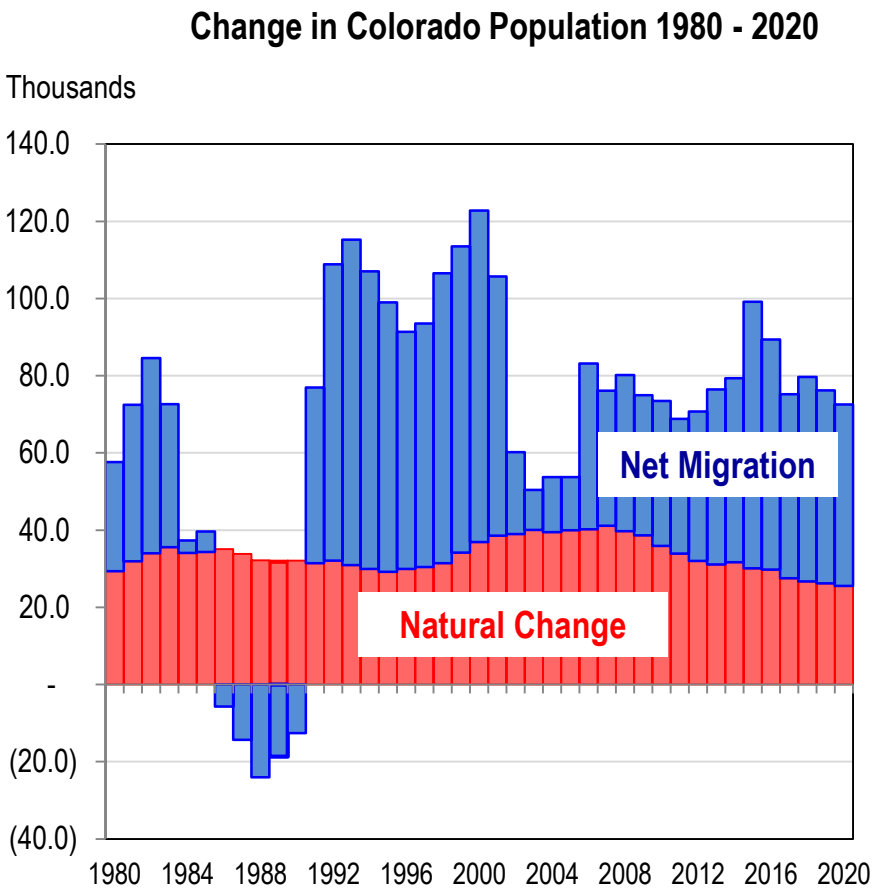
Components of Change

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. Fertility rates have declined. The natural rate for 2019 is projected to be 26,200, a new low.

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 the years 2016 to 2020. In 2019 the state's population will increase by 1.3%, or 76,200, to 5,765,527.



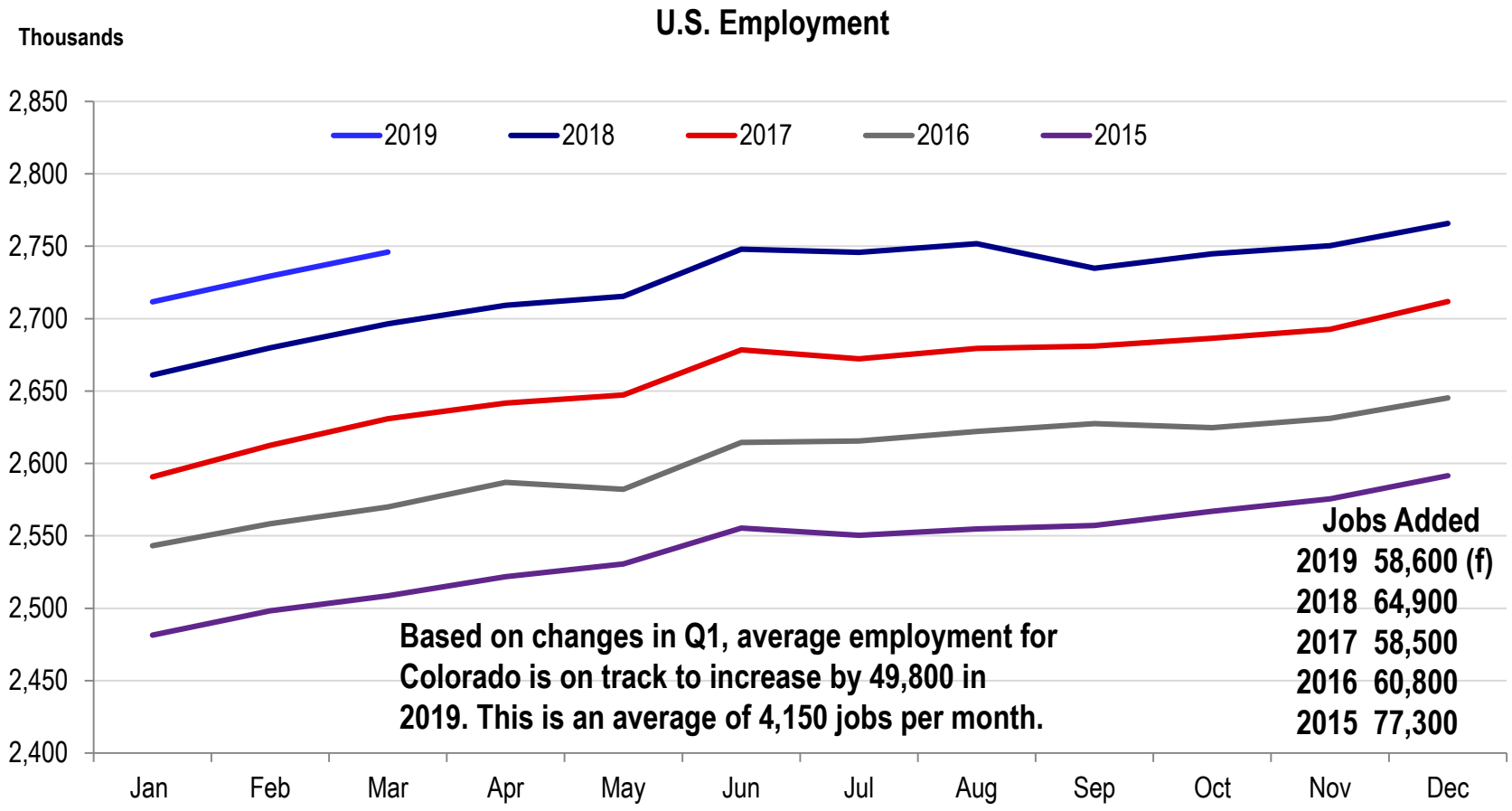
Sources: State Demography Office and cber.co.
Colorado-based Business and Economic Research http://cber.co

The Colorado Economy

Employment, Employment by Sector, Unemployment Rate, and UI Claims

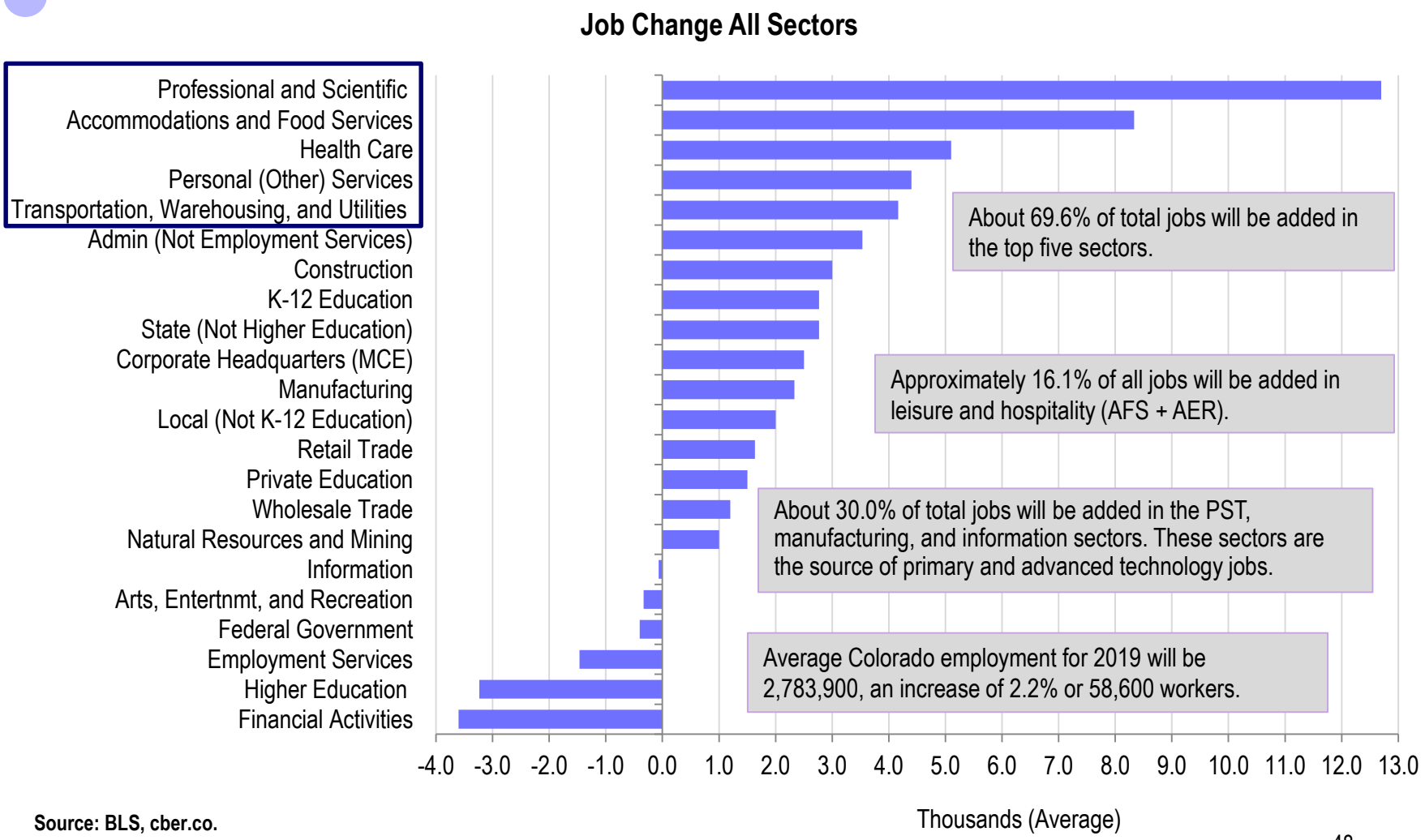
Colorado Employment

2015 to 2019



Source: BLS, cber.co.

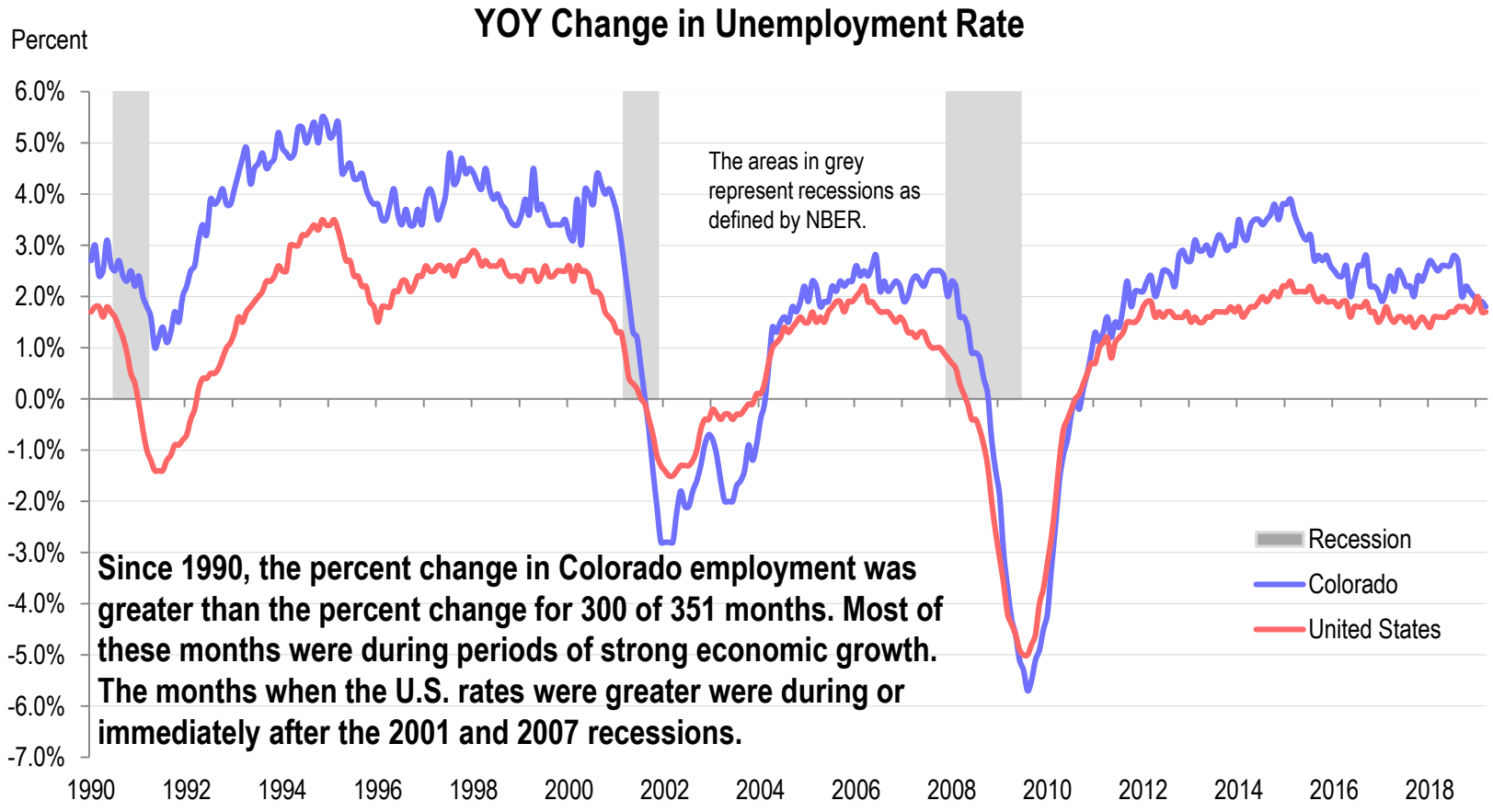
Change in Employment by Sector
2019



Source: BLS, cber.co.

