cber.co

Economic Trends for Colorado Through April 2019

Colorado-based Business and Economic Research
Prepared
May 25, 2019

2019 Economic Trends for Colorado
Through April

Over the past seven months there have been a number of articles written that projected a recession to occur in late 2019 or in 2020. Contrary to these articles, recent data shows the economy is performing better than predicted. Specifically, growth in Q3 and Q4 may be stronger than the first half of the year. 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

- U.S. Real GDP
- Employment and Unemployment
- S&P Performance and Volatility
- Housing and Construction
- Performance of Key Industries
- Forward Looking Indicators
- Summary

Colorado

- Colorado Real GDP
- Population
- Employment and Unemployment
- Employment by Strong Growth, Solid Growth, and Volatile Categories
- Key Sectors
- DIA Passengers, Retail Sales, Vehicle Registrations
- 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/**

The U.S. Economy

Real Gross Domestic Product

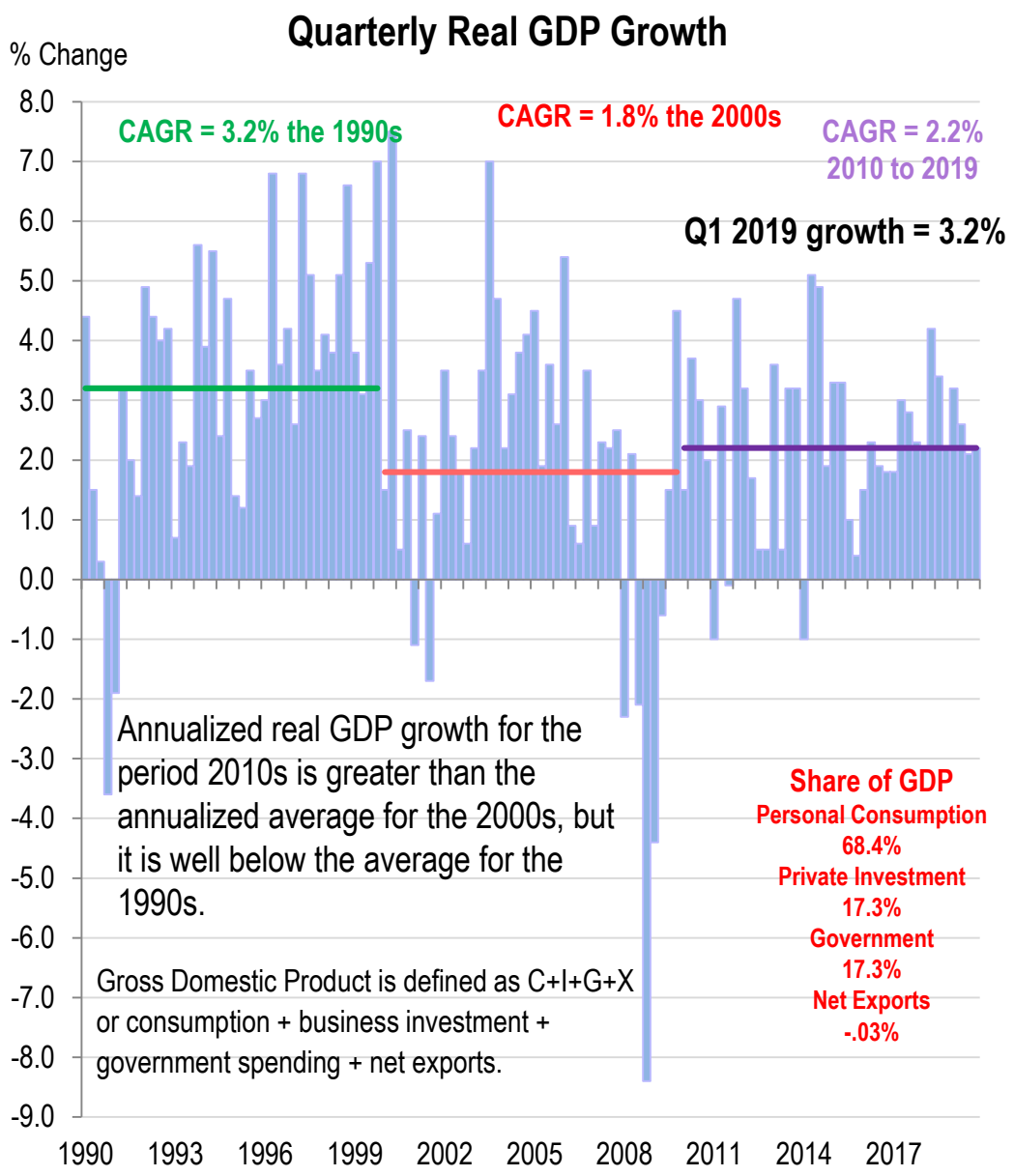
Quarterly Real GDP Growth Historical United States

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%.

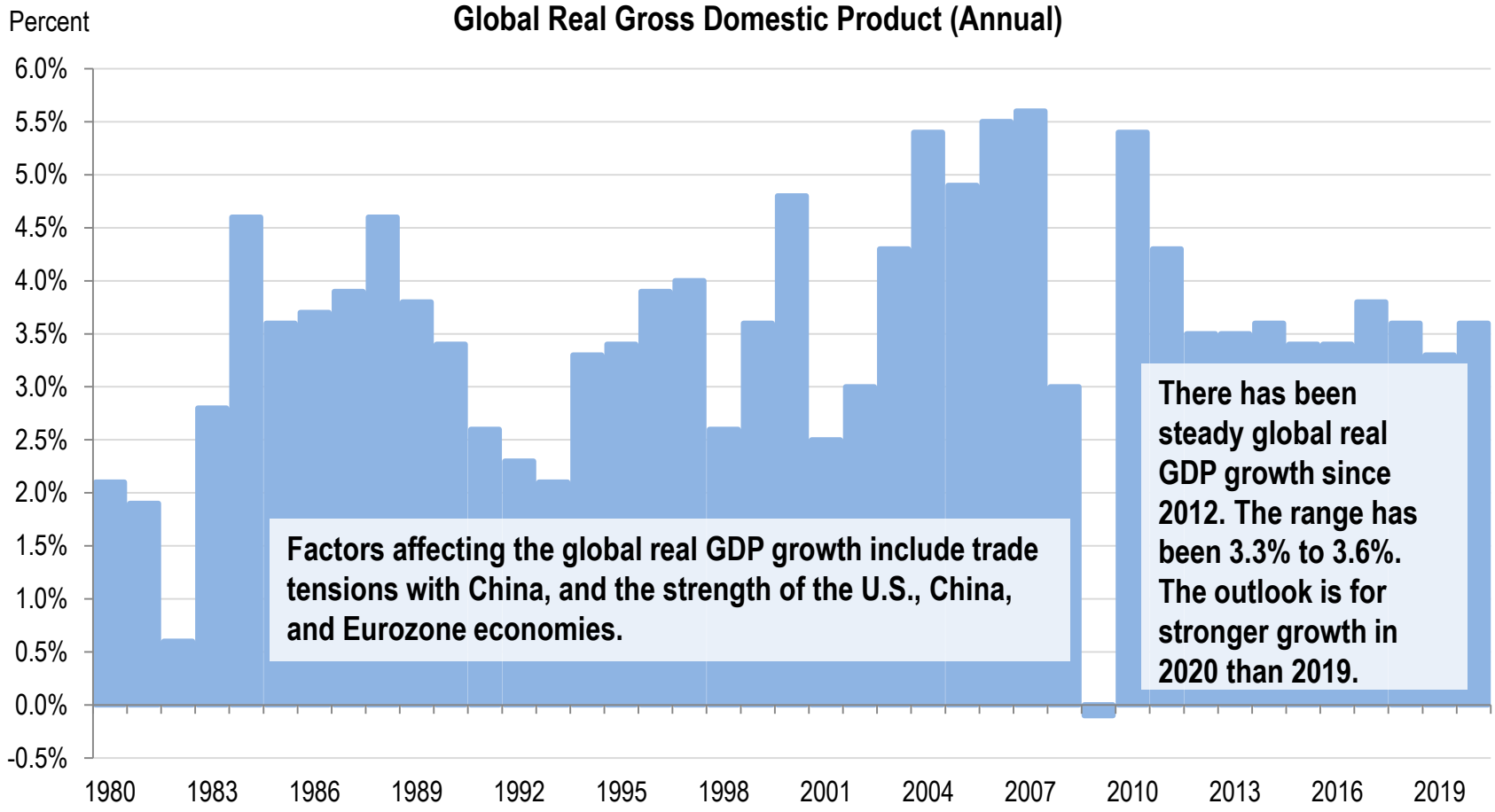
The growth was driven by personal consumption, private inventory investment, increased exports, and decreased imports.

Q1 2019 is the 20th consecutive quarter of positive growth since Q1 2014.



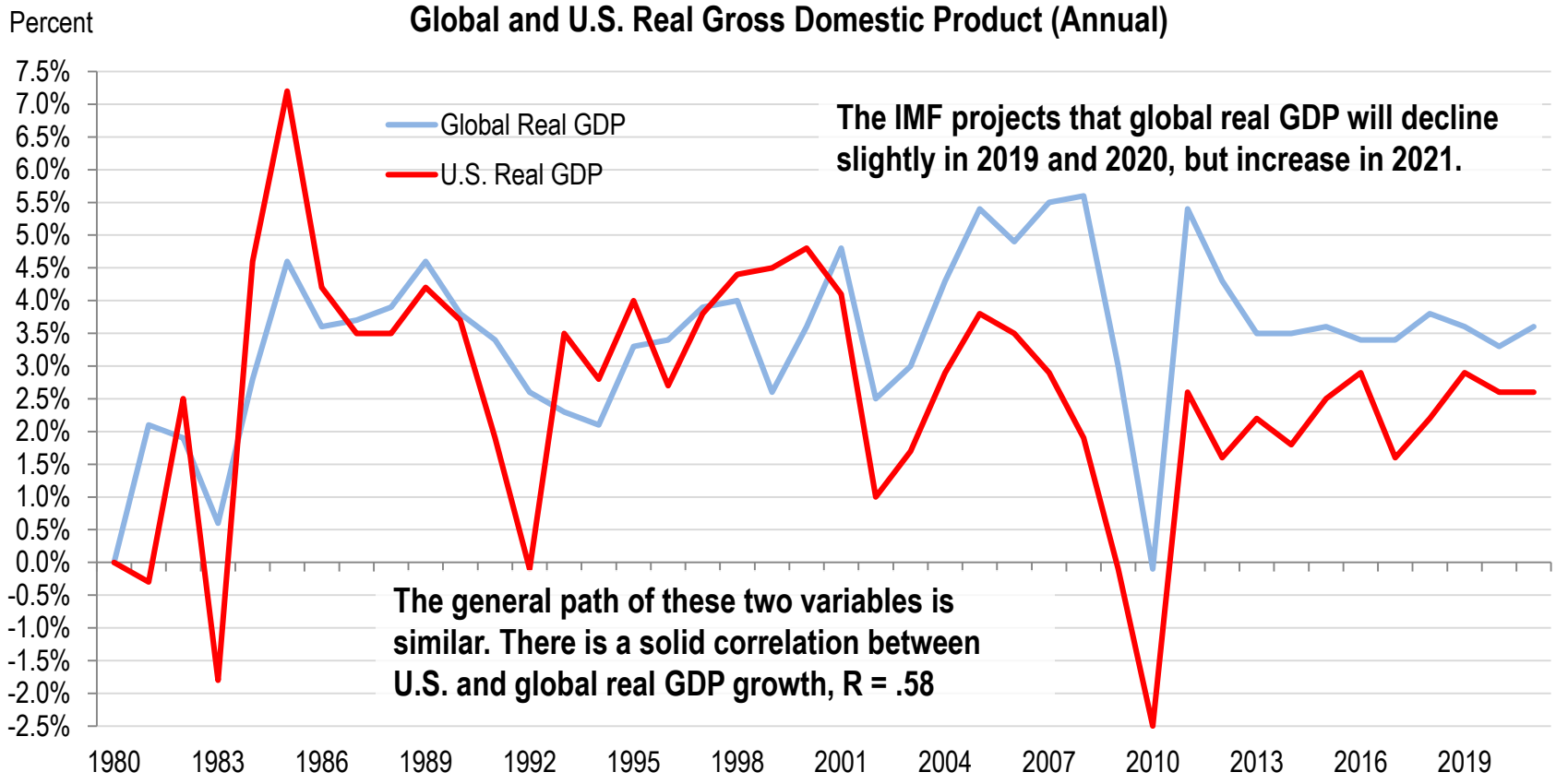
Source: Bureau of Economic Analysis, Table 1.1.1, Share of GDP based on 2017, cber.co.

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

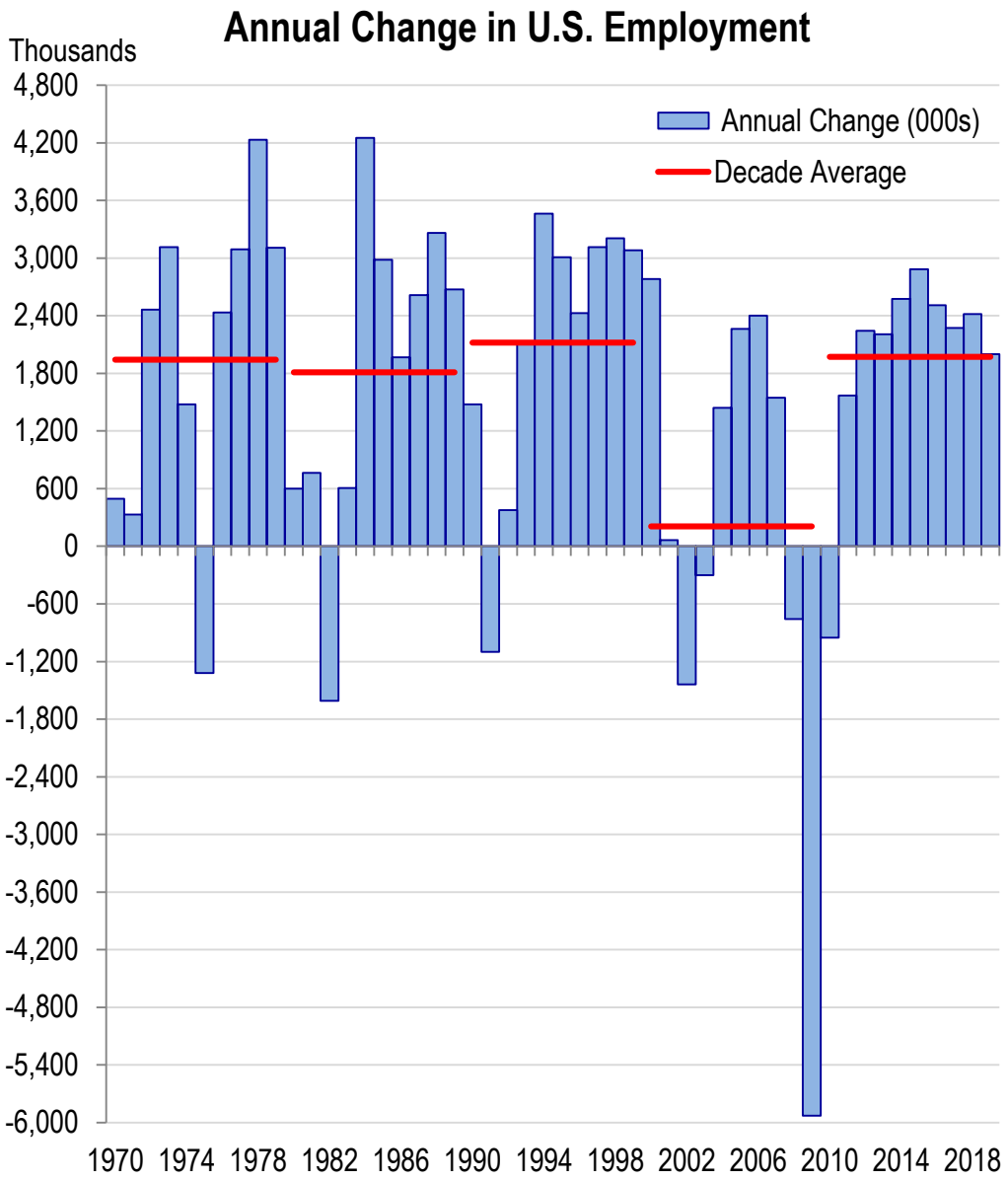
Employment, Unemployment Rate, Unemployment Claims, Job Openings vs. Number of Unemployed

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. Employment through four months is about 2.6 million jobs greater than the same period in 2018. This is an average of about 218,000 workers per month.

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

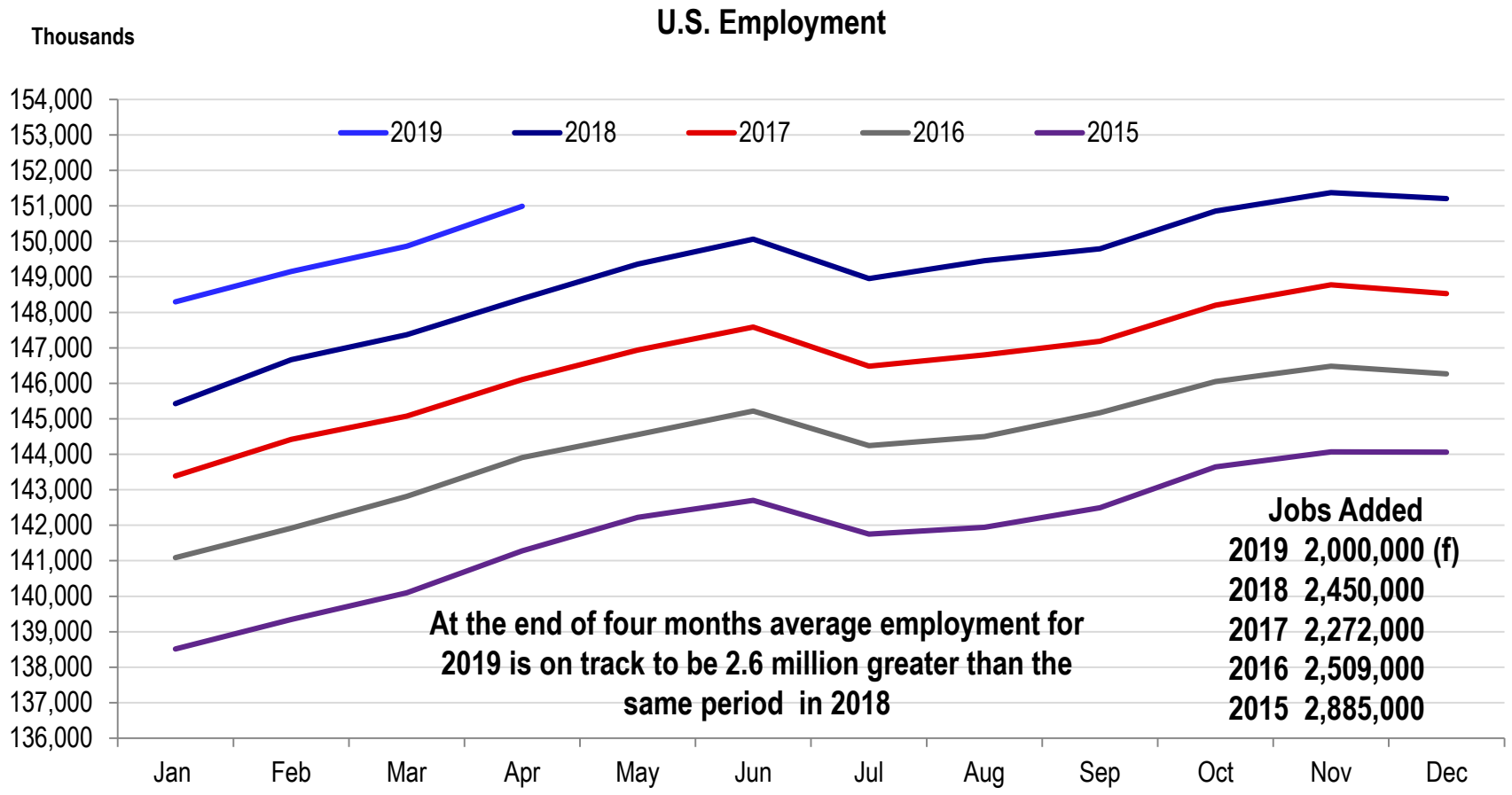
- 1.9 from 1970 to 1979.
- 1.8 from 1980 to 1989.
- 2.1 million from 1990 to 1999.
- 0.2 million from 2000 to 2009.
- 1.9 million from 2010 to 2019.



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

U.S. Employment

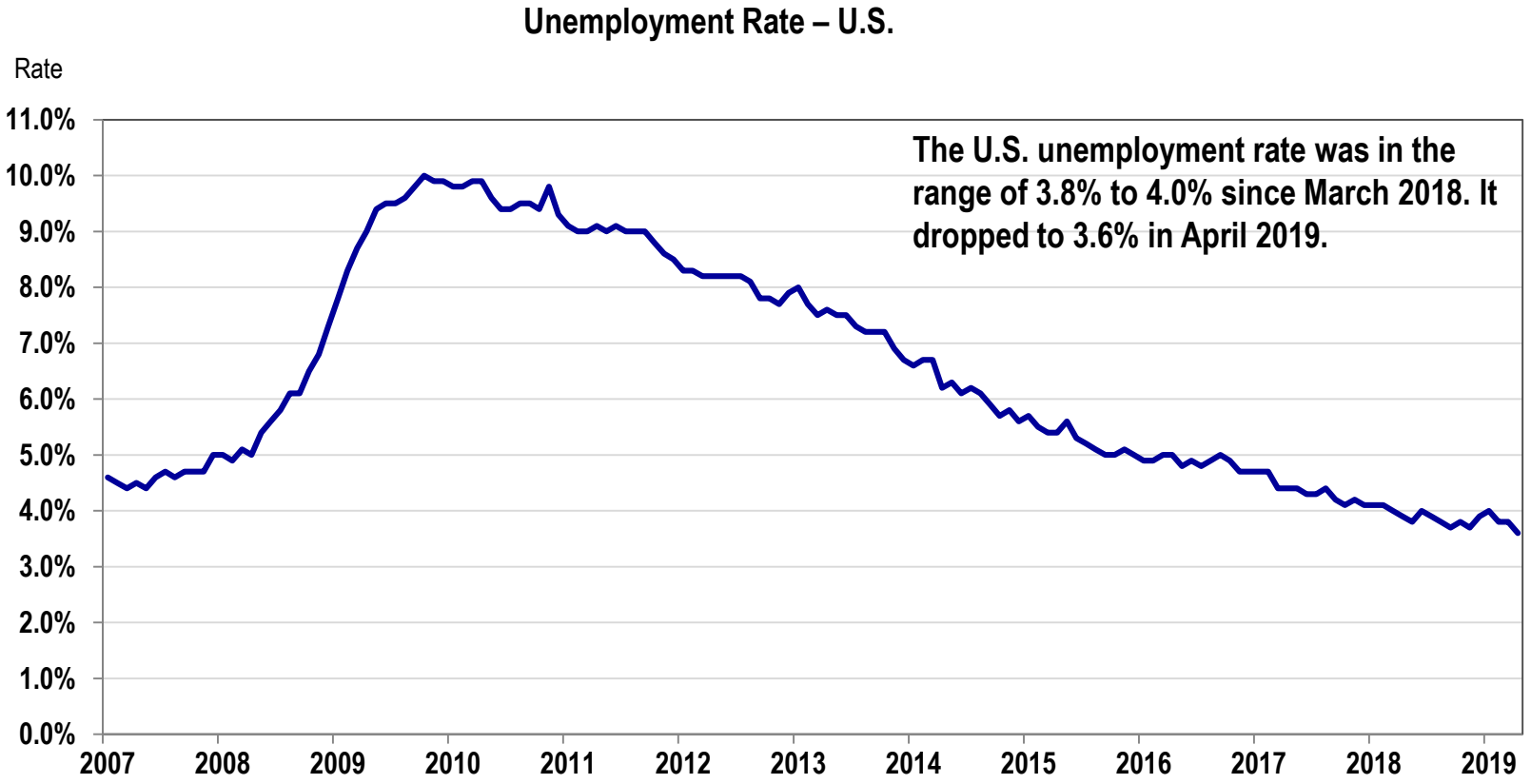
2015 to 2019



Source: BLS, NSA, cber.co.

Unemployment Rate

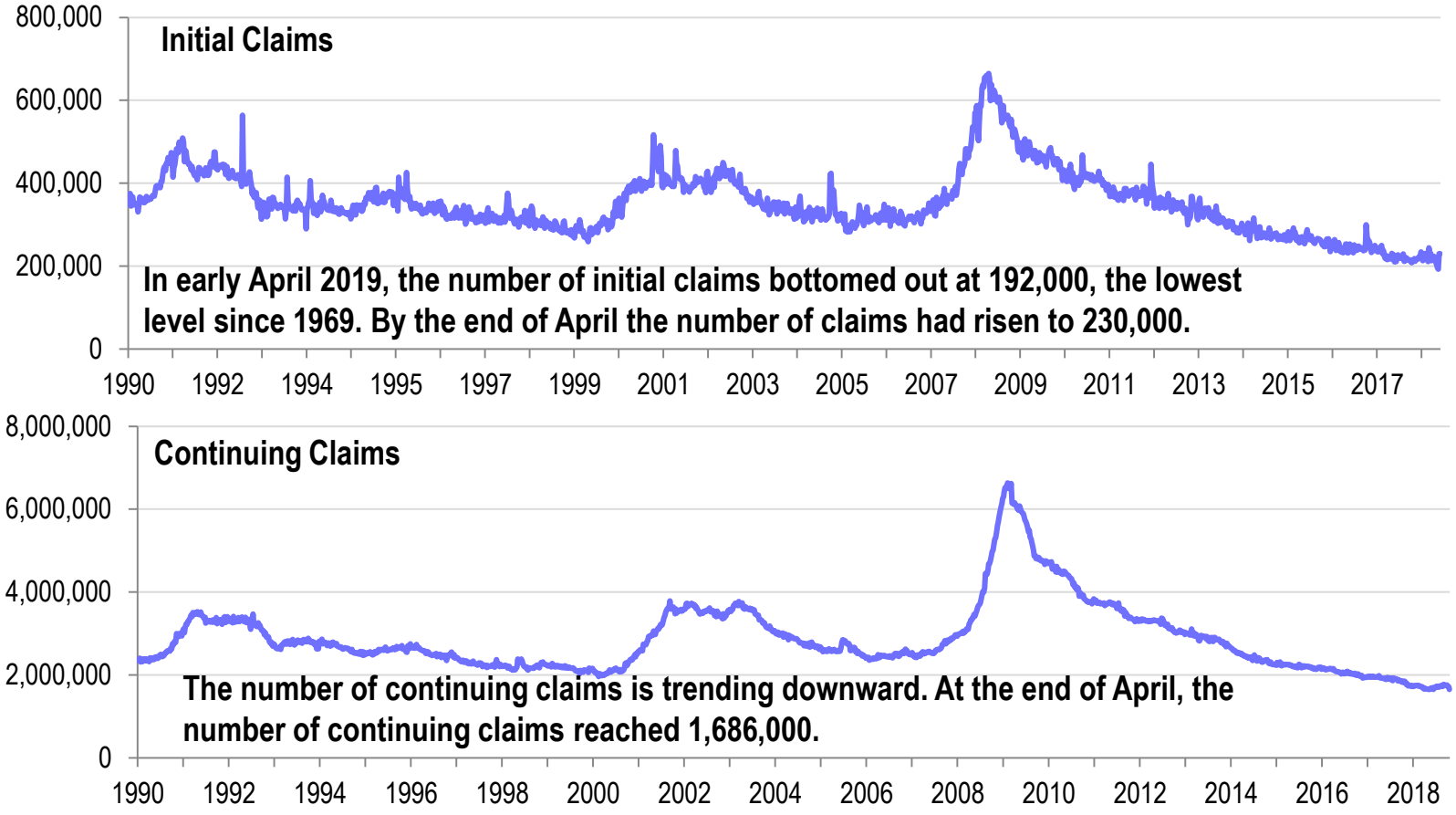
United States



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

Initial and Continuing Unemployment Claims

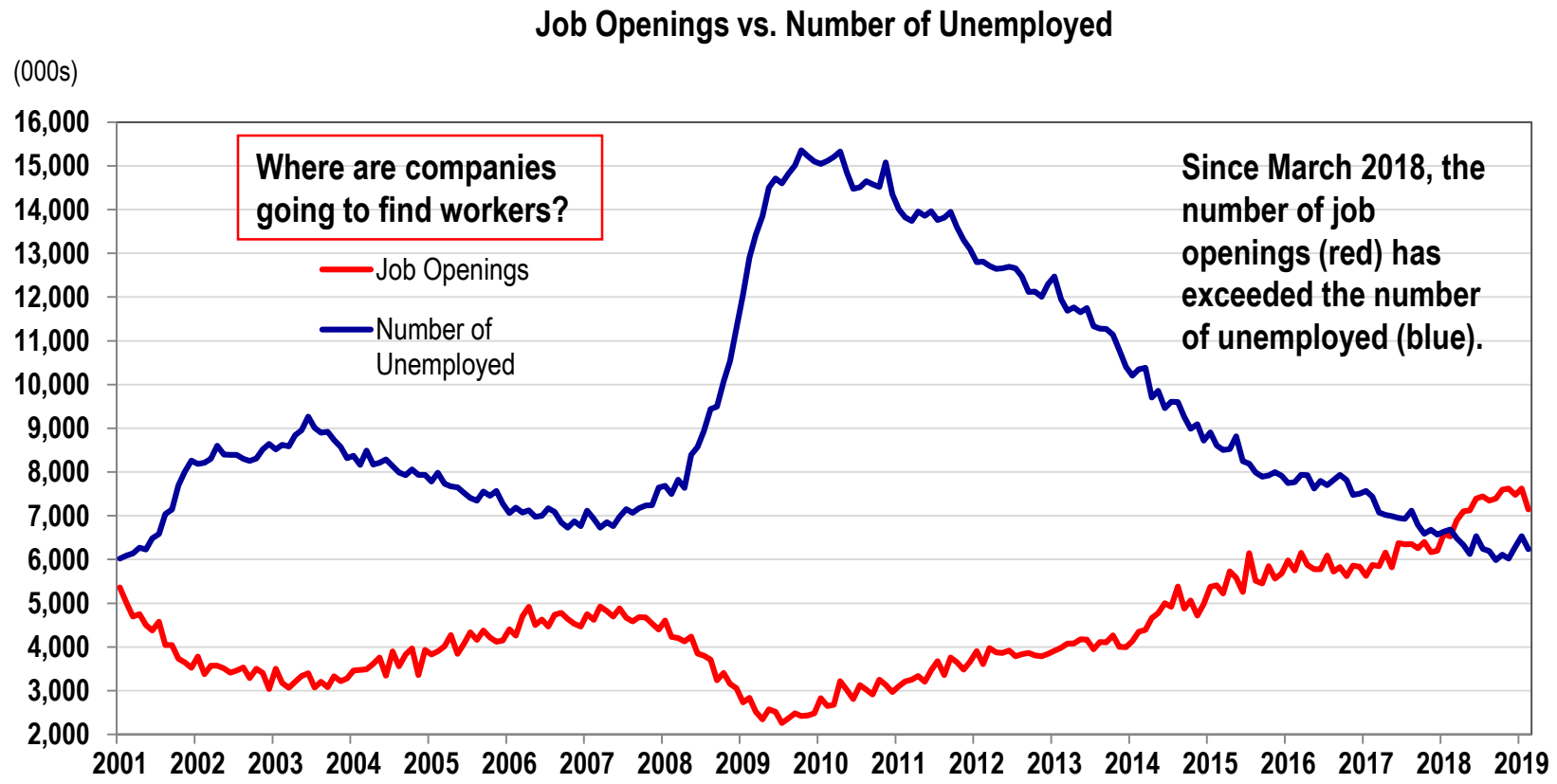
1990 to 2019 (United States)



