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Review of Colorado Employment Data Through May 2018

Colorado-based Business and Economic Research
Prepared
June 17, 2018

Overview of Analysis

This chartbook provides a series of graphs, charts, discussions, and data that tell the story about the changes in the U.S. and Colorado economy for the first five months of 2018. It is divided into the two sections listed below. The U.S. economy is currently “solid-to-strong” and the release of the Colorado employment data for May shows that average employment is 68,700 jobs greater than the same period in 2017. That level of job growth is greater than the 2018 forecasts prepared by all Colorado economists.

U.S. Economy

- ✓ Real Gross Domestic Product and Employment.
- ✓ Leading and Coincident Index – U.S. vs. Colorado
- ✓ S&P 500 Performance and Volatility, and Crude Oil Prices
- ✓ Agriculture – Received and Paid Indices
- ✓ Mortgage Rates, Housing Prices, and Construction Spending
- ✓ Inflation, Index for Services and Manufacturing, Retail Sales, and Light Truck and Auto Sales
- ✓ Summary

The Colorado Economy

- ✓ Population, Employment, Change in Employment, Major Sectors, Select Sectors
- ✓ Unemployment and Change in Labor Force
- ✓ Housing Prices and Building Permits
- ✓ Oil Production, DIA Passengers, Vehicle Registrations
- ✓ Summary



The U.S. Economy

Real Gross Domestic Product and Employment

Quarterly Real GDP Growth Historical United States

Between 2010 and 2017, the annual real GDP growth ranged from 1.6% to 2.6%. Historical annualized real GDP growth by decade was:

- 1990s 3.2% (green line).
- 2000s 1.8% (red line).
- 2010 to 2017 2.1% (purple line).

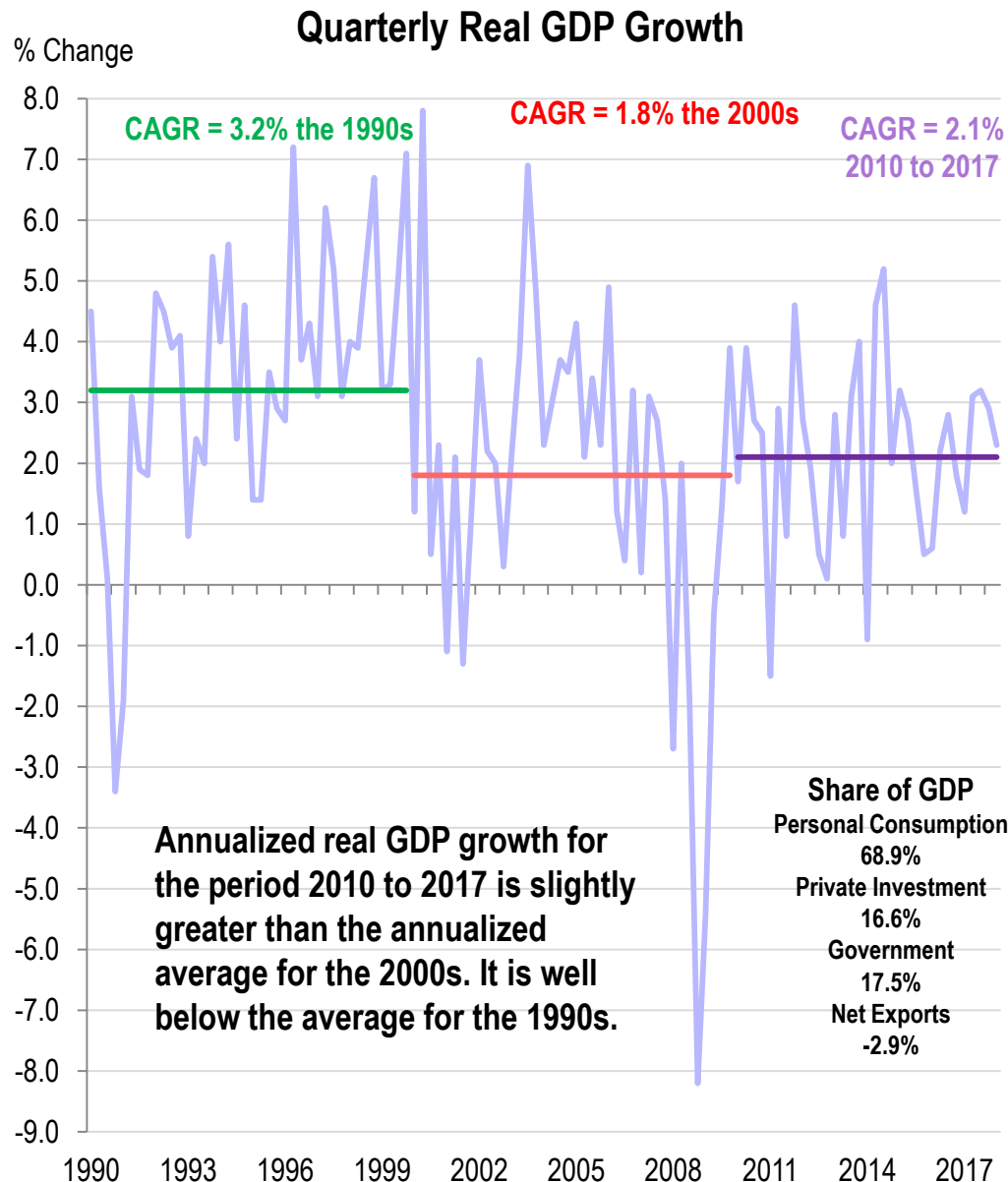
Real GDP growth in 2017 was 2.3%. The rate of growth in 2018 is projected to be in the range of 2.3% to 2.7%, with greater upside potential than downside risk.

The 2017 rate of growth by quarter was:

- Q1 1.2%
- Q2 3.1%
- Q3 3.2%
- Q4 2.9%.

Q1 2018 real GDP growth was 2.2%. The Conference Board projects real GDP growth of 3.3% in Q2 and 3.5% in Q3 and Q4.

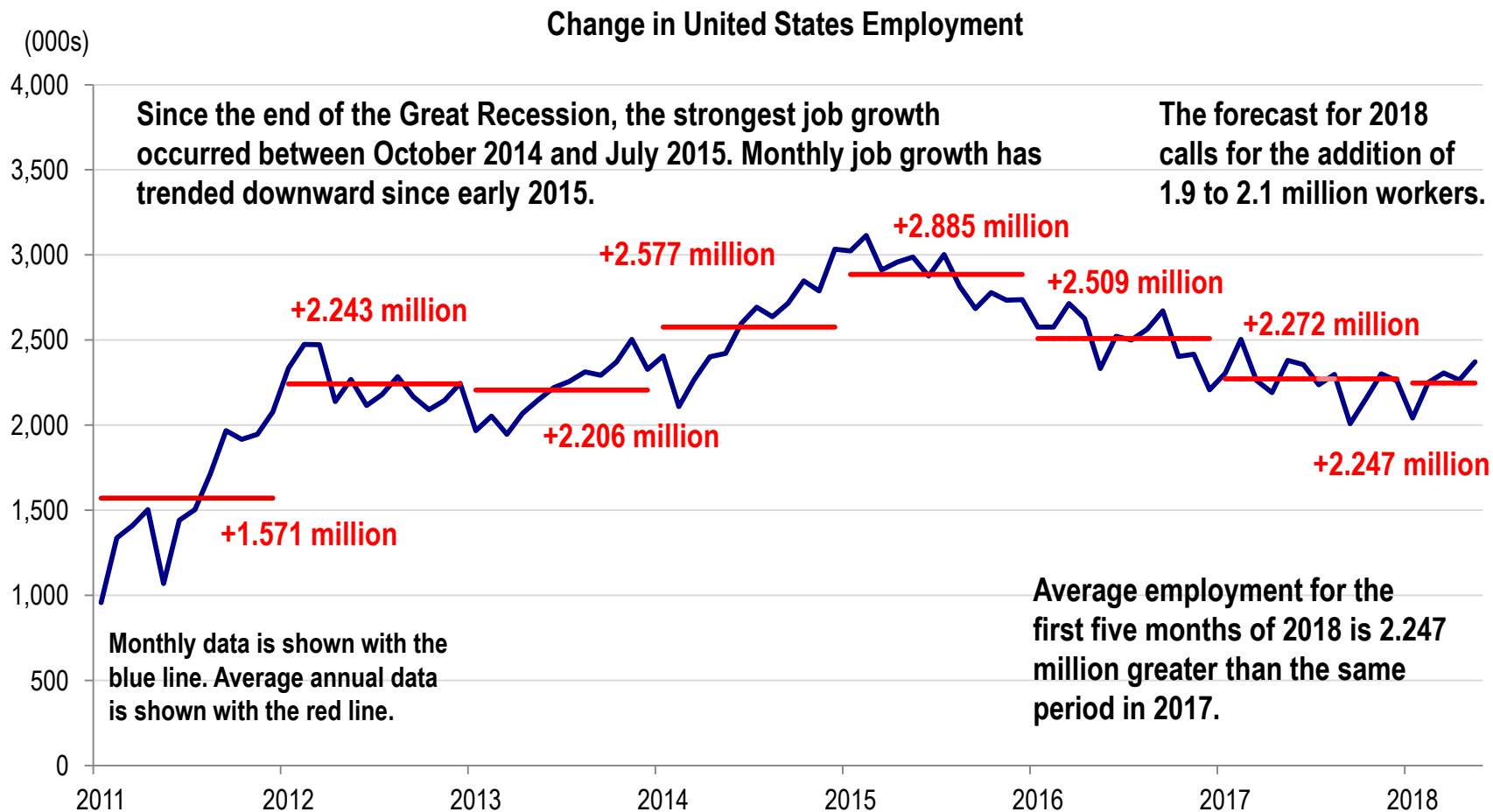
As usual, growth in 2018 will be driven by consumer spending. In addition, there will be stronger business investment and government spending.



Source: Bureau of Economic Analysis, The Conference Board, cber.co, Note GDP chained on 2009.