YOY Percent Change in Employment

Colorado



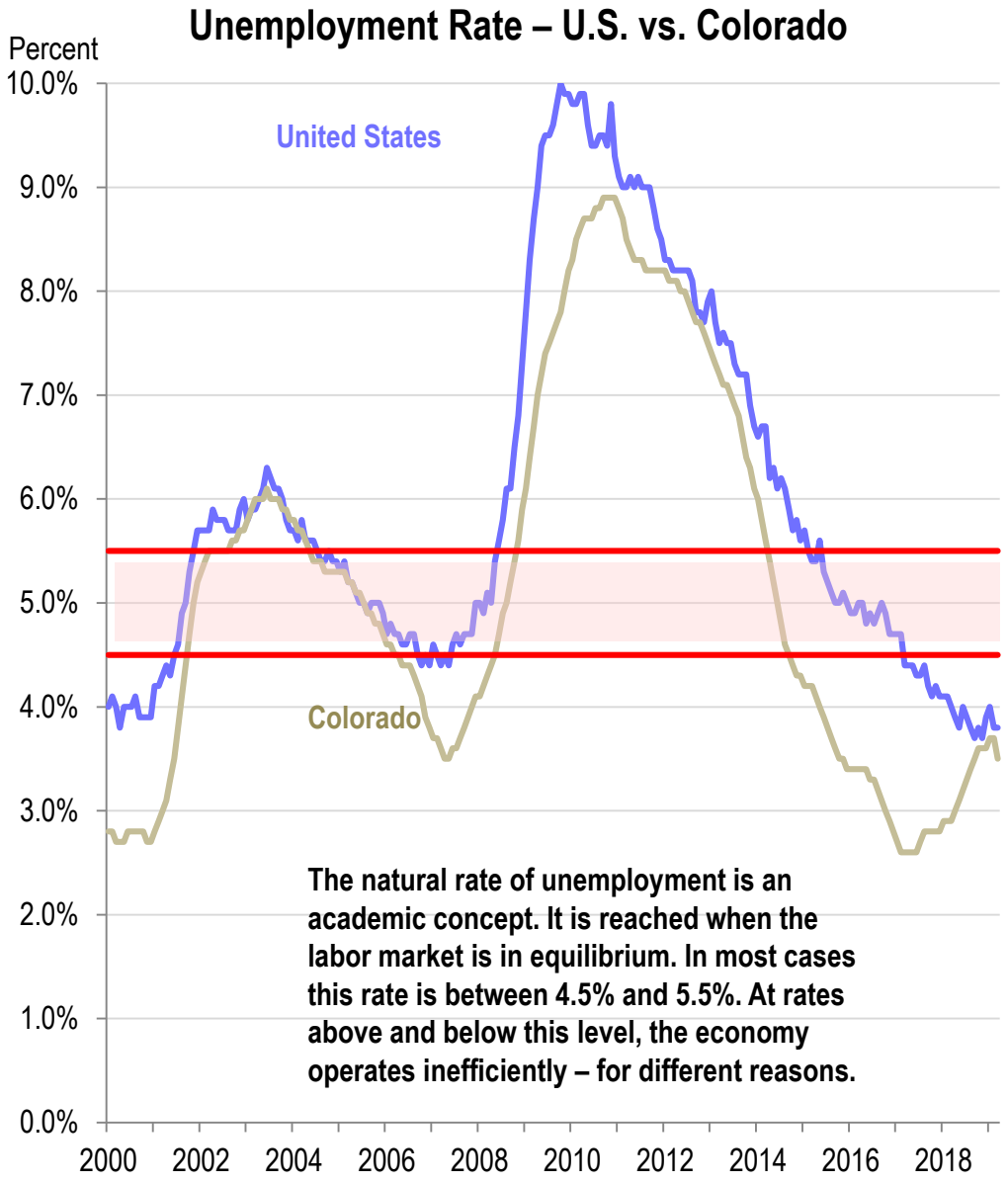
Source: Bureau of Labor Statistics, NSA, NBER, cber.co.

Unemployment Rate vs. Colorado

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 25 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%.

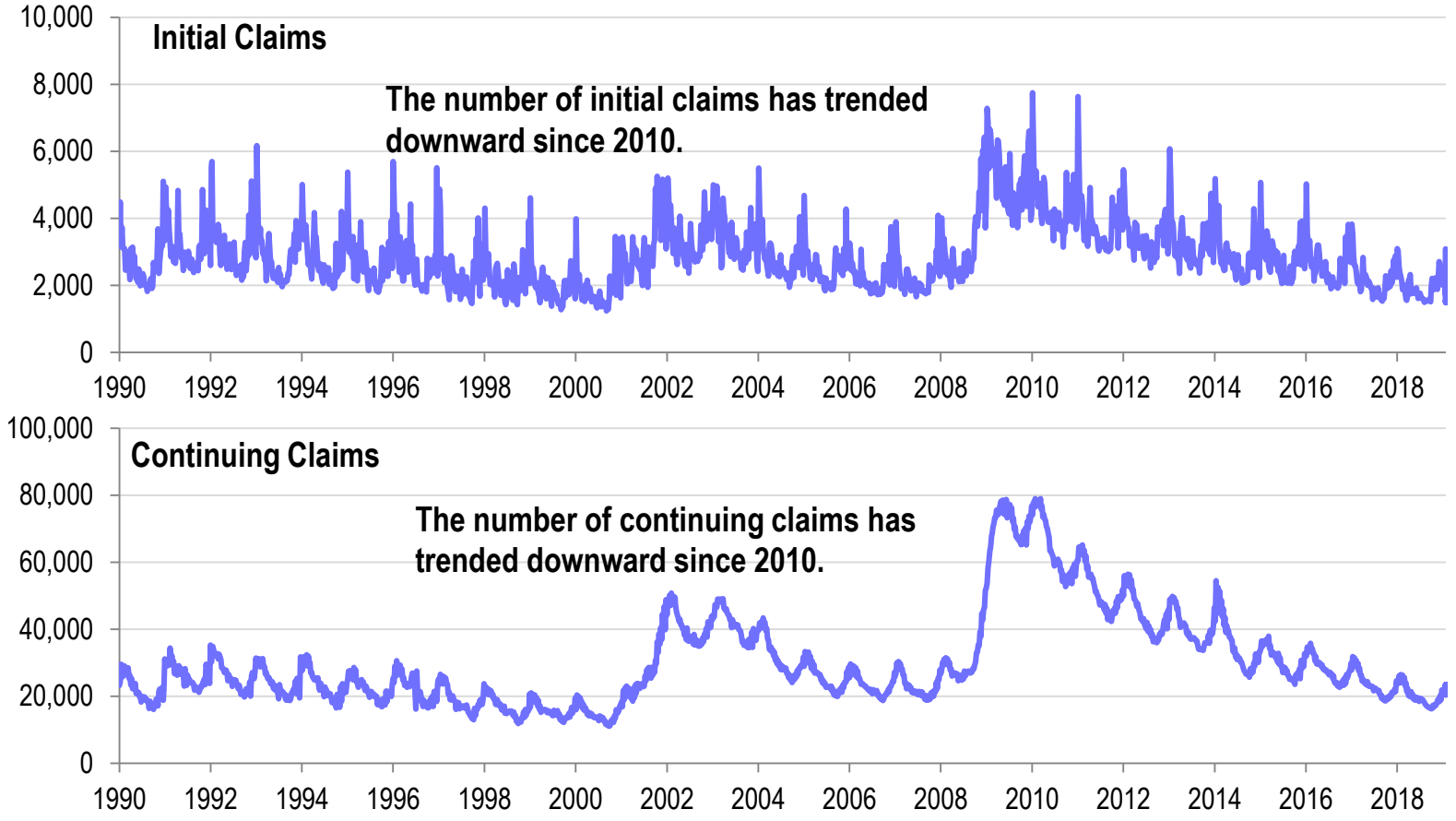
The Colorado rate dropped below 4.5% in October 2014 and has been there for 54 months. By comparison, there was an 89 month period from May 1994 to September 2001 (not shown) when Colorado's rate of unemployment was less than 4.5%.



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

Initial and Continuing Unemployment Claims

1990 to 2019 (Colorado)



Source: FRED, Department of Labor, NSA, cber.co.

The Colorado Economy

Employment by Strong Growth, Solid Growth, Volatile Categories

Annual Employment Forecast for the Strong Growth Category

For almost three decades the following sectors have been the foundation for consistent growth in Colorado employment.

- Professional, Scientific, and Technical Services
- Management of Companies and Enterprises
- Administrative Services (Not Employment Services)
- Private Education
- Higher Education (Public)
- Health Care
- Arts, Entertainment, and Recreation
- Other Services.

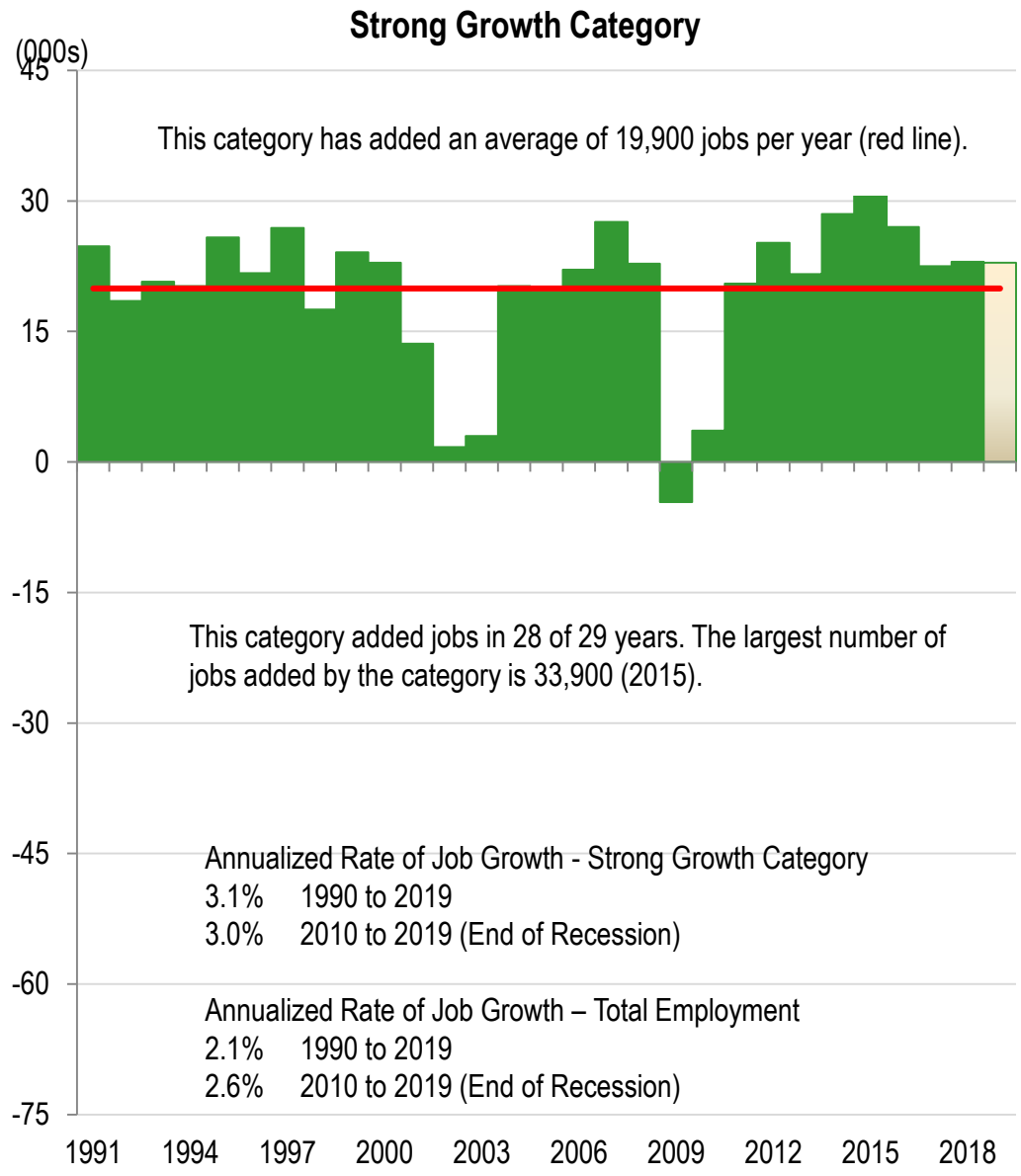
Total employment for this category was:

1998 581,900 workers, 28.3% of total employment

2008 759,400 workers, 32.3% of total employment

2018 960.900 workers, 35.2% of total employment

Forecast: In 2019, 22,900 workers will be added at a rate of 2.4%.



Source: Bureau of Labor Statistics, cber.co.

Annual Employment Forecast for the Solid Growth Category

For almost three decades the following sectors generally posted gains. The category posted stronger jobs gains during the 1990s than the 2000s and 2010s.