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

Job Openings vs. Number of Unemployed

United States

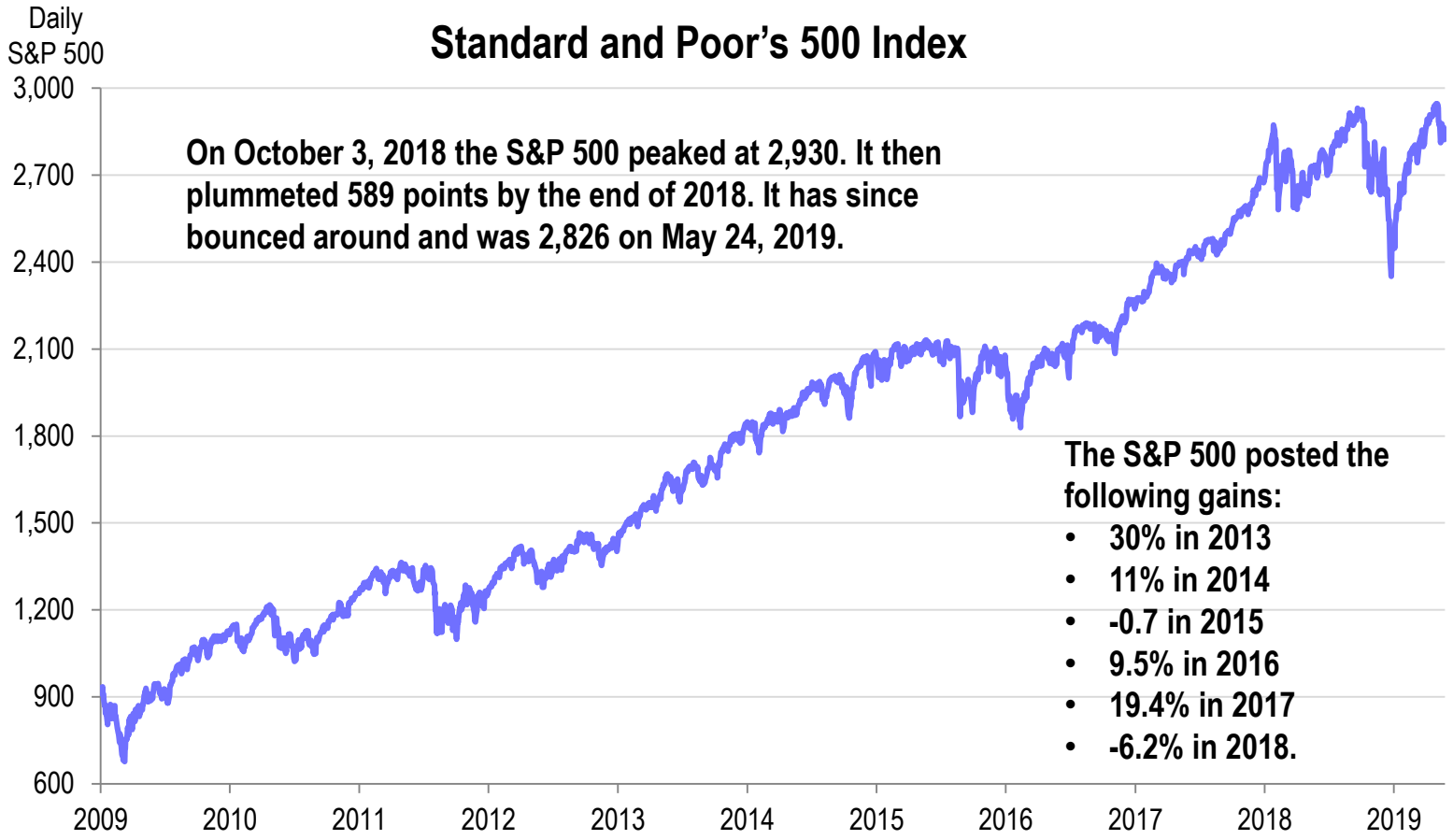


Source: Bureau of Labor Statistics, SA, cber.co.

United States Economy

S&P Performance and Volatility

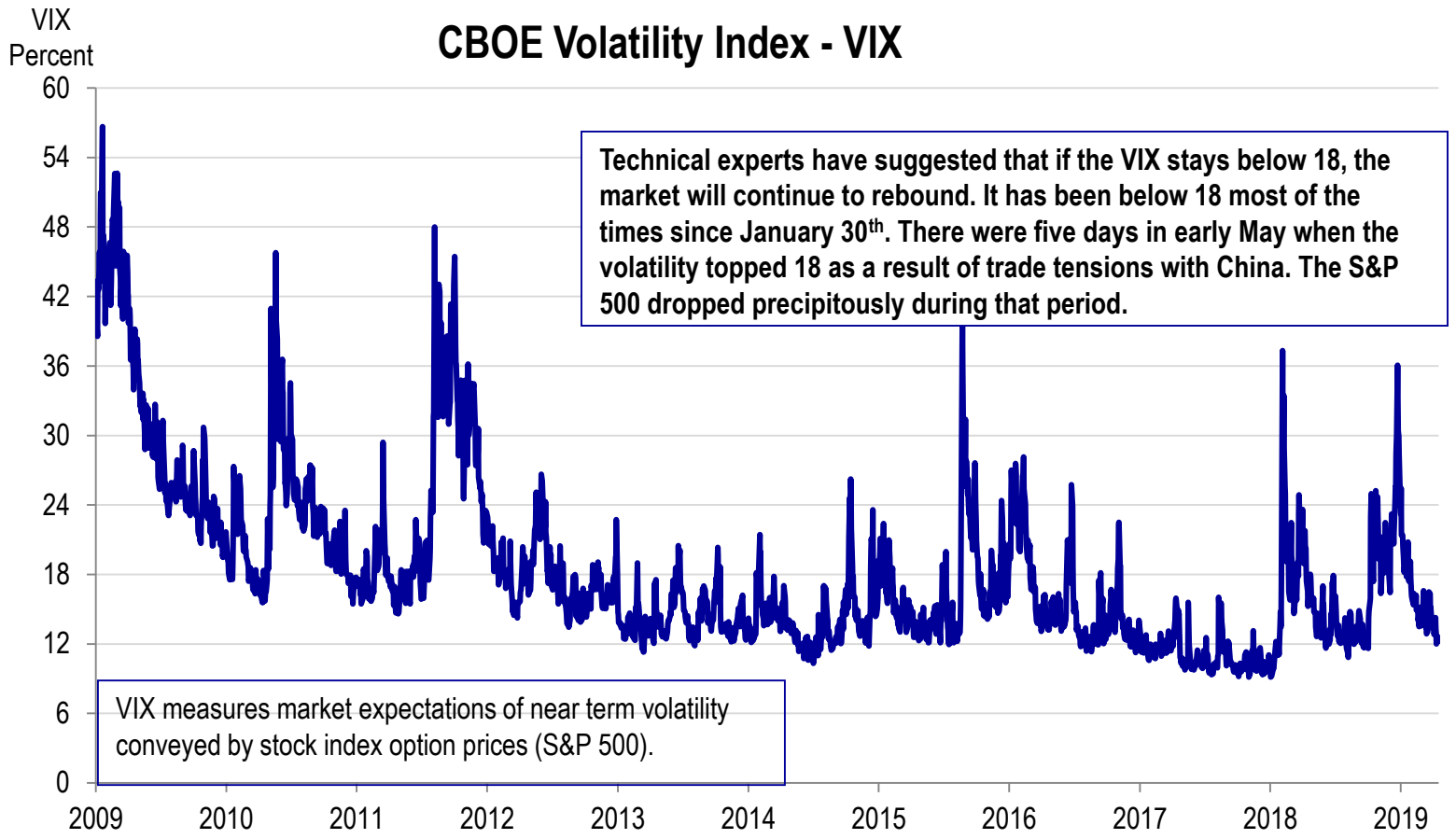
Standard and Poor's 500 Index



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

CBOE Volatility Index

VIX (VIXCLS)

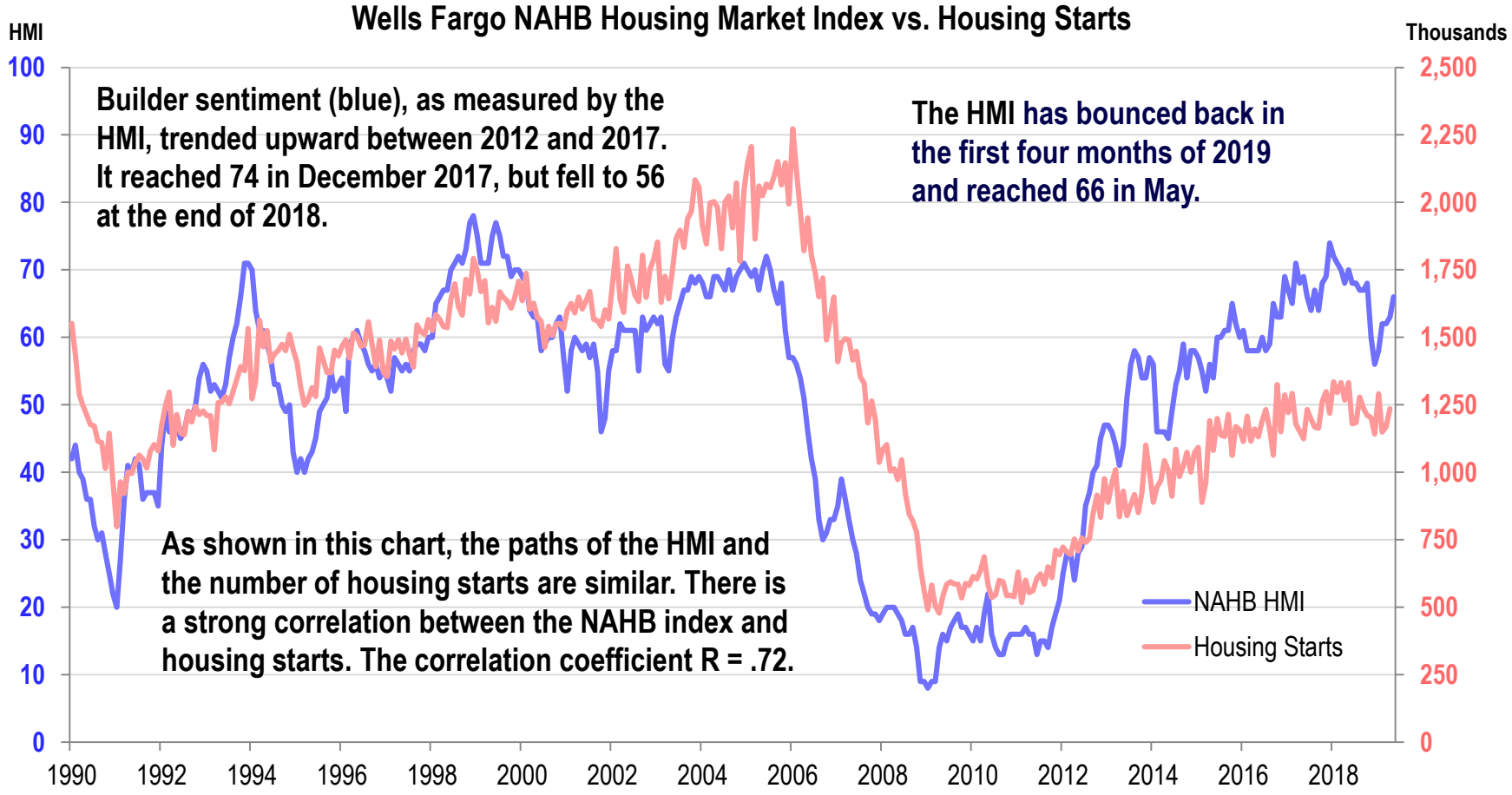


Source: FRED, Chicago Board Options Exchange, cber.co.

The U.S. Economy

NAHB HMI and Housing Starts, Construction Employment, Permits, Construction Spending, Mortgage Rates, and Housing Prices

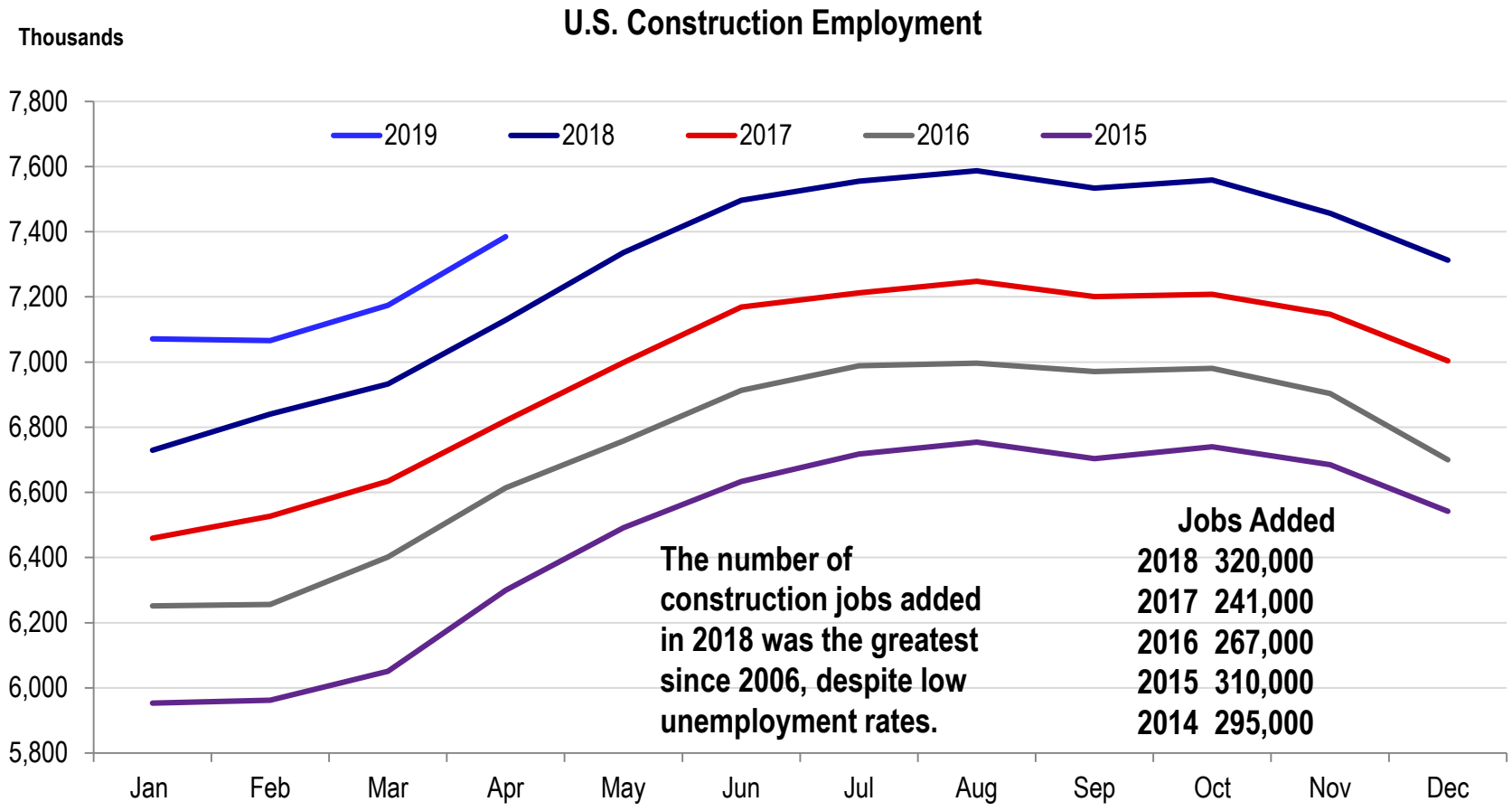
Wells Fargo NAHB HMI vs. Housing Starts



Source: NAHB, cber.co.

U.S. Construction Employment

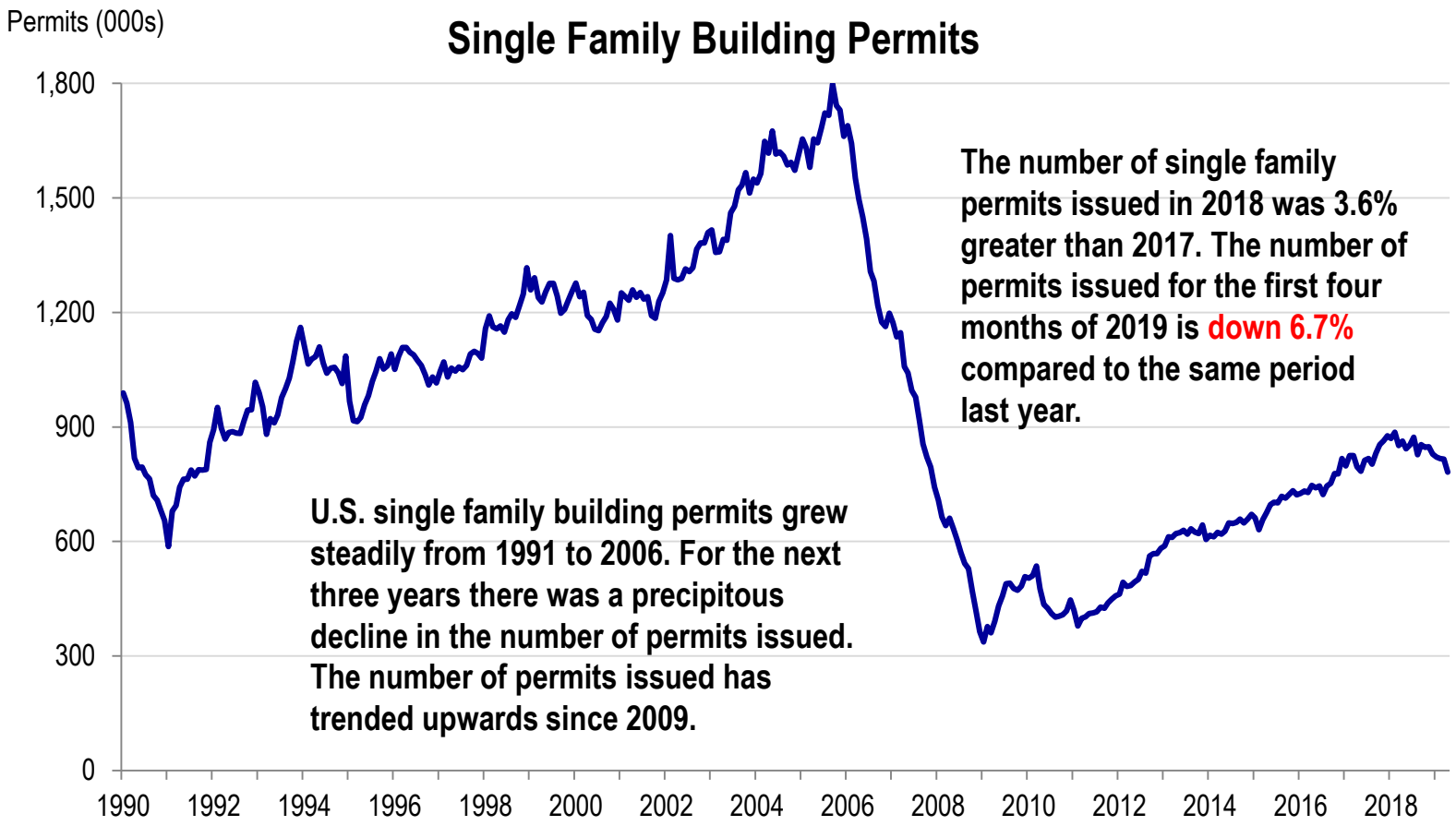
2015 to 2019



Source: BLS, cber.co.

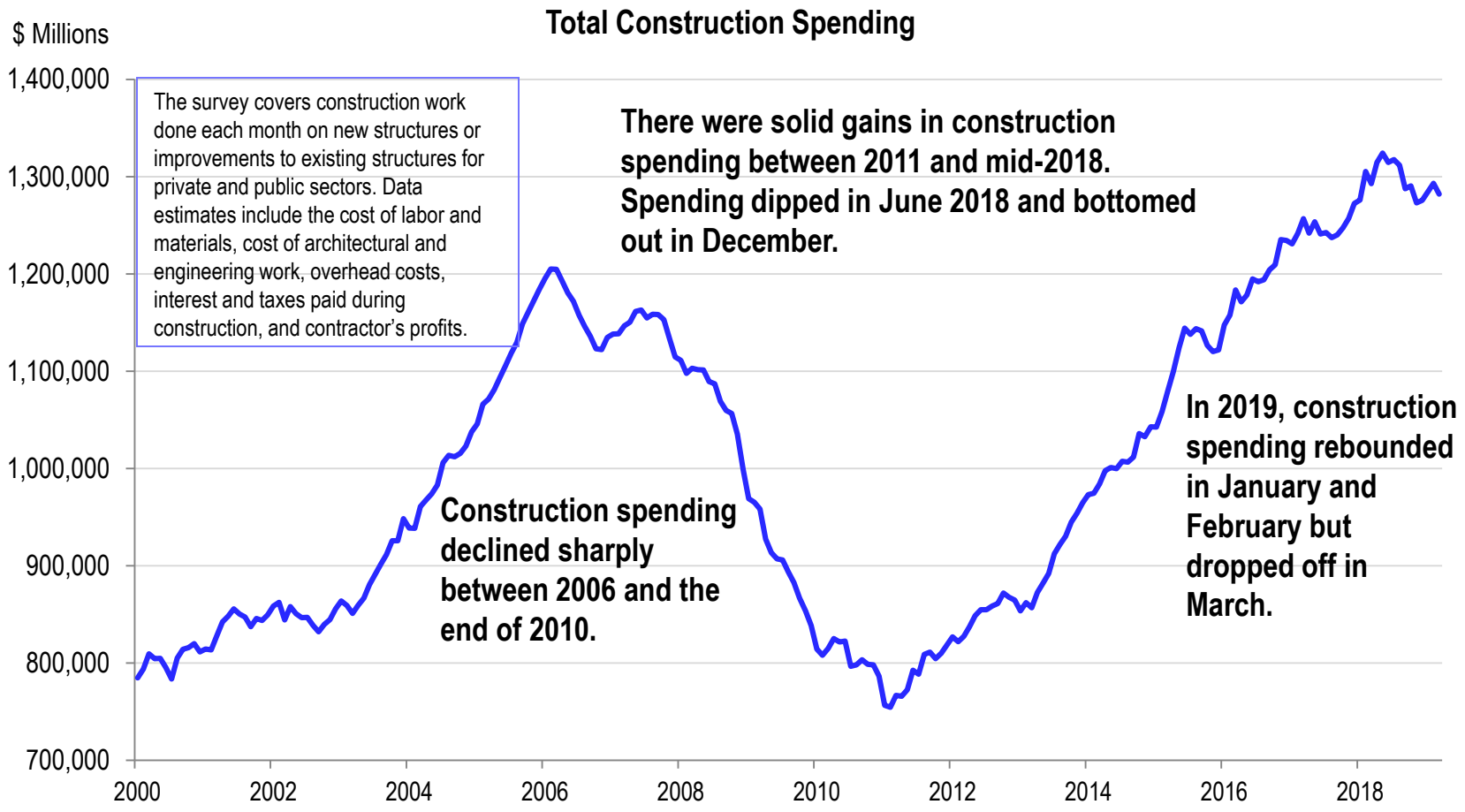
New Single Family Building Permits

United States



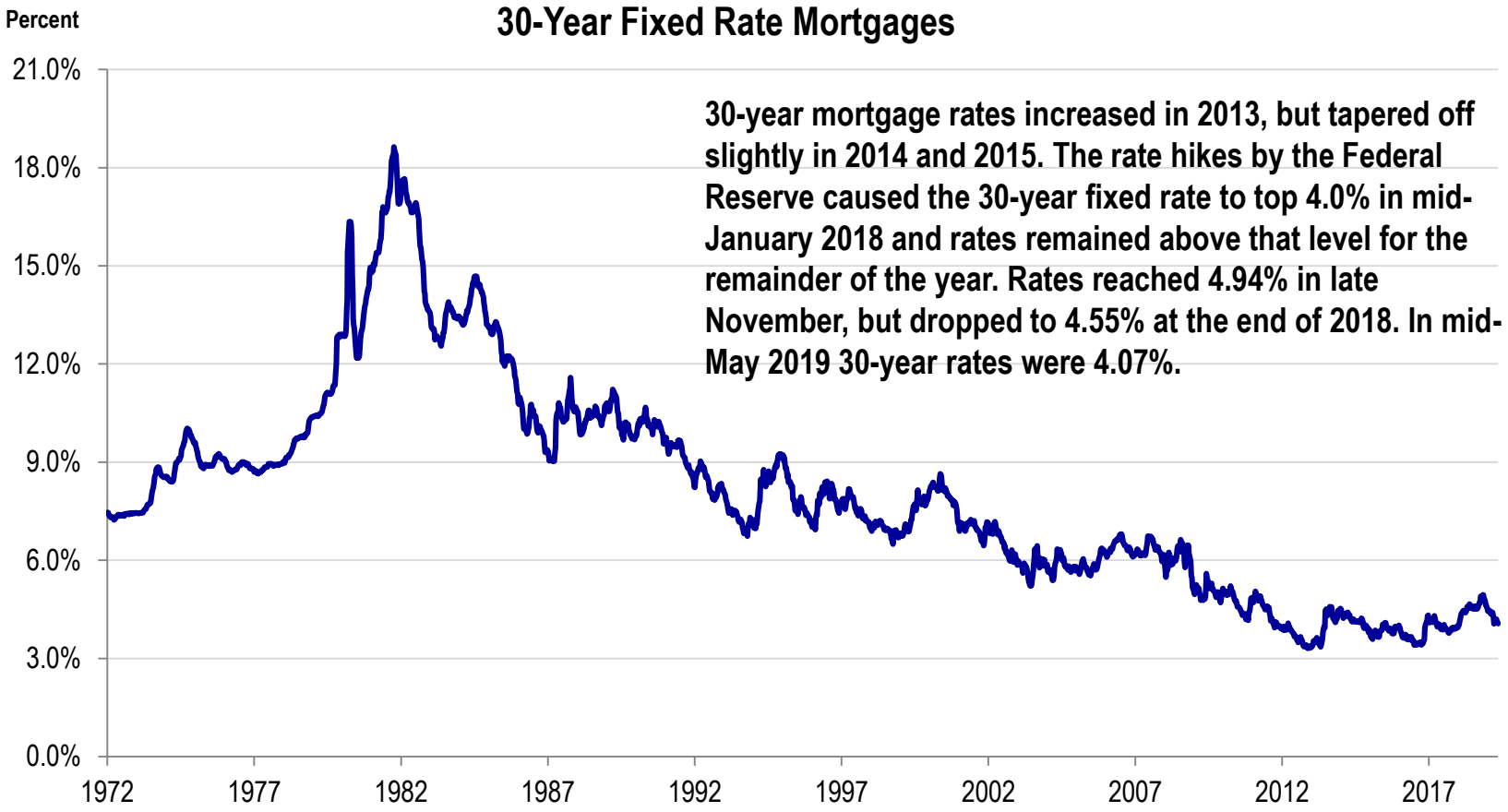
Source: FRED, U.S. Census Bureau, cber.co.

Total U.S. Construction Spending



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

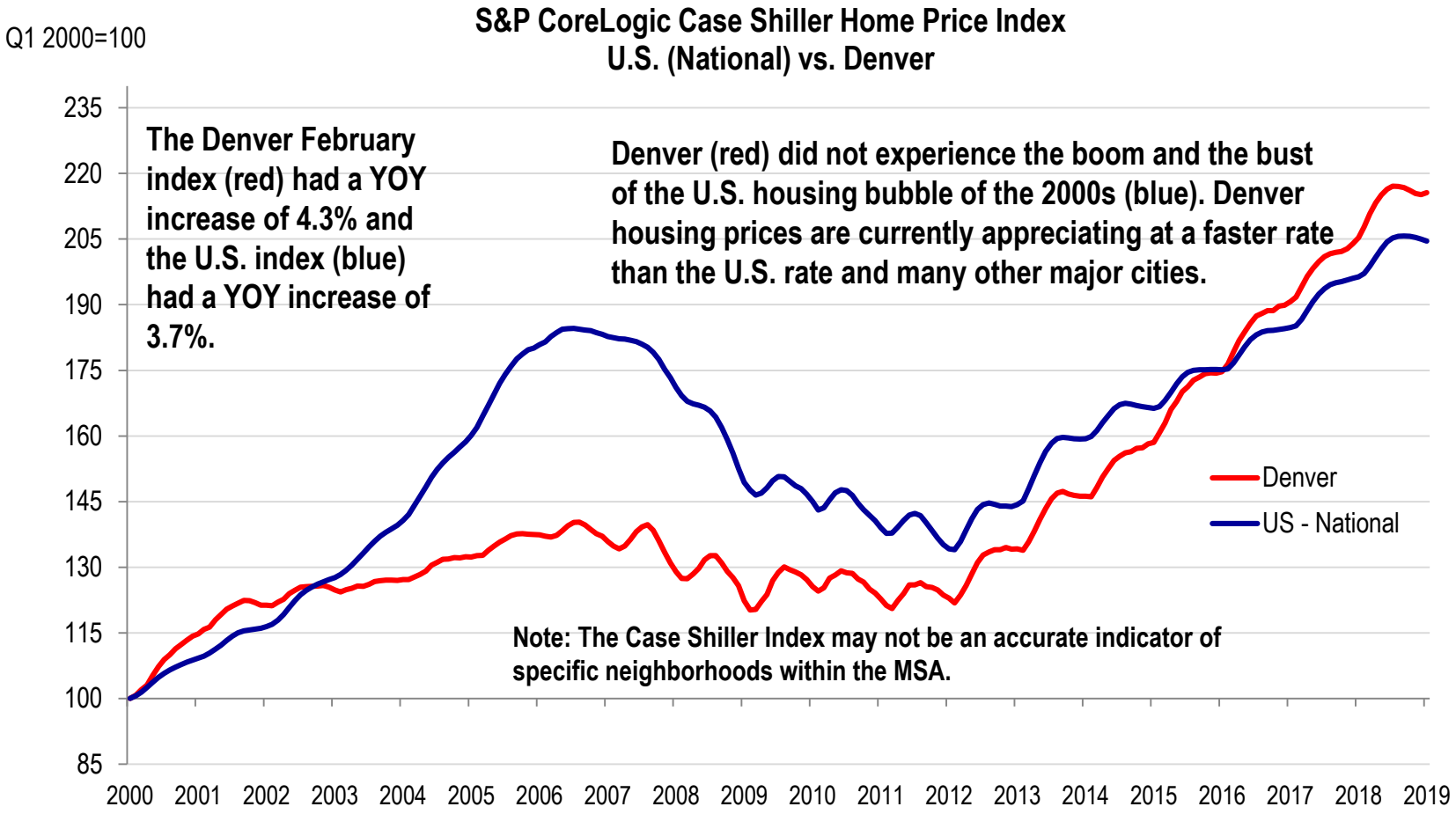
30-Year Fixed Rate Mortgages



Source: FRED, Freddie MAC, cber.co.