Change in United States Employment

Year-Over-Year



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



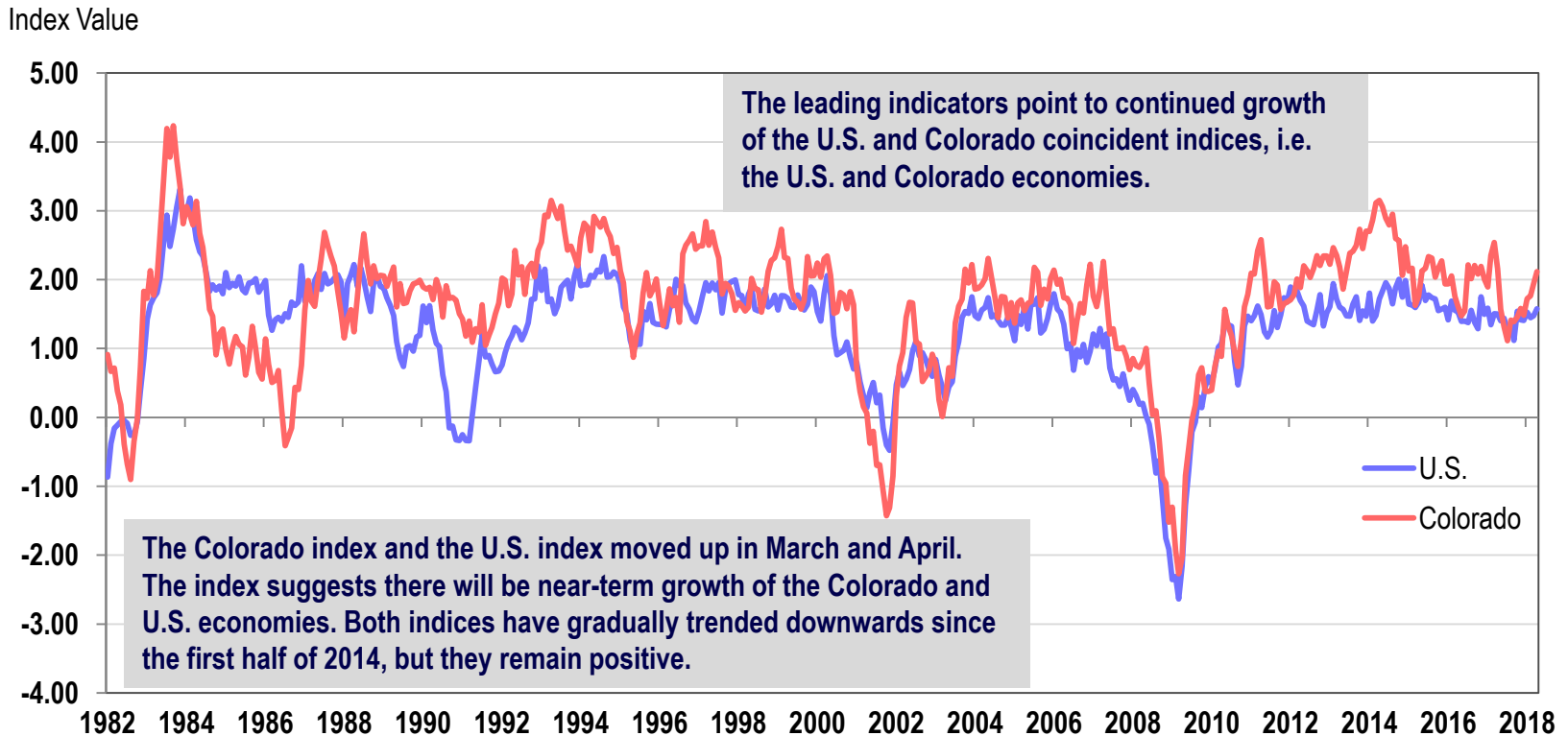
The U.S. Economy

Leading and Coincident Indices (U.S. and Colorado) and
CAB vs. Industrial Production

Philadelphia Fed Leading Index

Colorado vs. U.S.

Philadelphia Federal Reserve Leading Index – Colorado and U.S.



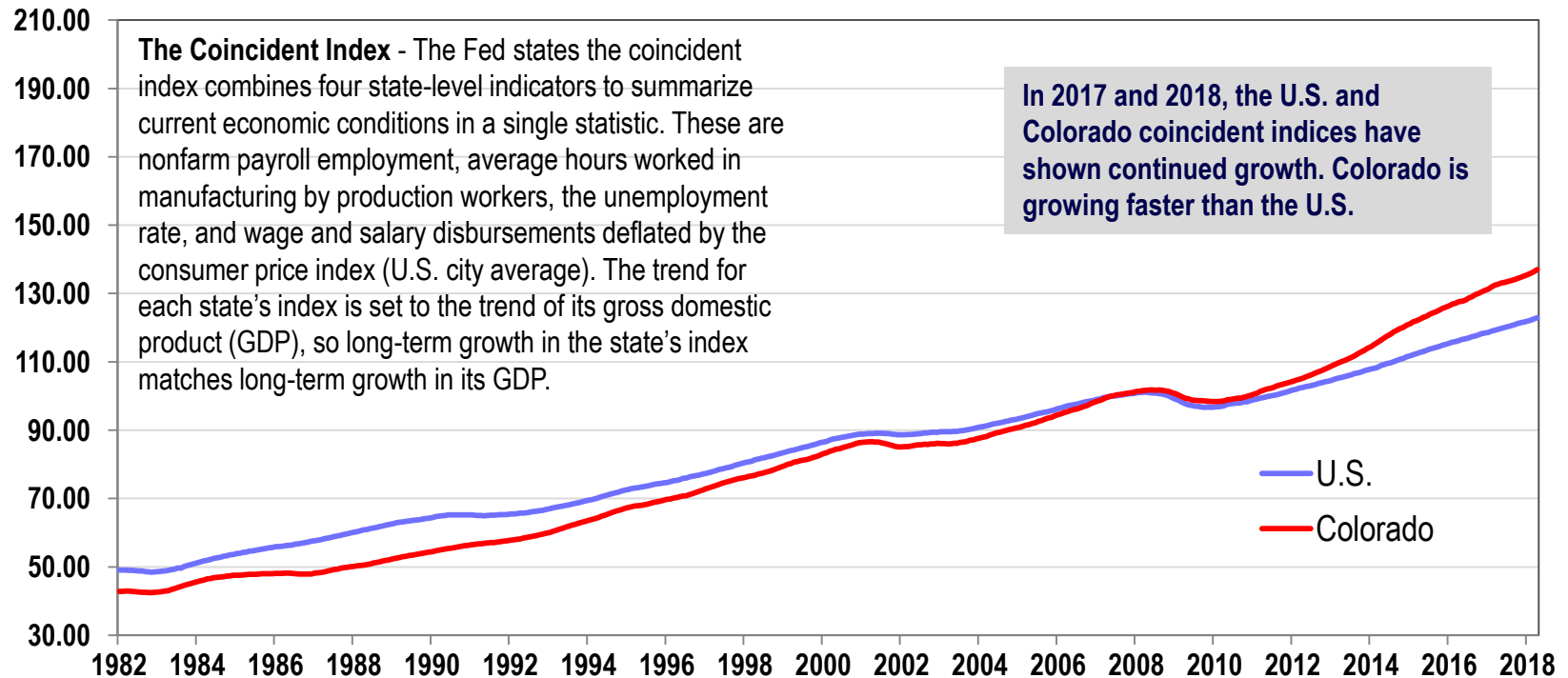
Source: Philadelphia Federal Reserve, cber.co. Note: The leading index predicts the six-month growth rate of the U.S. and state's coincident index.

Philadelphia Fed Coincident Index

Colorado vs. U.S.

Philadelphia Federal Reserve Leading Index – Colorado and U.S.

Index Value



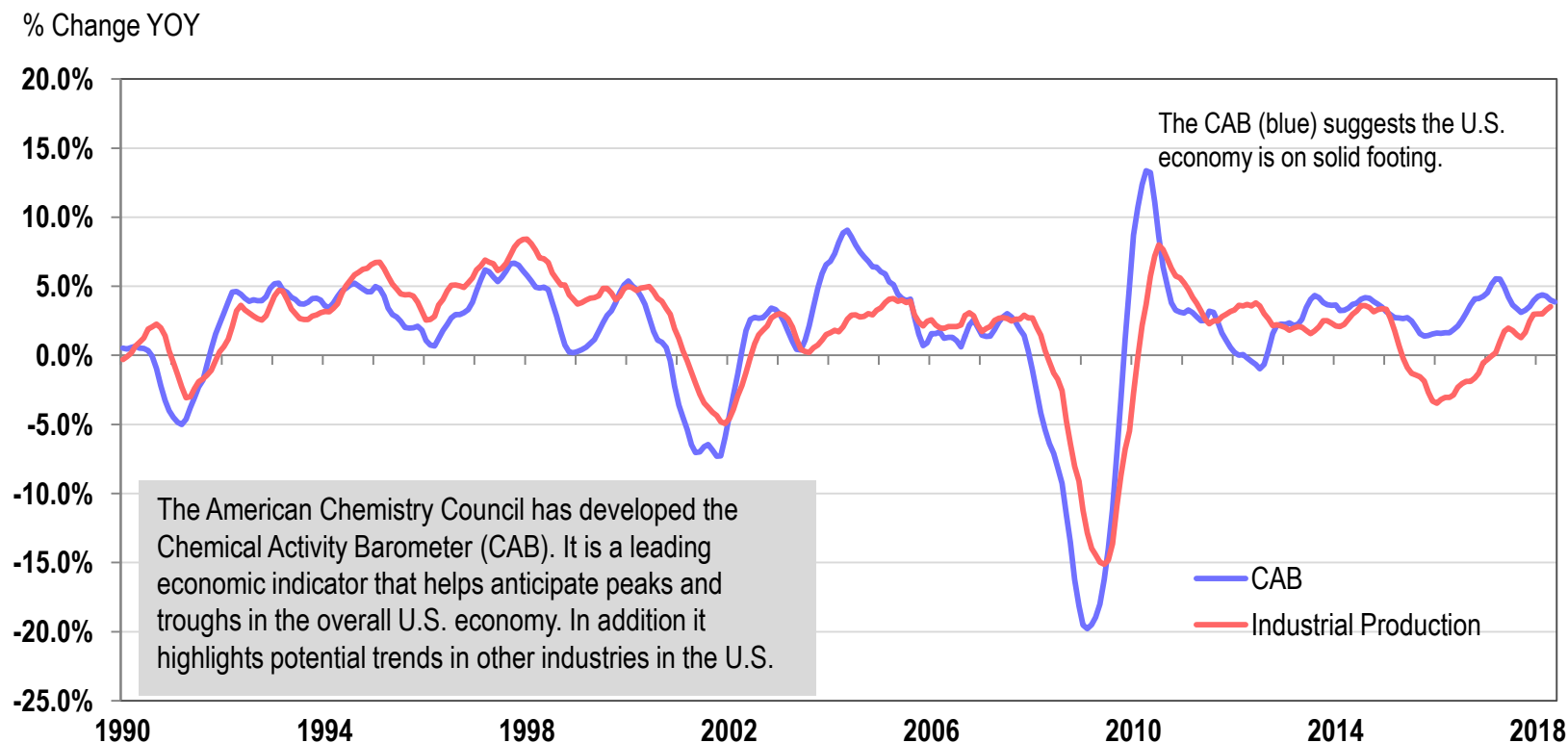
Source: Philadelphia Federal Reserve, cber.co. Note: The leading index predicts the six-month growth rate of the U.S. and state's coincident index.