- Wholesale Trade
- Retail Trade
- State (Not Higher Education)
- Local (Not K-12 Education)
- K-12 Education
- Accommodations and Food Services.

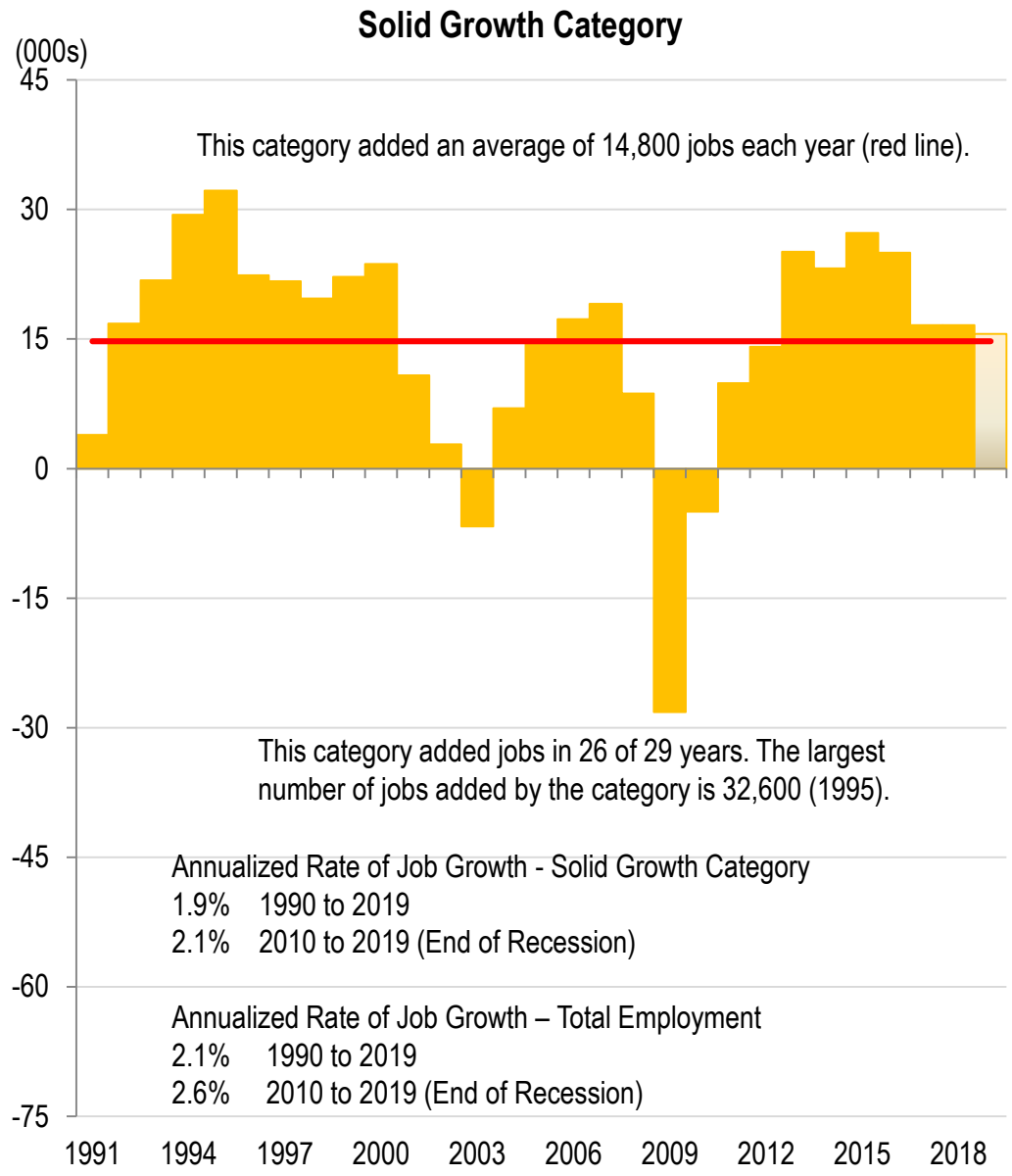
Total employment for this category was:

1998 763,300 workers, 35.8% of total employment

2008 856,000 workers, 36.4% of total employment

2018 996,200 workers, 36.0% of total employment

Forecast: In 2019, 15,600 jobs will be added, at a rate of 1.6%.



Source: Bureau of Labor Statistics, cber.co.

Annual Employment Forecast for the Volatile Category

For almost three decades the sectors listed below were the primary source of volatility in total employment.

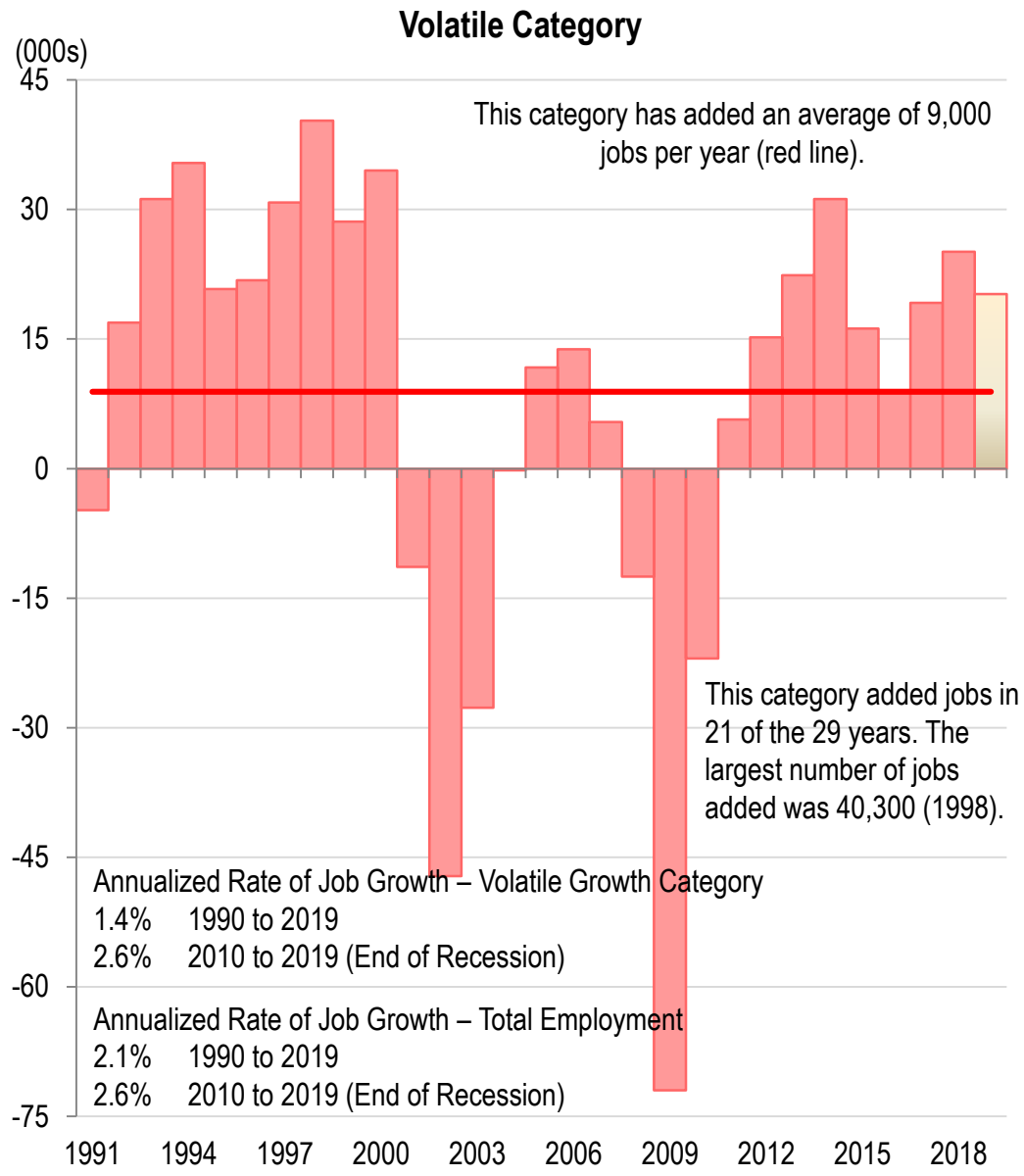
The sectors are:

- Natural Resources and Mining
- Construction
- Manufacturing
- Transportation and Warehousing
- Utilities
- Employment Services
- Financial Activities
- Information
- Federal Government.

Total employment for this category was:

1998 739,000 workers, 35.9% of total employment
2008 734,000 workers, 31.2% of total employment
2018 784,000 workers, 28.8% of total employment

Forecast: In 2019 20,100 jobs will be added, at a rate of 2.6%.



Source: Bureau of Labor Statistics, cber.co.

Key Sectors

Strong Growth, Solid Growth, and Volatile Categories

The following slides show the change in employment for key sectors in the strong growth, solid growth, and volatile categories.

- The green bars represent sectors from the strong growth category.
- The yellow bars represent sectors from the solid growth category.
- The red bars represent sectors from the volatile category.

- Note: The AER and AFS sectors were combined to form the L&H supersector – as defined by BLS. The state higher education and HCSA sectors were combined by cber.co because CU has purchased some local hospitals to be a part of their system. Those workers will now be classified as state higher education workers.

The state is projected to add 58,600 jobs in 2019. The total jobs forecasted by category follows:

- Strong Growth 22,900 jobs
- Solid Growth 15,600 jobs
- Volatile 20,100 jobs.

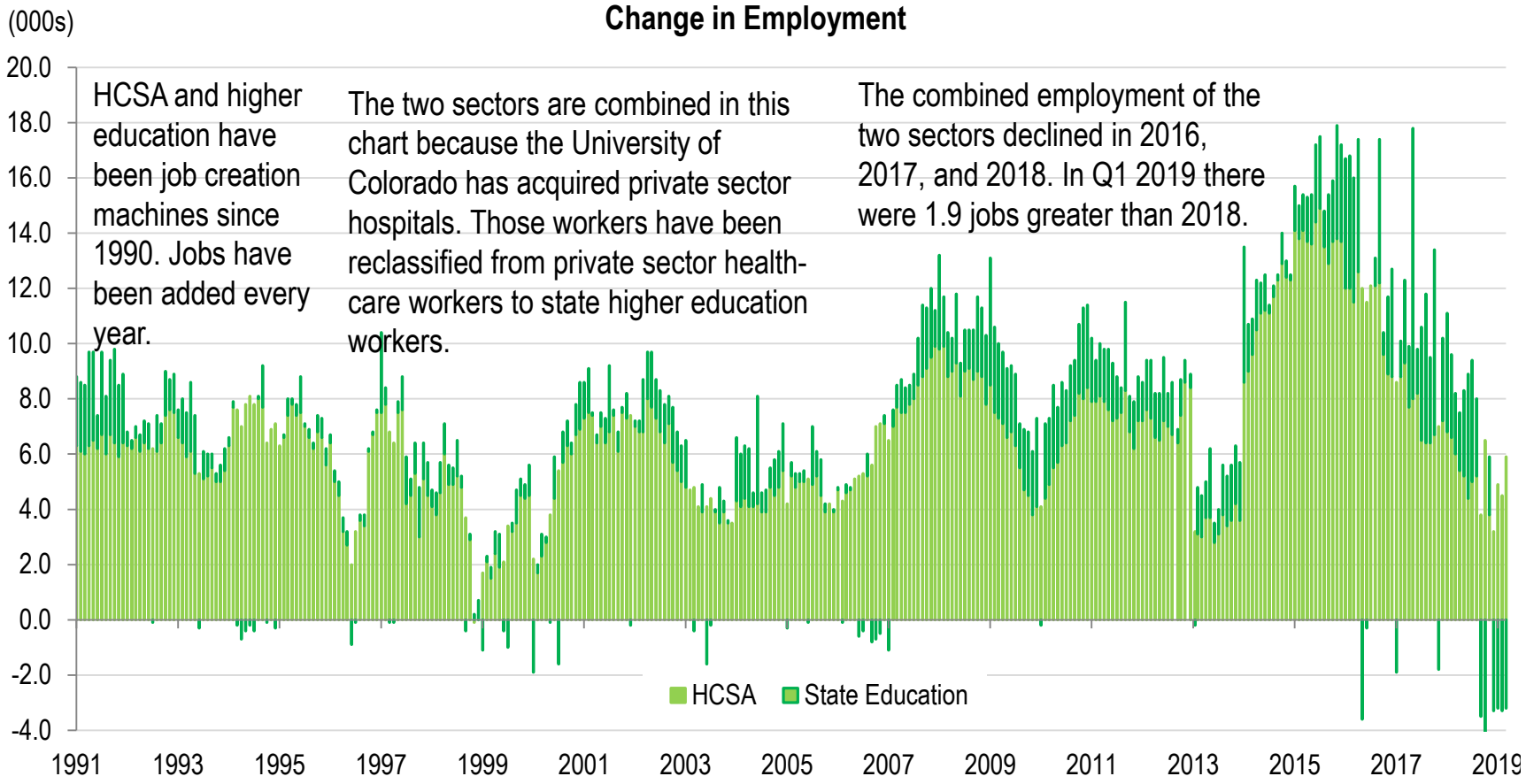
Based on the change in jobs during Q1, Colorado is on track to add 49,800 jobs in 2019. This is 8,800 jobs below forecast.
The Q1 performance-to-forecast follows:

- Strong Growth 29,300 jobs
- Solid Growth 15,500 jobs
- Volatile 5,000 jobs.