Case Shiller Home Price Index

National vs. Denver Index Value



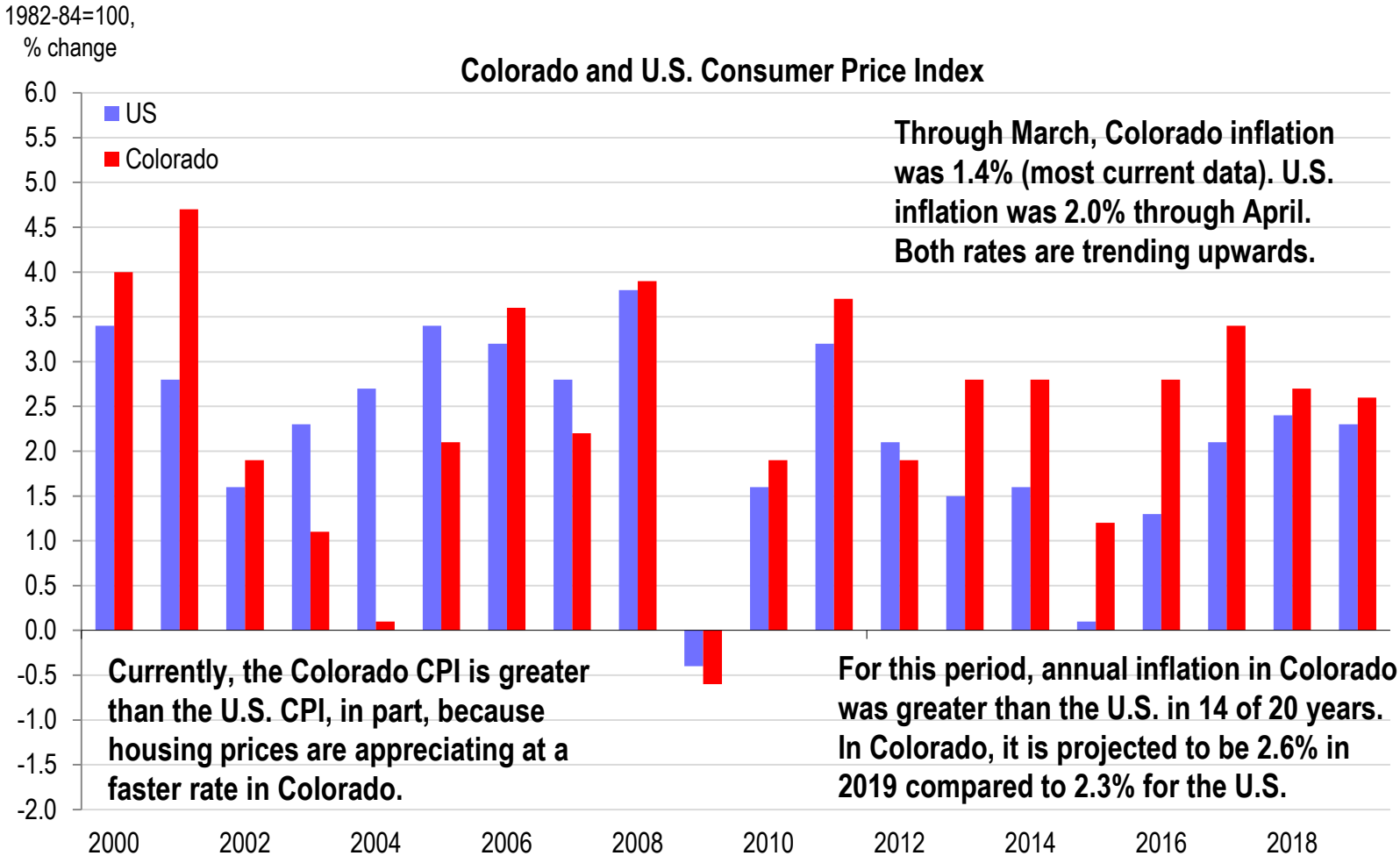
Source: S&P Core-Logic Case-Shiller, cber.co.

The U.S. Economy

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

Consumer Price Index (CPI)

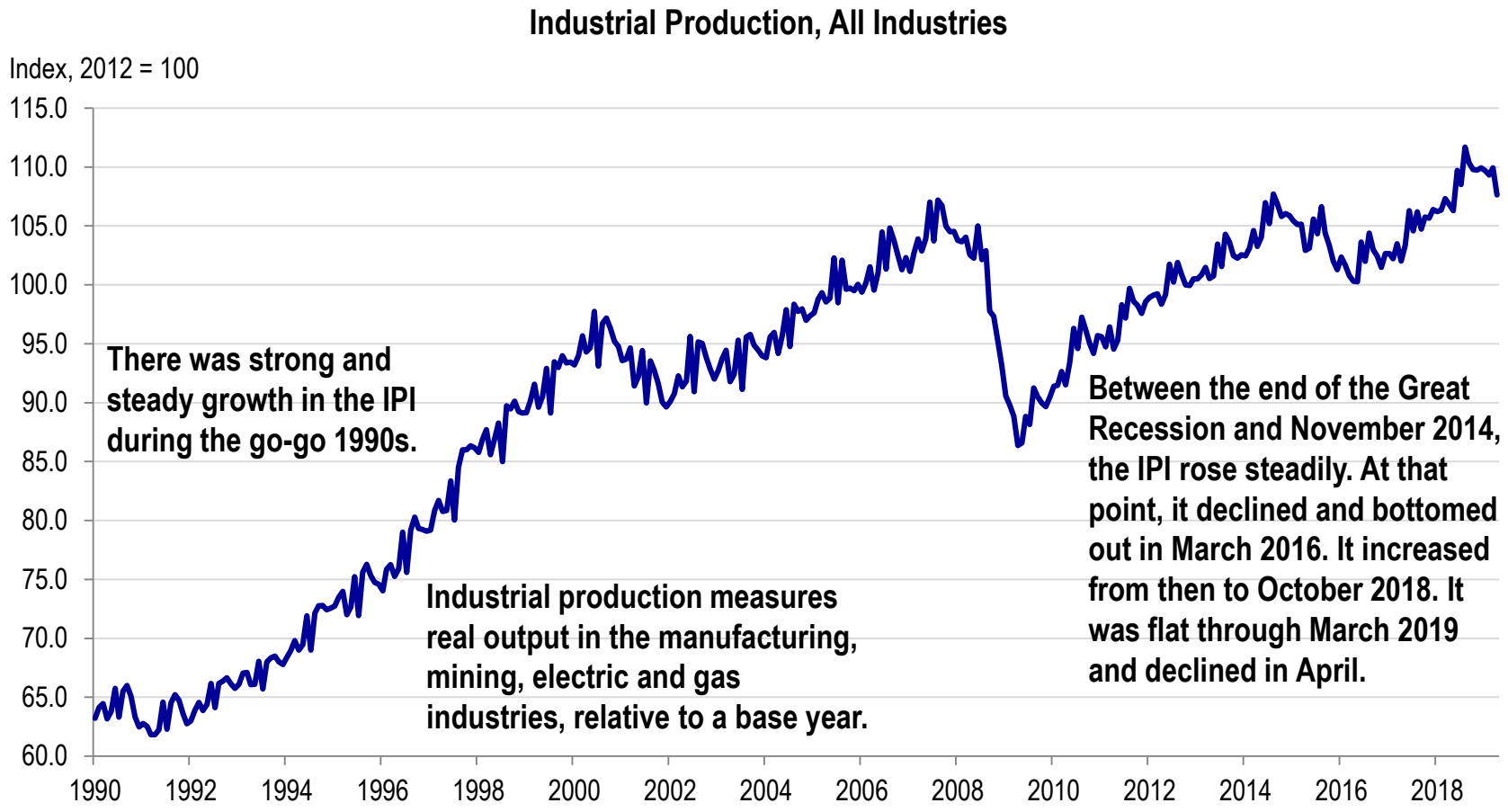
Colorado vs. U.S.



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

Industrial Production Index

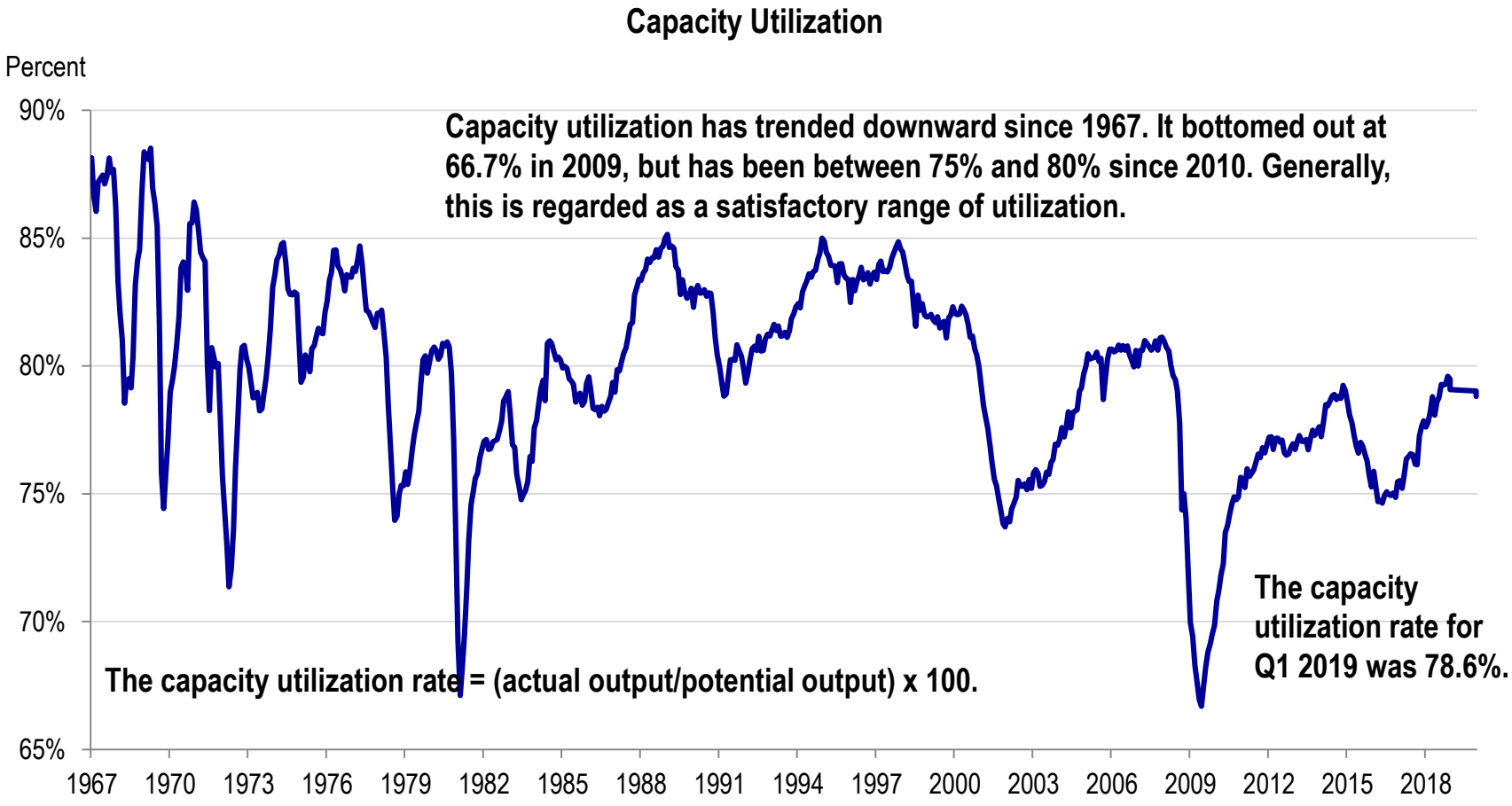
All Industries



Source: FRED, Federal Reserve, cber.co.

Capacity Utilization

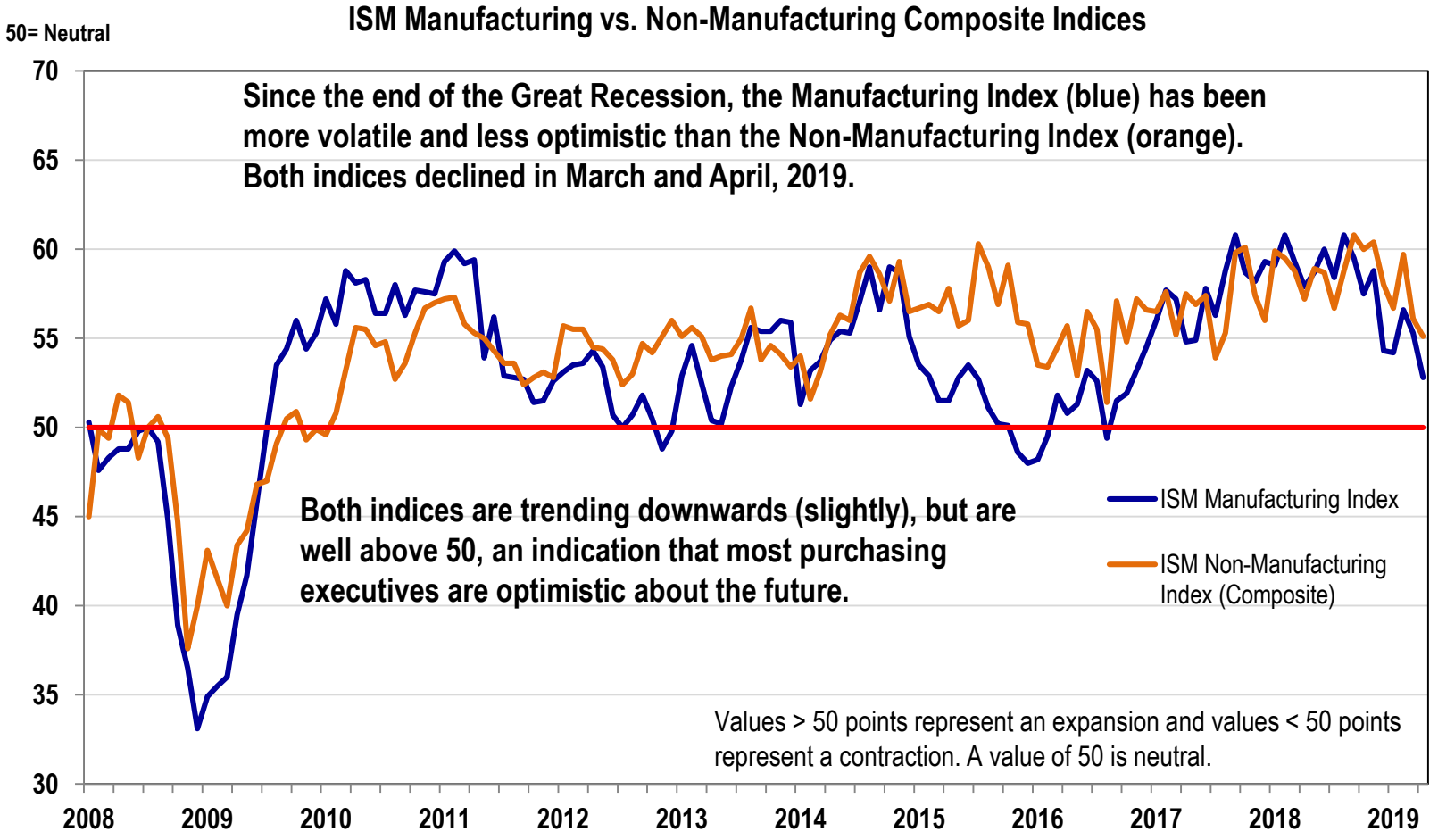
Total Industry



Source: FRED, Federal Reserve, cber.co.

ISM PMI Composite Indices

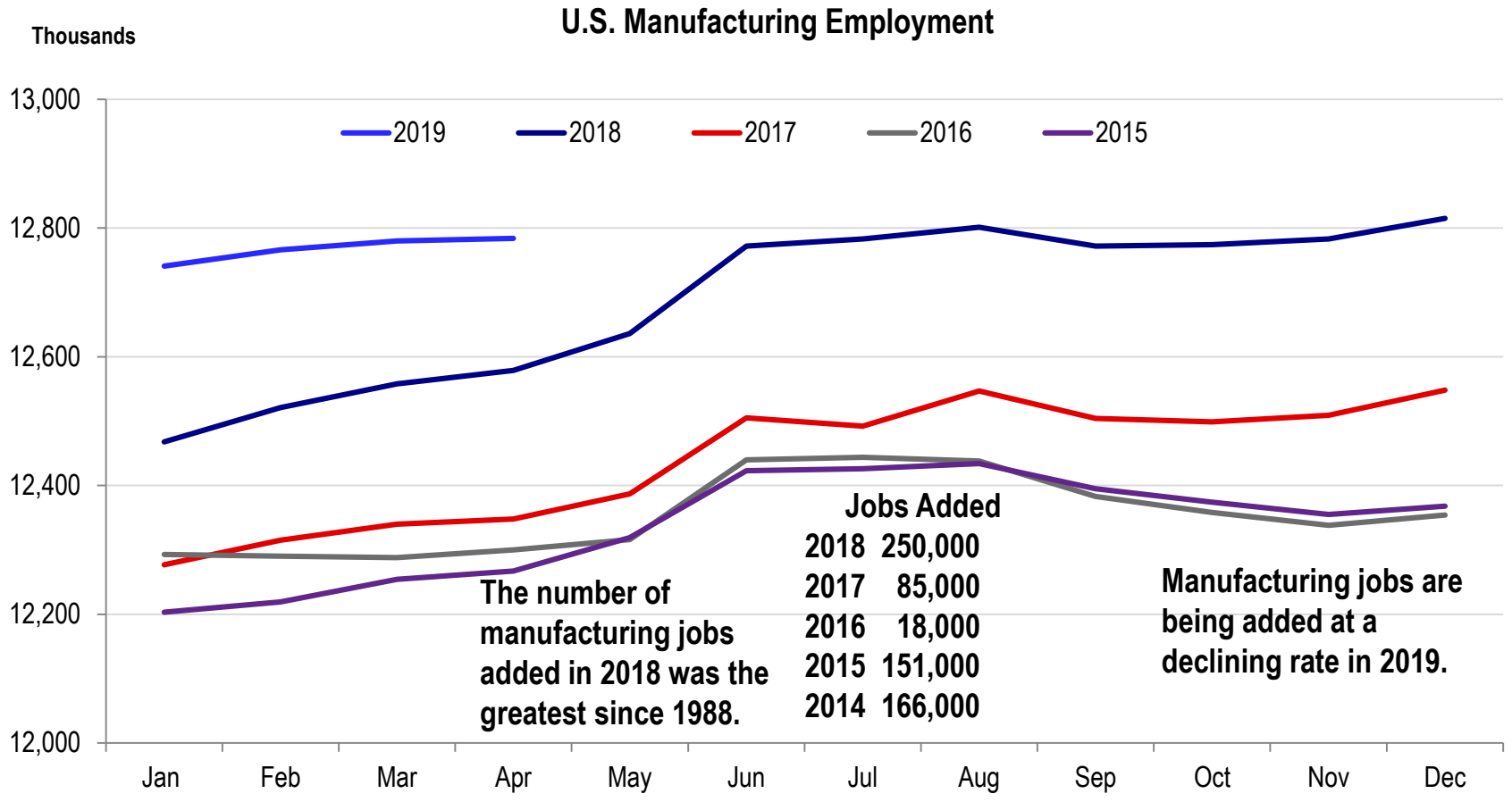
Manufacturing vs. Non-manufacturing



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

U.S. Manufacturing Employment

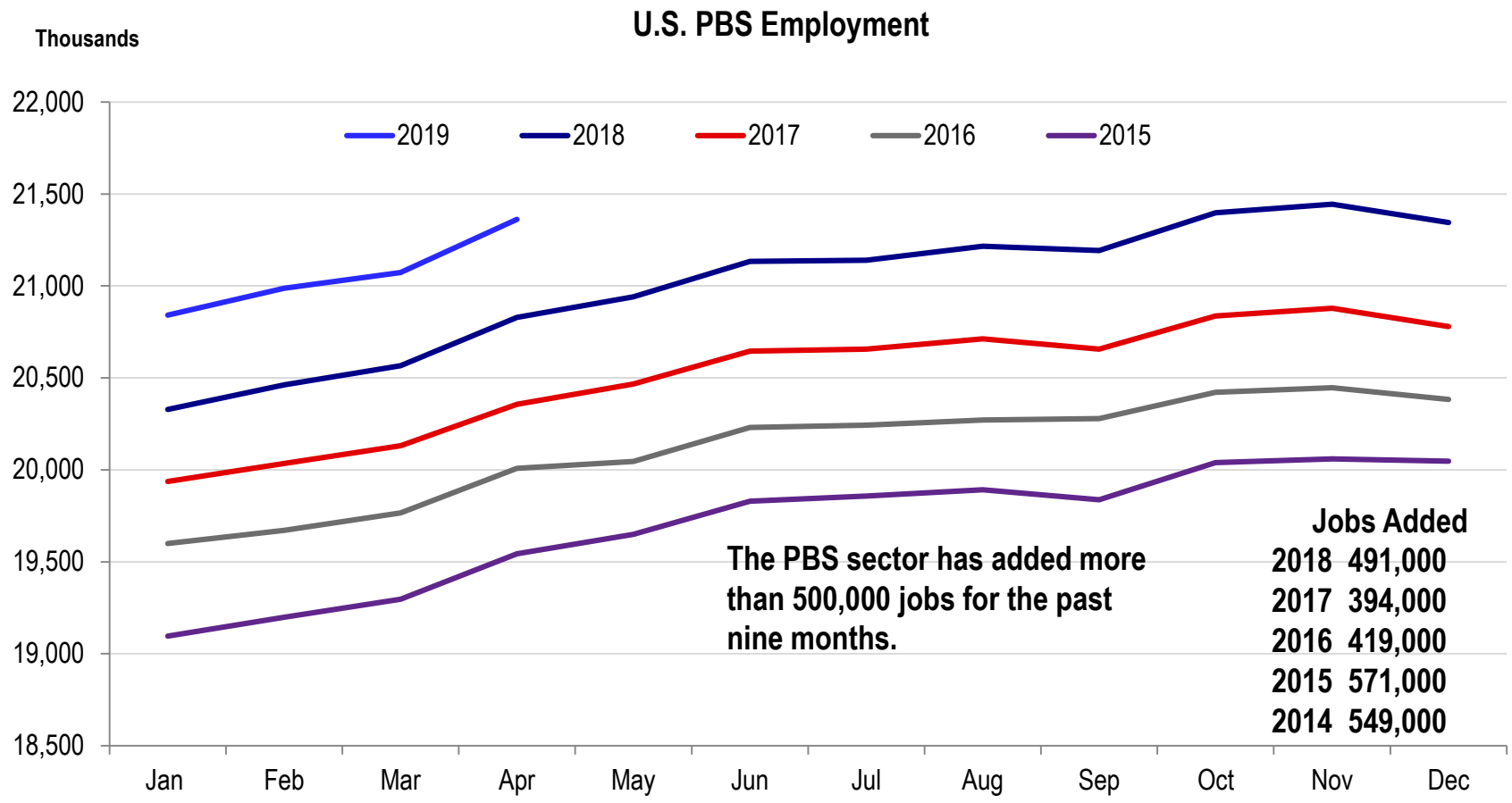
2015 to 2019



Source: BLS, cber.co.

U.S. Professional Business Services

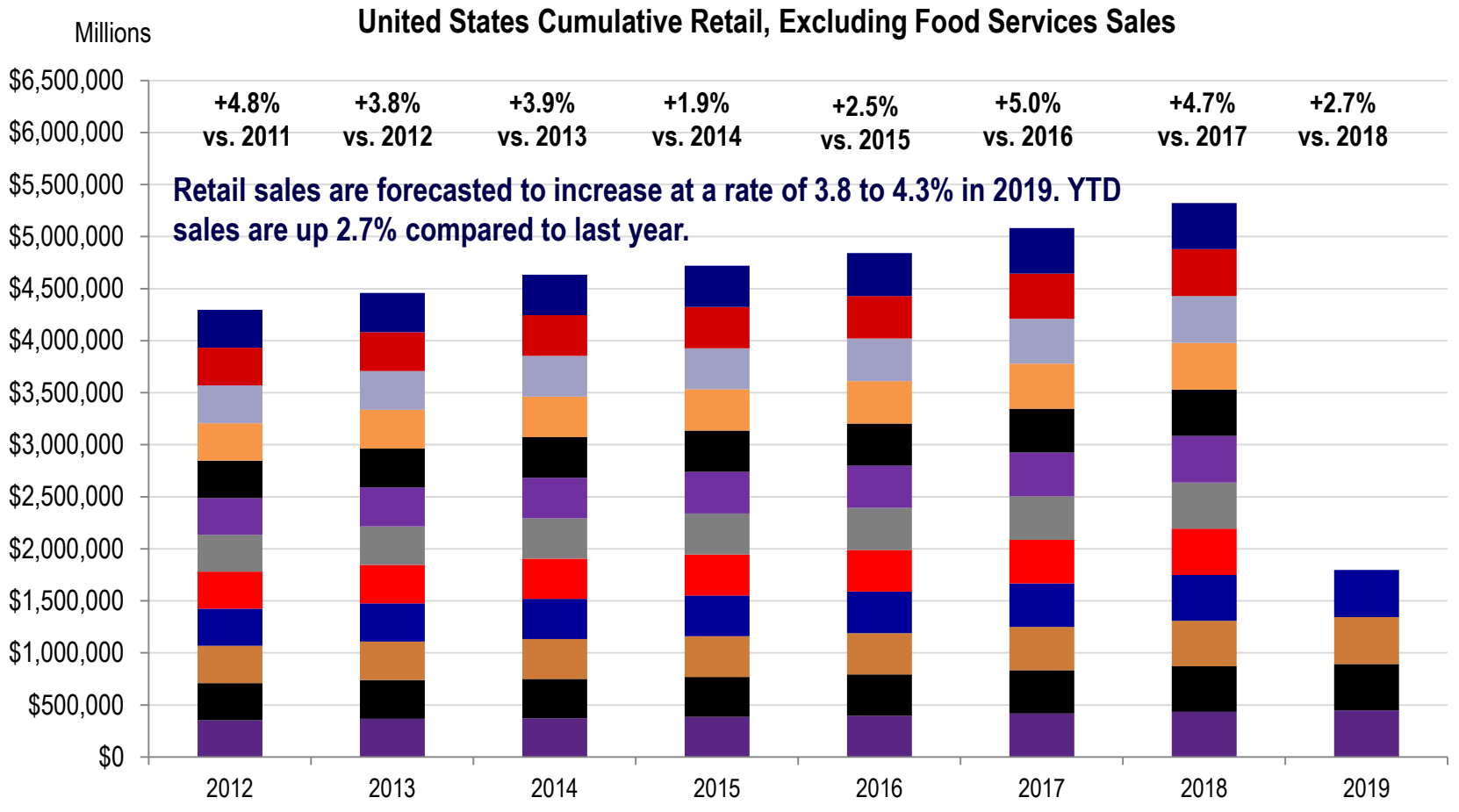
2015 to 2019



Source: BLS, cber.co.

Cumulative Retail, Excluding Food Services Sales

Monthly

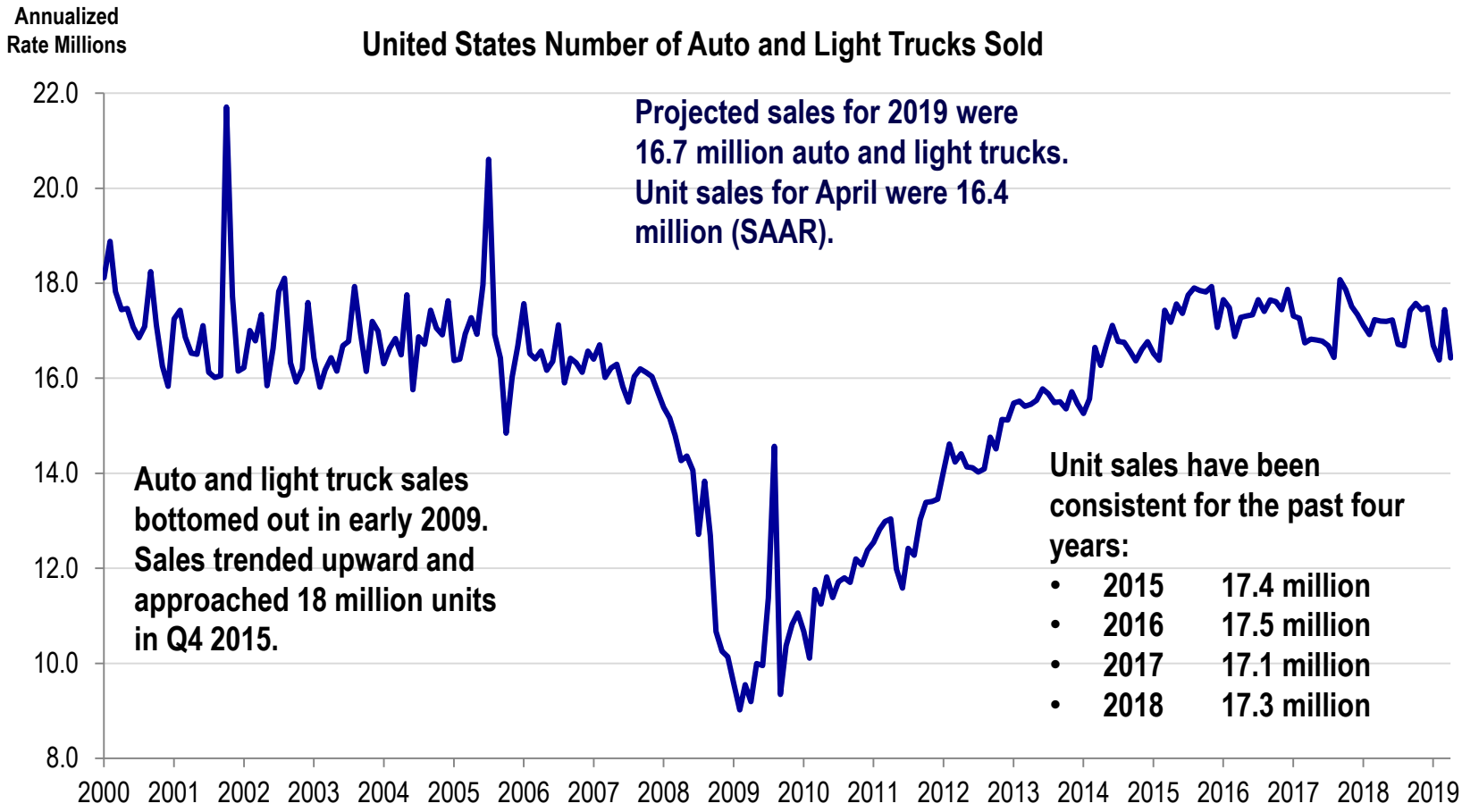


Source: U.S. Census Bureau, FRED, cber.co.