● Change in Chemical Activity Barometer vs. Industrial Production

● Production

●

3 MMA YOY Percentage Change in CAB vs. Industrial Production



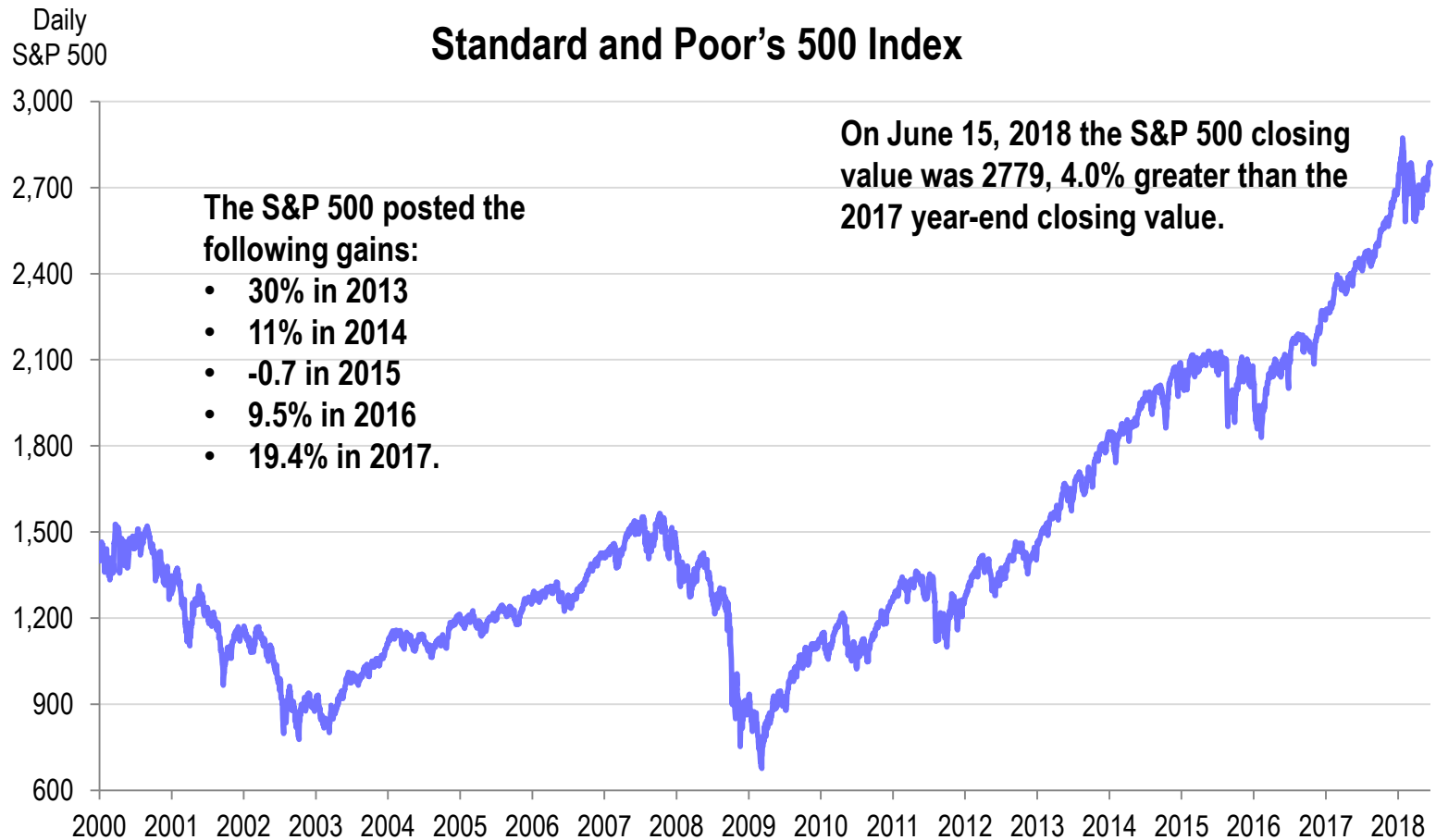
Source: American Chemistry Council, Federal Reserve, cber.co.



United States Economy

S&P Performance and Volatility, and Crude Oil Prices

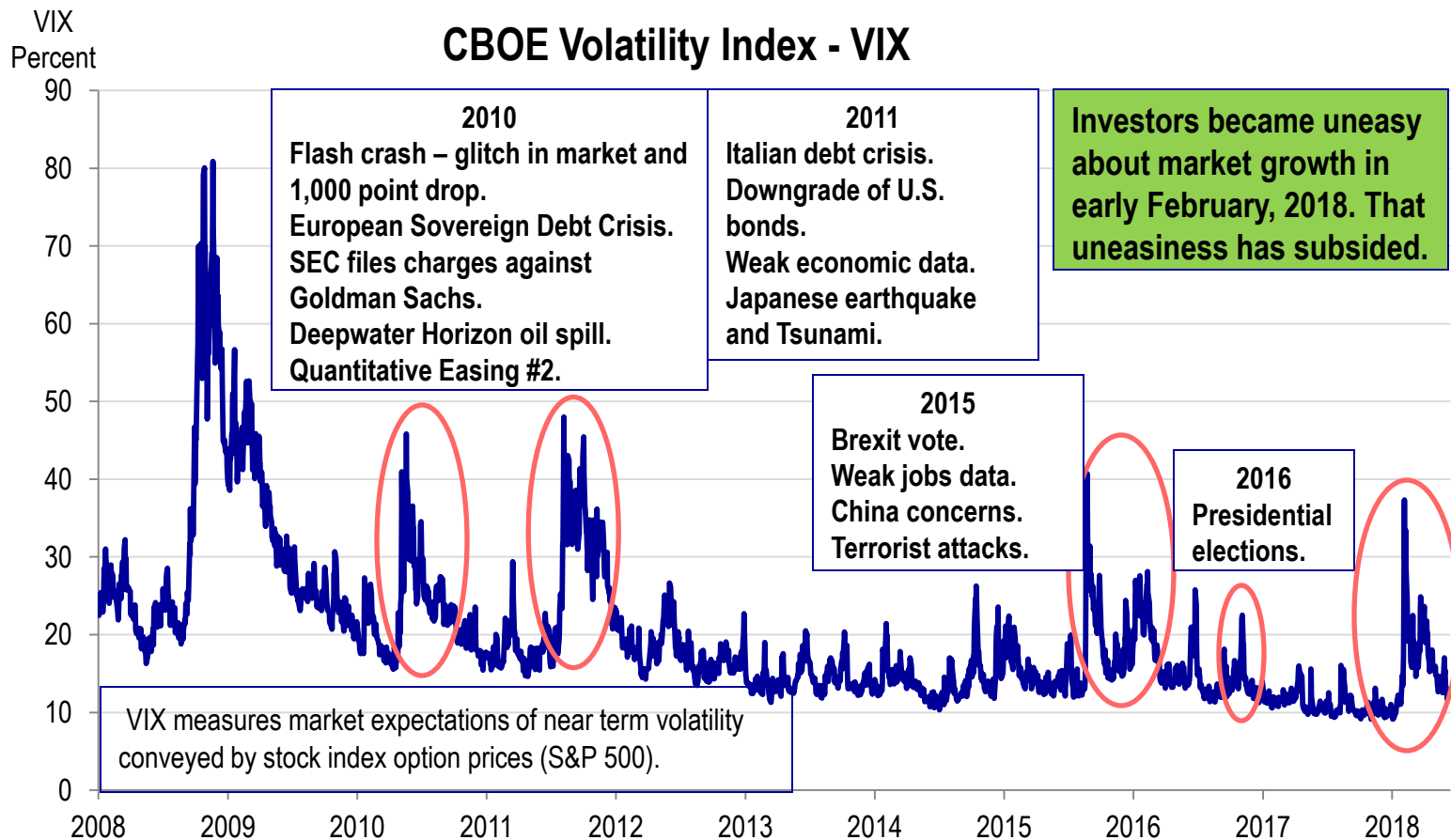
● Standard and Poor's 500 Index



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

CBOE Volatility Index

VIX (VIXCLS)