Change in Employment

Health Care and Social Assistance and Higher Education

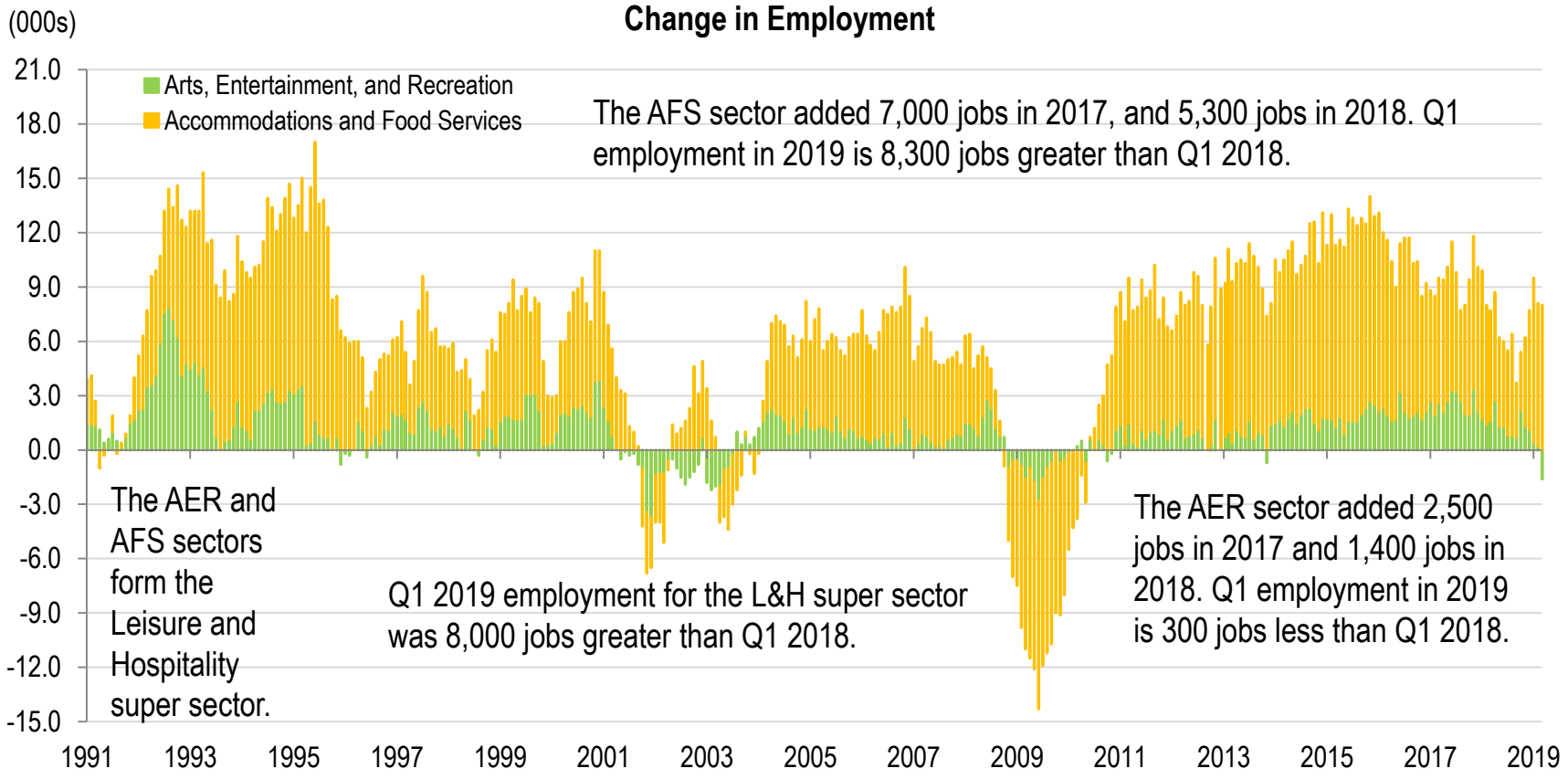
Strong Growth Category



Source: Bureau of Labor Statistics, cber.co.

Change in Employment

Leisure and Hospitality - Arts, Entertainment, and Recreation (Strong Growth Category)
Accommodations and Food Services – (Solid Growth Category)

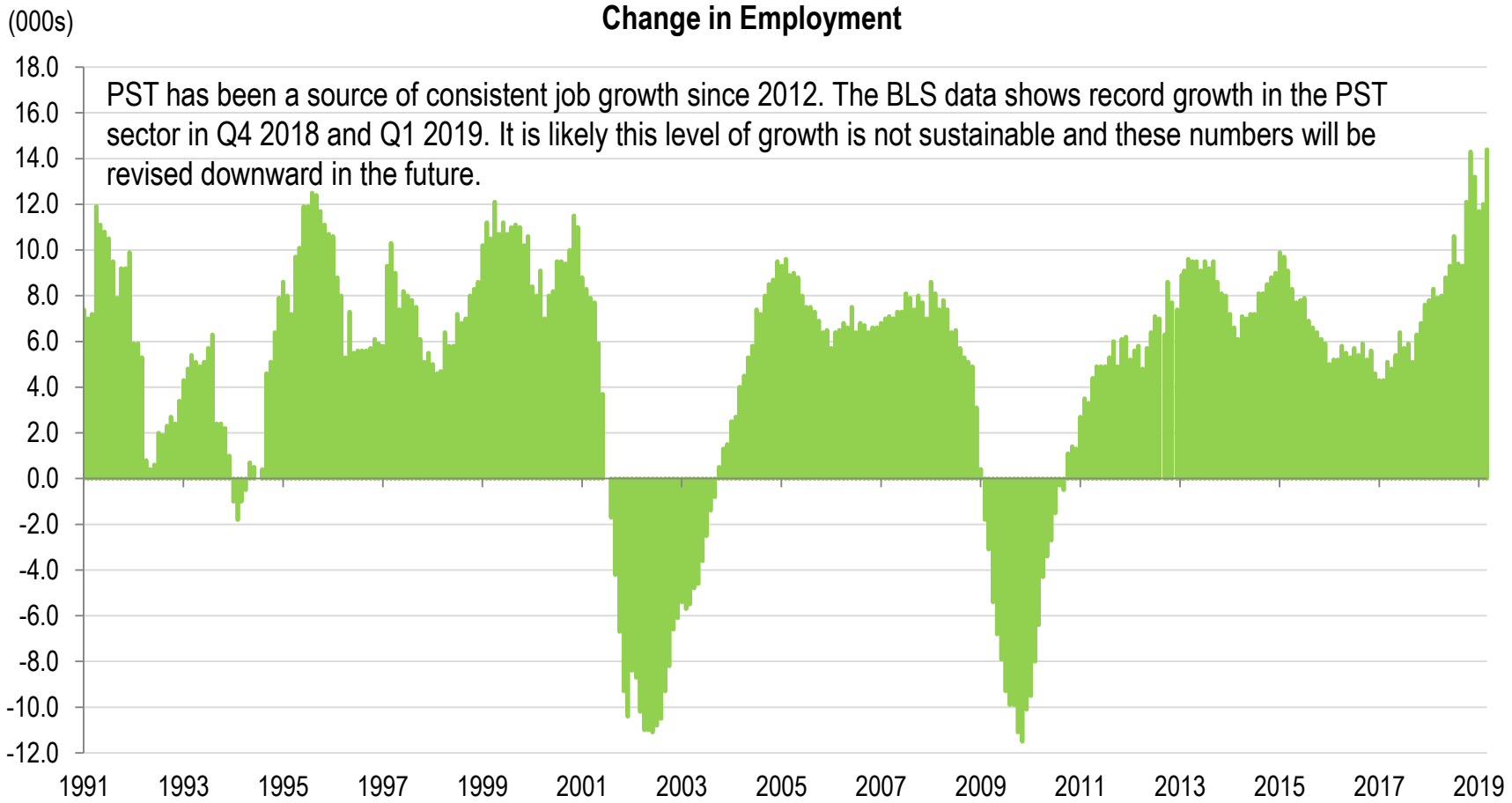


Source: Bureau of Labor Statistics, cber.co.

Change in Employment

Professional, Scientific, and Technical Services

Strong Growth Category

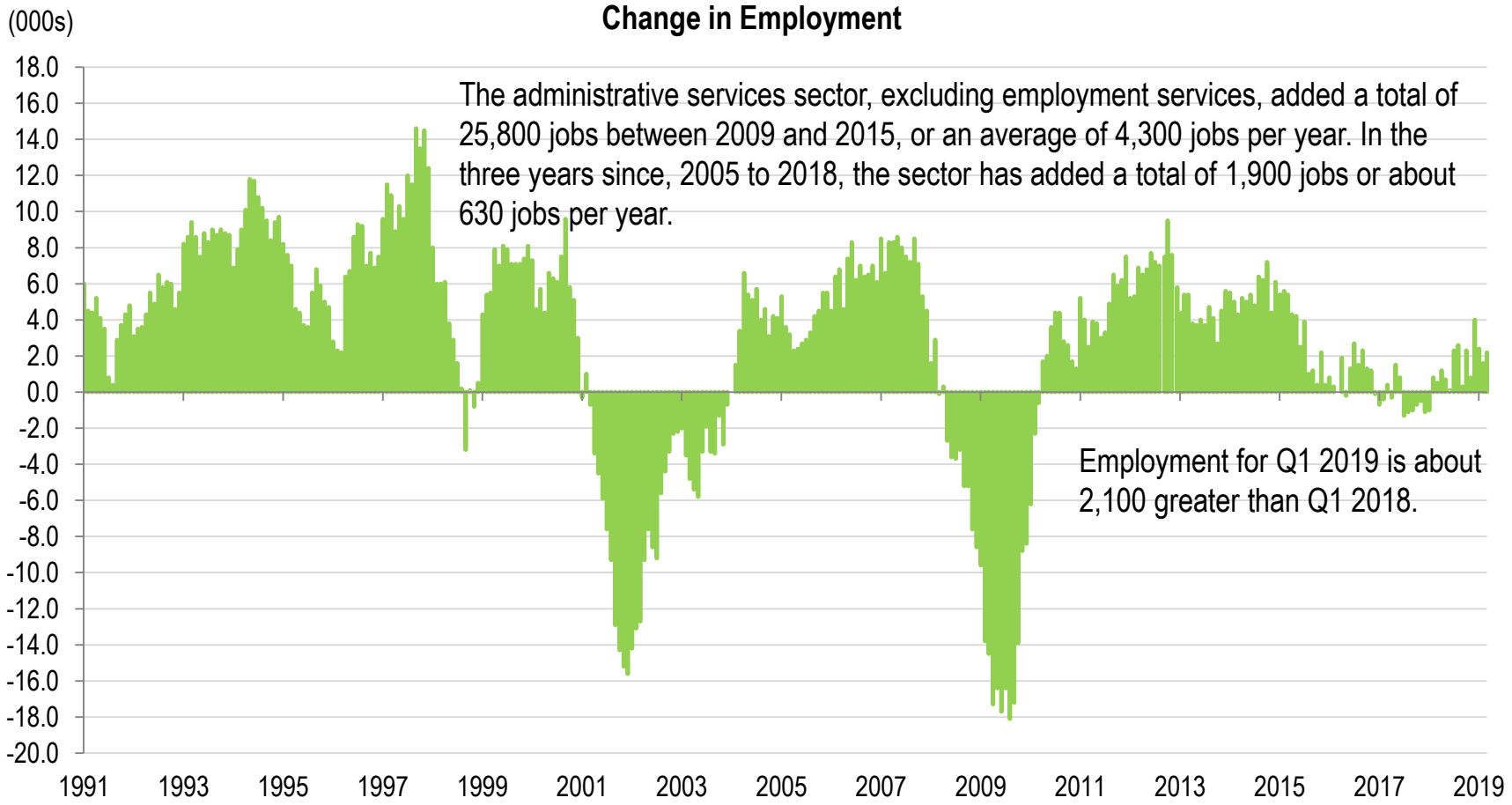


Source: Bureau of Labor Statistics, cber.co.