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

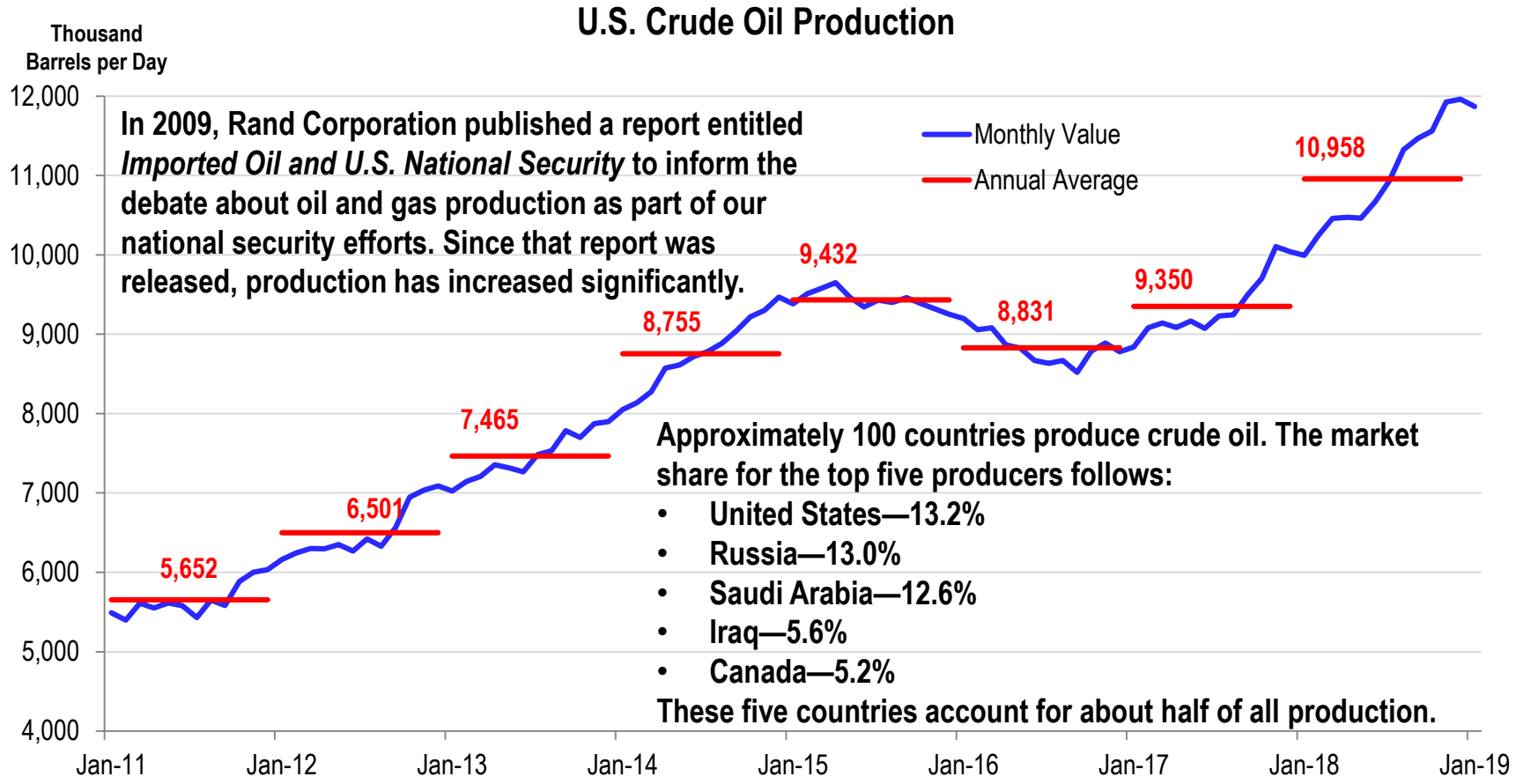
Monthly (Annualized Rate Millions)



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, and the NFIB survey

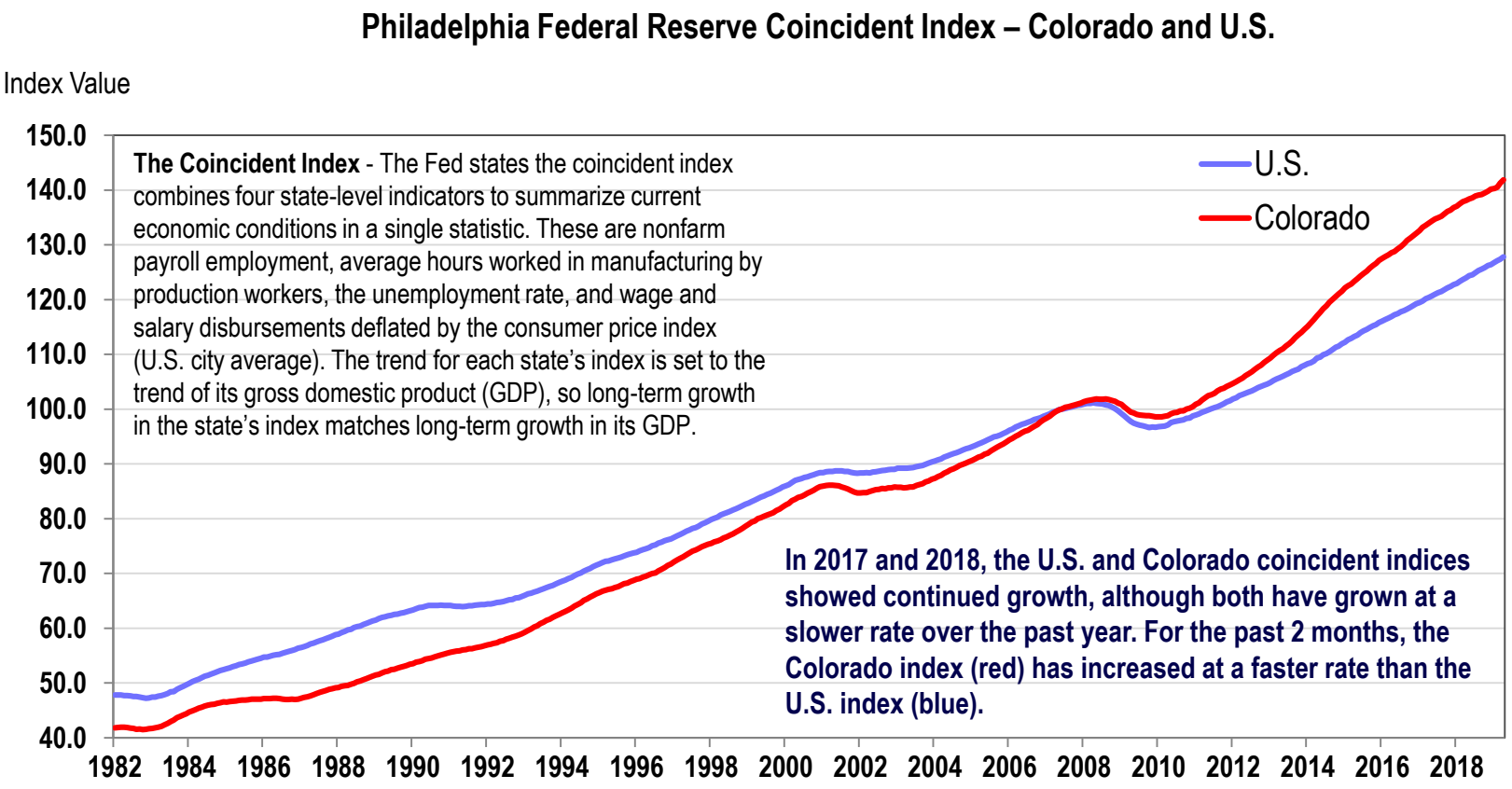
Forward Looking Indicators

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. After a brief slowdown, the coincident index for Colorado is again outpacing the growth rate of the U.S. coincident indicator. Both are projecting solid growth in the near term. In addition, the Michigan Consumer Sentiment Survey and the NFIB Optimism Index foretell continued growth in the upcoming months.

Philadelphia Fed Coincident Index

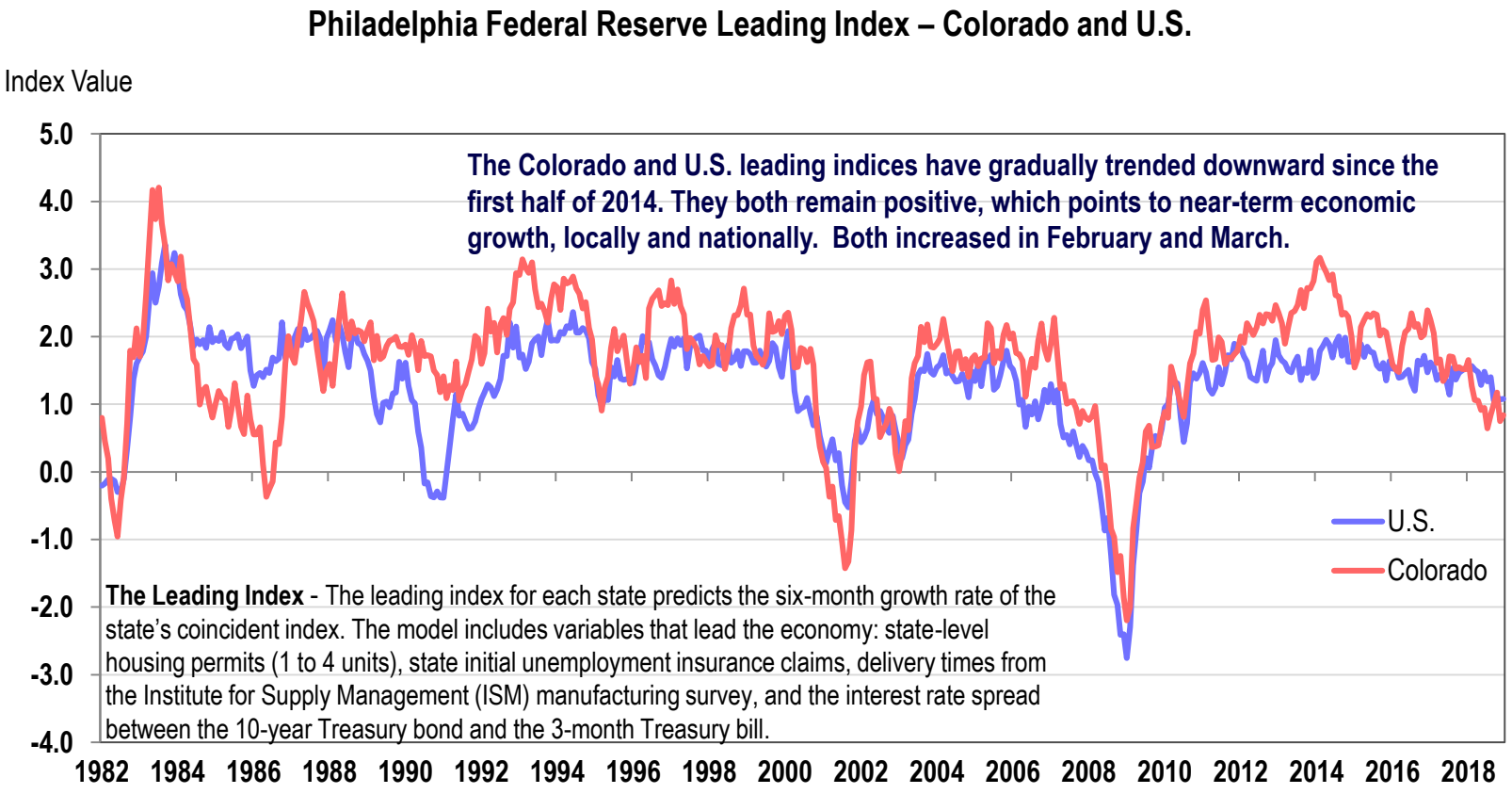
Colorado vs. U.S.



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

March Indicators Show Improvement

The maps on the following two pages show the leading economic indicator for all 50 states for the months of February 2019 and March 2019. The indices for March are more optimistic than those for February.

March 2019 Map

The 2019 map shows the following:

- 3 were light orange – modest decline
- 3 were grey - flat
- 28 were light green – modest growth
- 16 were dark green – solid growth

February 2019 Map

The 2019 map shows the following:

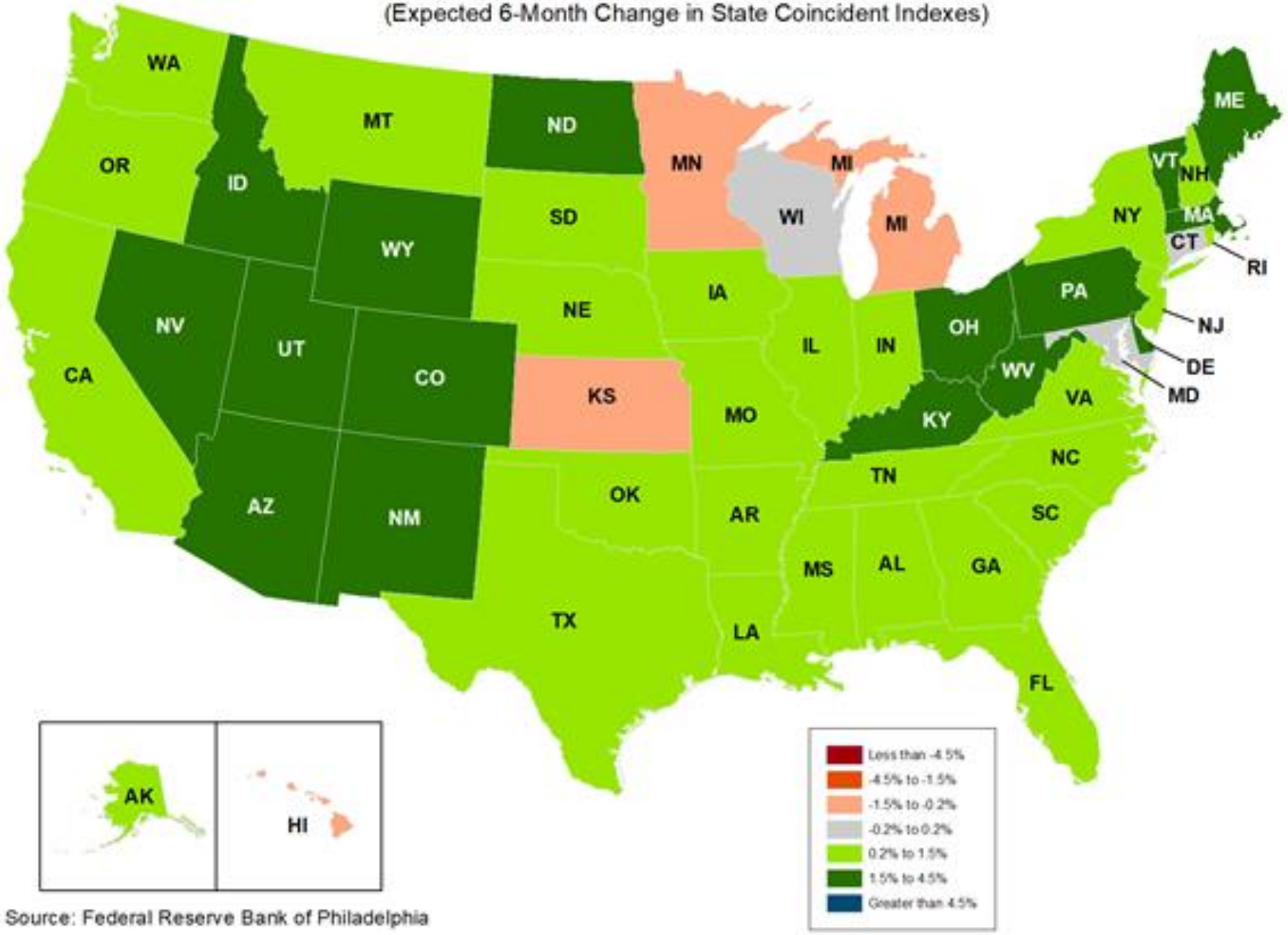
- 4 were light orange – modest decline
- 4 were grey - flat
- 27 were light green – modest growth
- 15 were dark green – solid growth

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%

March 2019 State Leading Indexes

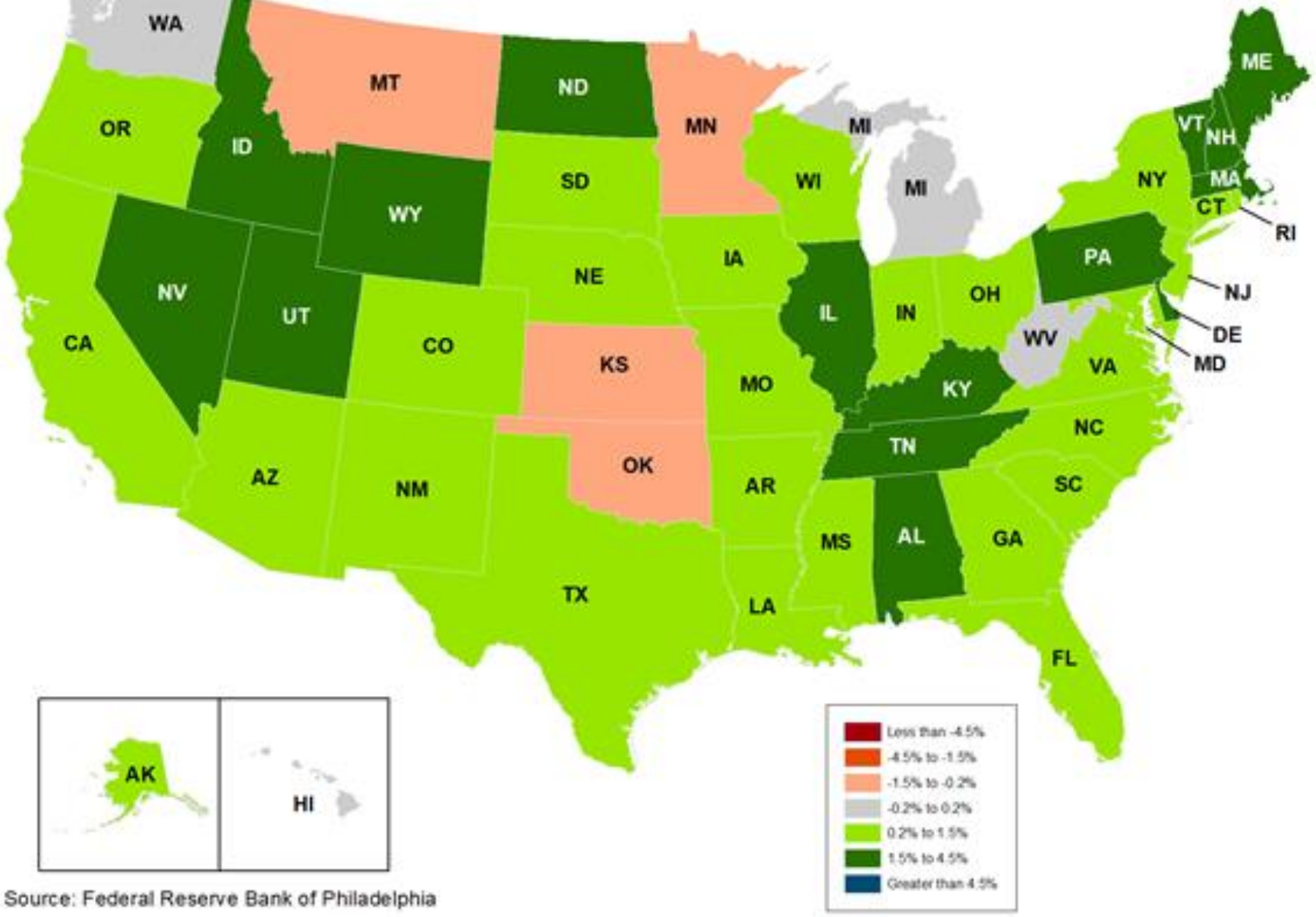
(Expected 6-Month Change in State Coincident Indexes)



Source: Federal Reserve Bank of Philadelphia

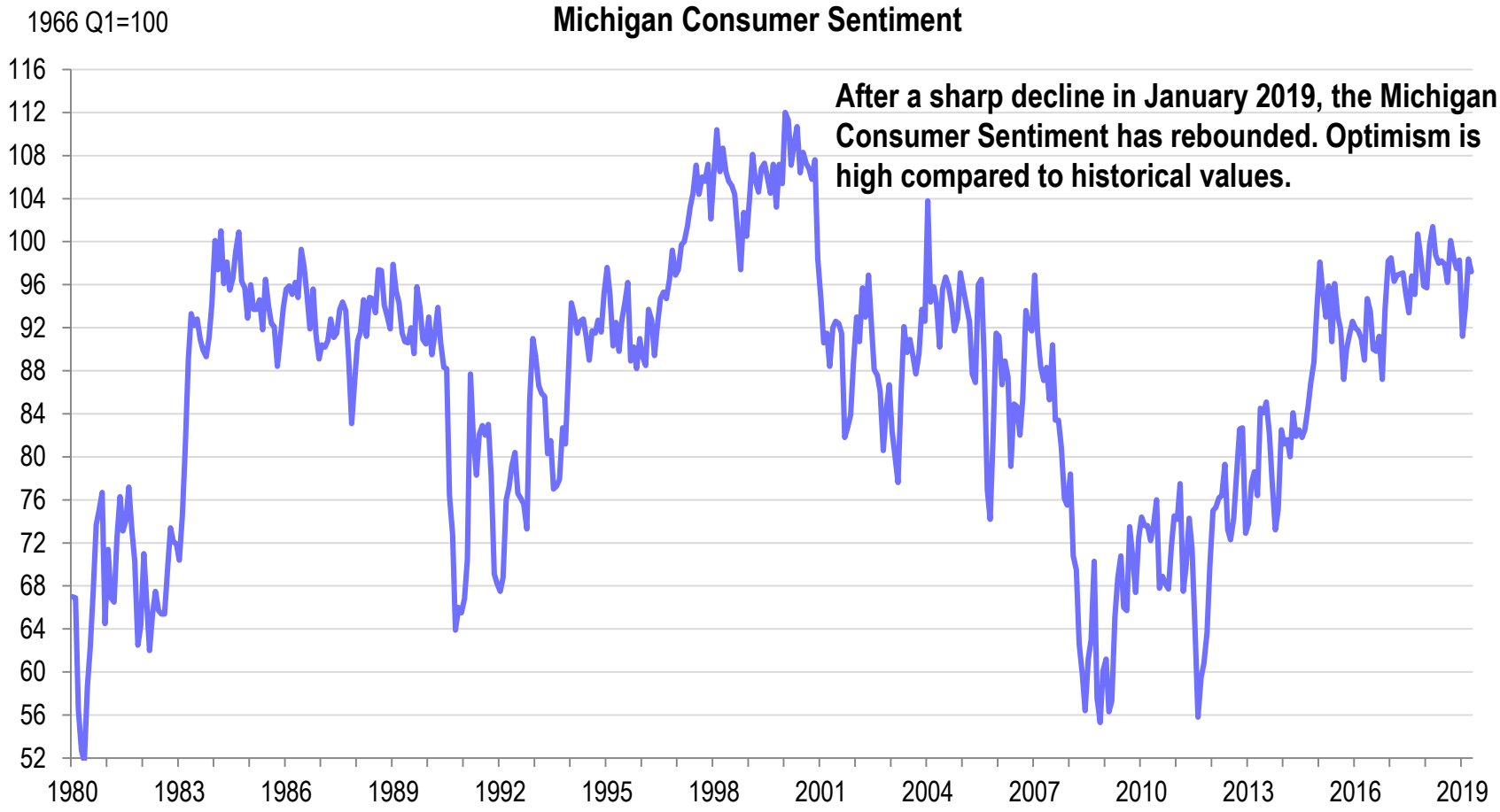
February 2019 State Leading Indexes

(Expected 6-Month Change in State Coincident Indexes)



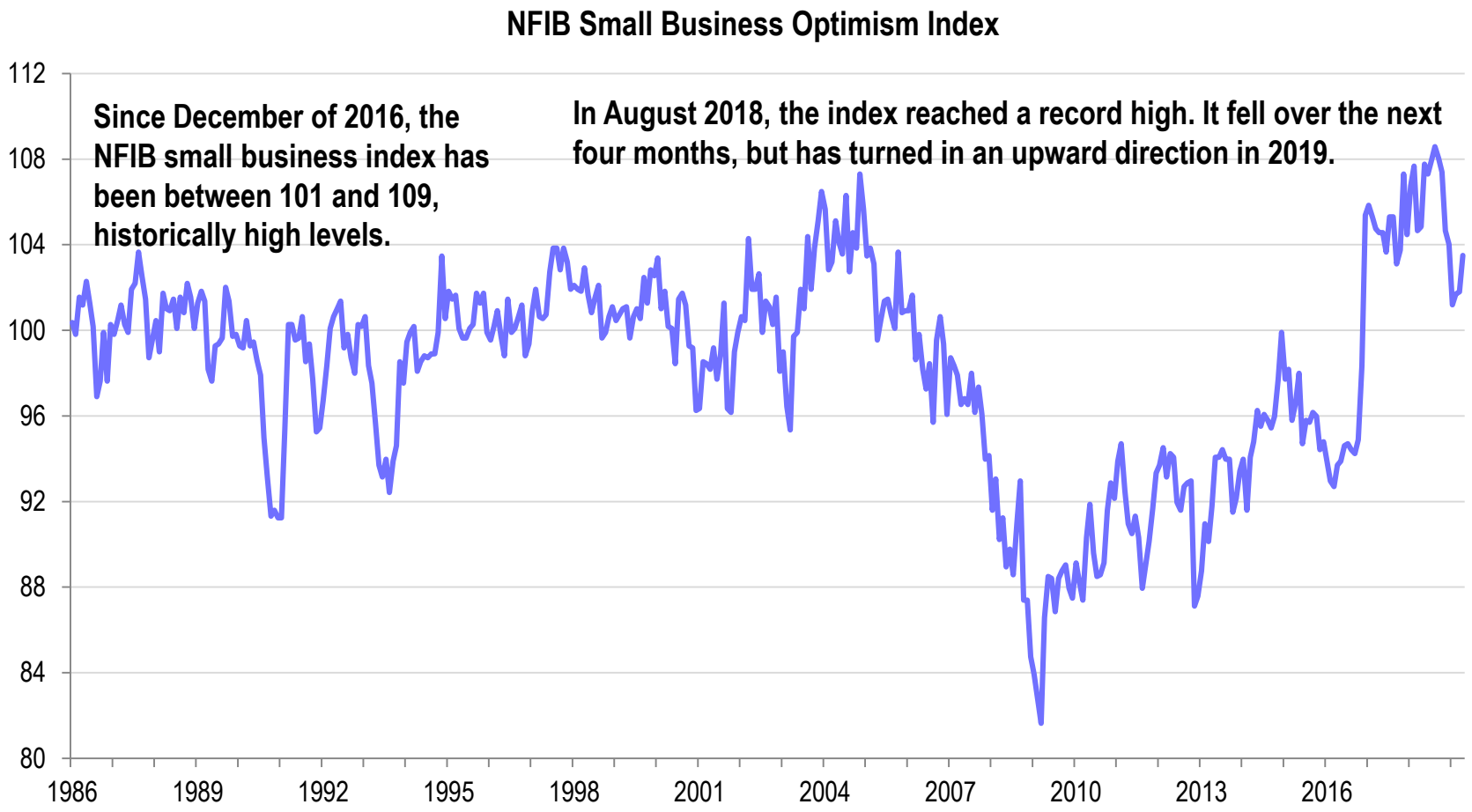
Source: Federal Reserve Bank of Philadelphia

University of Michigan Consumer Sentiment



Source: University of Michigan, cber.co.

NFIB Small Business Optimism Index



Source: NFIB, cber.co.

The U.S. Economy

Summary

Summary
U.S. Trends Through April 2019

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, the number of permits through four months is 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 in a satisfactory range.
- The price for a barrel of oil has risen and record production is projected in 2019.
- Most of the forward looking-indicators point to continued solid growth.
- The Federal Reserve has signaled fewer rate hikes in 2019 compared to last year.
- The performance of the equities market was strong in the first quarter, but there has been increased volatility in Q2.