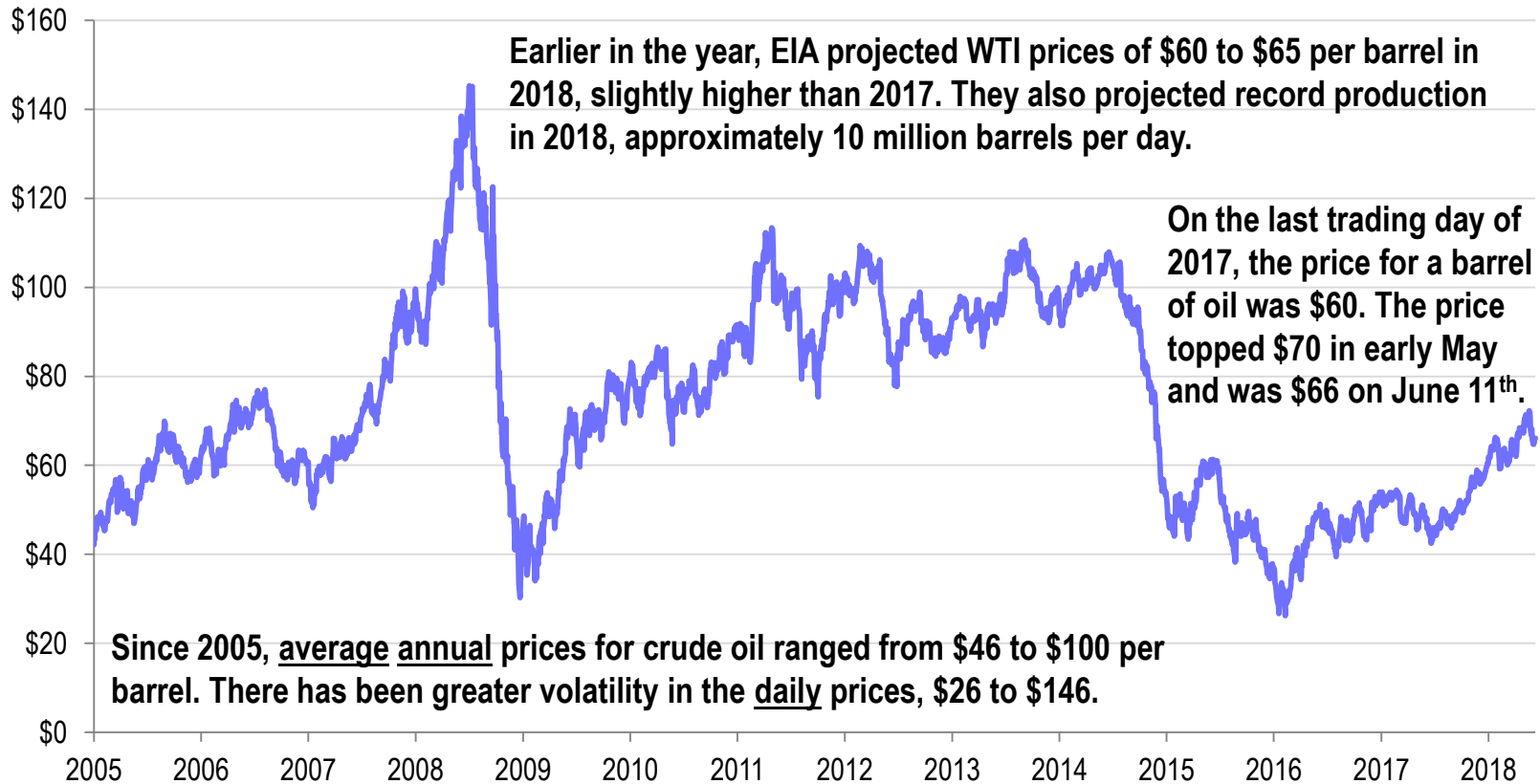
Source: FRED, Chicago Board Options Exchange, cber.co.

Crude Oil Prices

West Texas Intermediate

Dollars
per Barrel

Crude Oil Prices: West Texas Intermediate, Cushing, Oklahoma



Source: FRED, EIA, cber.co.



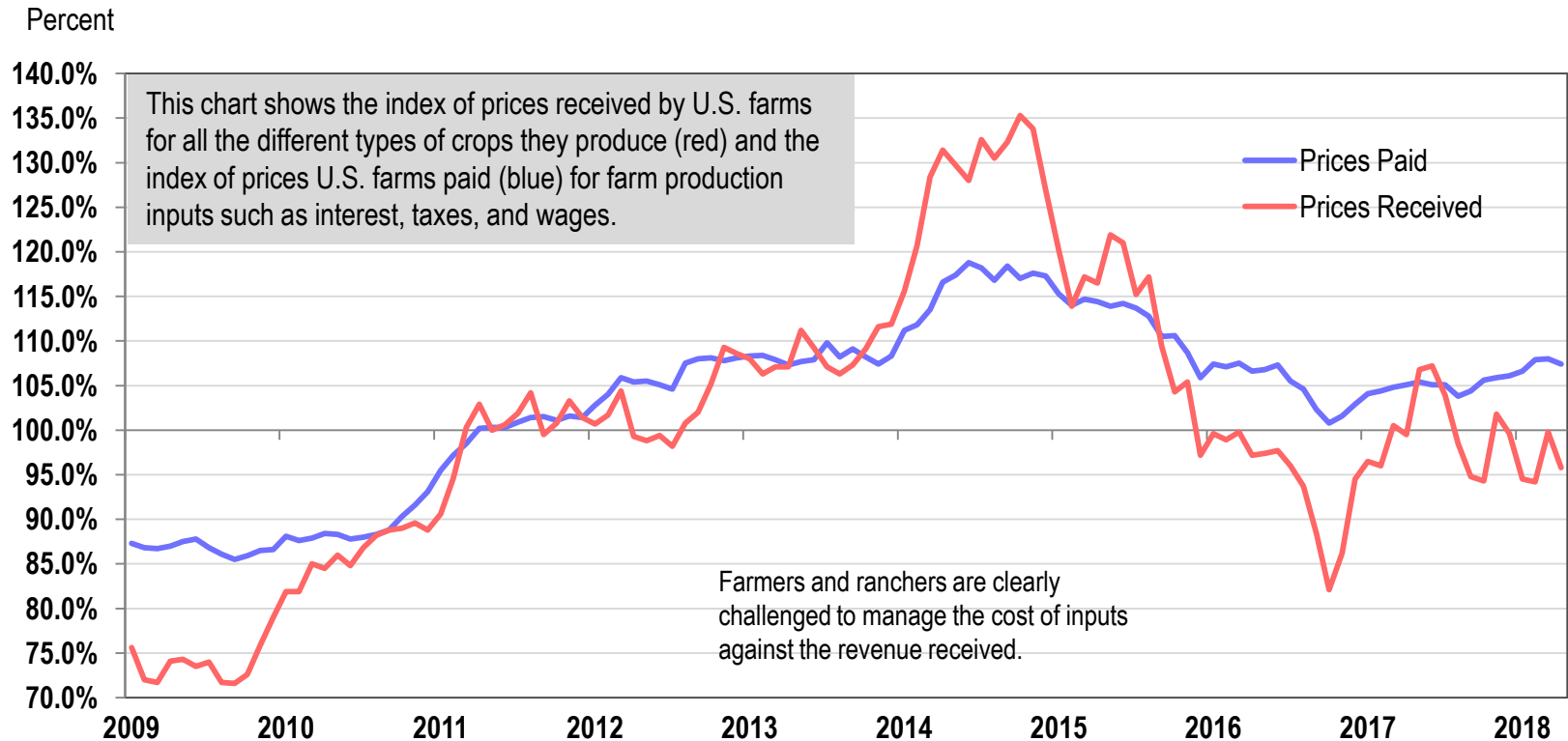
The U.S. Economy

Agriculture – Crops and Livestock Index

Farm Received and Paid Indexes

Livestock

Livestock Farm Received and Paid Indexes

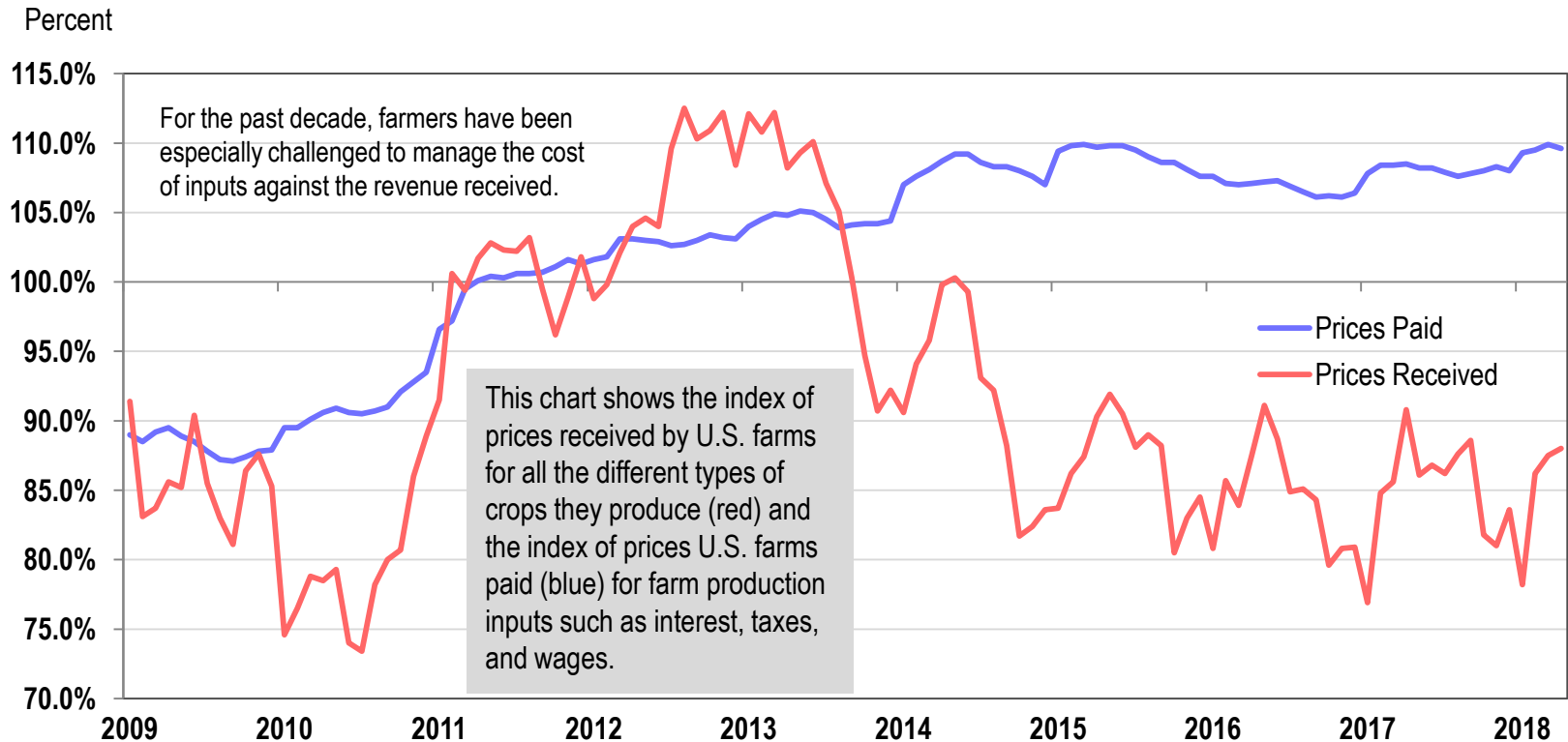


Source: NASS, cber.co.