Change in Employment

Administrative Services

Strong Growth Category

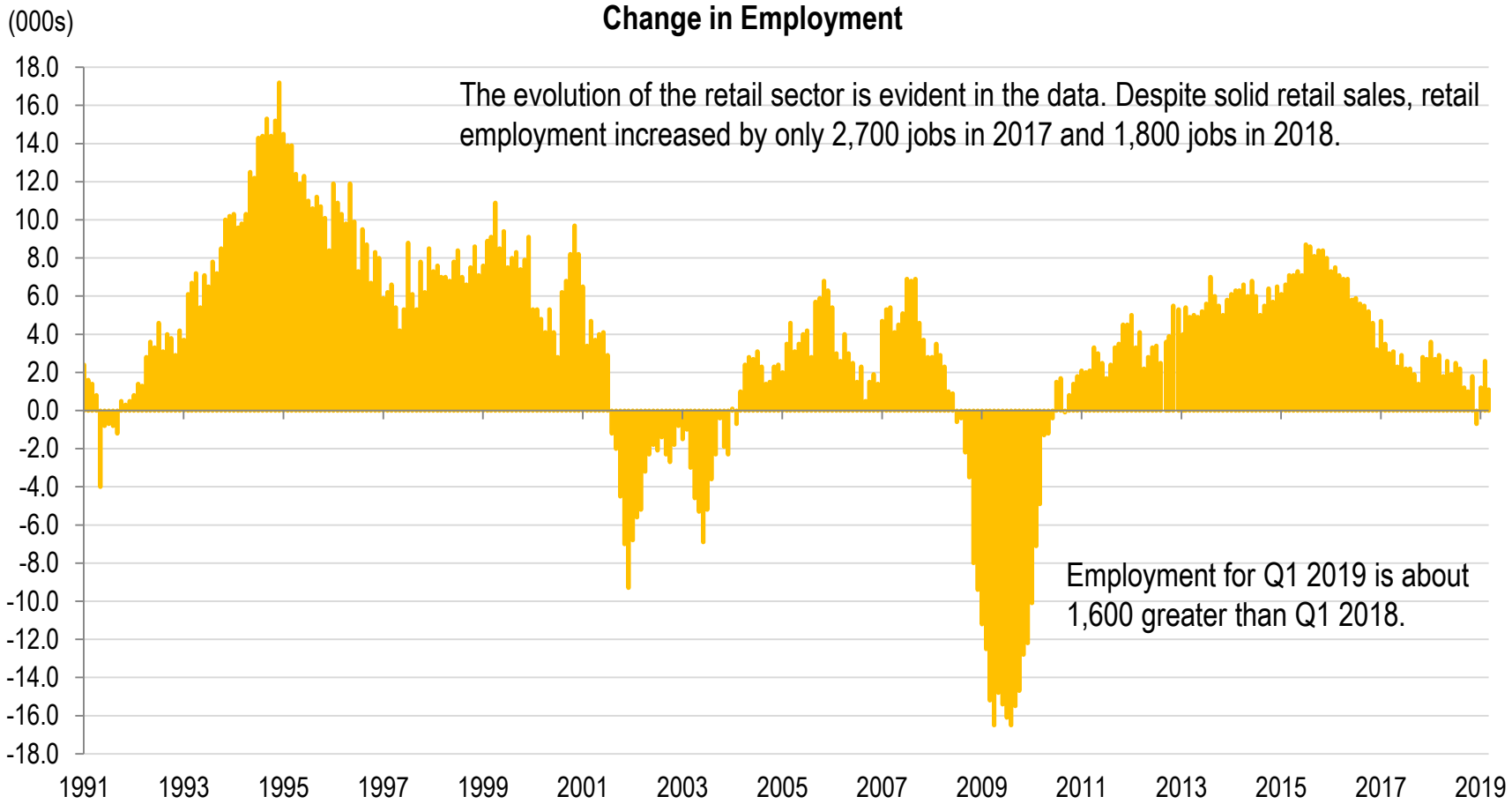


Source: Bureau of Labor Statistics, cber.co.

Change in Employment

Retail Trade

Solid Growth Category

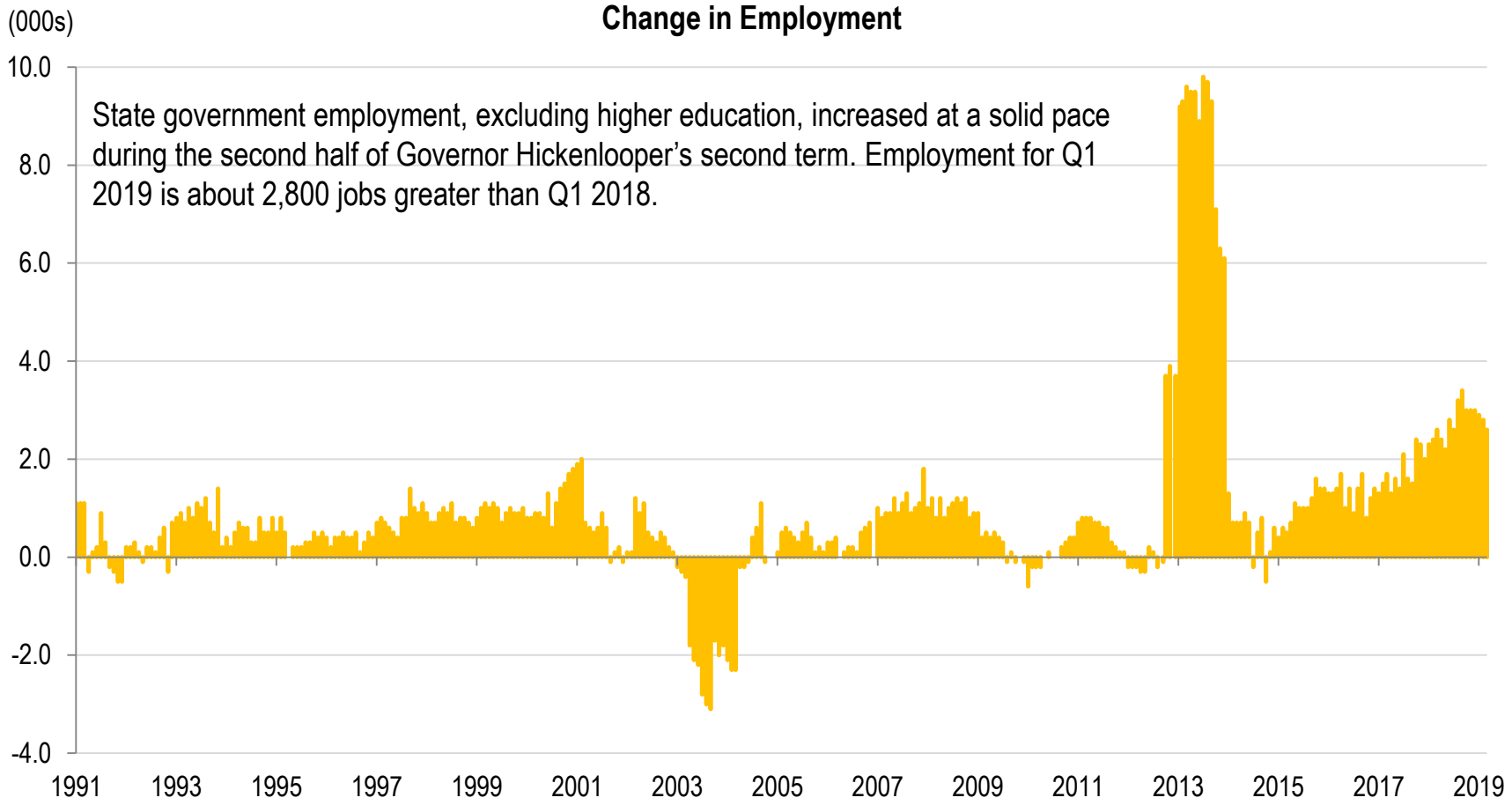


Source: Bureau of Labor Statistics, cber.co.

Change in Employment

State Government, Excluding Higher Education

Solid Growth Category

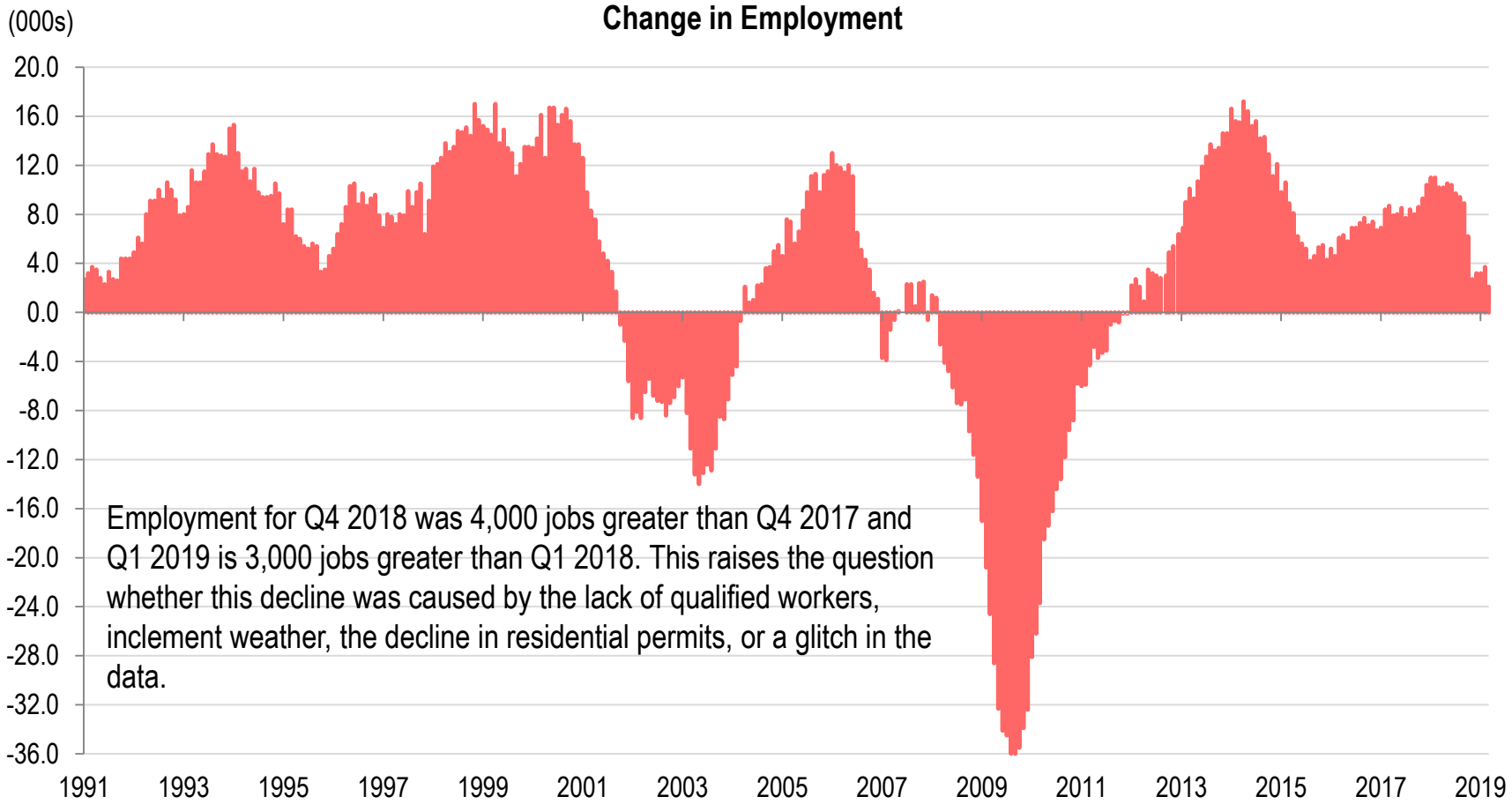


Source: Bureau of Labor Statistics, cber.co.

Change in Employment

Construction

Volatile Growth Category

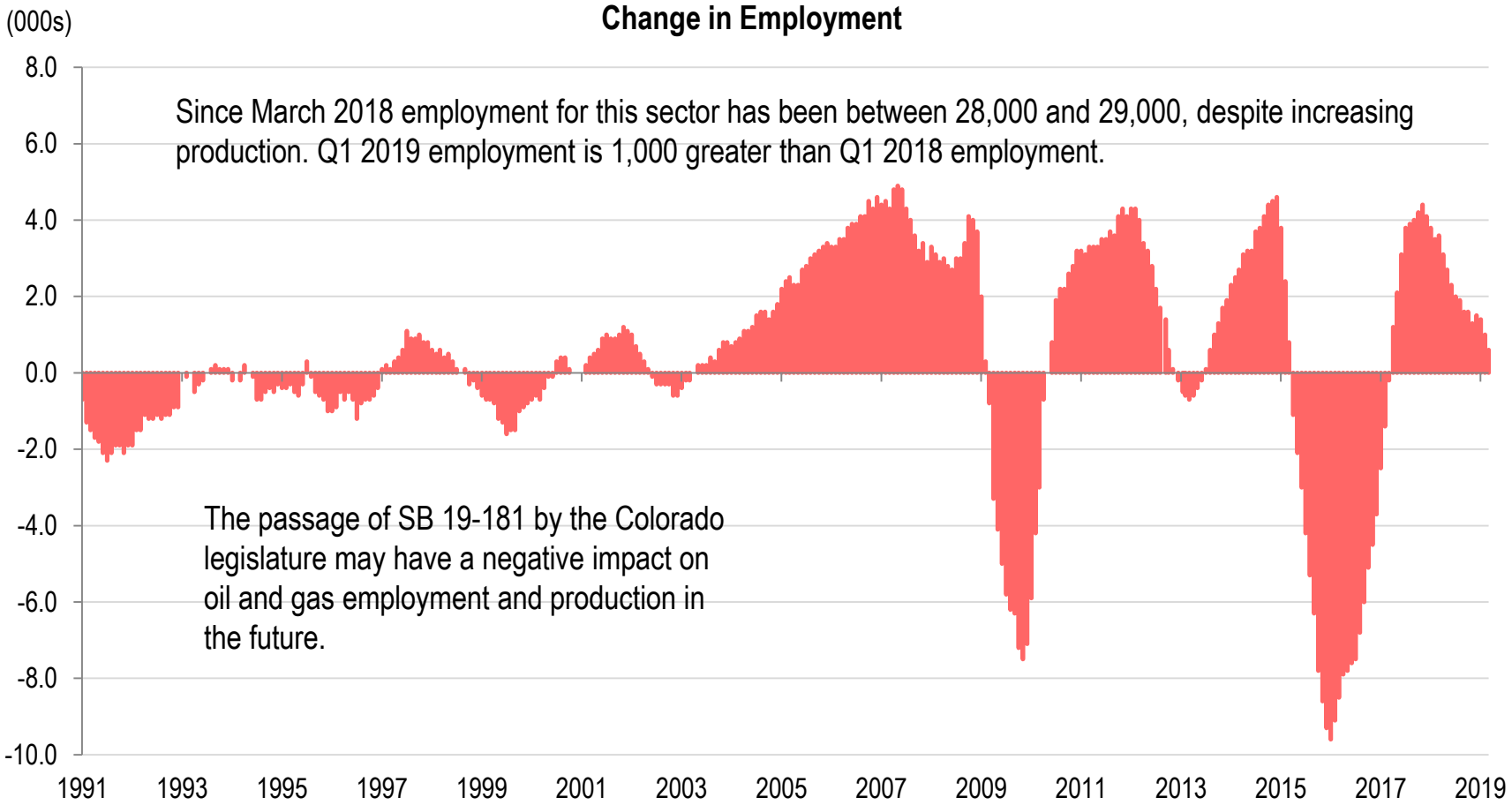


Source: Bureau of Labor Statistics, cber.co.