The Colorado Economy

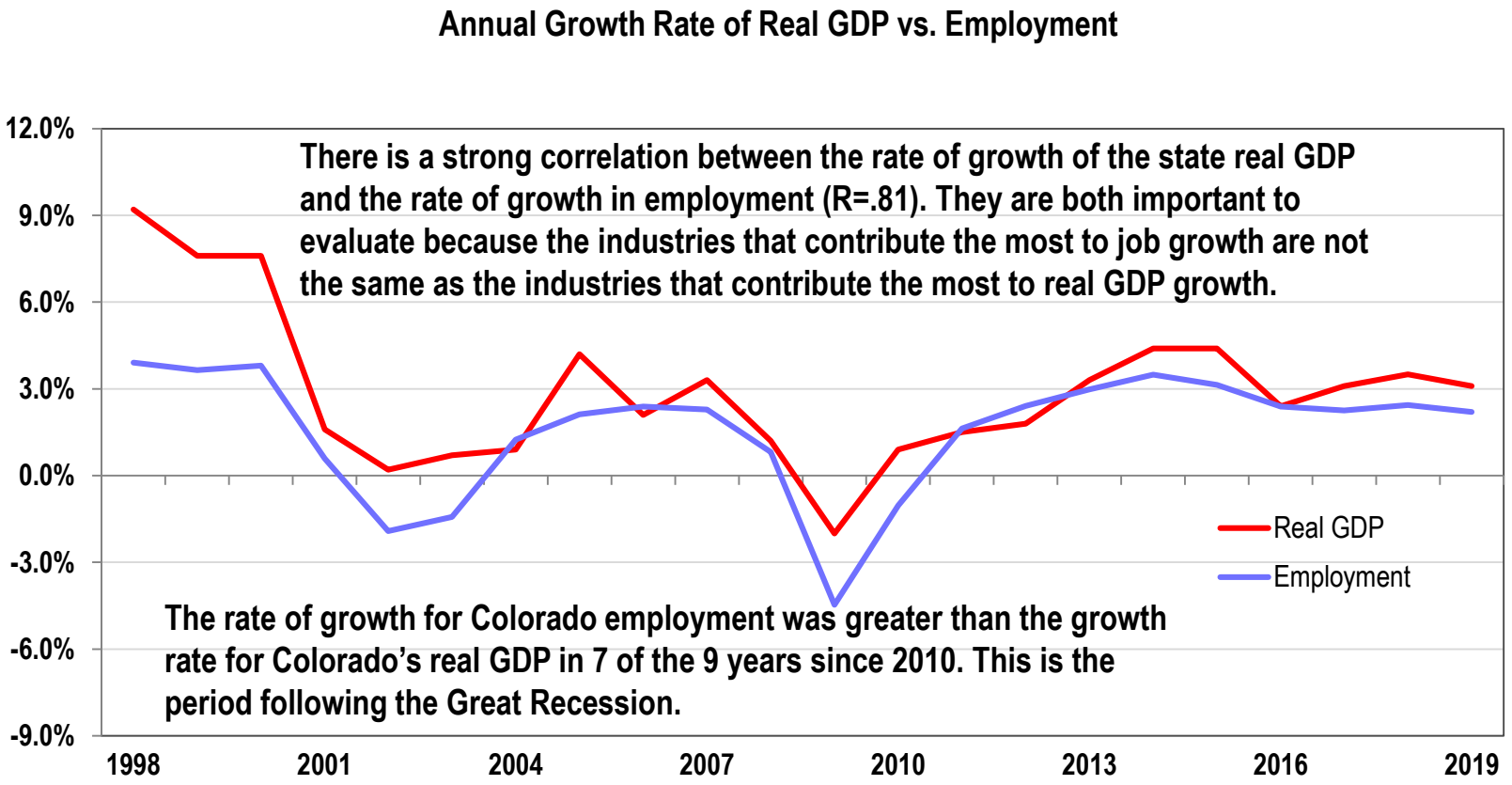
Gross Domestic Product

Gross Domestic Product - Colorado

The primary focus of many economic forecasts is employment. It is also important to look at the value added by workers and how the industries they work in contribute to real GDP growth. All industries make unique and important contributions to the economy. This section focuses on how industries contribute to the real GDP.

Annual Growth of Real GDP vs. Employment

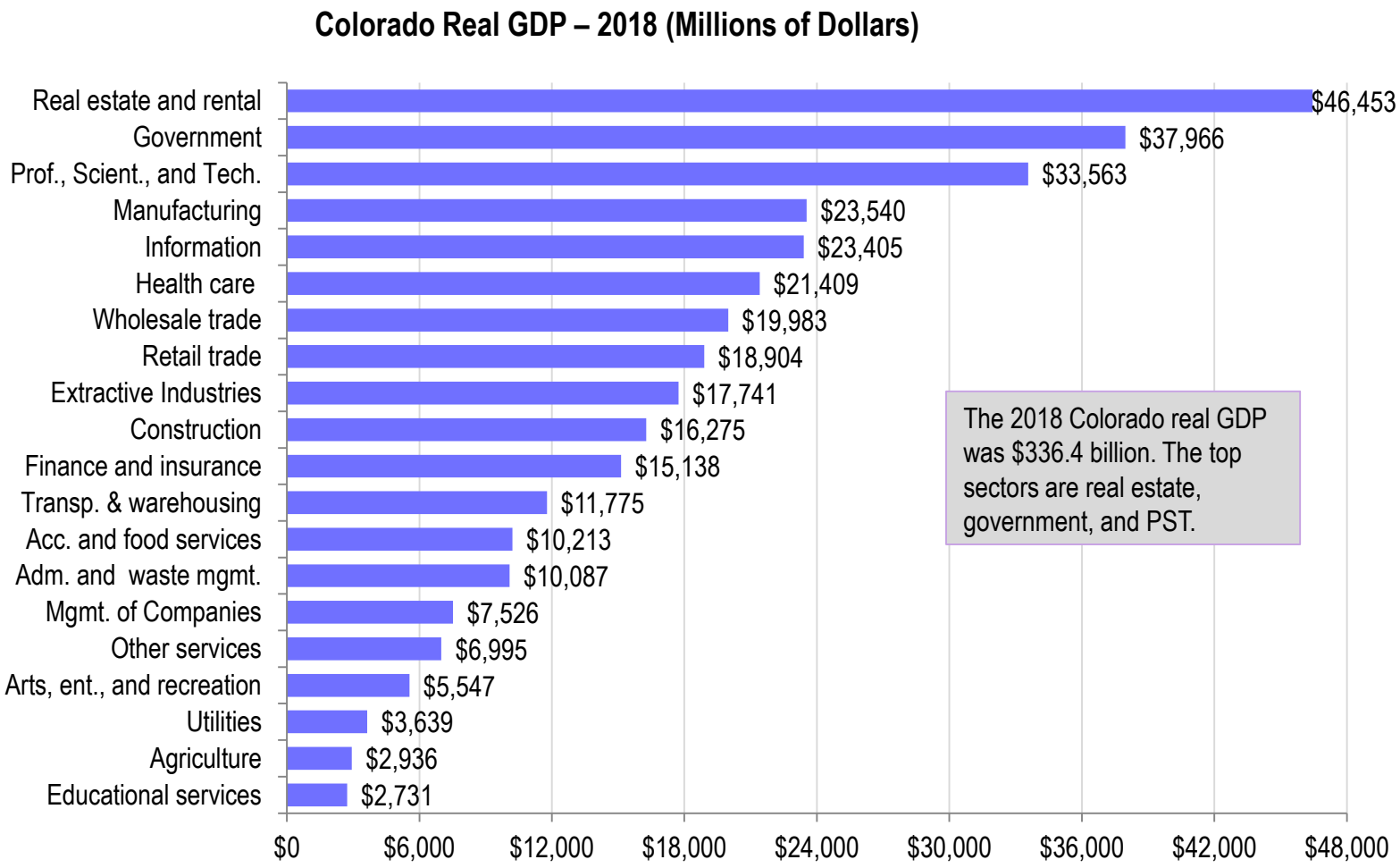
Colorado



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

GDP by Sector

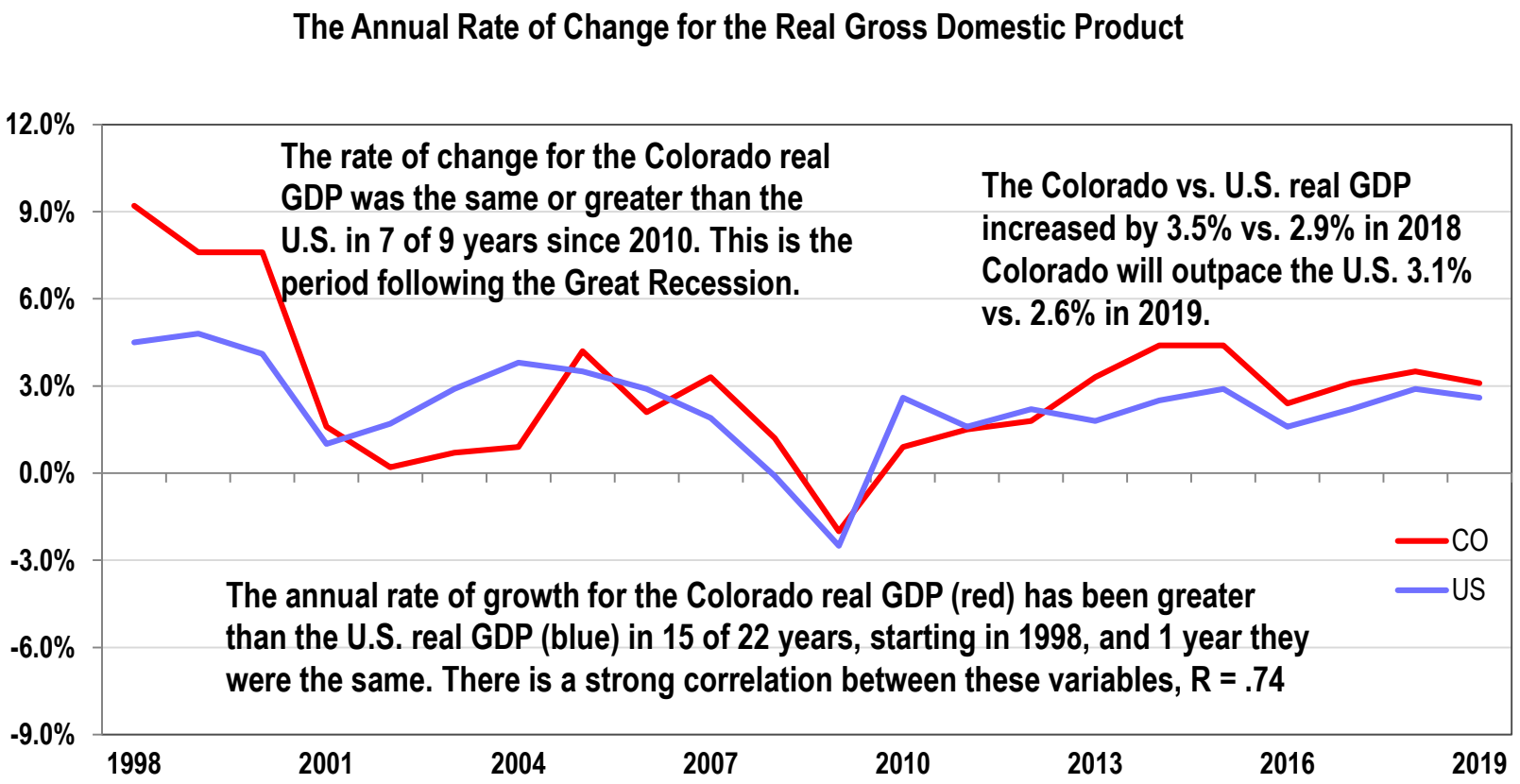
Colorado



Source: Bureau of Economic Analysis. Chained on 2012.

Real Gross Domestic Product

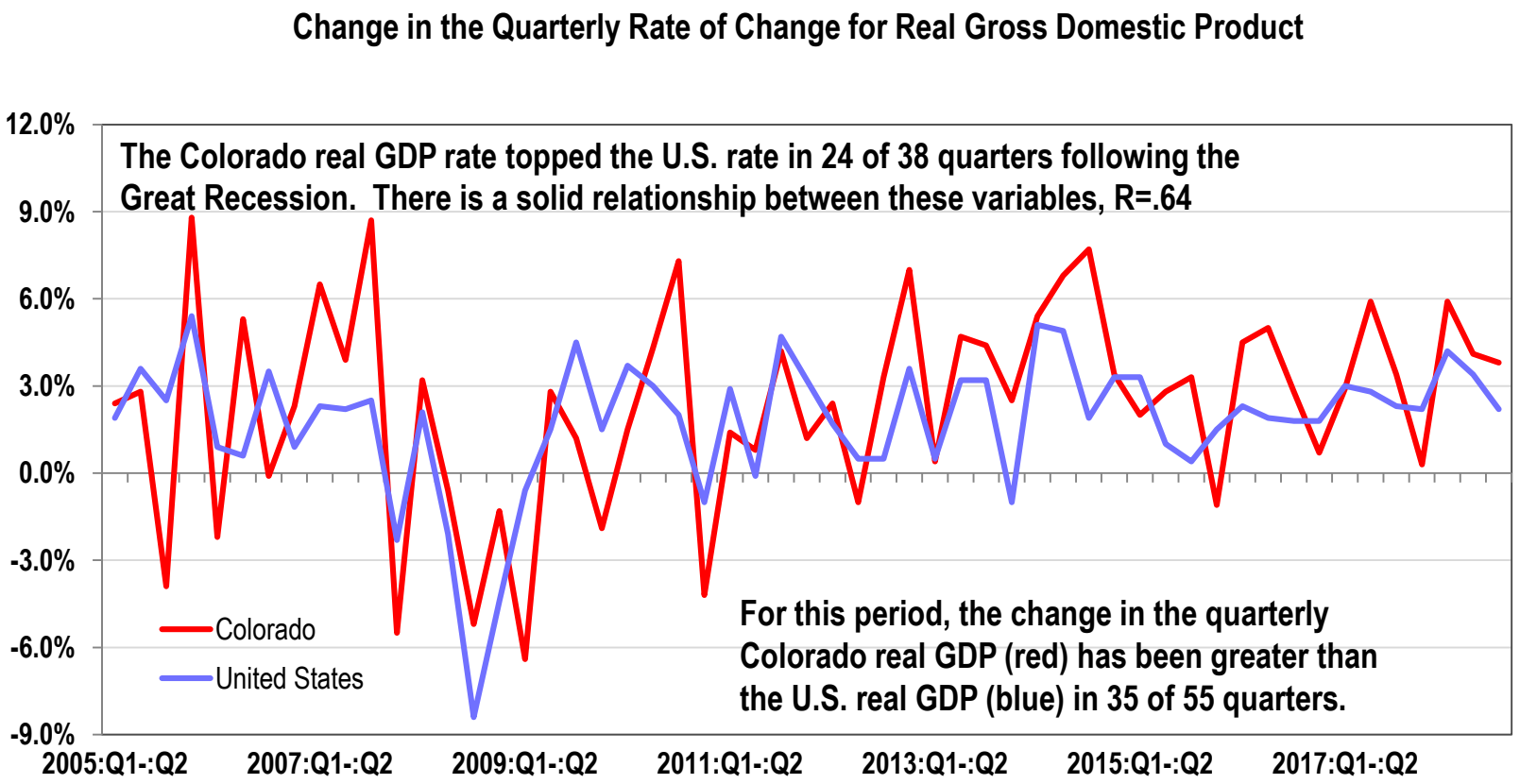
Colorado vs. U.S. (Annual)



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

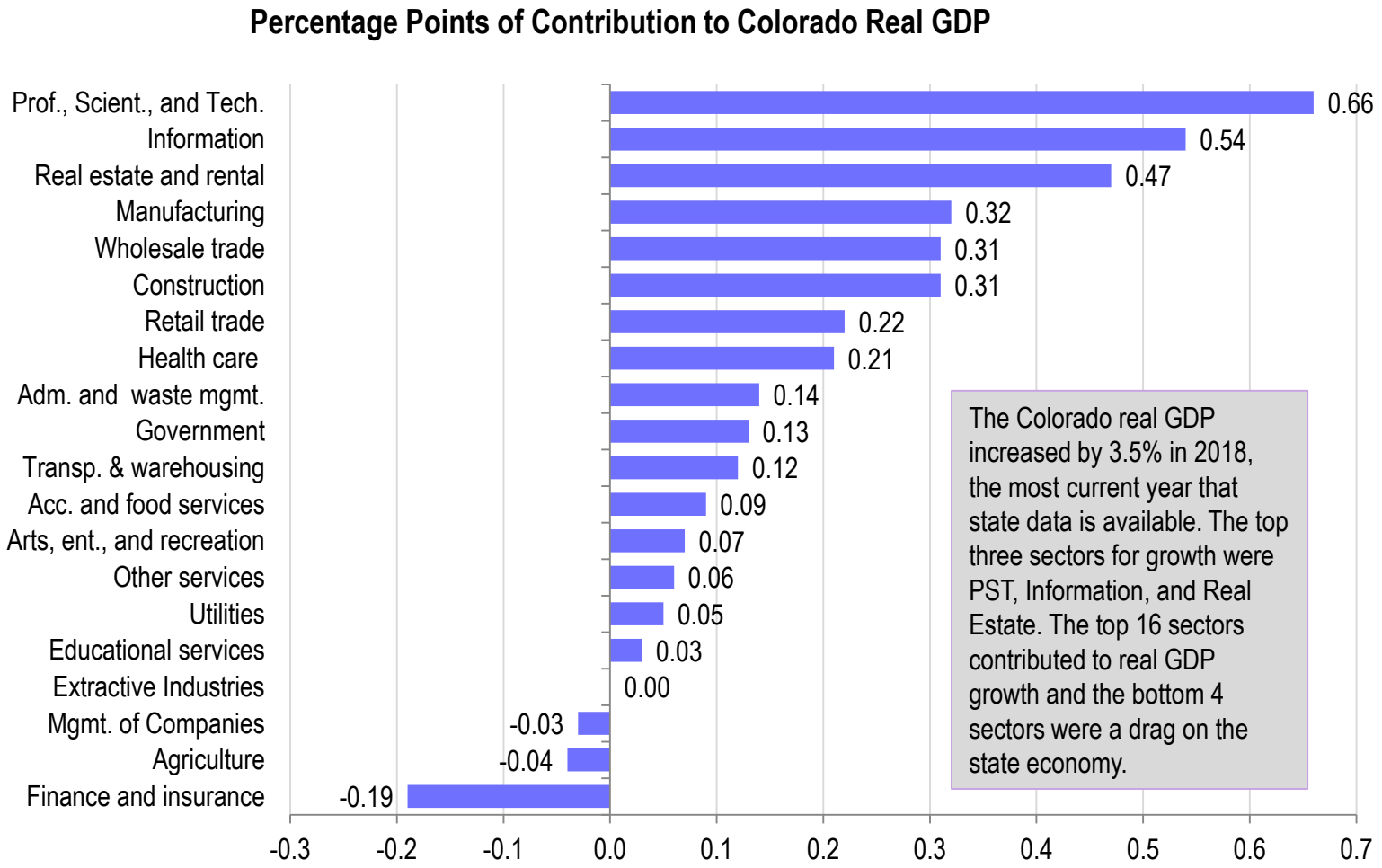
Real Gross Domestic Product

Colorado vs. U.S. (Quarterly - Annualized)



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

2018 Contribution to Real GDP by Sector
Colorado



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

The Colorado Economy

Population Components of Change

Colorado Population

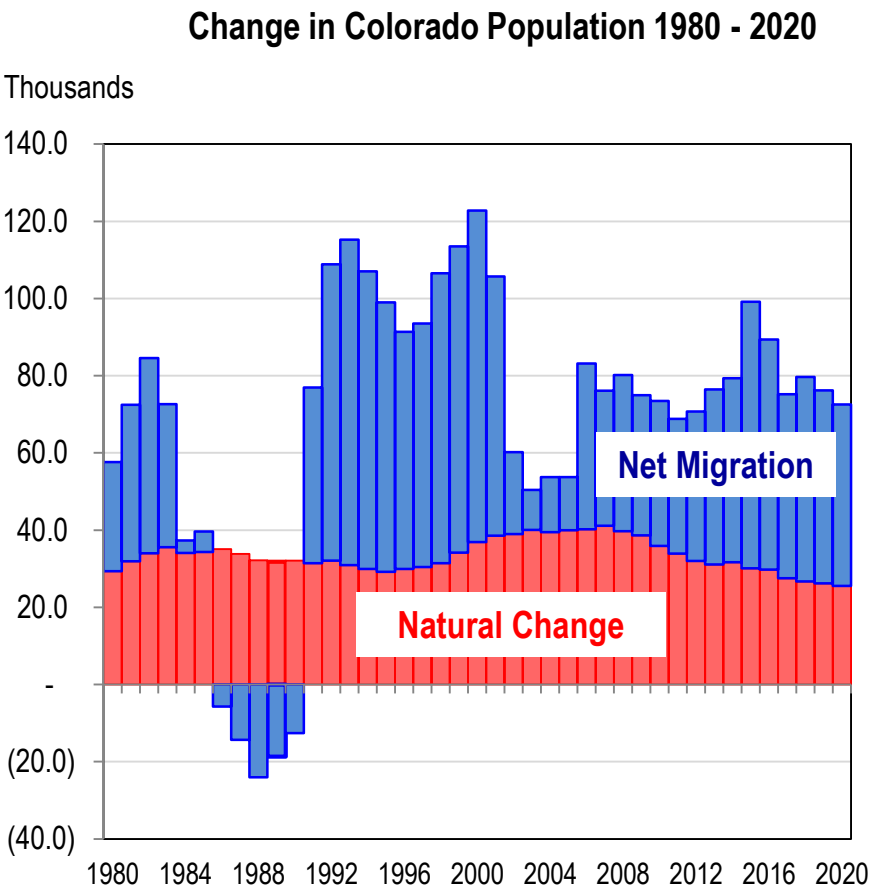
Components of Change

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 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.



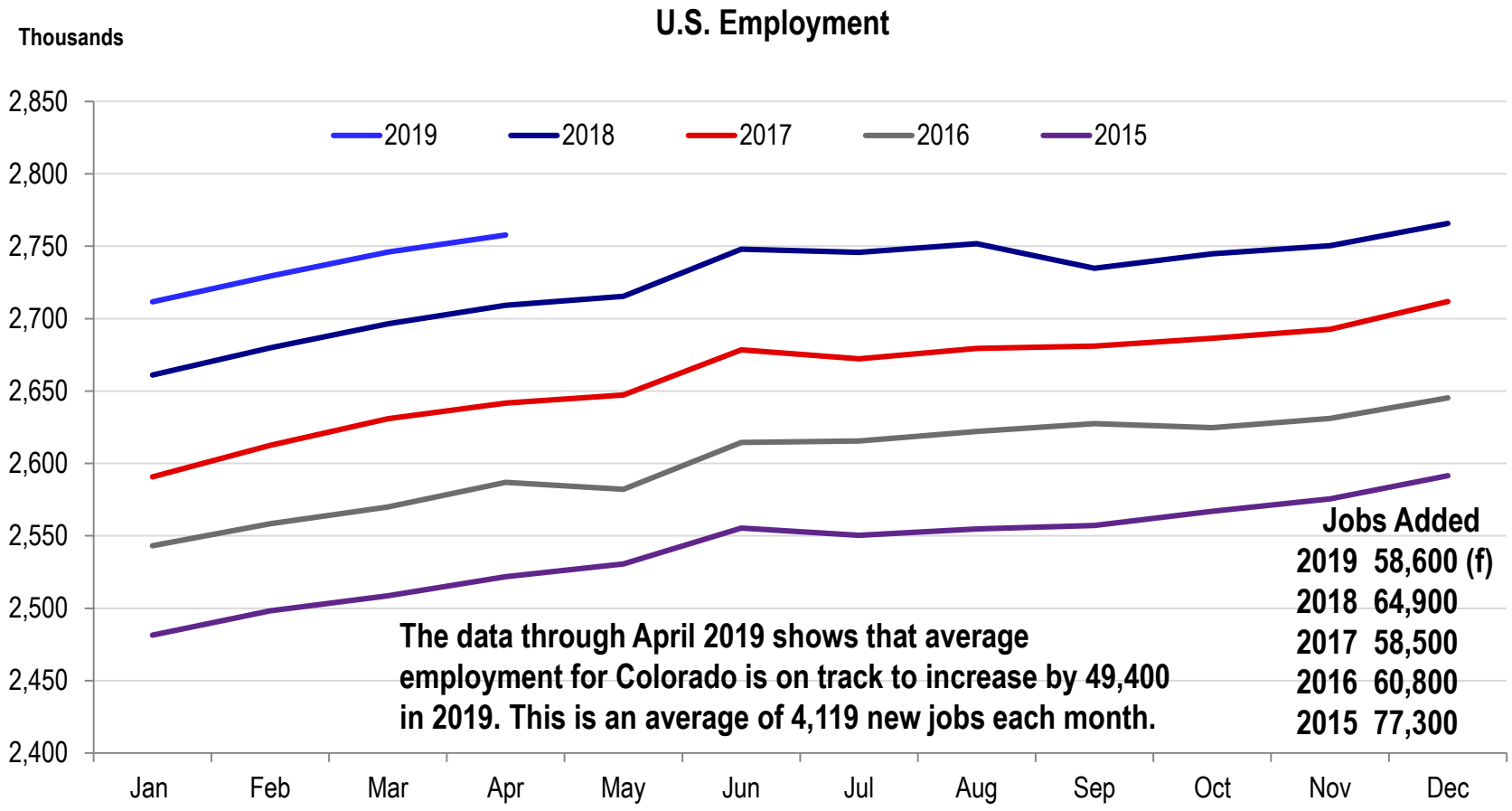
Sources: State Demography Office and cber.co.
Colorado-based Business and Economic Research http://cber.co

The Colorado Economy

Employment, Employment by Sector, Percent Change in Employment, Unemployment Rate, and UI Claims

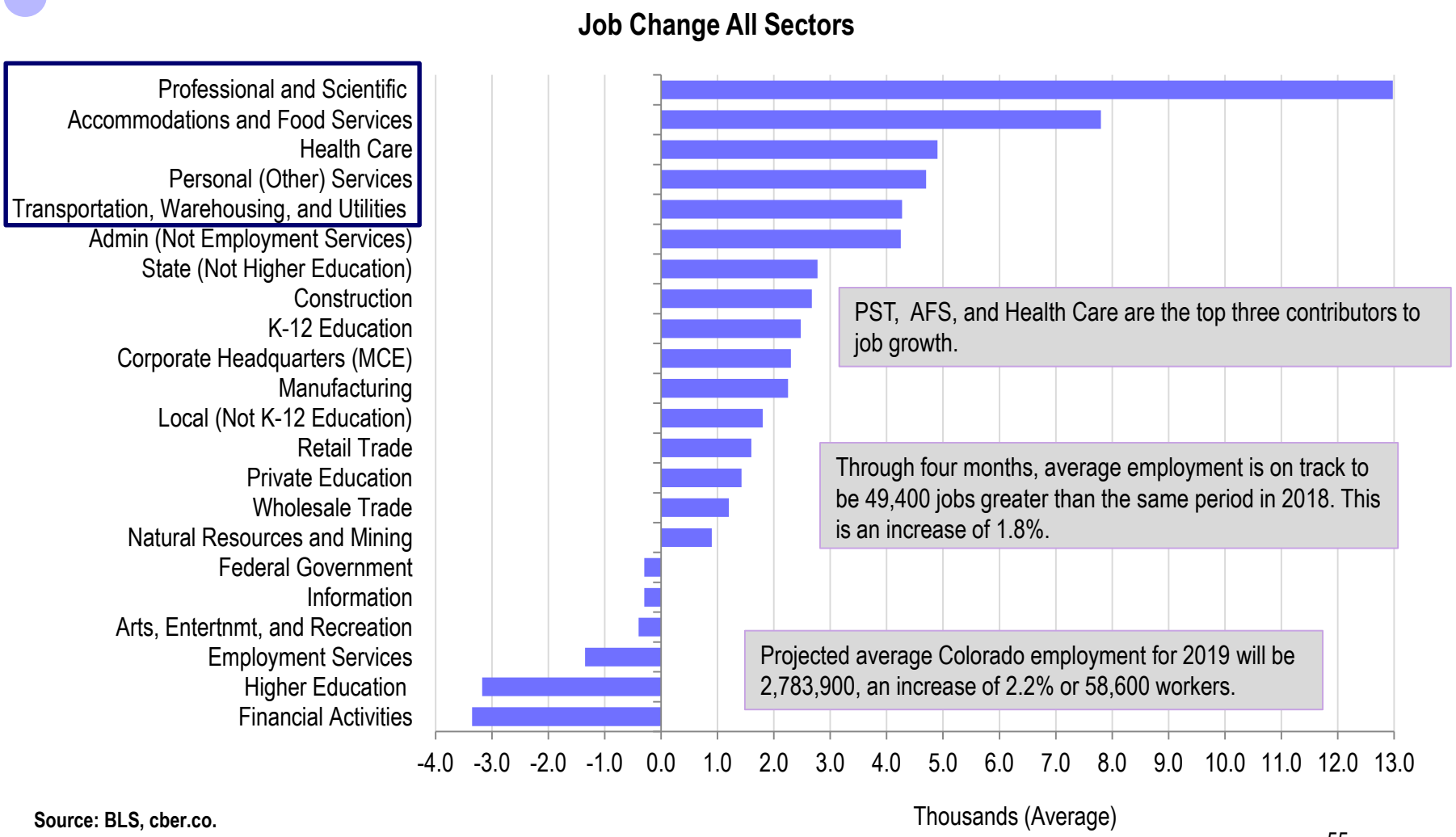
Colorado Employment

2015 to 2019



Source: BLS, cber.co.

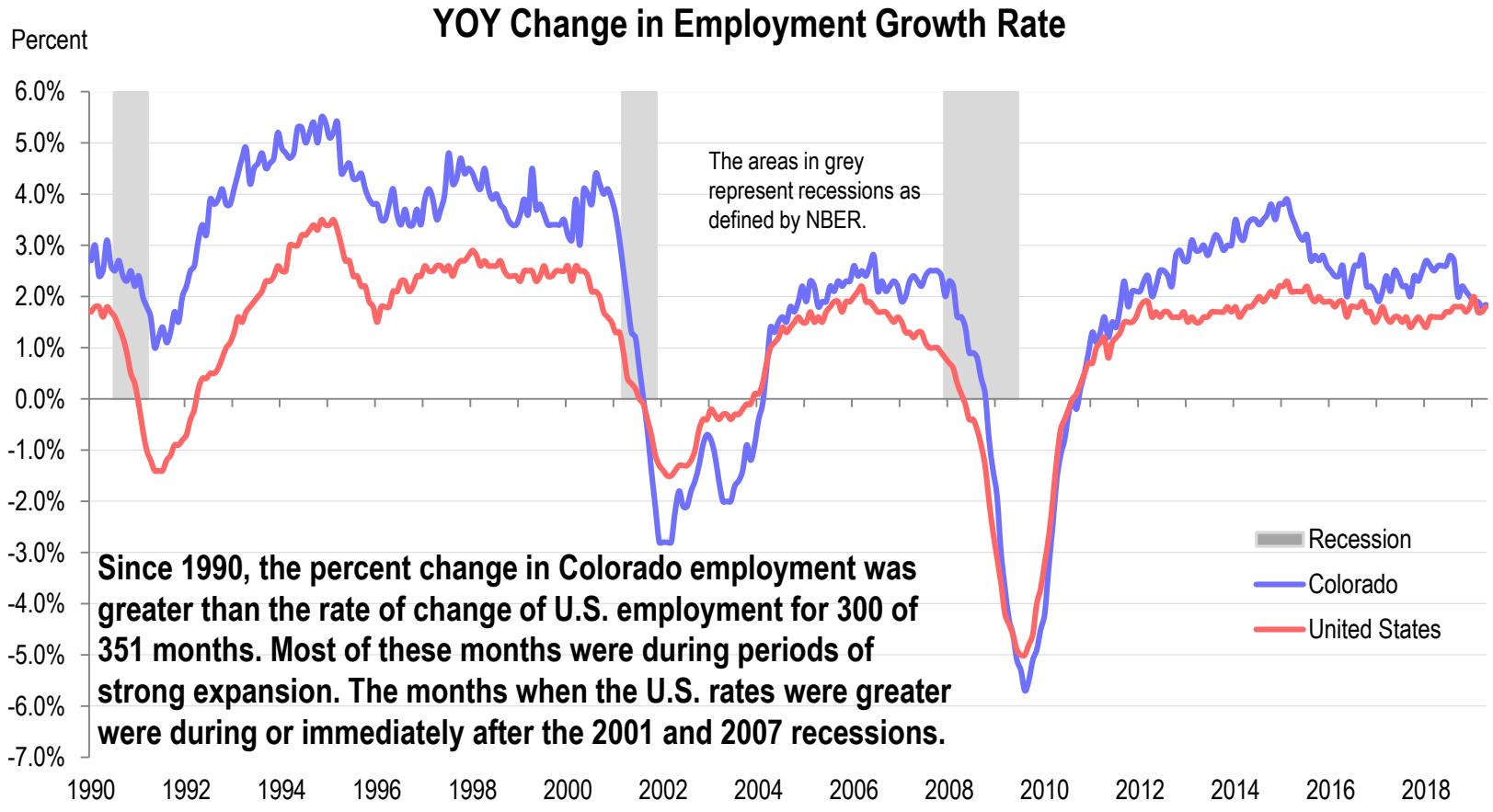
Change in Employment by Sector
2019



Source: BLS, cber.co.