Farm Received and Paid Indexes

Crops

Crops Farm Received and Paid Indexes



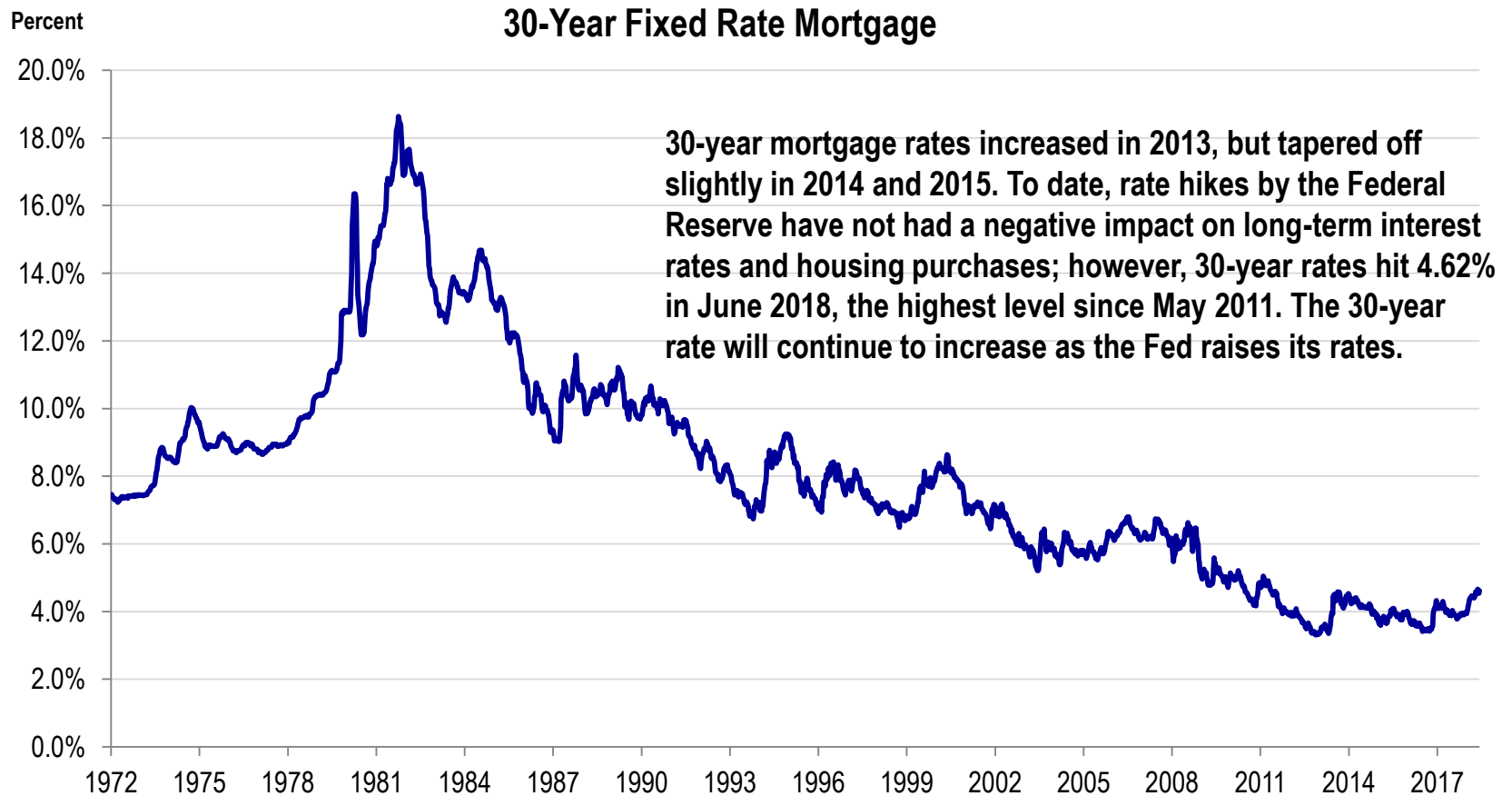
Source: NASS, cber.co.



The U.S. Economy

Mortgage Rates, Housing Prices, Construction Spending

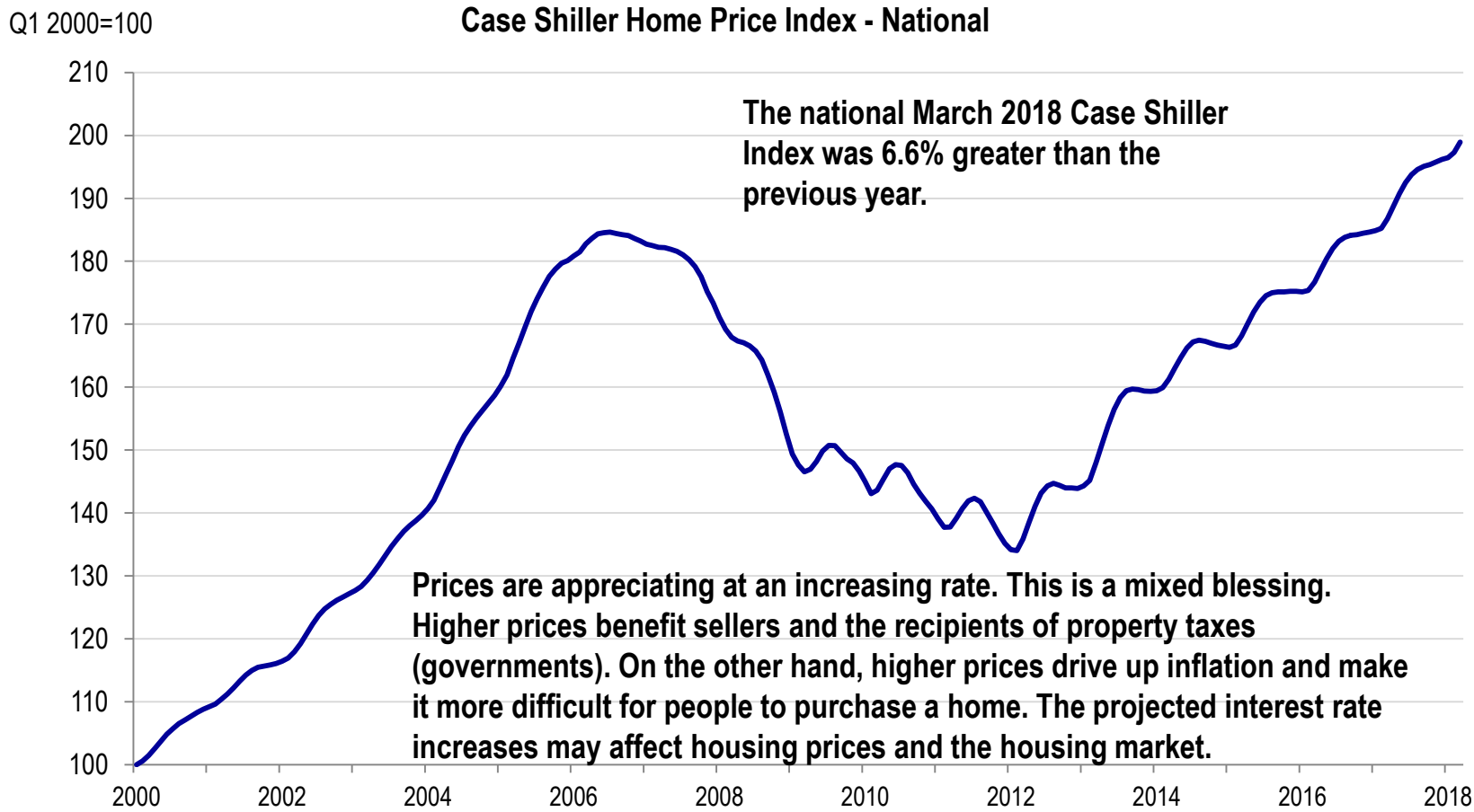
30-Year Fixed Rate Mortgage



Source: FRED, Freddie MAC, cber.co.