Change in Employment

Extractive Industries

Volatile Growth Category

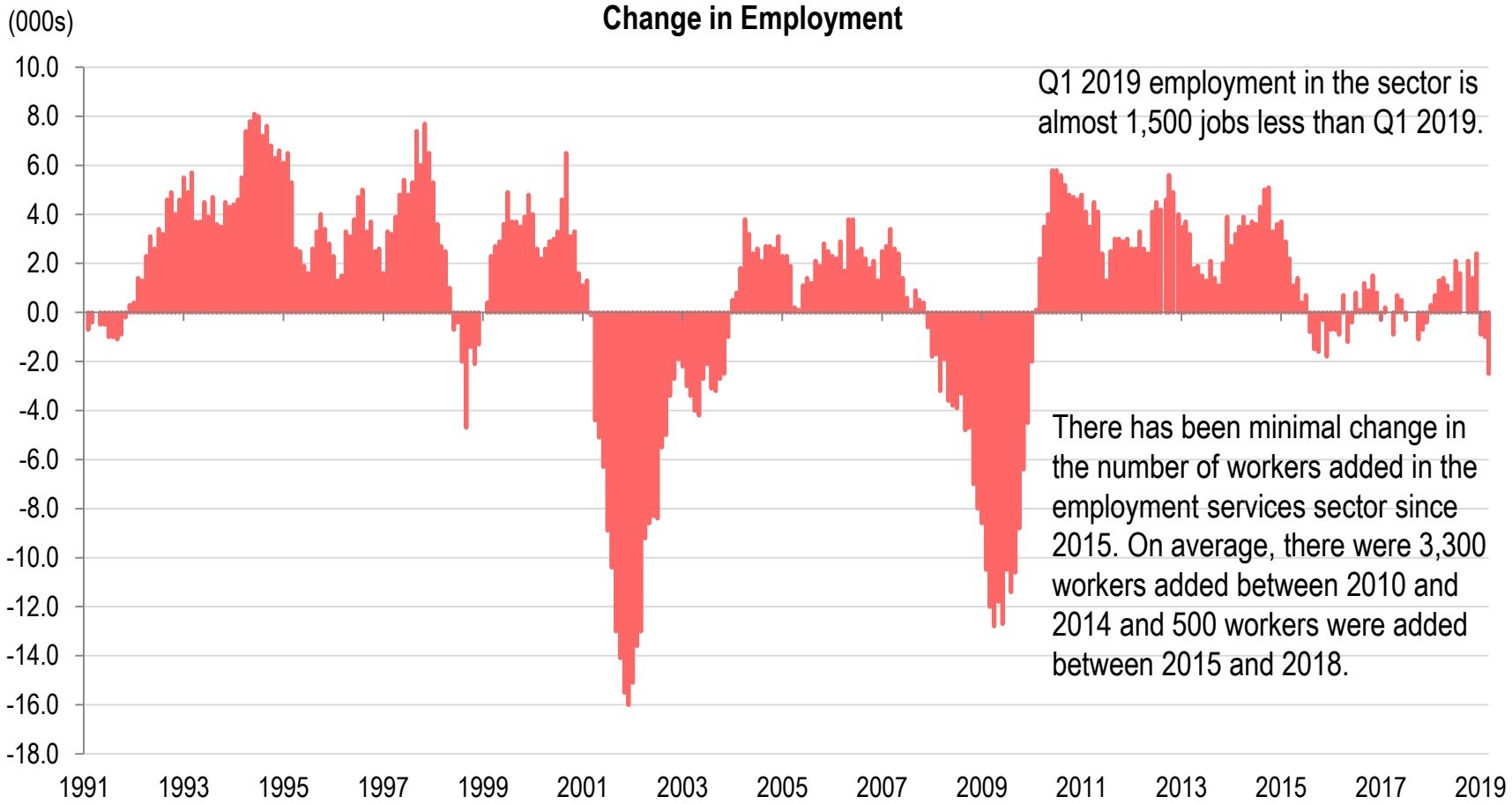


Source: Bureau of Labor Statistics, cber.co.

Change in Employment

Employment Services

Volatile Growth Category



Source: Bureau of Labor Statistics, cber.co.

The Colorado Economy

Denver International Airport, Retail Trade, New Vehicle Registrations

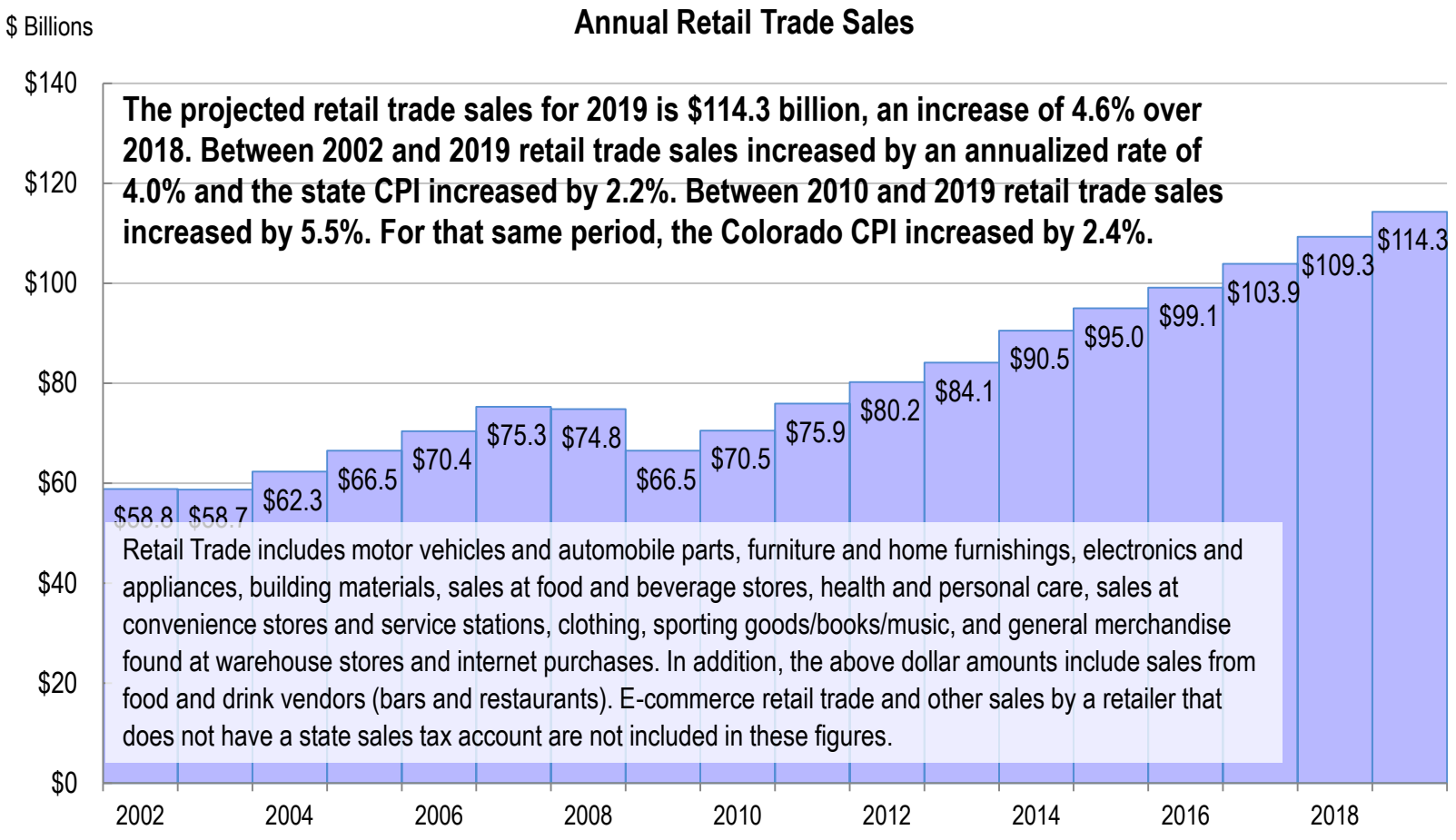
Denver International Airport

Passenger Count

Source: FlyDenver.com, cber.co.

Colorado Retail Trade

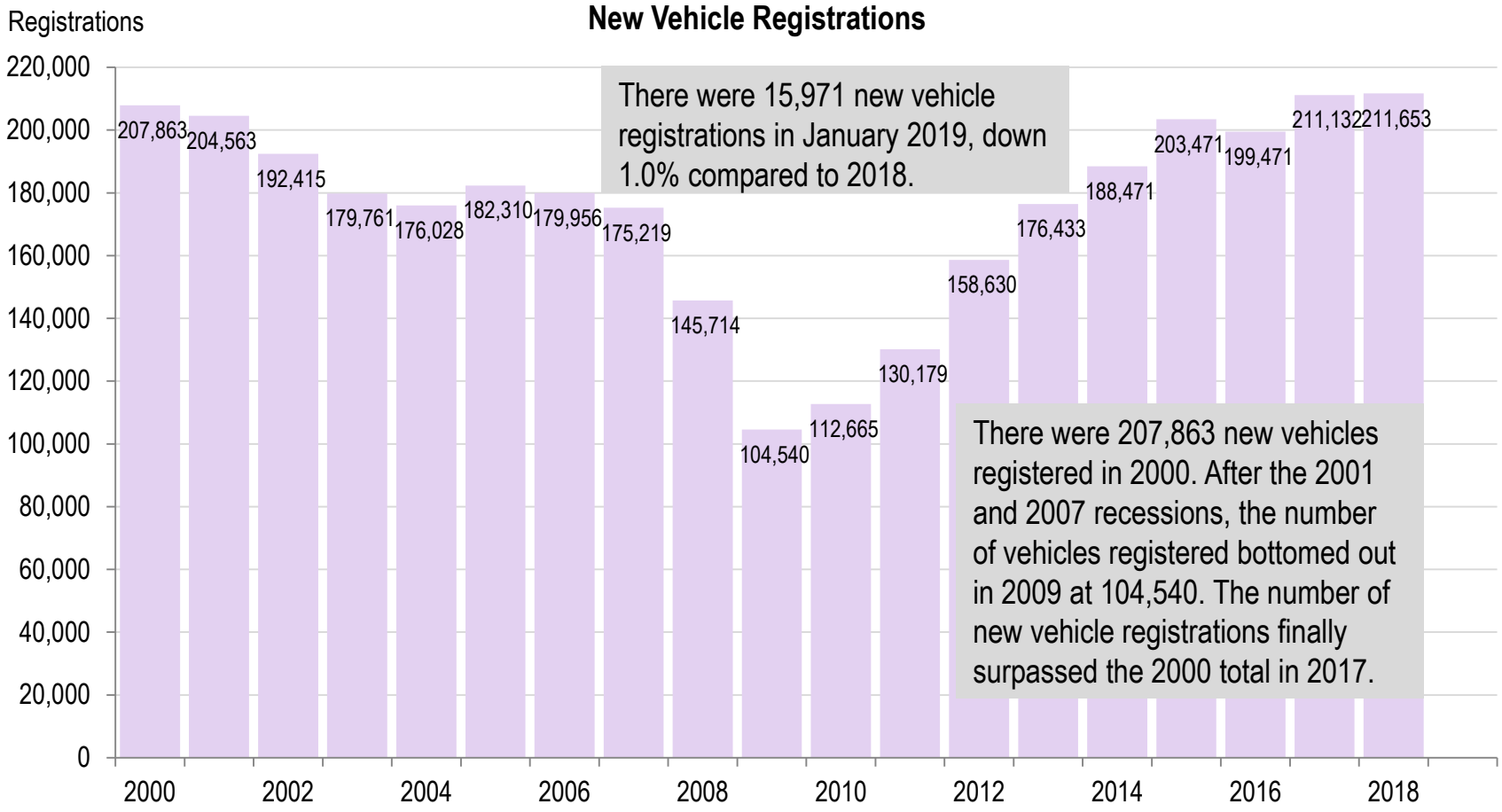
Annual Sales



Source: OSPB, cber.co.