YOY Percent Change in Employment

Colorado vs. U.S.



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

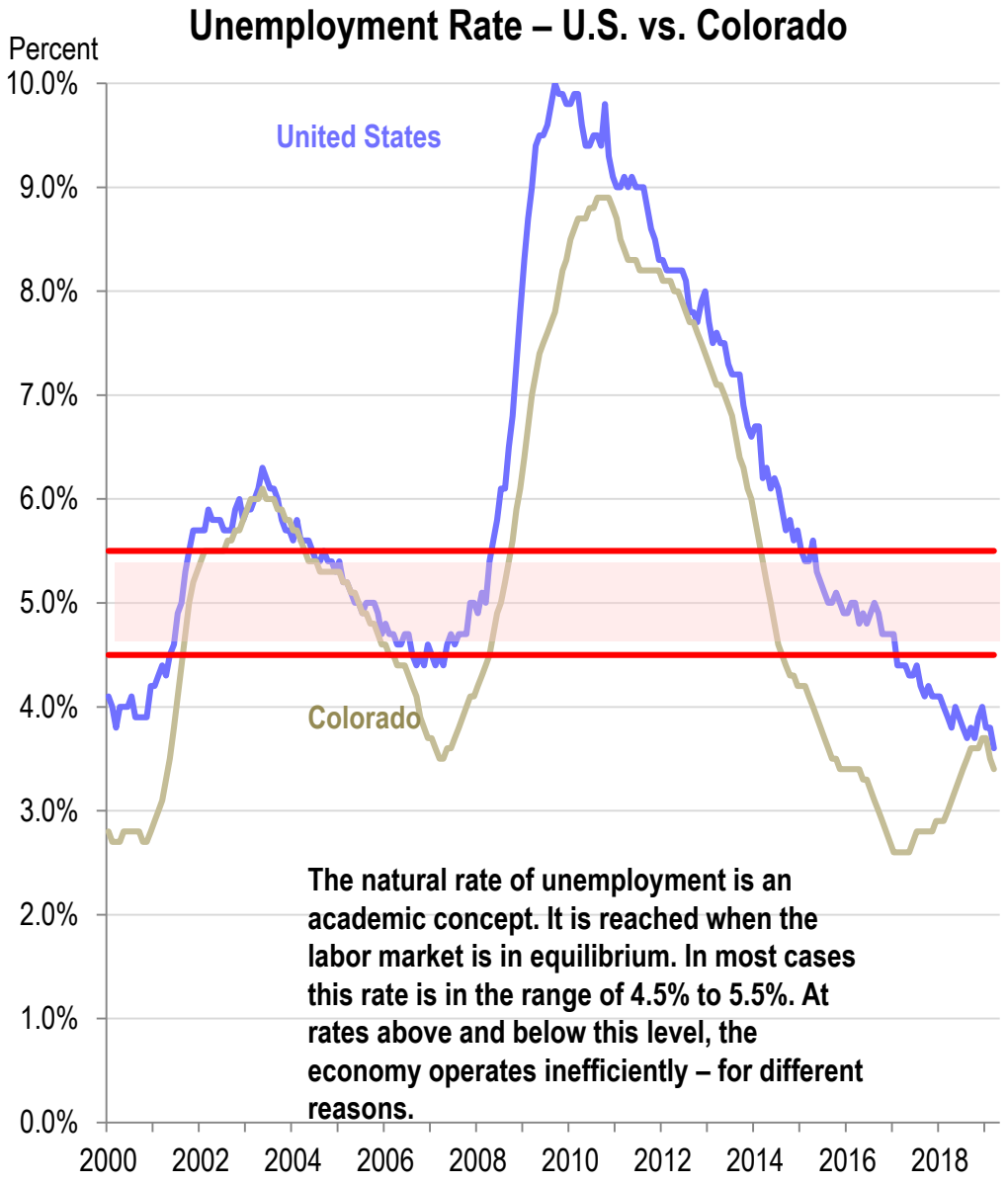
Unemployment Rate vs. Colorado

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%.

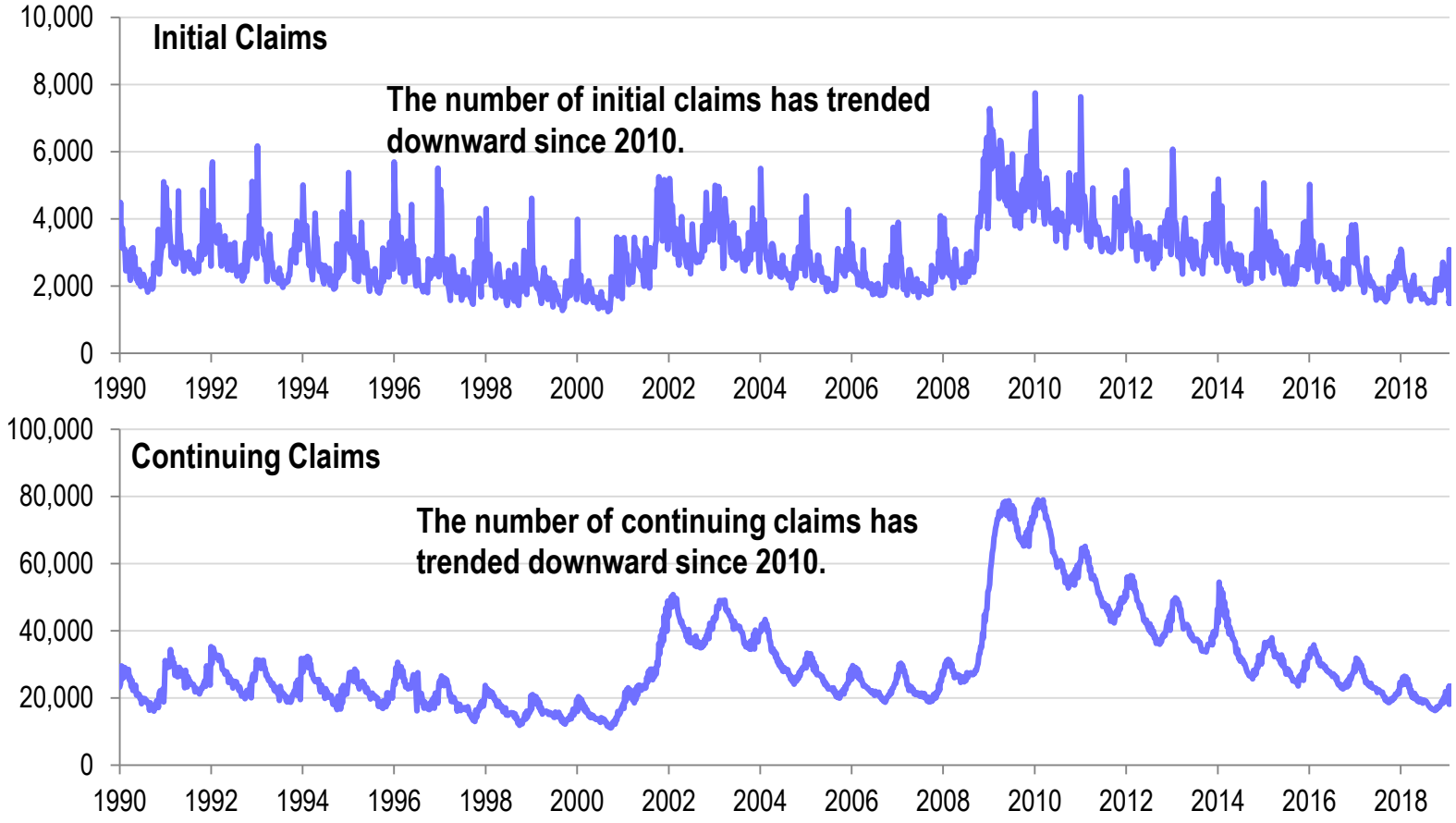
In April the unemployment rate for Colorado was 3.4% compared to 3.6% for the U.S.



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

Employment by Strong Growth, Solid Growth, Volatile Categories

The cber.co Portfolio Approach

The cber.co forecast and monthly updates combine industry sectors into three categories (strong, solid, volatile) based on their rate of consistent growth over time.

This section looks at the performance of those three categories and the subsequent section shows the performance of key sectors in those 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:

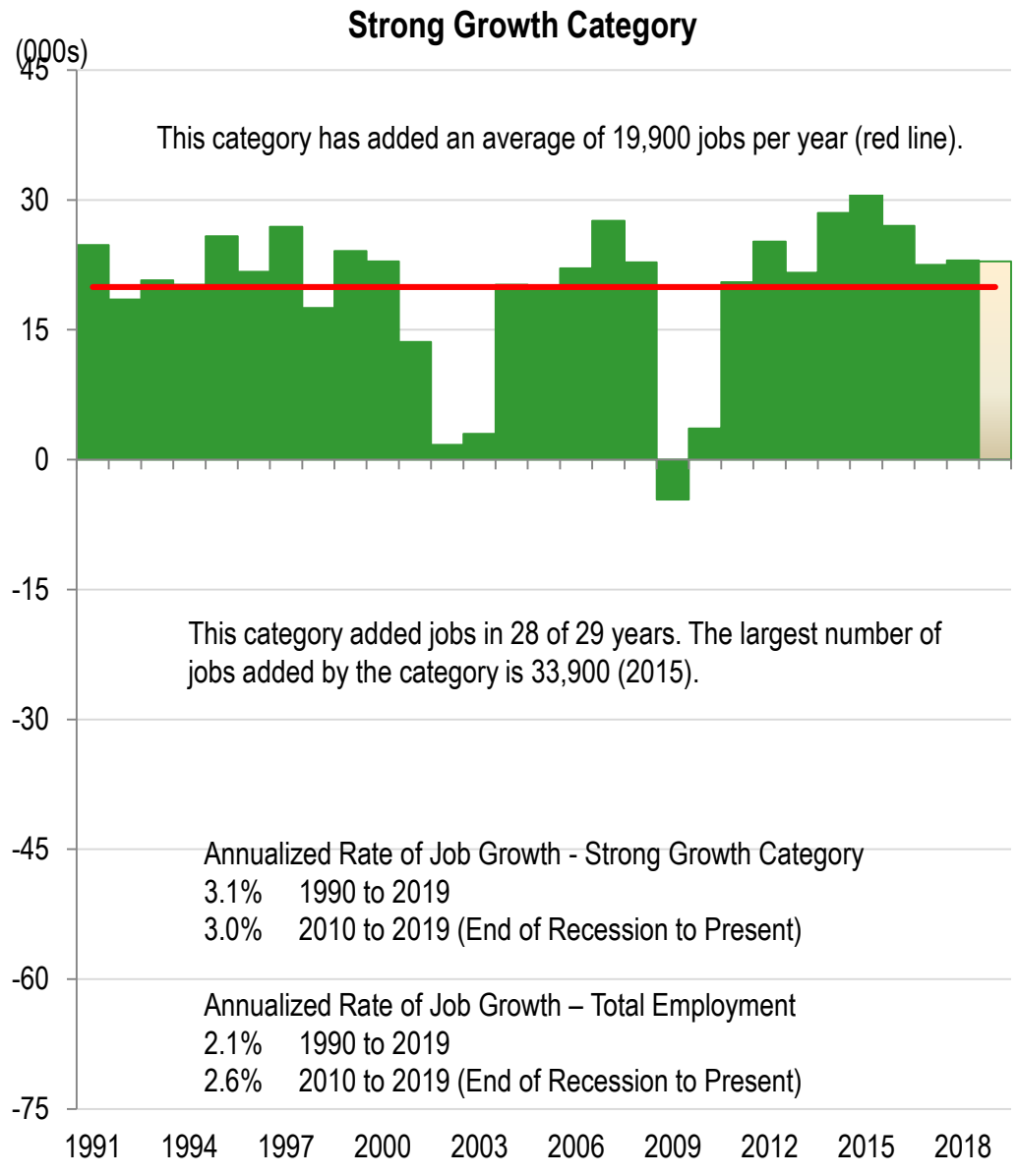
1998 581,900 workers, 28.3% of total employment

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%.

To Date: The category is on track to add 30,100 jobs, 3.5% growth.



Source: Bureau of Labor Statistics, cber.co.

Annual Employment Forecast for the Solid Growth Category

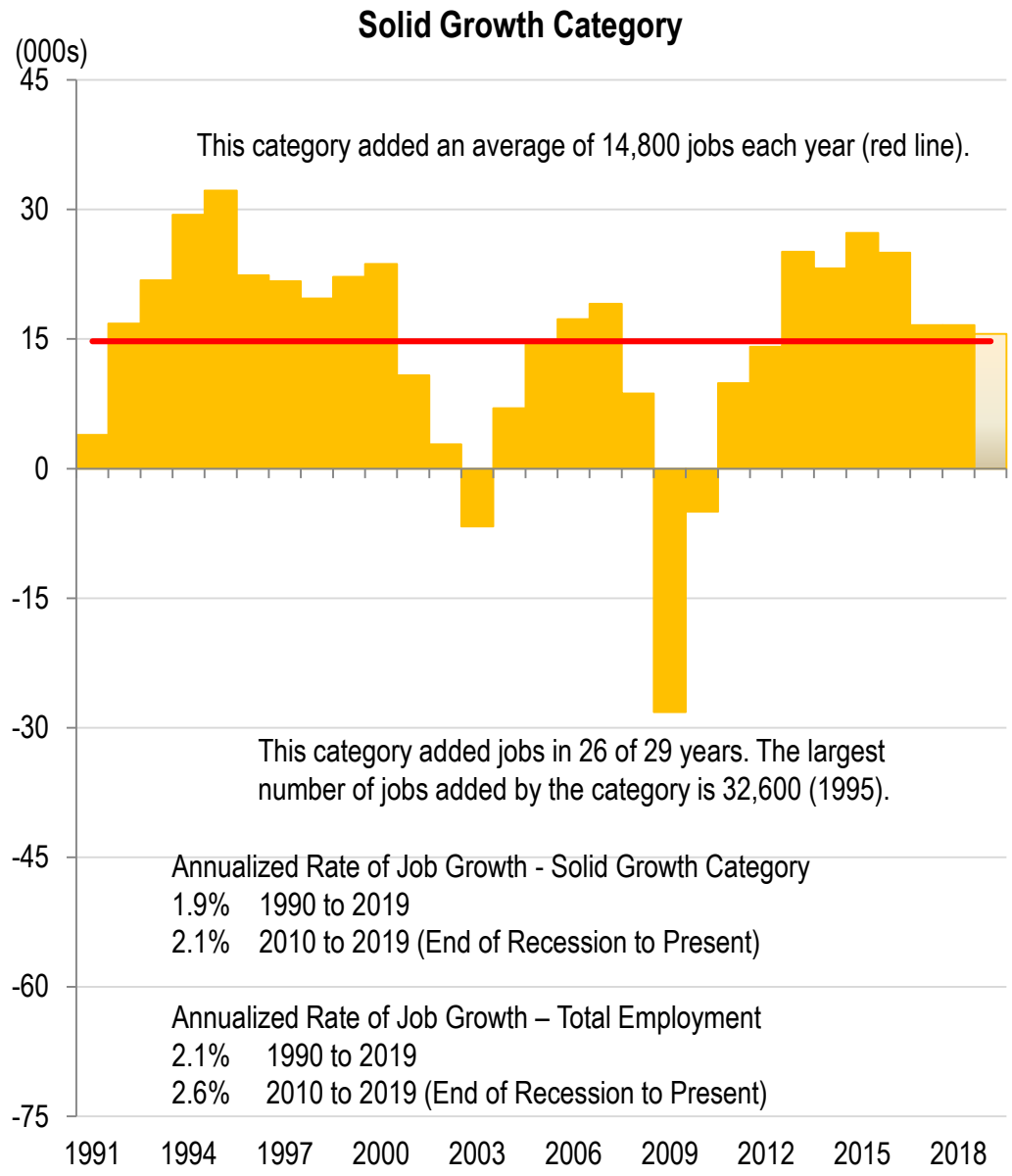
For almost three decades the following sectors generally posted gains. The category posted stronger jobs gains during the 1990s than the 2000s and 2010s.

- 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%.

To Date: The category is on track to add 14,500 jobs, 1.4% growth.



Source: Bureau of Labor Statistics, cber.co.

Annual Employment Forecast for the Volatile Category

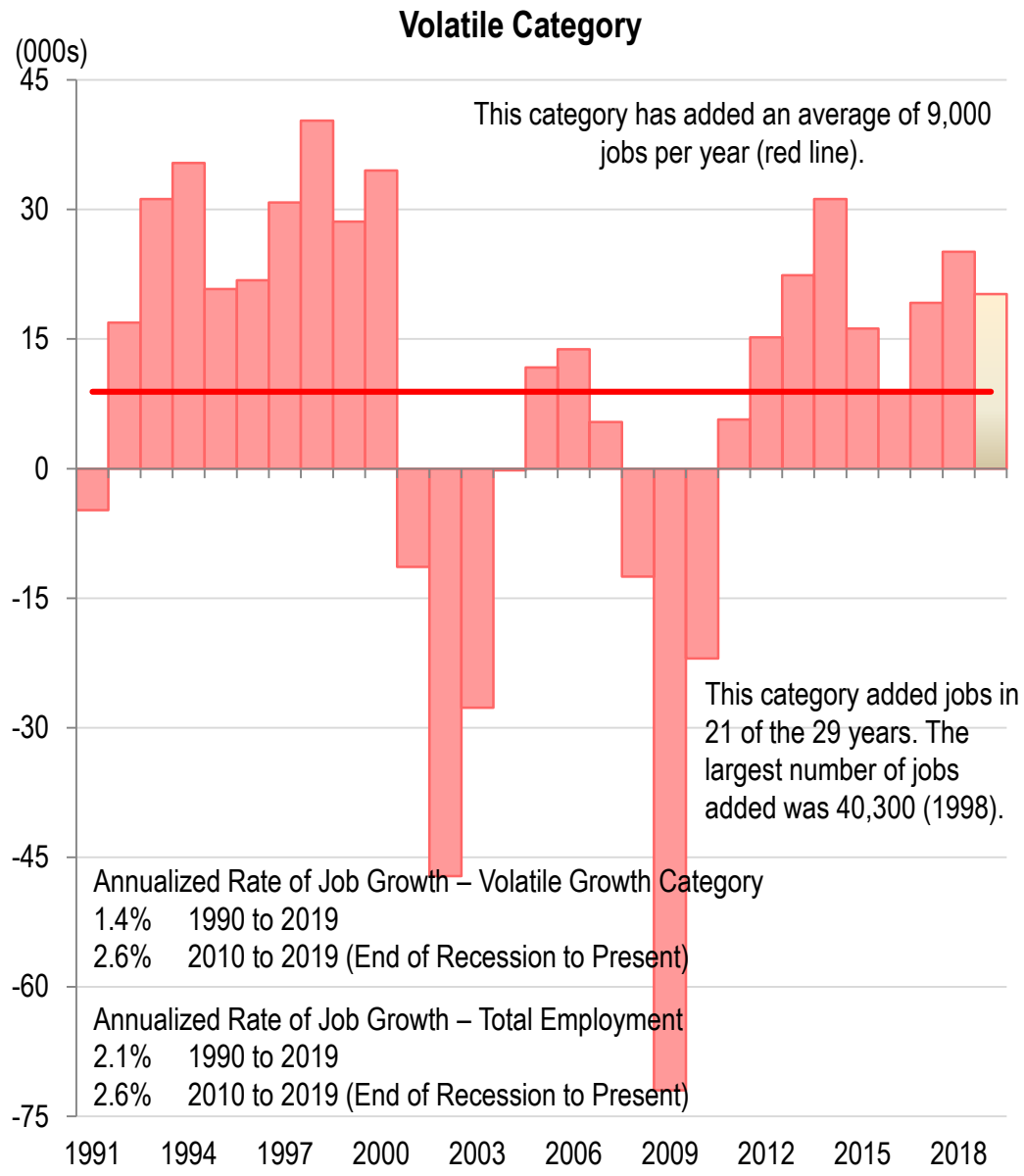
For almost three decades the sectors listed below were the primary source of volatility in total employment.

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%.

To Date: The category is on track to add 4,800 jobs, 0.6% growth.



Source: Bureau of Labor Statistics, cber.co.

The Colorado Economy

Employment in Key Sectors of Strong Growth, Solid Growth, and Volatile Categories

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 by cber.co 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 was projected by cber.co to add 58,600 jobs in 2019. The forecast of jobs added by category follows:

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

The change in Colorado employment, as reported by BLS, shows that based on the published growth rates during the first four months of 2019, Colorado is on track to add 49,400 jobs. This is 9,200 jobs below the cber.co forecast. Through four months, the change in average employment by category follows:

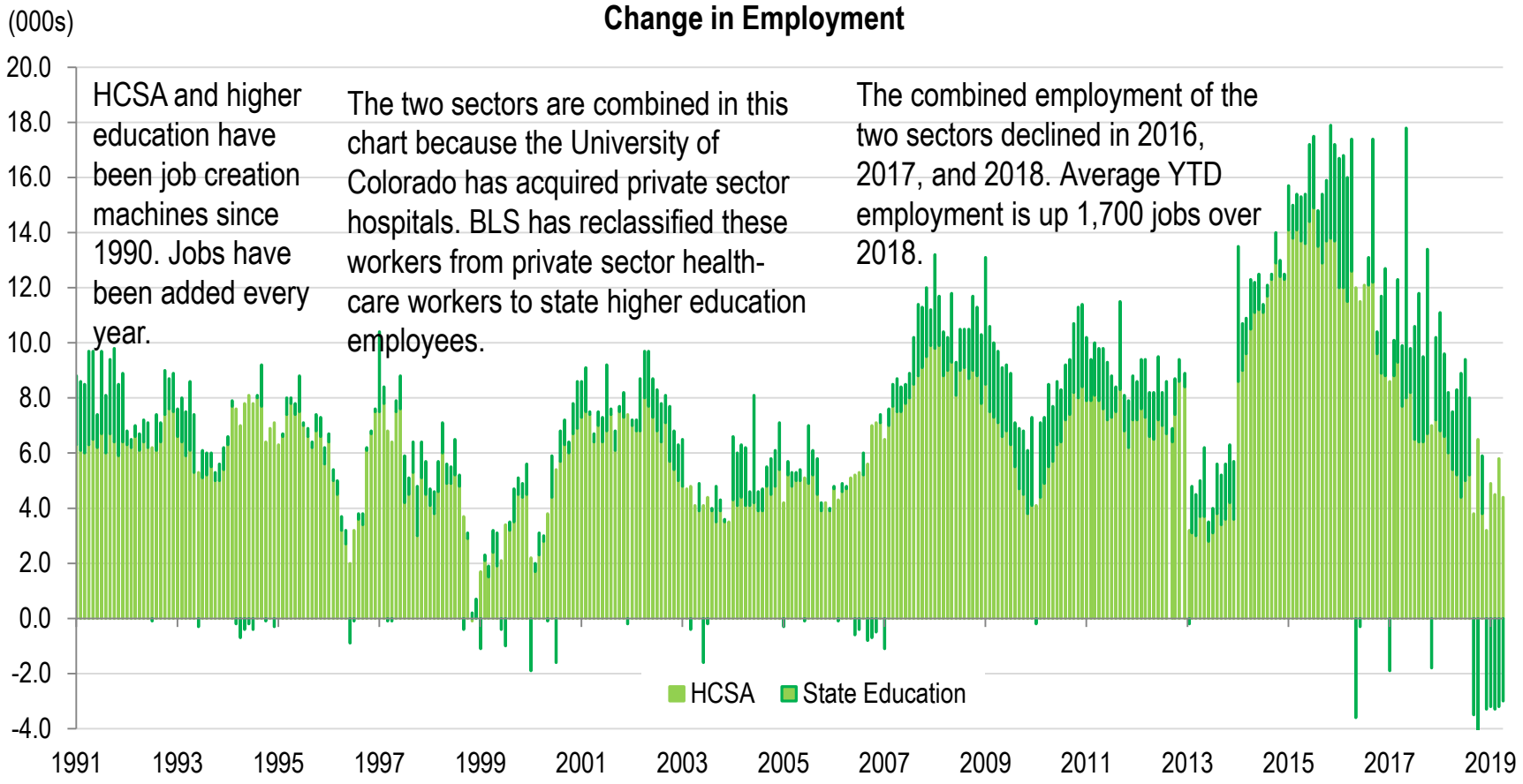
- Strong Growth +30,100 jobs
- Solid Growth +14,500 jobs
- Volatile +4,800 jobs.

Either the structure of the economy has changed drastically or the current BLS data will be adjusted significantly in their March 2020 benchmark process.

Change in Employment

Health Care and Social Assistance and Higher Education

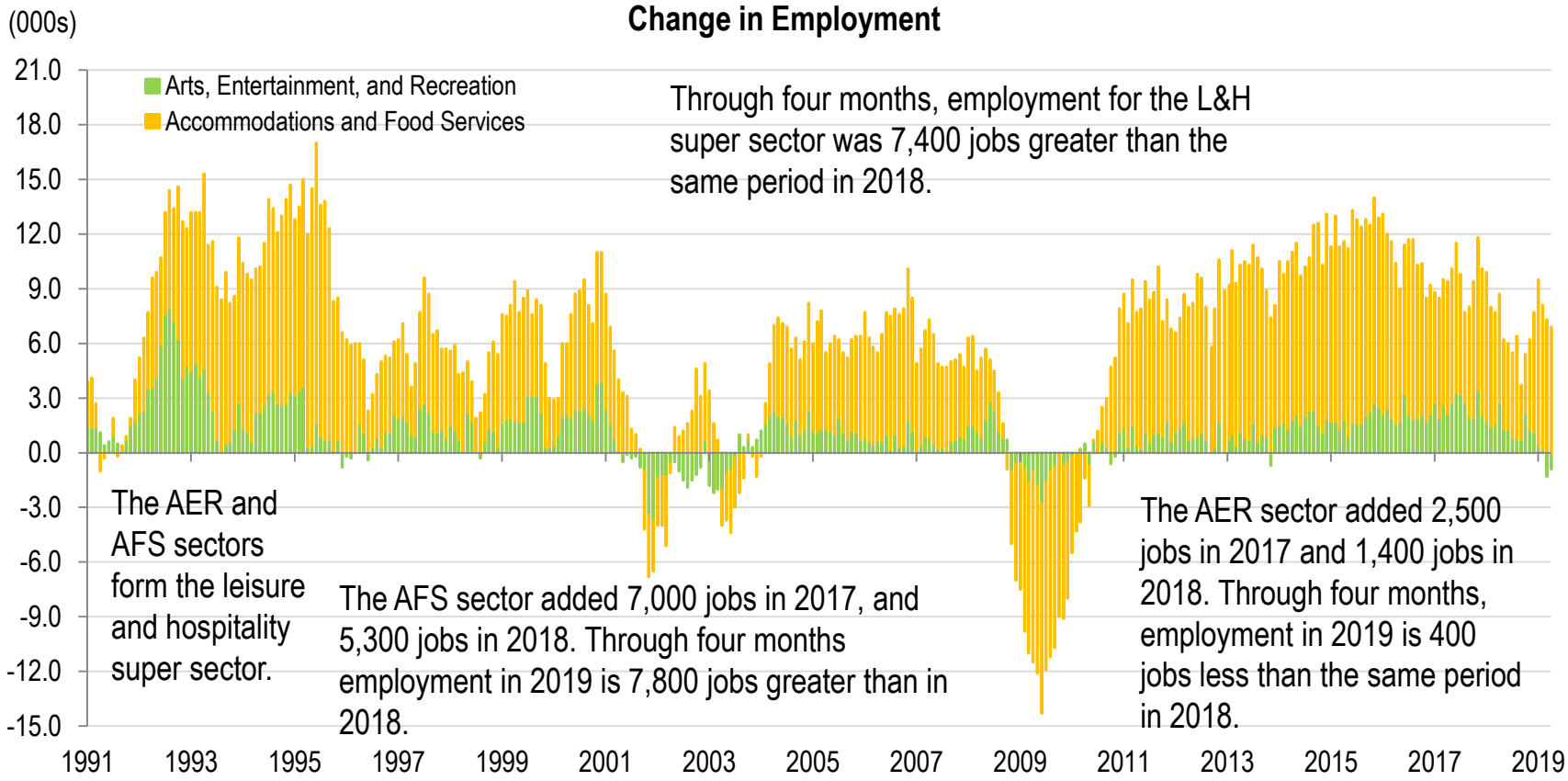
Strong Growth Category



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)

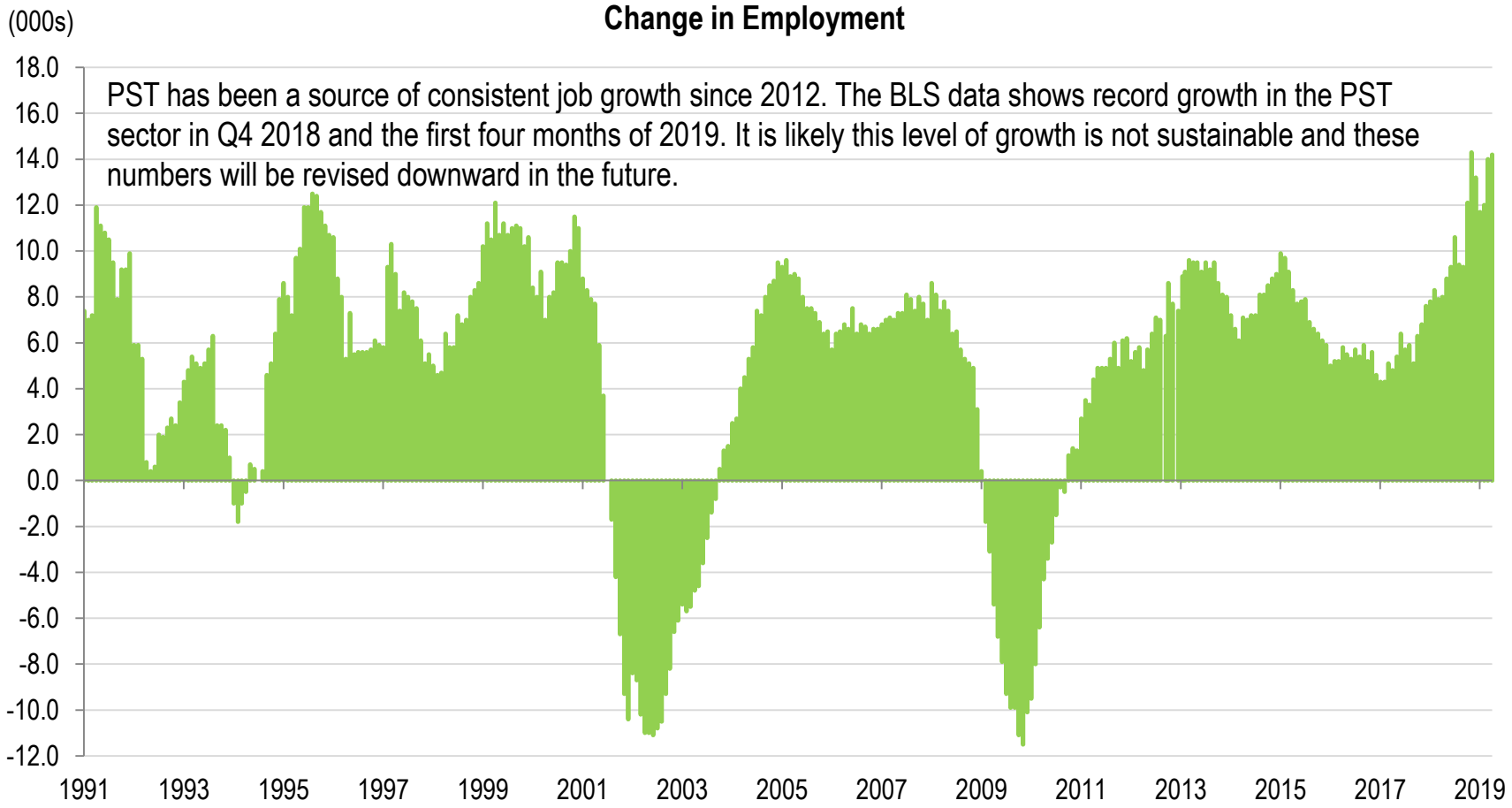


Source: Bureau of Labor Statistics, cber.co.