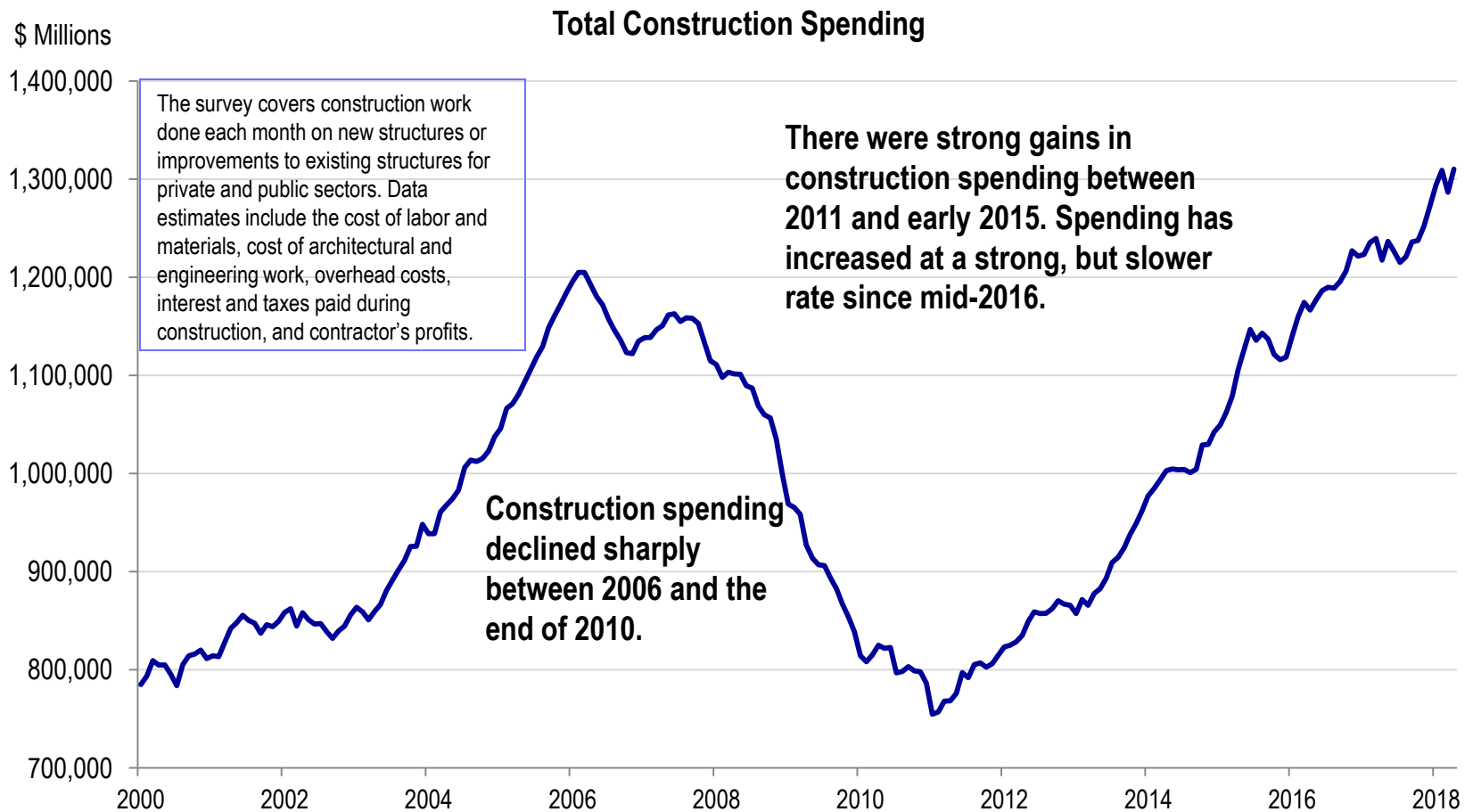
Case Shiller Home Price Index

National Index



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

Total U.S. Construction Spending



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



The U.S. Economy

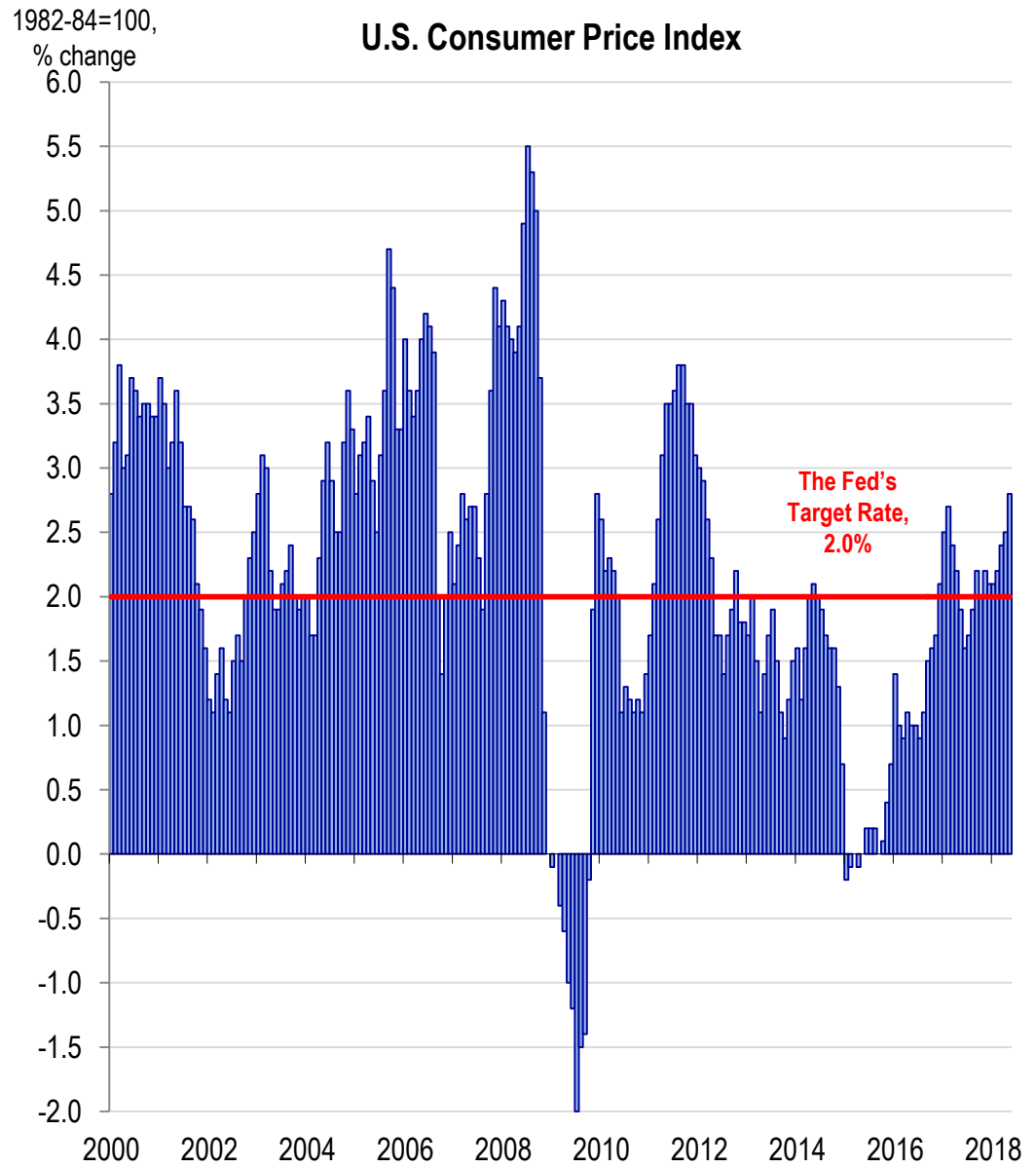
Inflation, Index for Services and Manufacturing, Retail Sales, and Light Truck and Auto Sales

Consumer Price Index (CPI)

U.S. inflation, as measured by the seasonally adjusted CPI, will increase by 2.3% in 2018. This is slightly above the Fed's target rate of 2.0%. Increases in 2018 will be a result of higher interest rates, housing costs, health care costs, and gasoline prices. The increase in the April CPI rate was 2.4%.

Recent annual rates are:

- 2012 2.1%
- 2013 1.5%
- 2014 1.6%
- 2015 0.1%
- 2016 1.3%
- 2017 2.1%
- 2018 2.3 %.



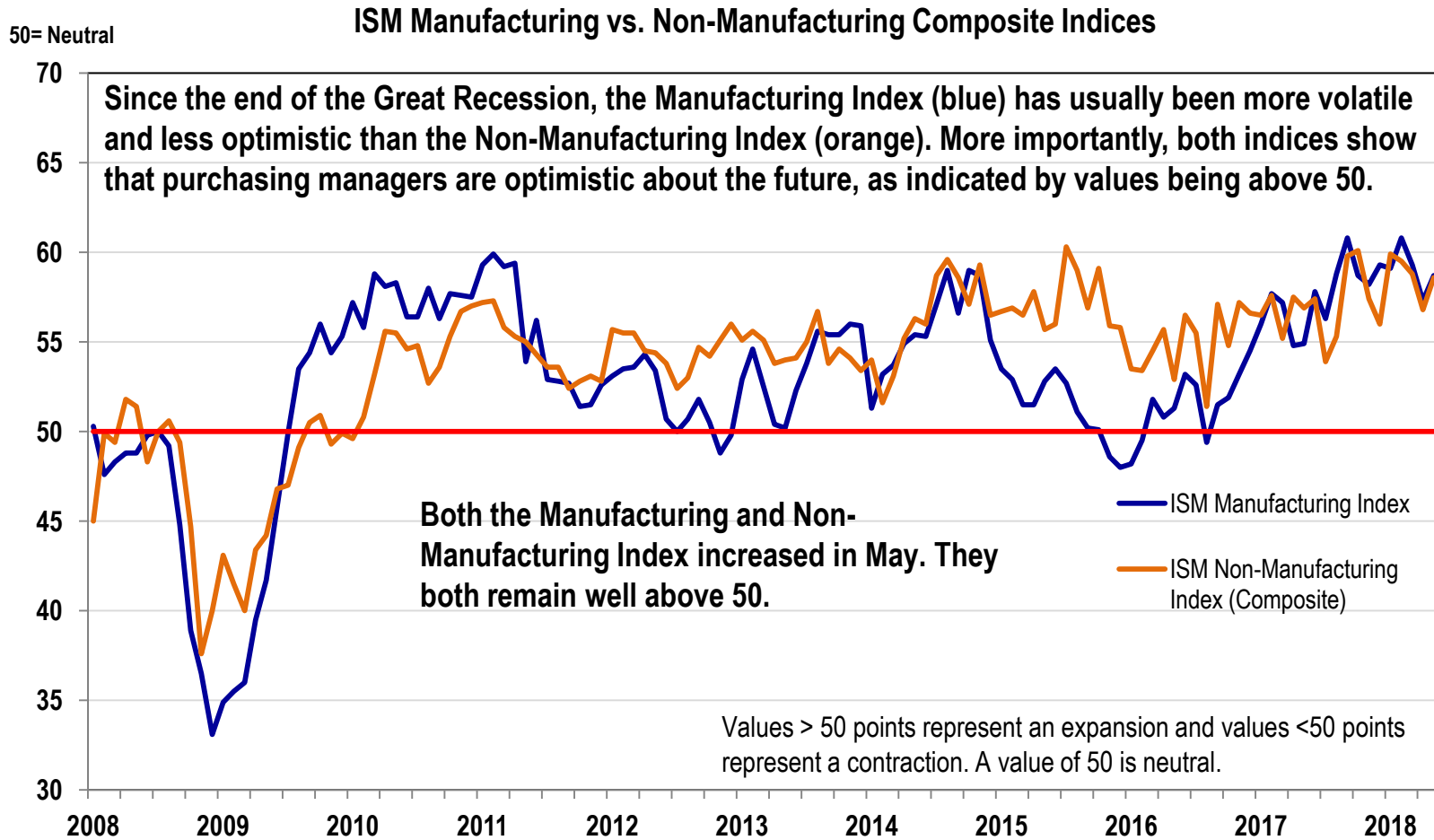
Source: Bureau of Labor Statistics, SA, cber.co.