New Vehicle Registrations

Colorado

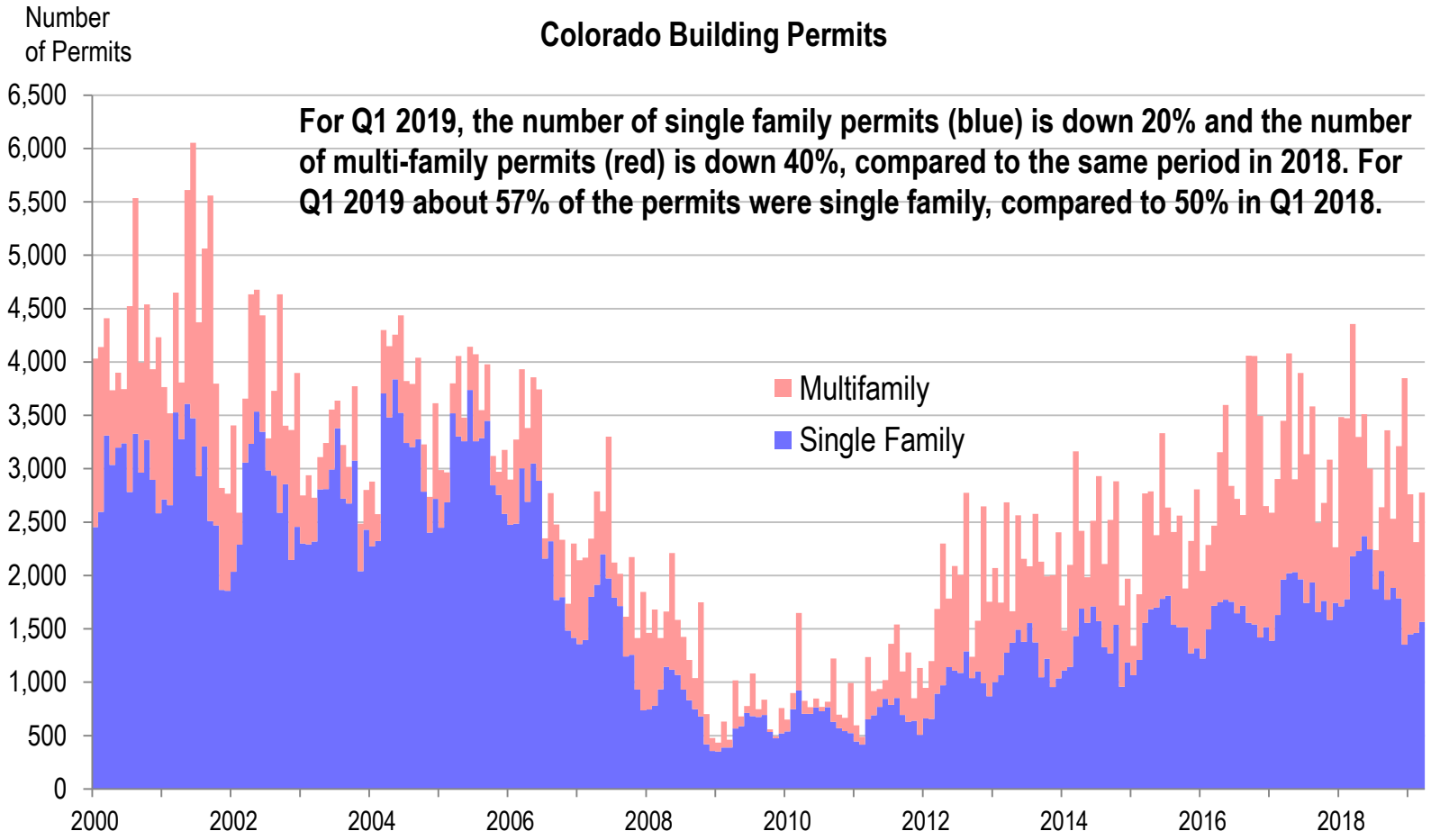


Source: Colorado Auto Dealers Association, cber.co.

The Colorado Economy
Building Permits and Housing Prices

Colorado Residential Building Permits

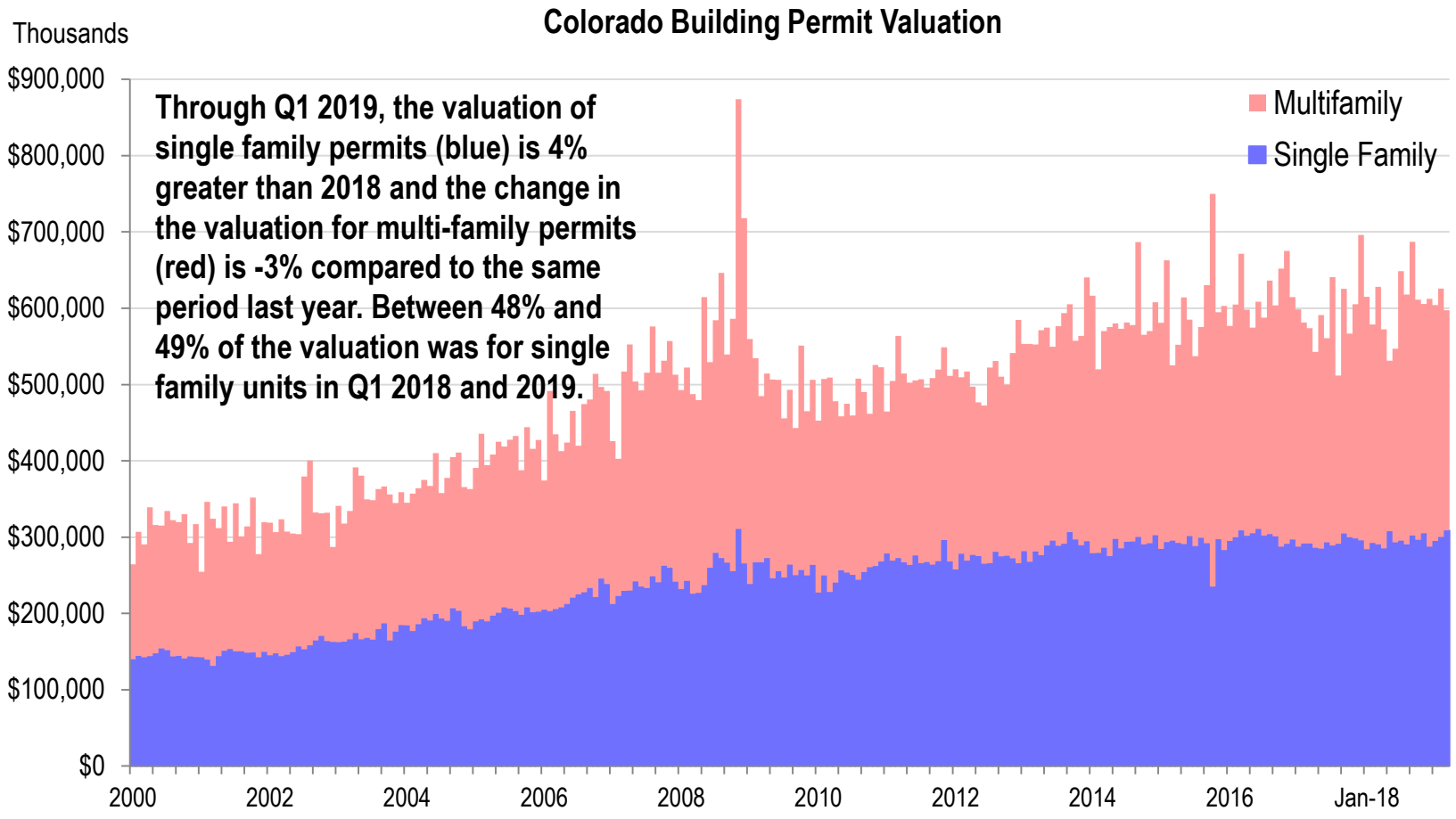
Units



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

Colorado Residential Building Permits

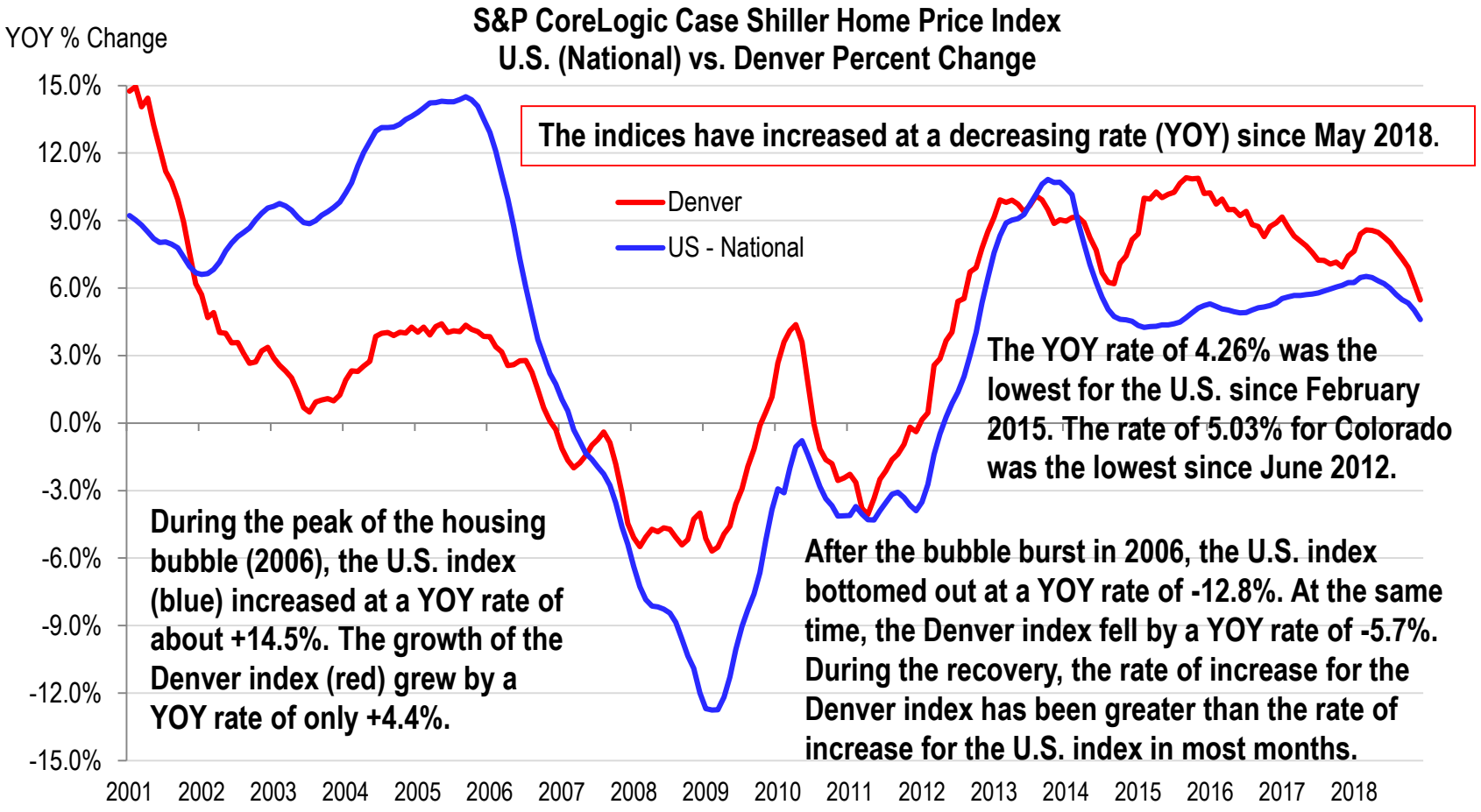
Valuation



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.

Housing Prices

Given the strength of net migration in Colorado, there will continue to be strong demand for housing. The rate of price appreciation may slow, but it is unlikely there will be a strong downturn in housing prices in the near term.

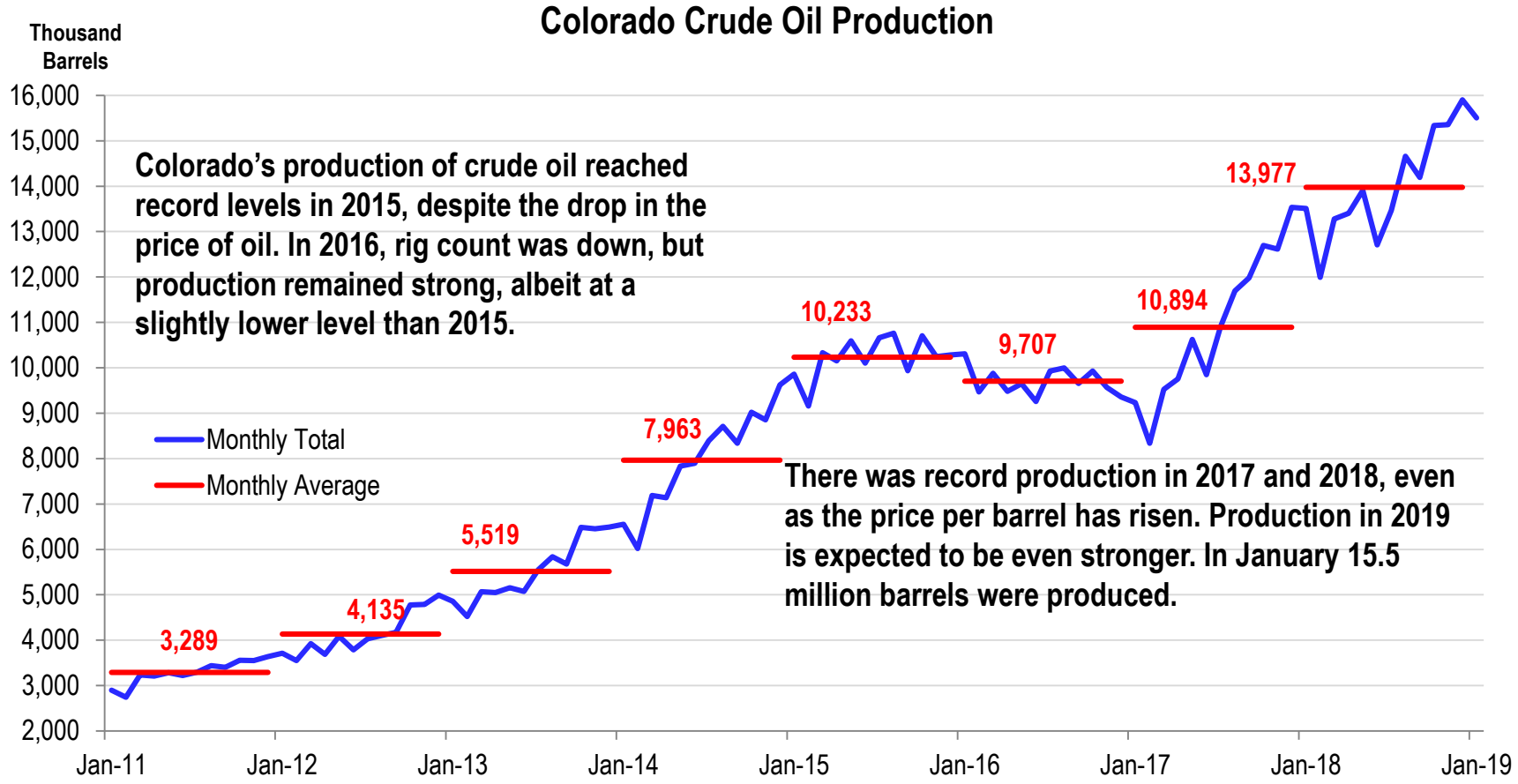
While the number of permits is down in 2019, the valuation of those permits has increased.