Change in Employment

Professional, Scientific, and Technical Services

Strong Growth Category

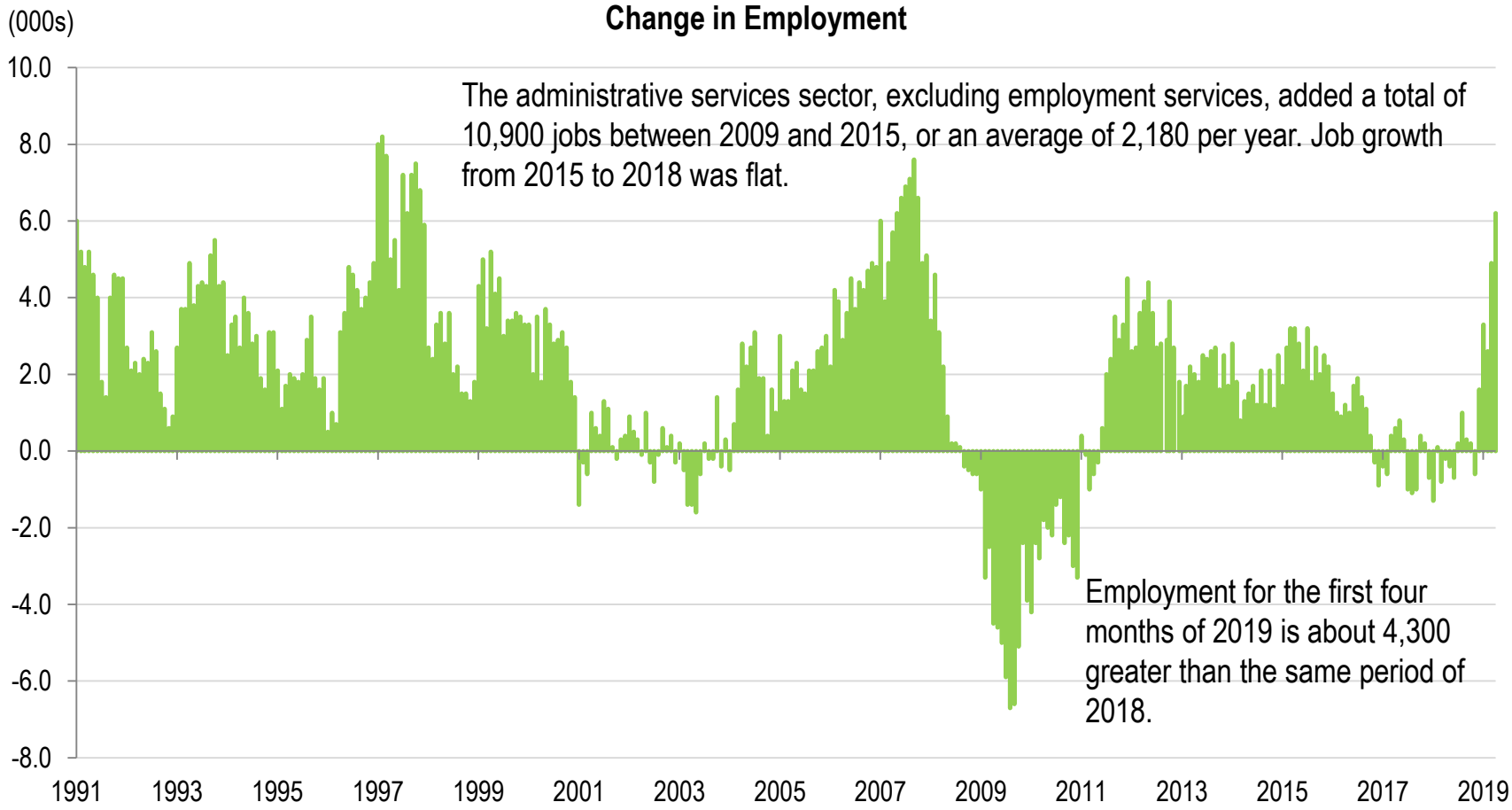


Source: Bureau of Labor Statistics, cber.co.

Change in Employment

Administrative Services, Excluding Employment Services

Strong Growth Category

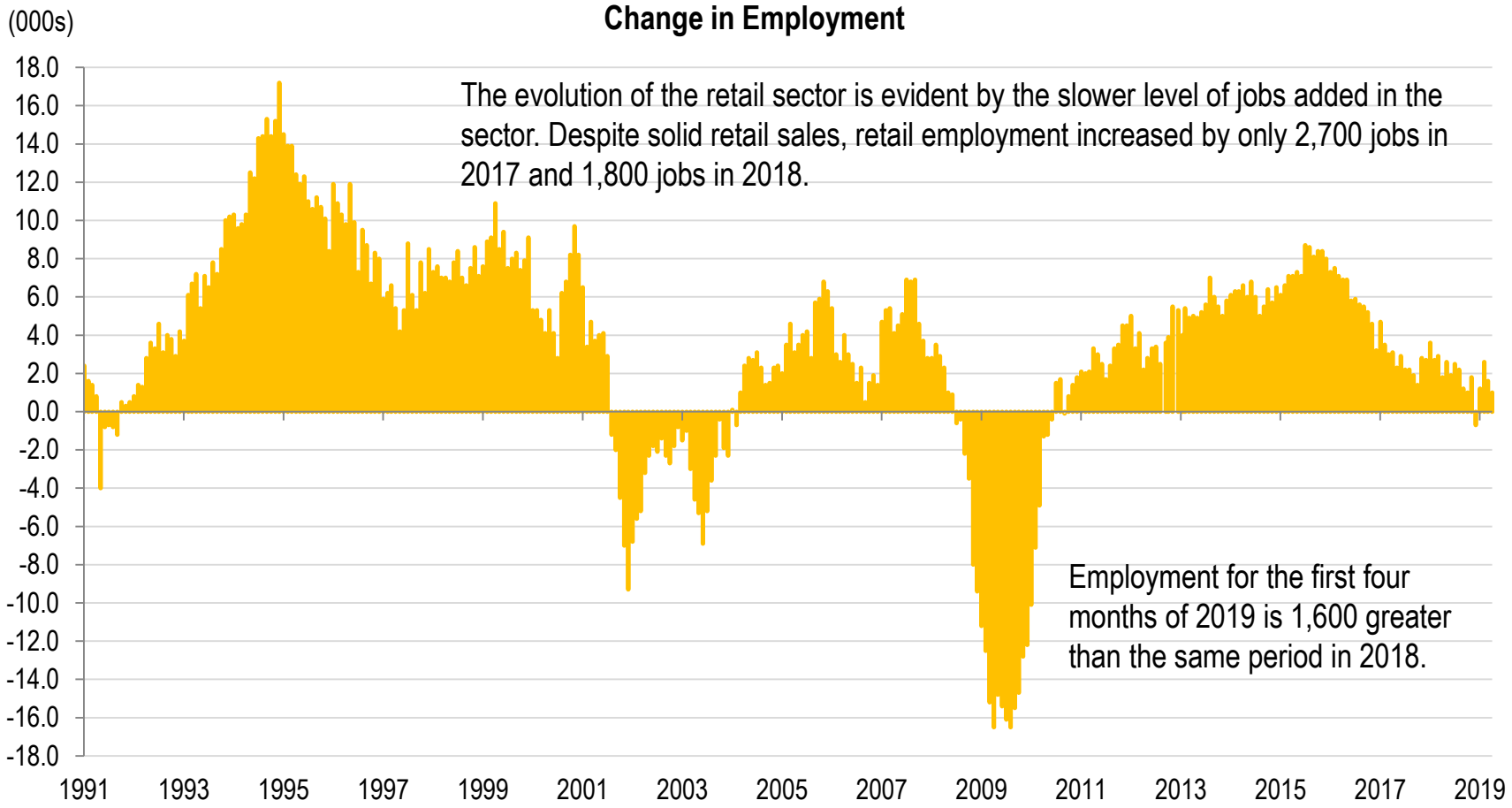


Source: Bureau of Labor Statistics, cber.co.

Change in Employment

Retail Trade

Solid Growth Category

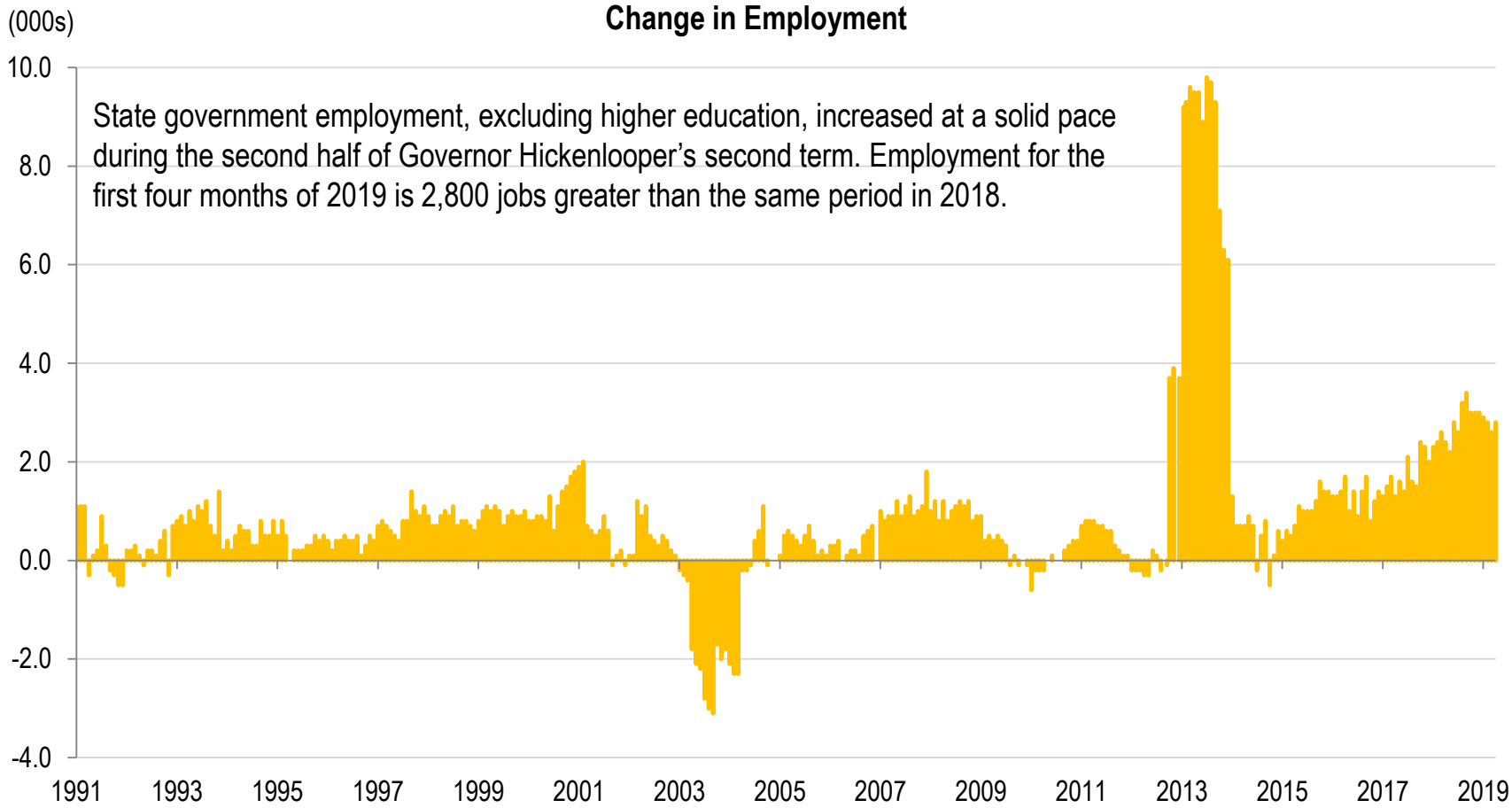


Source: Bureau of Labor Statistics, cber.co.

Change in Employment

State Government, Excluding Higher Education

Solid Growth Category

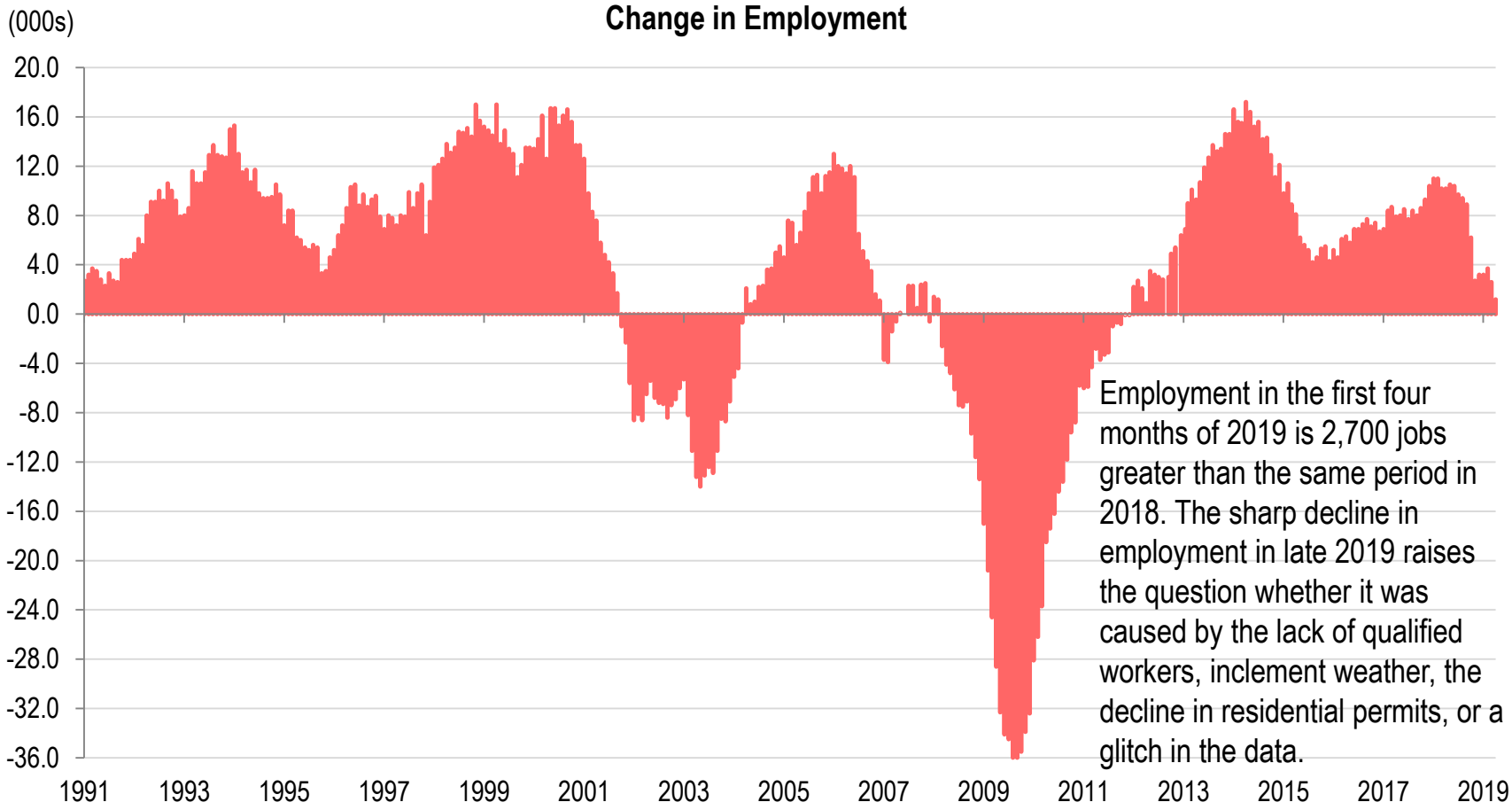


Source: Bureau of Labor Statistics, cber.co.

Change in Employment

Construction

Volatile Growth Category

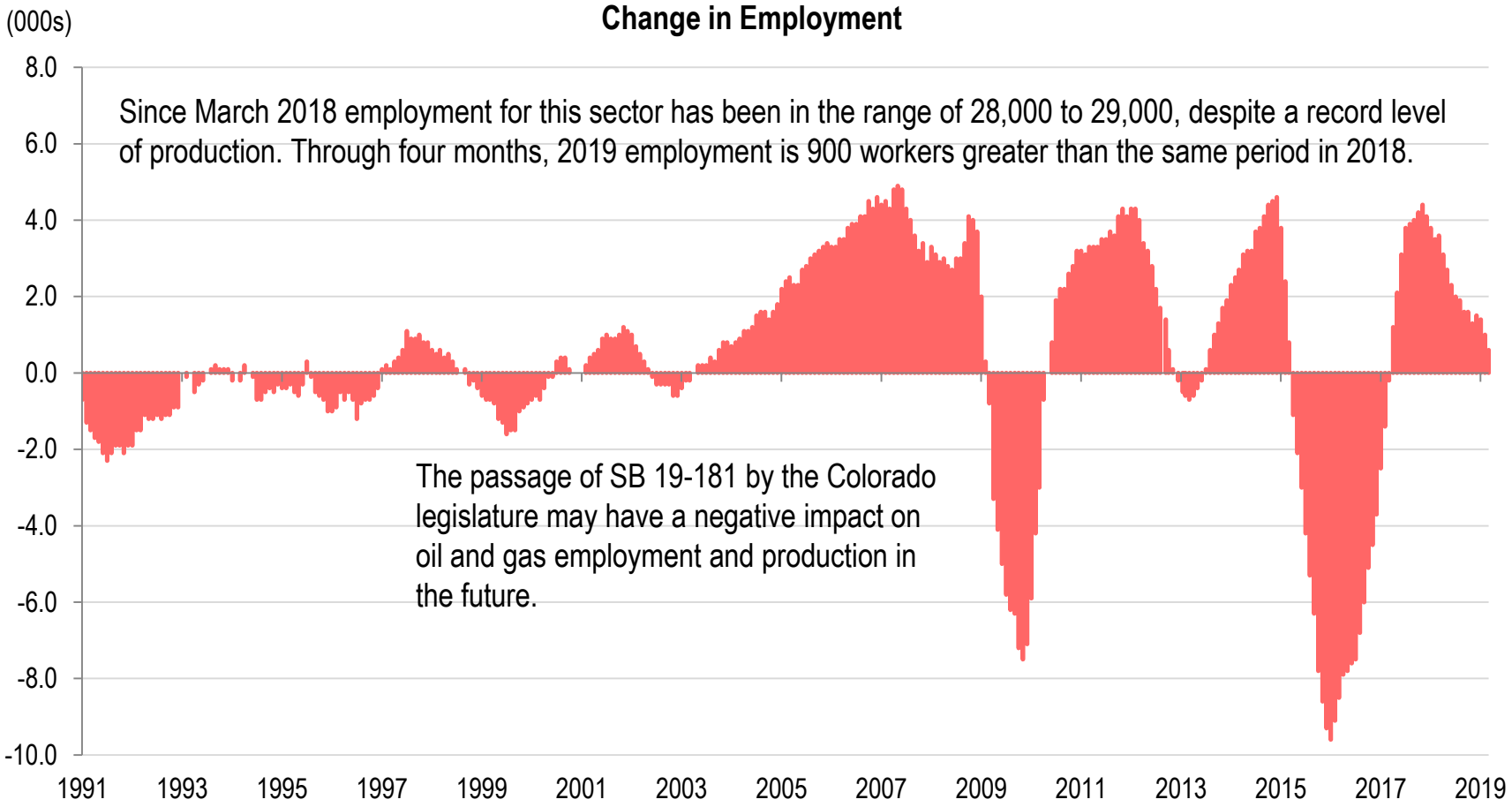


Source: Bureau of Labor Statistics, cber.co.

Change in Employment

Extractive Industries

Volatile Growth Category

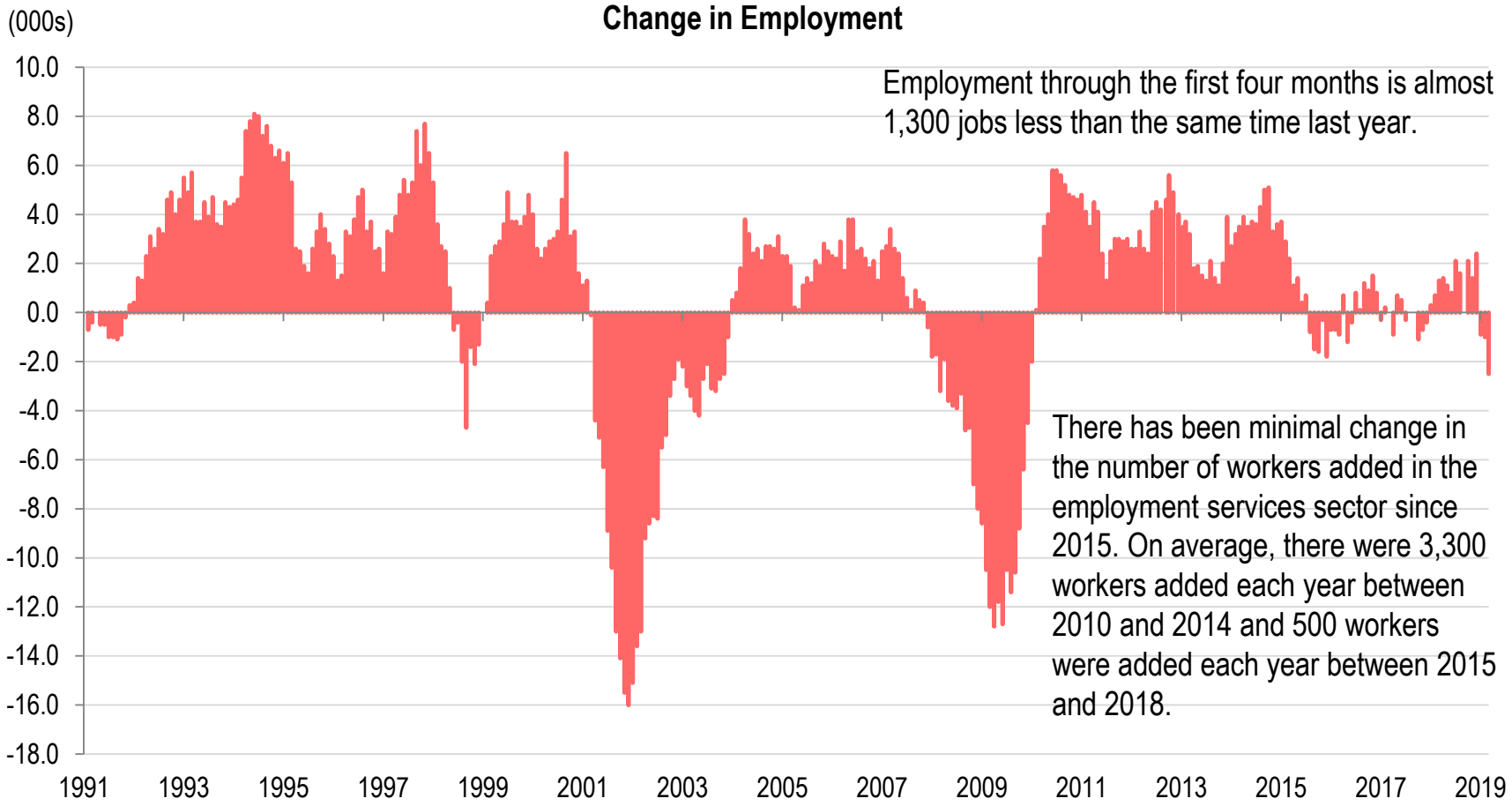


Source: Bureau of Labor Statistics, cber.co.

Change in Employment

Employment Services

Volatile Growth Category



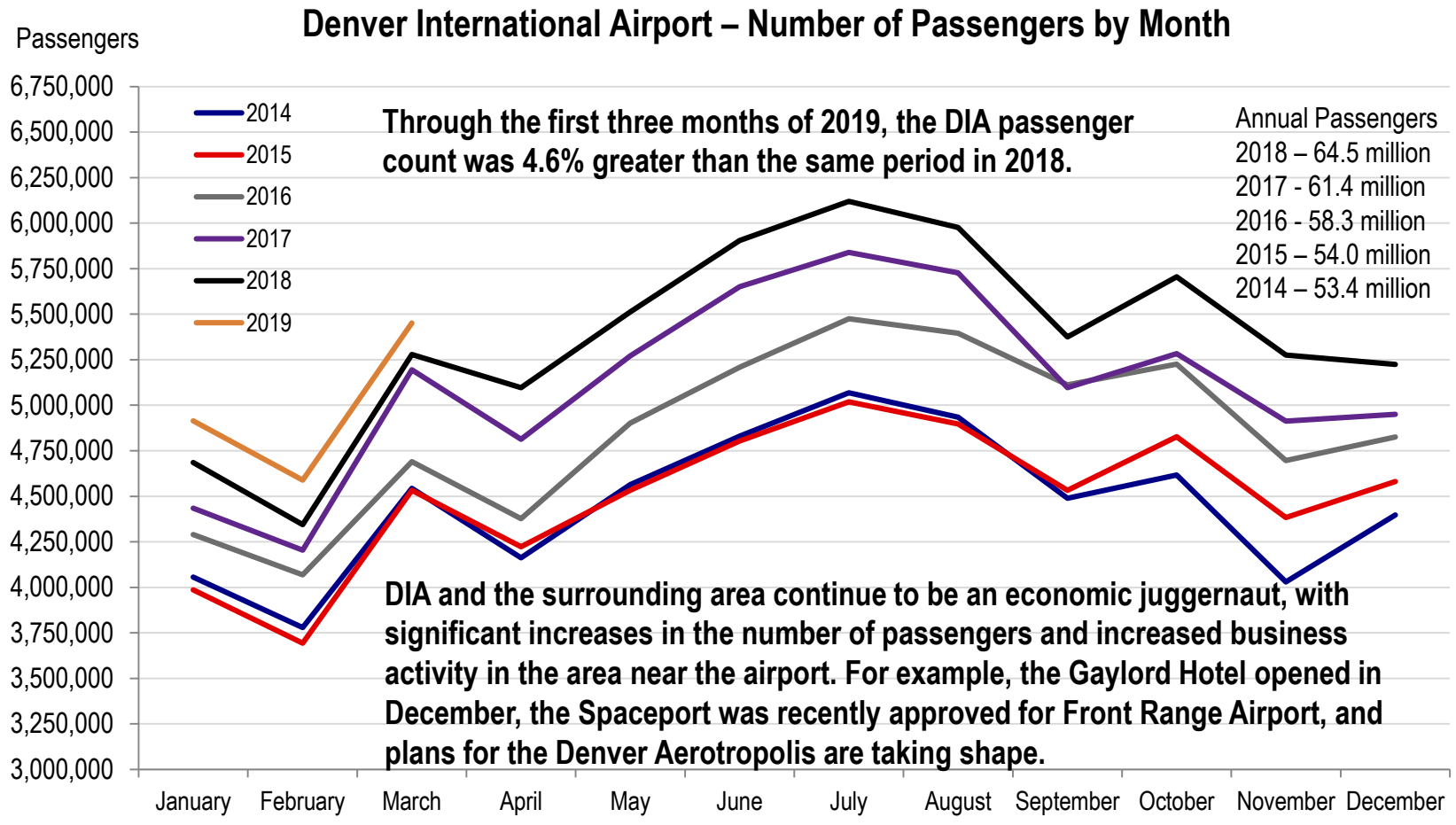
Source: Bureau of Labor Statistics, cber.co.