Note: the Federal Reserve uses the PCE for establishing inflation target rates; the CPI tends to be slightly higher.

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ISM PMI Composite Indices

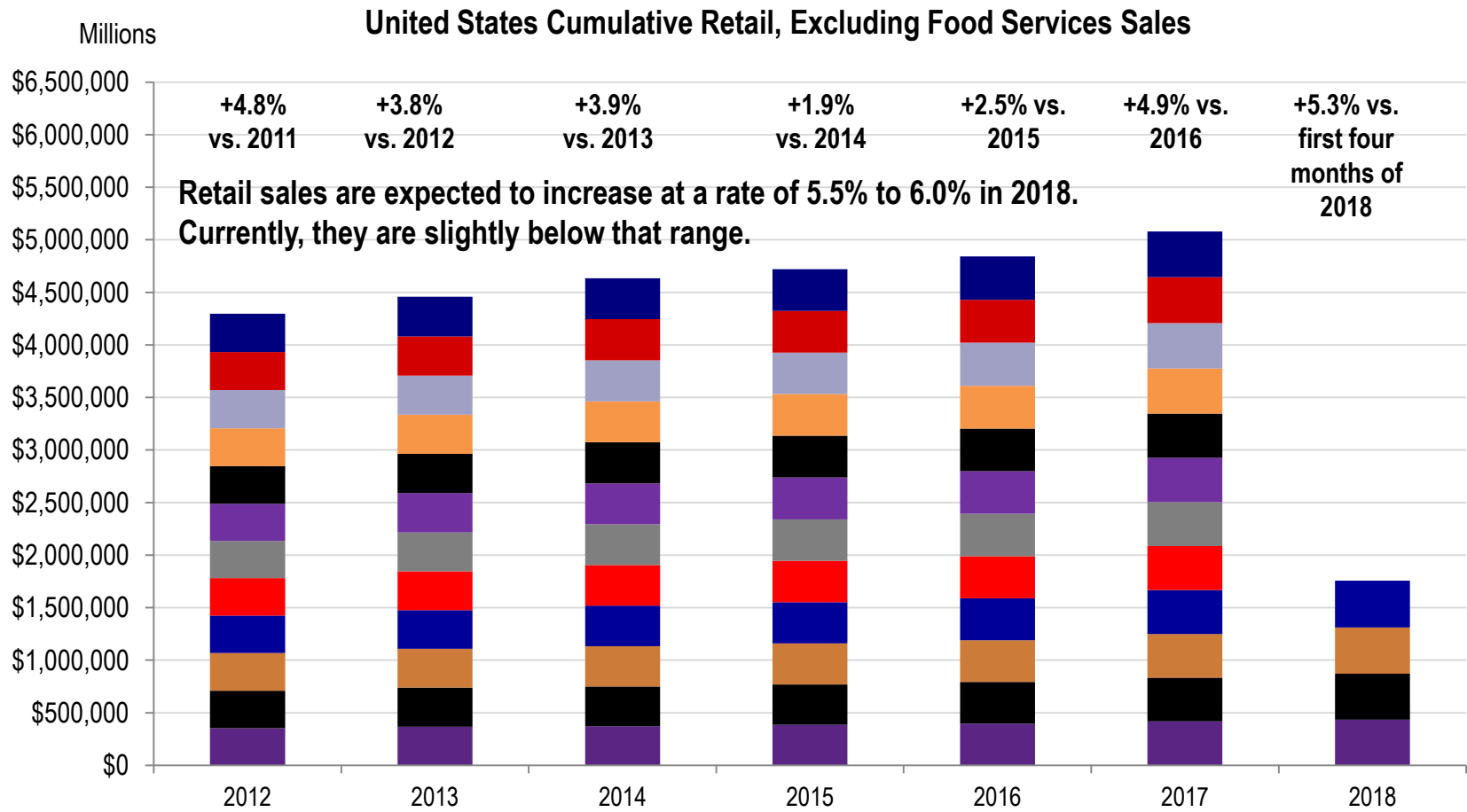
Manufacturing vs. Non-manufacturing



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

Cumulative Retail, Excluding Food Services Sales

Monthly

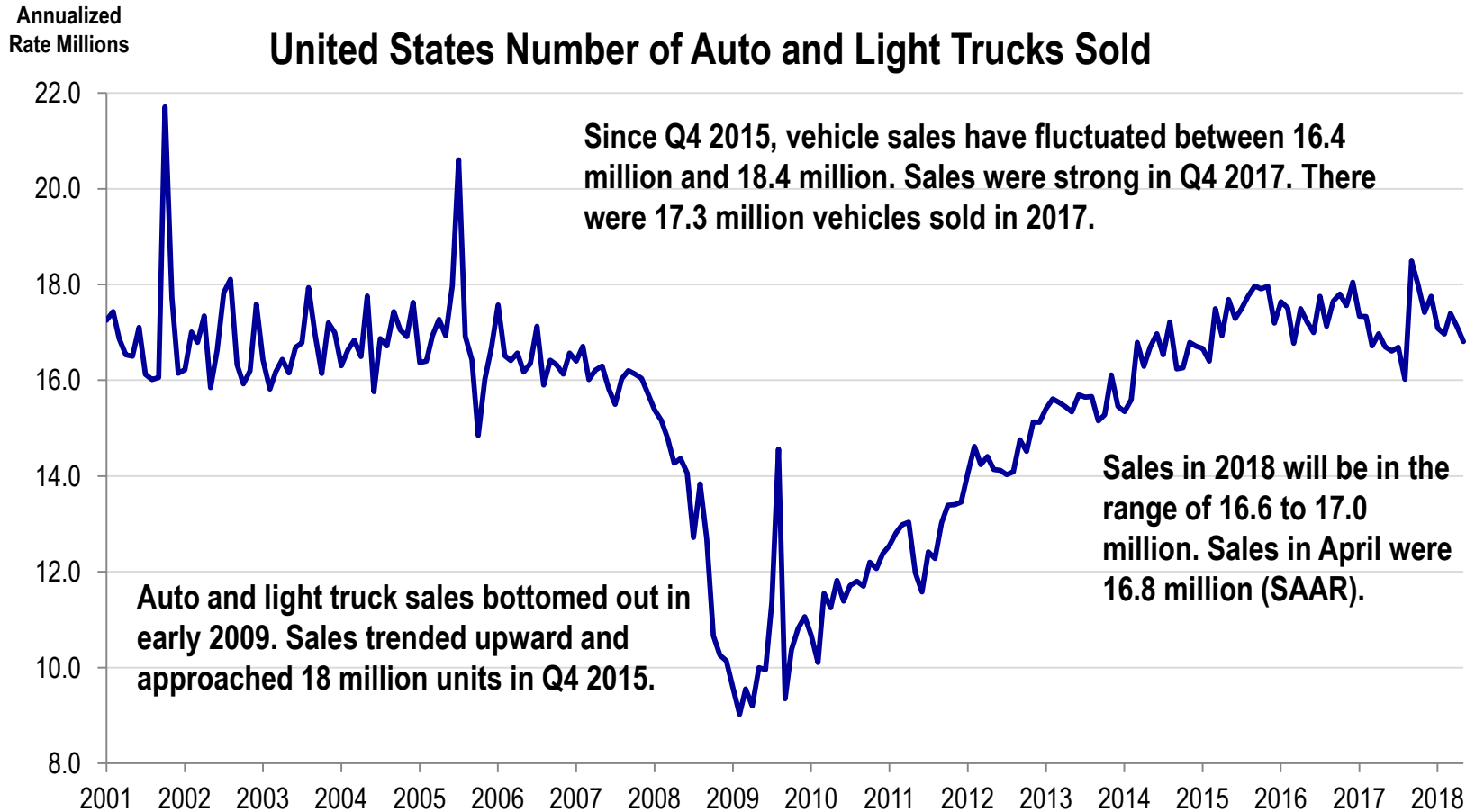


Source: U.S. Census Bureau, FRED, cber.co.

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.

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The United States Economy

Summary

Despite the Political Unrest, The Economy is Currently on Solid Footing

Positives

The current strengths of the U.S. economy are:

- Job growth is solid.
- Job growth is diversified across industries and geographic regions.
- Real GDP growth is solid and expected to improve in the second half of the year.
- Retail sales (consumption) is solid.

In addition, the Philadelphia Federal Reserve leading and coincident indicators point to continued growth.

The Conference Board is bullish on the U.S. economy. TCB projects 2.8% real GDP growth in 2018 and higher in 2019. This is significant; their forecasts have been conservative and accurate for the past decade.

Headwinds

There are economic headwinds even during the best of times. The following challenges are unlikely to derail the economy during the next 18 months:

- Level of public and private debt.
- Boomers moving into retirement years without savings.
- Worker shortages in many parts of the country.
- Rapid appreciation in housing prices.
- Inflation above the target rate.
- Rate hikes by the Federal Reserve.
- Level of productivity.
- Moderation in the growth of the European economy and slower growth in emerging countries.
- Trade conflicts (tariffs).
- Political unrest .
- Lack of trust in technology companies.