The rate of increase in Denver housing and rental prices has been greater than wage gains. As a result, Denver has been recognized by Redfin as one of the “most fled” cities in the country. This type of notoriety may create problems for the Colorado economy.

The Colorado Economy

Oil Production and Prices

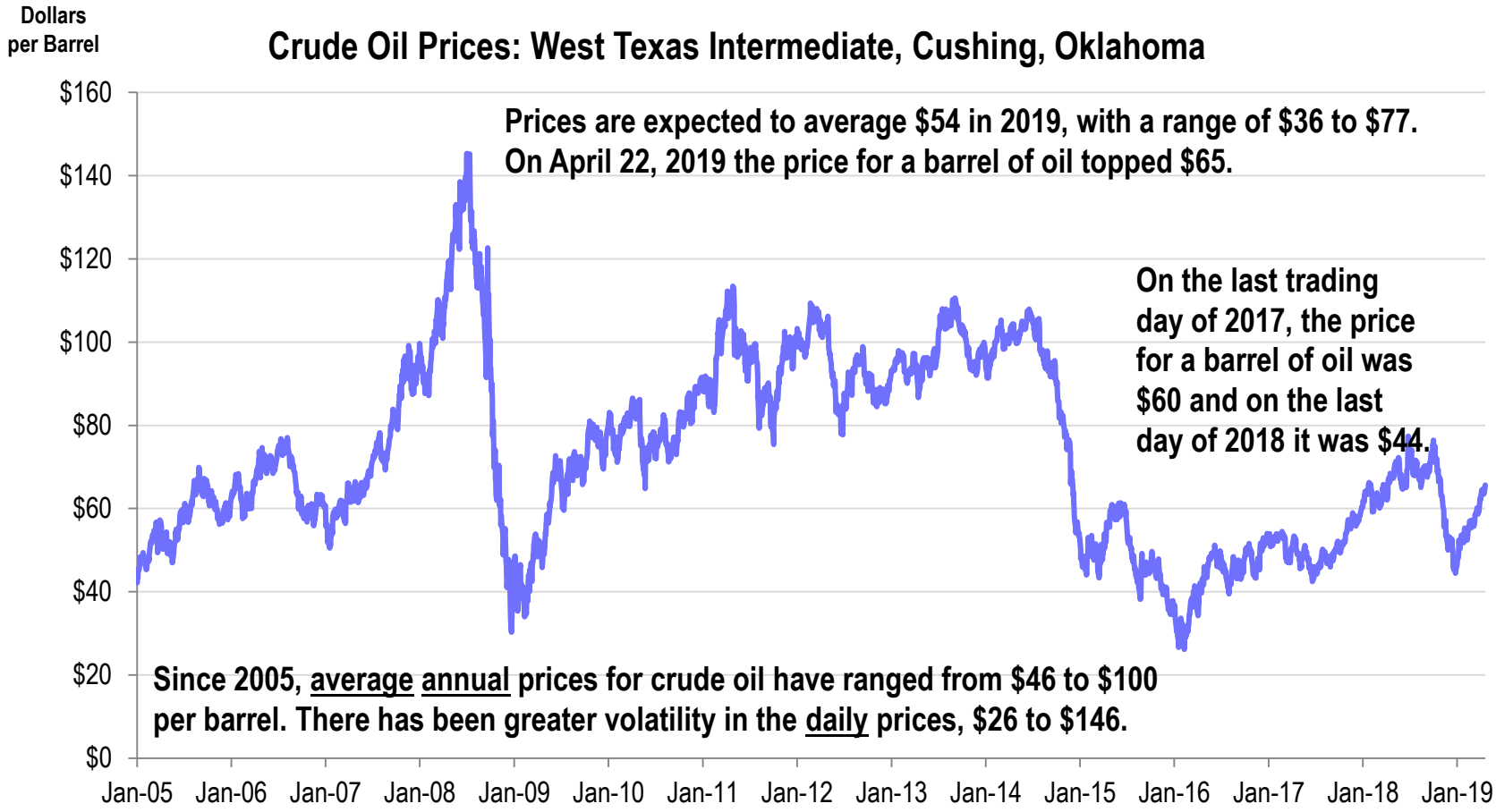
Colorado Field Production of Crude Oil
2011 to 2019 (Thousand Barrels)



Source: EIA, cber.co.

Crude Oil Prices

West Texas Intermediate



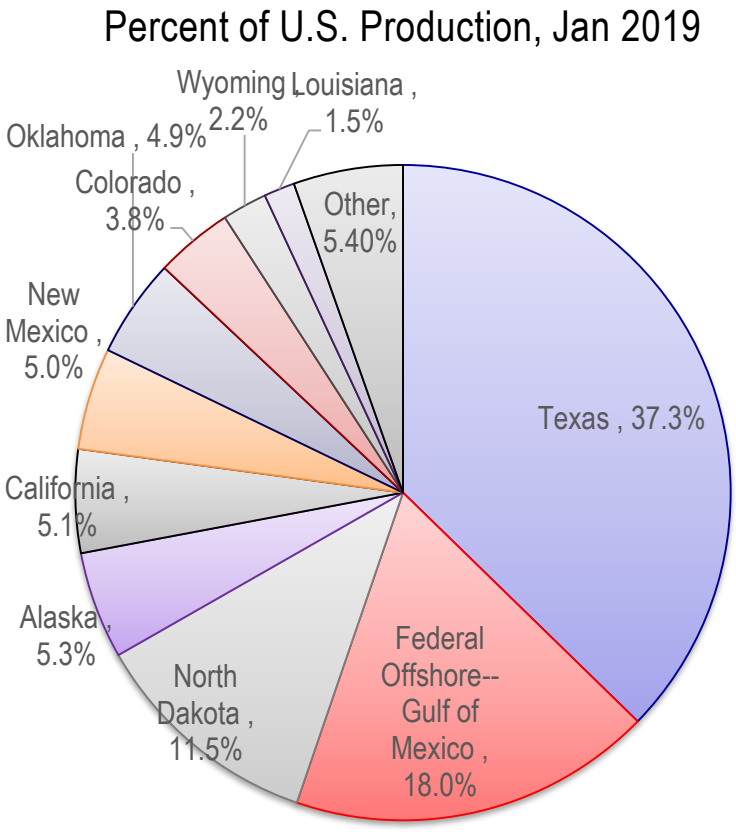
Source: FRED, EIA, cber.co.

Crude Oil Production by State
January 2019

Percent of Oil Production by State

In January 2019 oil was produced in 32 states plus two federal offshore regions (Gulf of Mexico and West Coast).

Colorado accounted for 3.8% of the total oil produced. While this percent is a small part of the U.S. production, the industry plays an important role in the U.S. economy.



Source: EIA, cber.co.

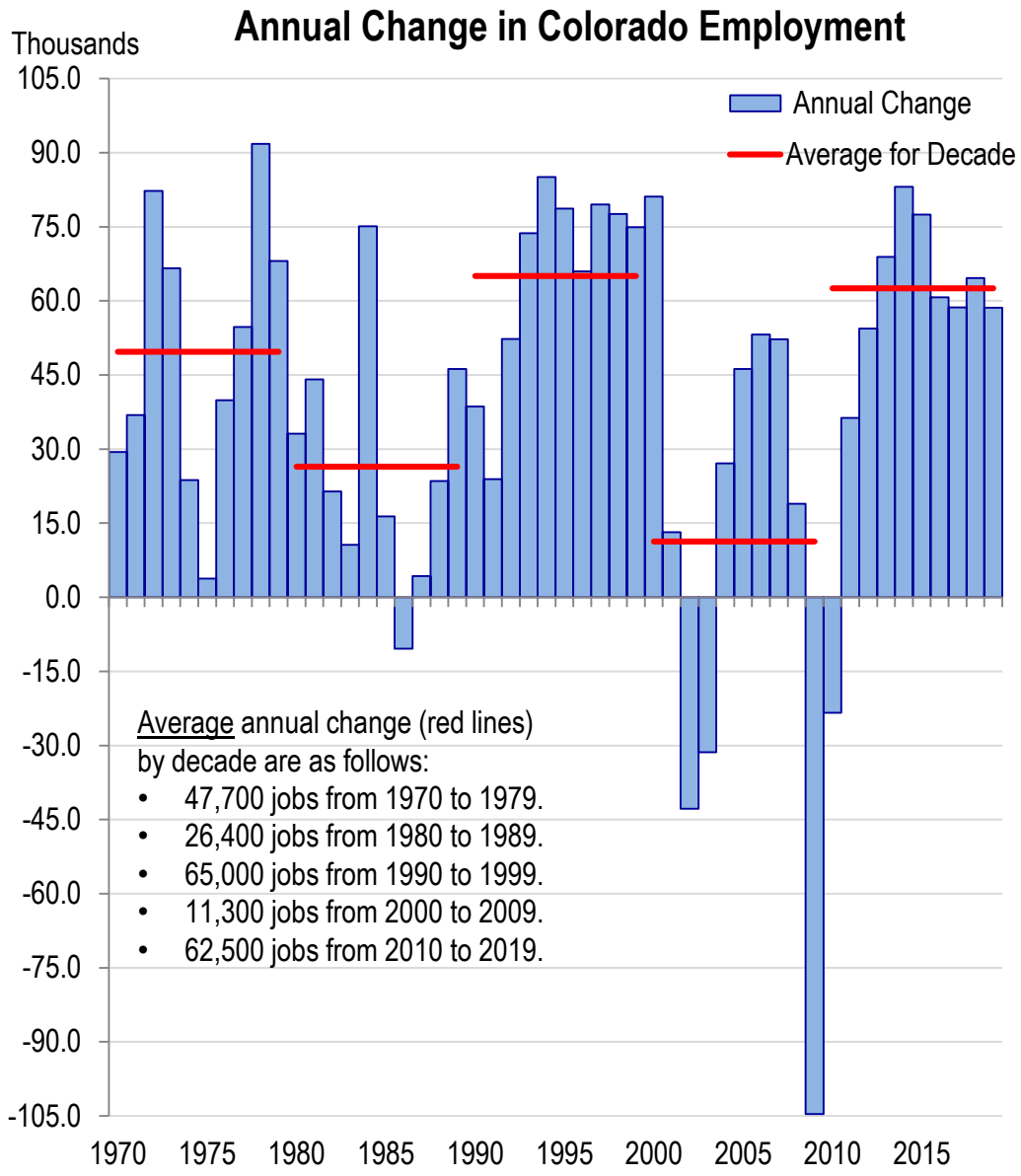
The Colorado Economy
Summary

Annual Employment Change in Colorado Employment

Job growth for 2019 is projected to be 58,600 workers, an increase of 2.2%.

The projected rate of job growth for Colorado will again be greater than the rate for the U.S. The 2019 rate of growth for both is less than 2018.

Through Q1 2019, employment is 49,800 jobs greater than the same period in 2018. The YTD growth is 1.9% greater than Q1 2018, compared to projected growth of 2.2%. Activity on the streets suggests that Colorado is adding jobs at a rate that is similar to the nation.



Source: Bureau of Labor Statistics, cber.co.

Summary
Q1 Colorado Trends

Colorado Trends Q1 2019

- The Colorado population continues to increase at a decreasing rate as a result of lower fertility rates and decreased net migration.
- Q1 employment for 2019 was 1.9% greater than Q1 2018, compared to projected growth of 2.2%. Activity on the streets suggests that Colorado is adding jobs at a rate that is similar to the nation.
- The Federal Reserve Leading Indicator, which is based on data instead of a survey, suggests there may be some weakness in the fundamentals for the state.
- The Colorado economy is not operating efficiently because the unemployment rate is too low. There are not enough qualified workers to fill jobs in many sectors.
- The oil and gas industry is on track for another year of record production; however, the rate of growth in employment has tapered off. The passage of SB-181 may have a negative impact on the industry.
- In Q1 2019, the number of building permits are down, but the valuation is flat. Construction employment growth for Q4 2018 and Q1 2019 is slower than in the past.
- In Denver, YOY housing prices are increasing at a declining rate. While this will cause the state's inflation to increase at a slower rate than in the past, Colorado's inflation rate will continue to be greater than the U.S. rate.
- The data for Q4 2018 and Q1 2019 indicates there has been record YOY growth in the PST sector. It is likely this level of growth is not sustainable and these numbers will be revised downward in the future.
- On a related note, the number of jobs added in the HCSA, higher education, and leisure and hospitality sectors appear to be lower than anticipated. This may be a sign of a slowdown in job growth. It is also possible that job growth in these sectors may be revised upwards in the future.

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Q1 Economic Trends for Colorado

This analysis is for informational purposes only. Any opinions or interpretations of data are those of the presenter. As such, they do not represent the viewpoints of any group or particular organization.
For further information contact Colorado-based Business and Economic Research (cber.co).

For additional information contact cber.co at cber@cber.co or gary@garyhorvath.com.

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.