The Colorado Economy

Denver International Airport, Retail Sales, New Vehicle Registrations

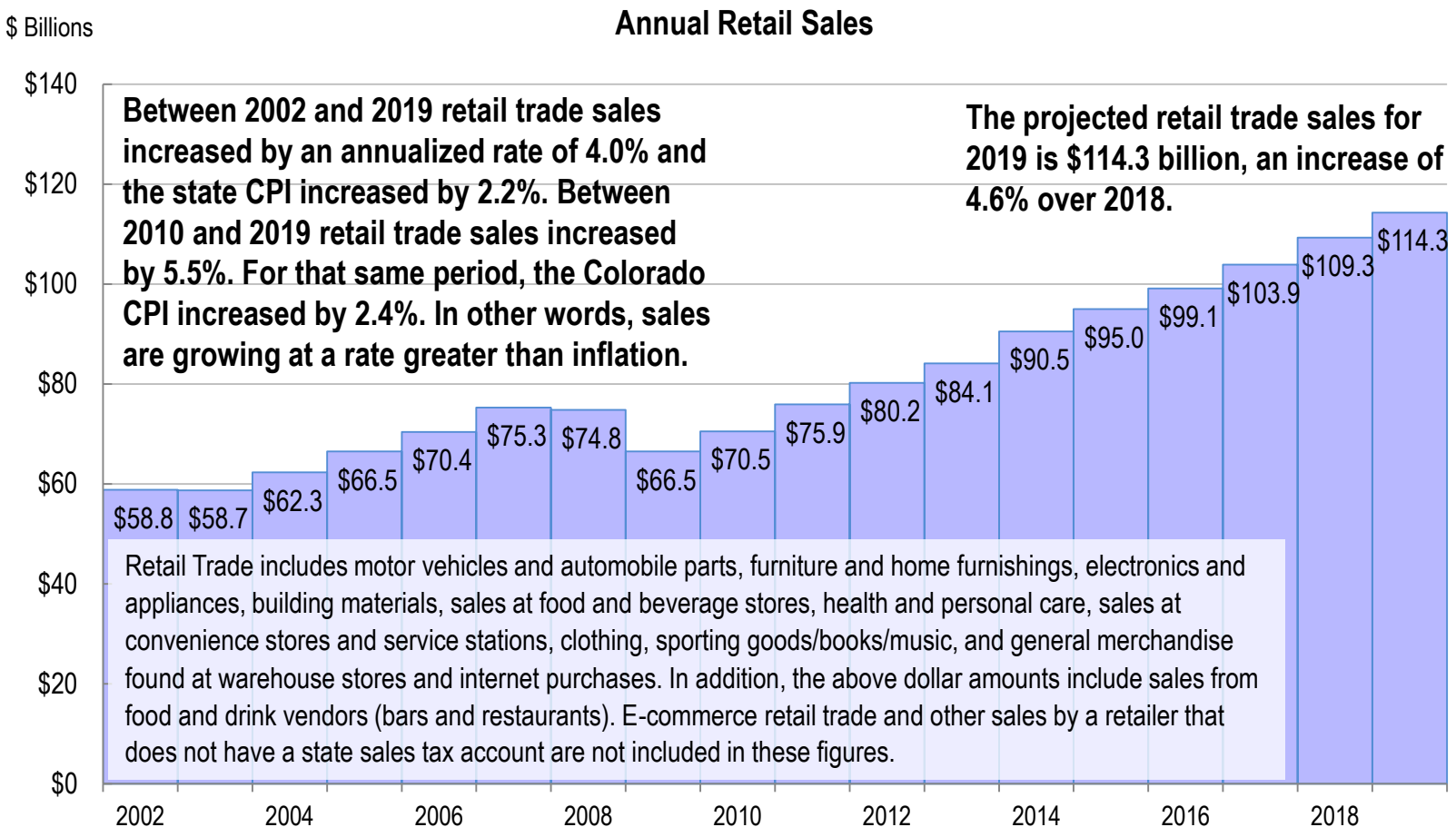
Denver International Airport

Passenger Count



Source: FlyDenver.com, cber.co.

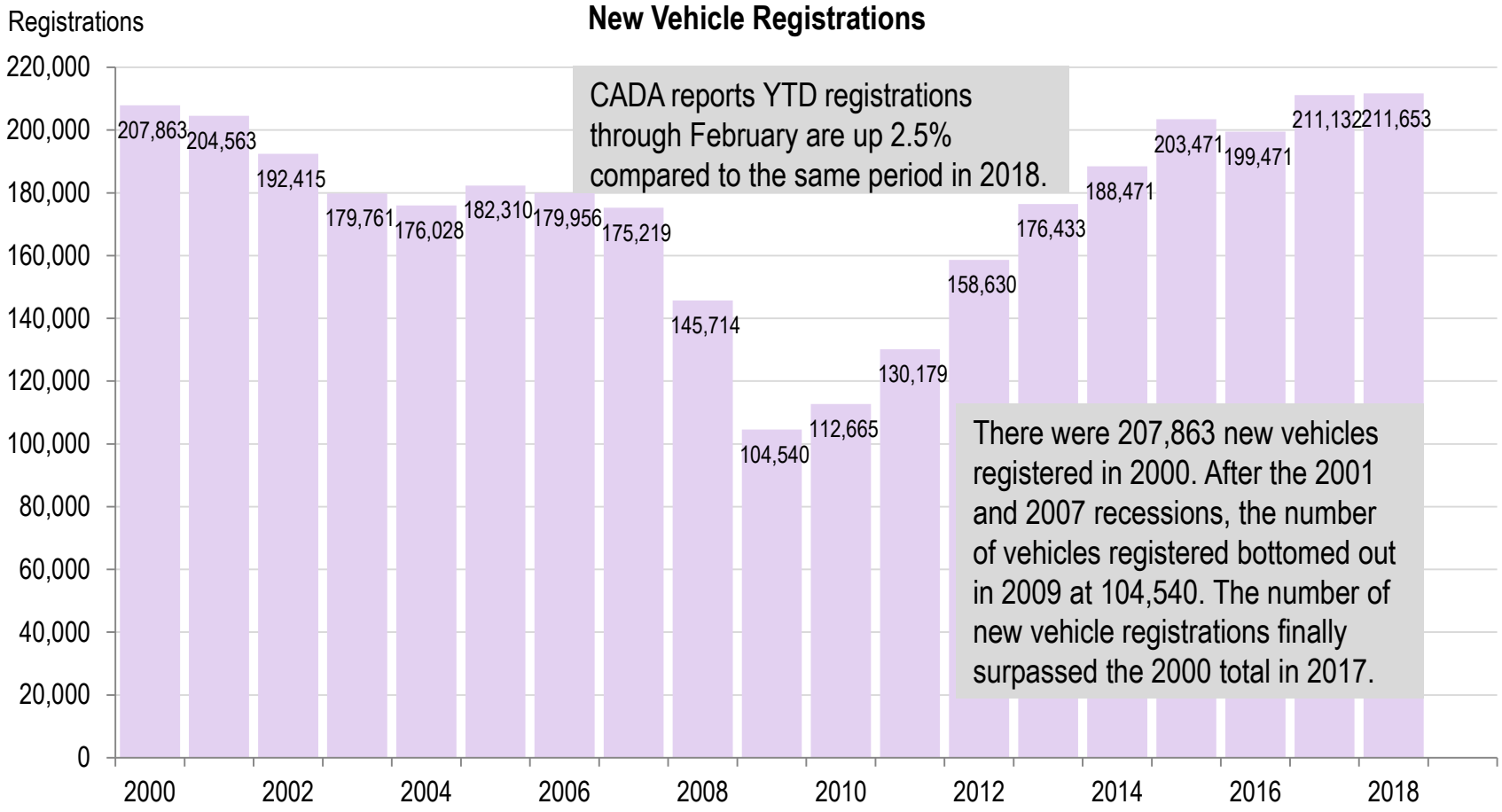
Annual Retail Sales - Colorado



Source: OSPB, cber.co.

New Vehicle Registrations

Colorado

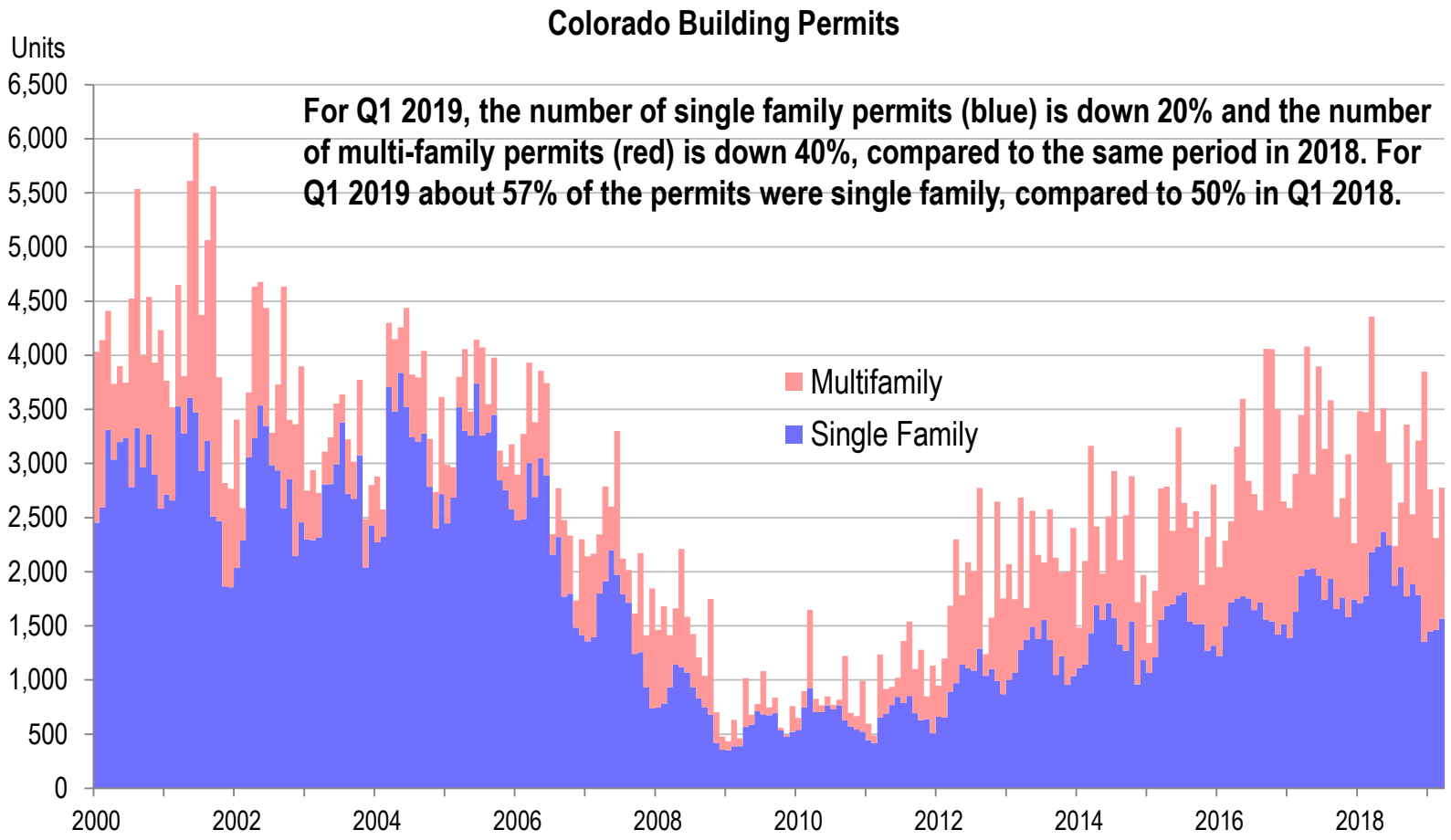


Source: Colorado Auto Dealers Association, cber.co.

The Colorado Economy
Building Permits and Housing Prices

Colorado Residential Building Permits

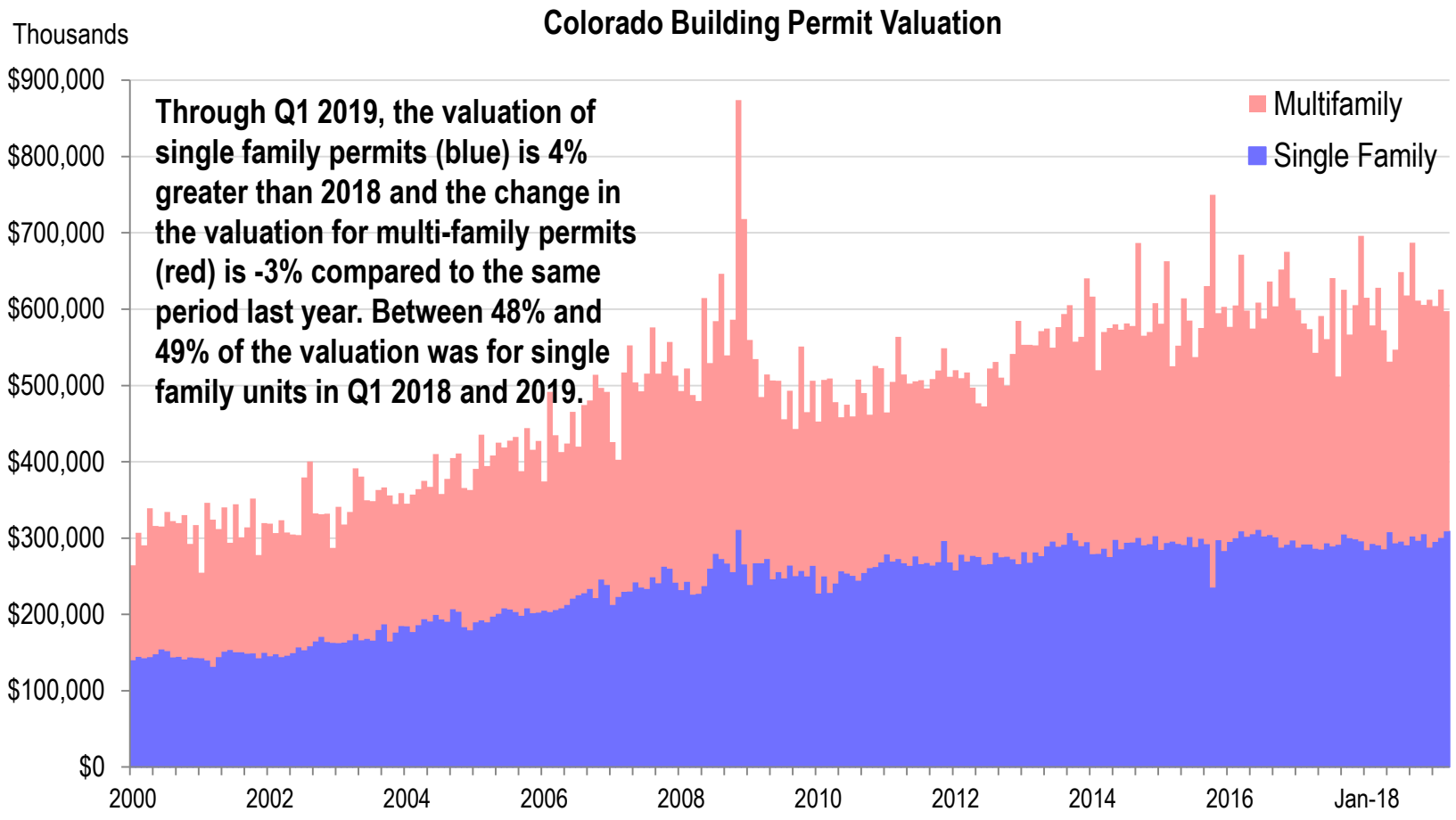
Units



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

Colorado Residential Building Permits

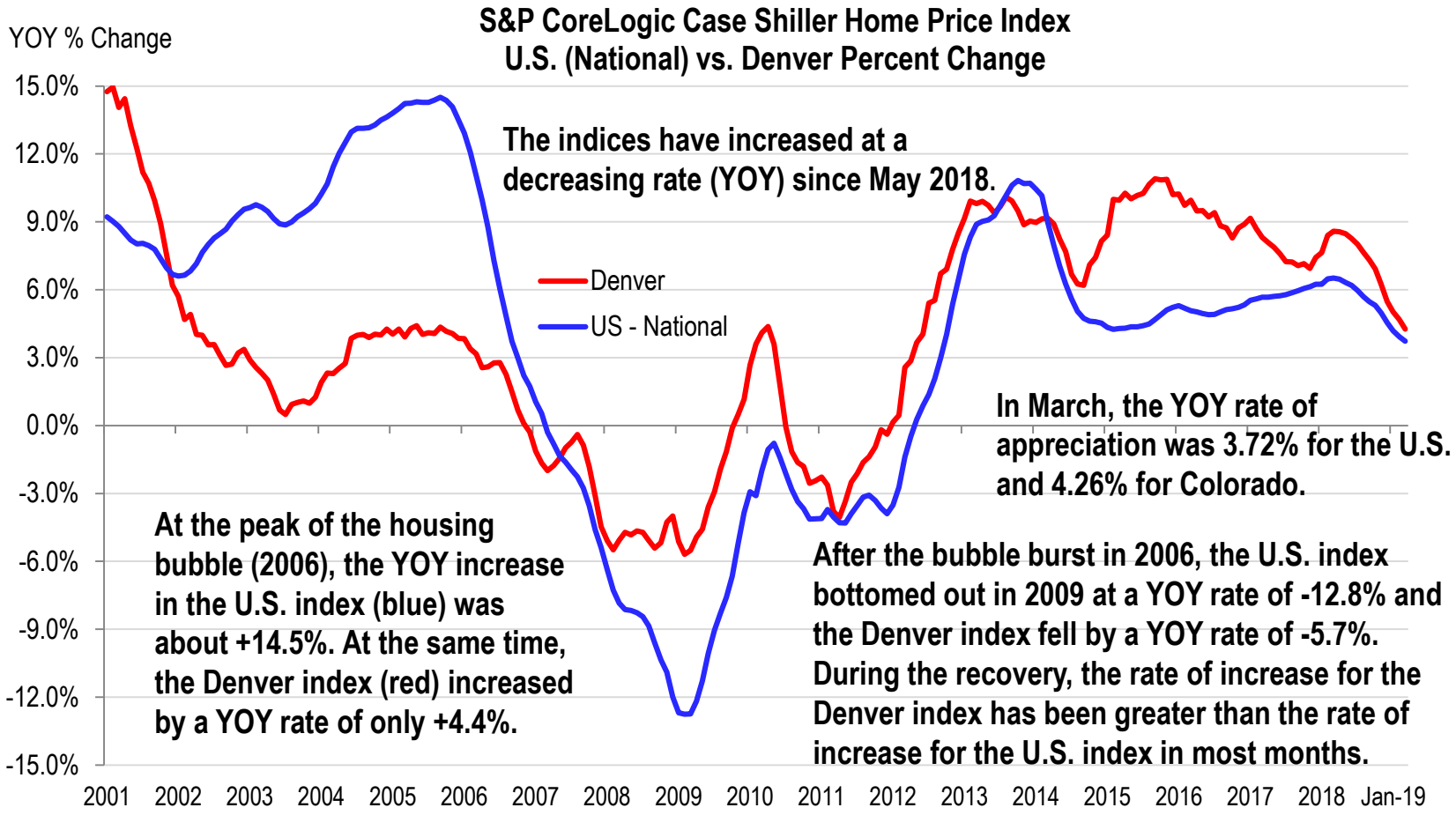
Valuation



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

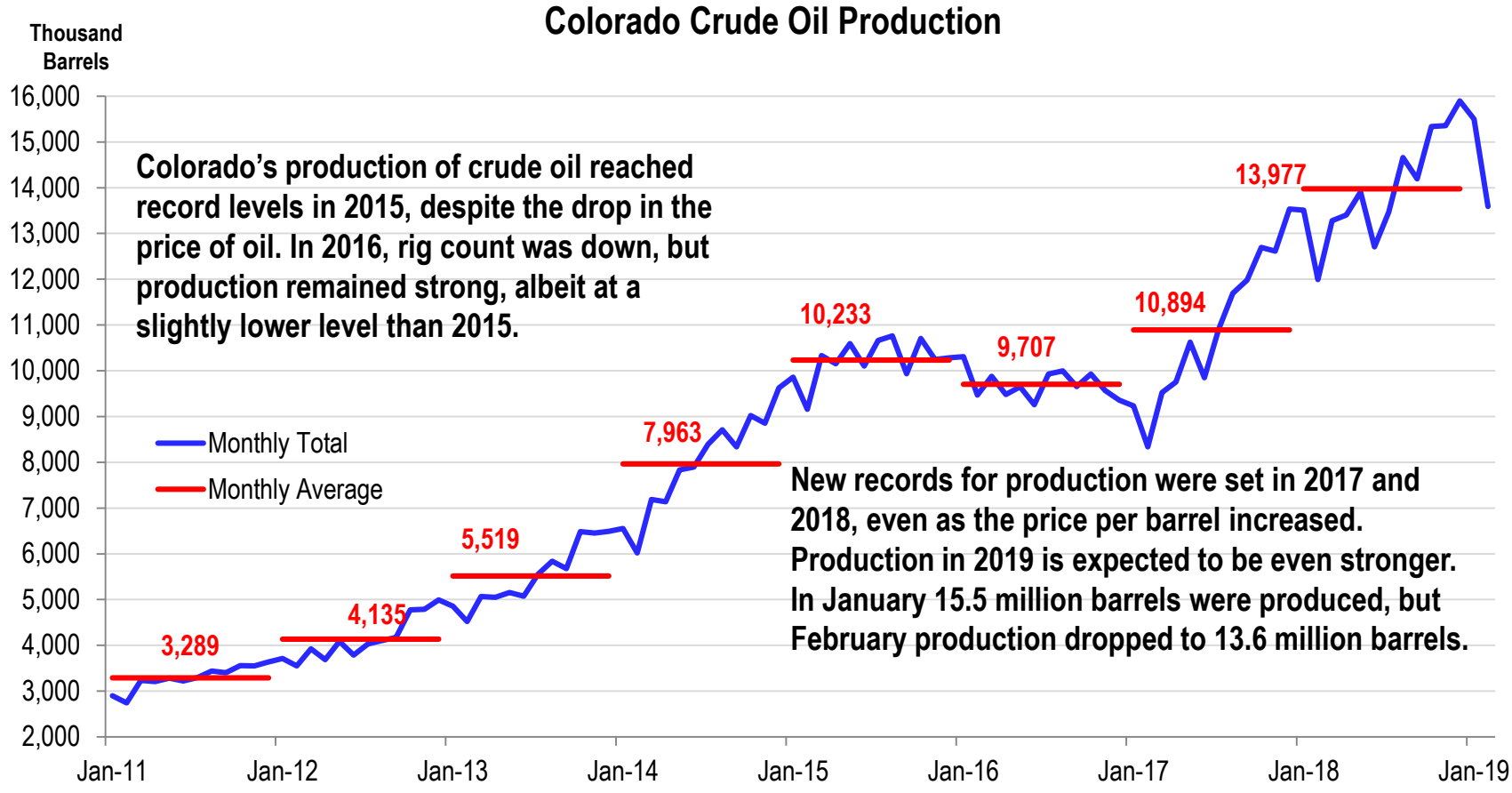
Given the level of net migration in Colorado, there will continue to be strong demand for housing. The rate of price appreciation is slowing, but it is unlikely there will be a strong downturn in housing prices in the near term.

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

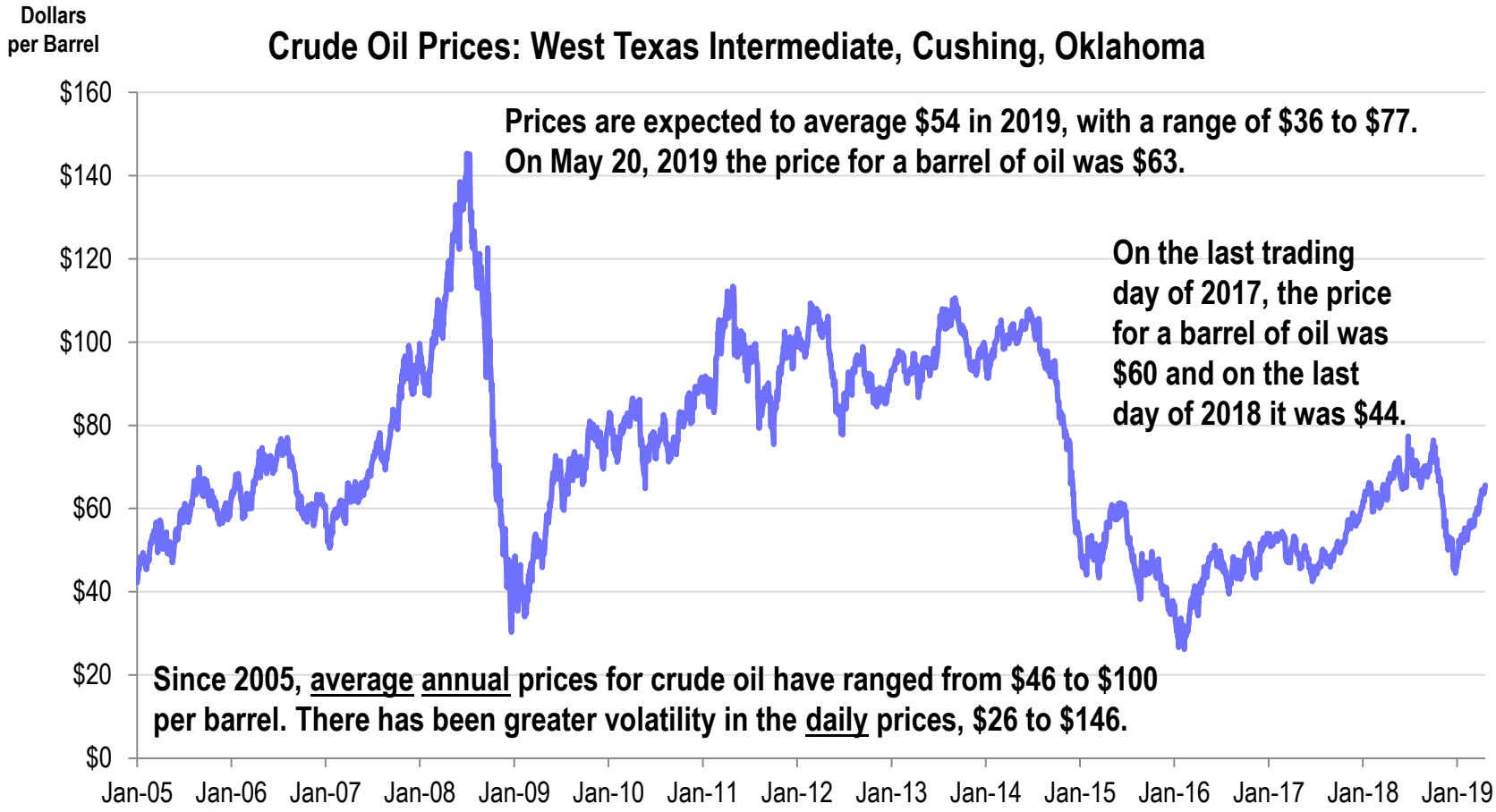
Colorado Field Production of Crude Oil
2011 to 2019 (Thousand Barrels)



Source: EIA, cber.co.

Crude Oil Prices

West Texas Intermediate



Source: FRED, EIA, cber.co.

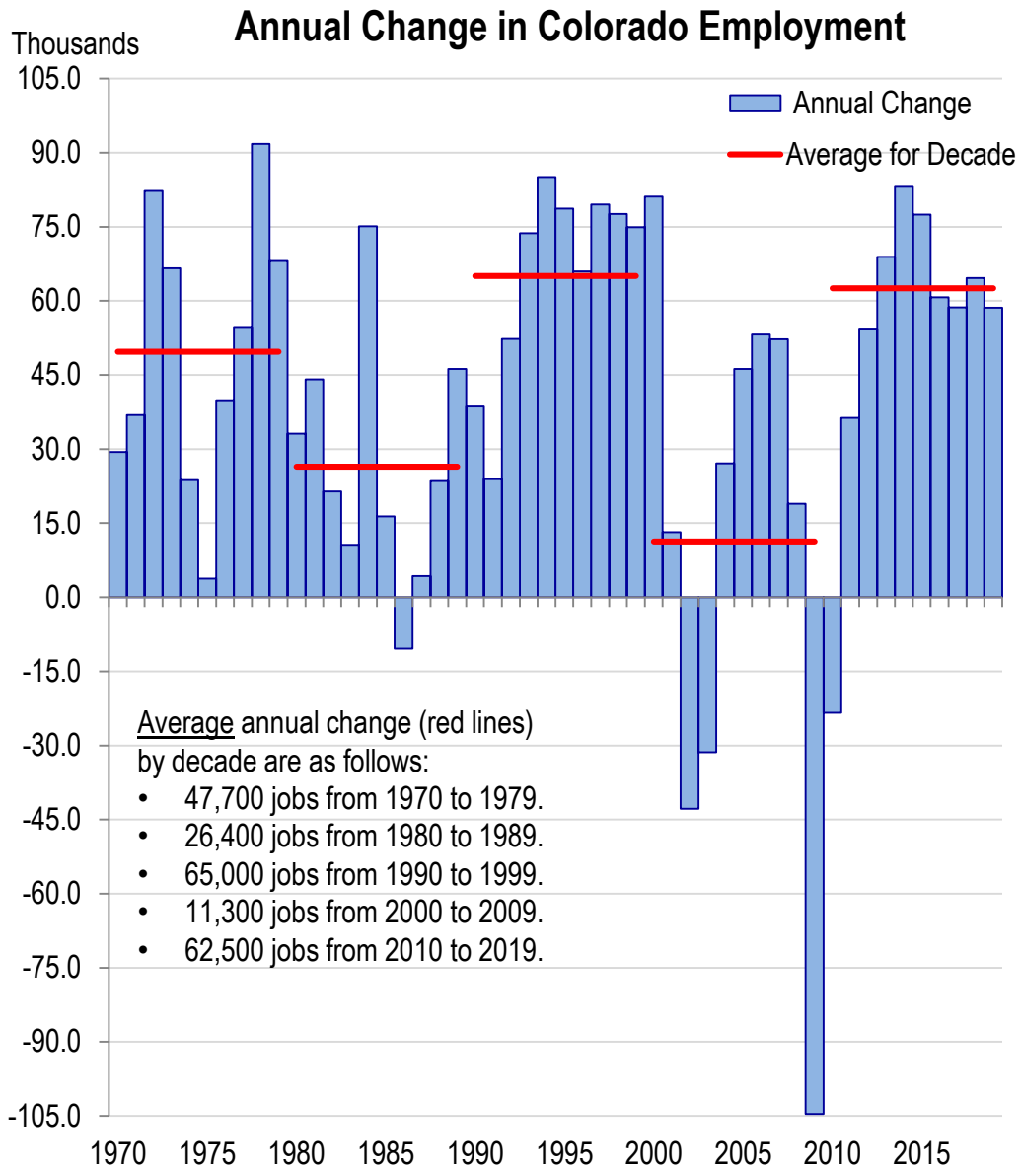
The Colorado Economy
Summary

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 the first four months of 2019, employment is up 49,400 jobs, or 1.8% greater than the same period in 2018.



Source: Bureau of Labor Statistics, cber.co.

Summary

Colorado Trends Through Four Months

Colorado Trends Through April 2019

- The Colorado population continues to increase at a decreasing rate as a result of lower fertility rates and decreased net migration.
- YOY employment through four months of 2019 were 1.8% greater than 2018, compared to projected growth of 2.2%. The BLS data suggests that Colorado is adding jobs at a rate similar to the nation. Activity on the streets suggests it may be stronger.
- The Federal Reserve Leading Indicator, which is based on data instead of a survey, suggests the fundamentals for the state are solid.
- 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.
- Through three months of 2019, the number of building permits is down, but valuation is flat. Construction employment growth for Q4 2018 and the first four months of 2019 are slower than in the past. These numbers may be revised upwards.
- 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 four months of 2019 indicates there has been record YOY growth in the PST sector. It is likely these numbers will be reduced in the March 2020 benchmark revisions.
- 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.

cber.co
Economic Trends for Colorado Through April 2019

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).
©Copyright 2019 by cber.co.

Data contained in the tables, charts, and text of this presentation is from sources in the public domain. With appropriate credit, it may be reproduced and shared without permission. Please reference, "Colorado-based Business and Economic Research" (cber.co). Additional presentations are available at https://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.