The Colorado Economy

Population, Employment, Change in Employment, Major Sectors, Select Sectors

Colorado Population

Components of Change

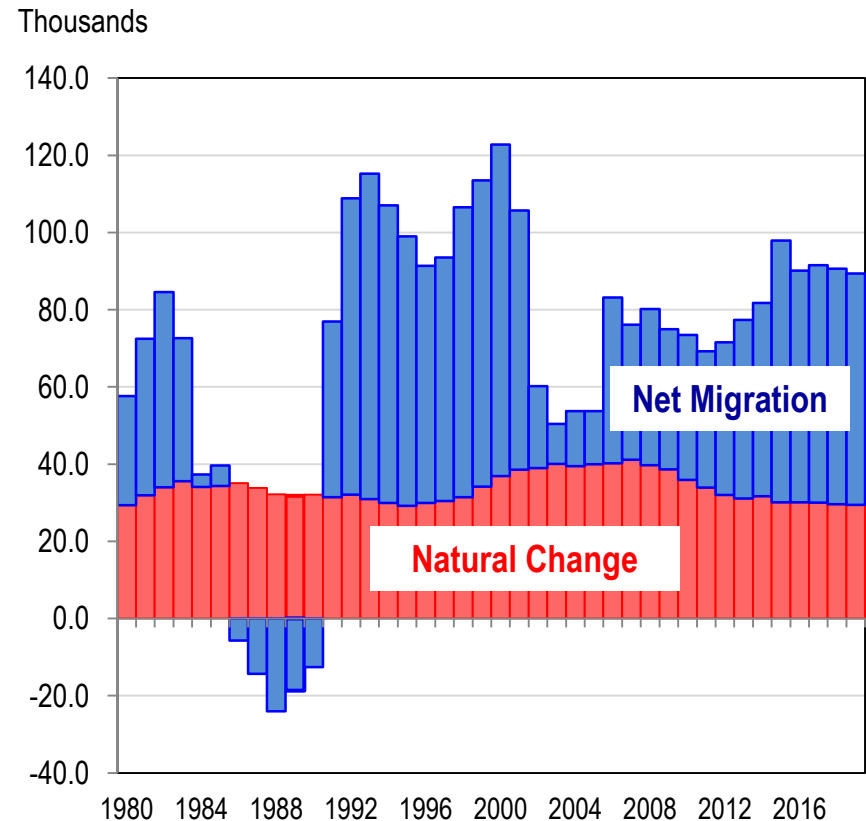
Population increases and decreases are a result of the natural rate of change (births minus deaths) and the change in net migration (people moving into the state minus people moving out of the state).

Over the past 3½ decades the natural rate of change (red bars) varied from a low of 29,145 in 1995 to a peak of 41,124 in 2007. In 2018 it is projected to drop to 29,400. Fertility rates in Colorado have declined and people chose not to have children during the Great Recession.

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 and the change in population were negative. 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 downturn.

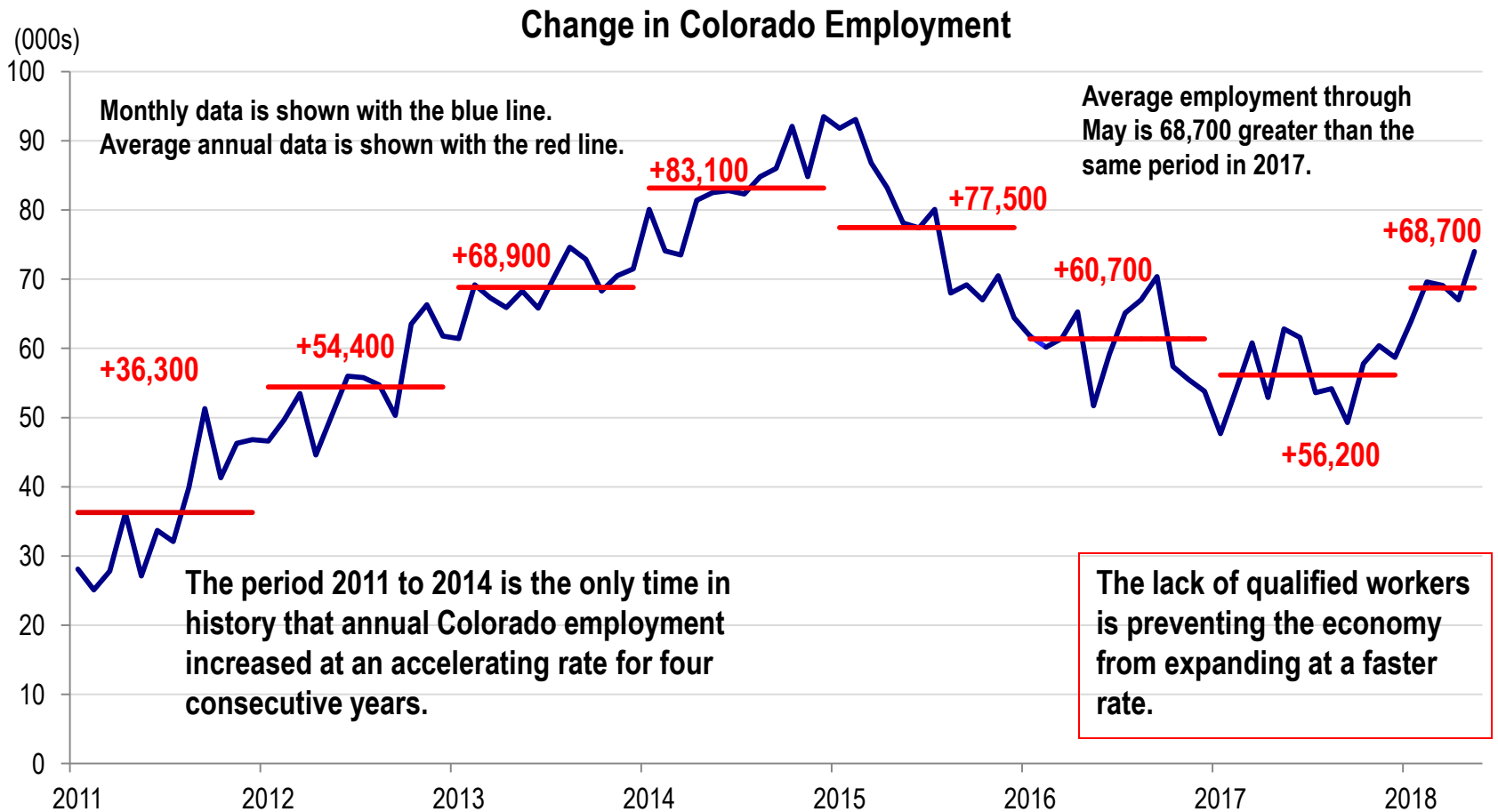
The Colorado population will increase by about 90,000 for the years 2015 to 2018. In 2018 the state's population will increase by 1.6% to 5,720,280.

Change in Colorado Population 1980 - 2019



Change in Colorado Employment

Year-Over-Year (YTD)

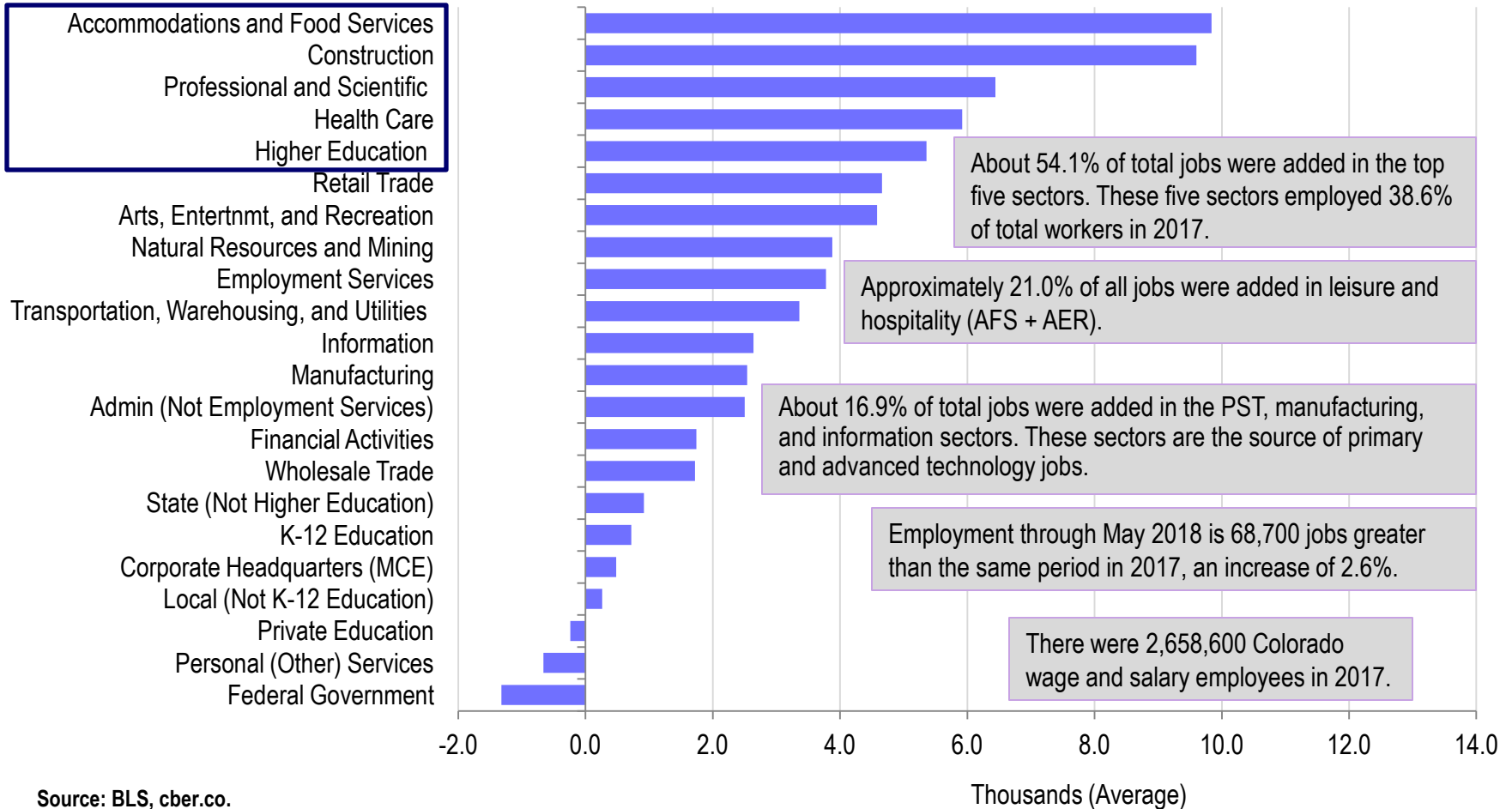


Source: Bureau of Labor Statistics, NSA, cber.co.

Change in Employment

First 5 Months of 2018 vs. Same Period of 2017

Job Change All Sectors



About 54.1% of total jobs were added in the top five sectors. These five sectors employed 38.6% of total workers in 2017.

Approximately 21.0% of all jobs were added in leisure and hospitality (AFS + AER).

About 16.9% of total jobs were added in the PST, manufacturing, and information sectors. These sectors are the source of primary and advanced technology jobs.

Employment through May 2018 is 68,700 jobs greater than the same period in 2017, an increase of 2.6%.

There were 2,658,600 Colorado wage and salary employees in 2017.

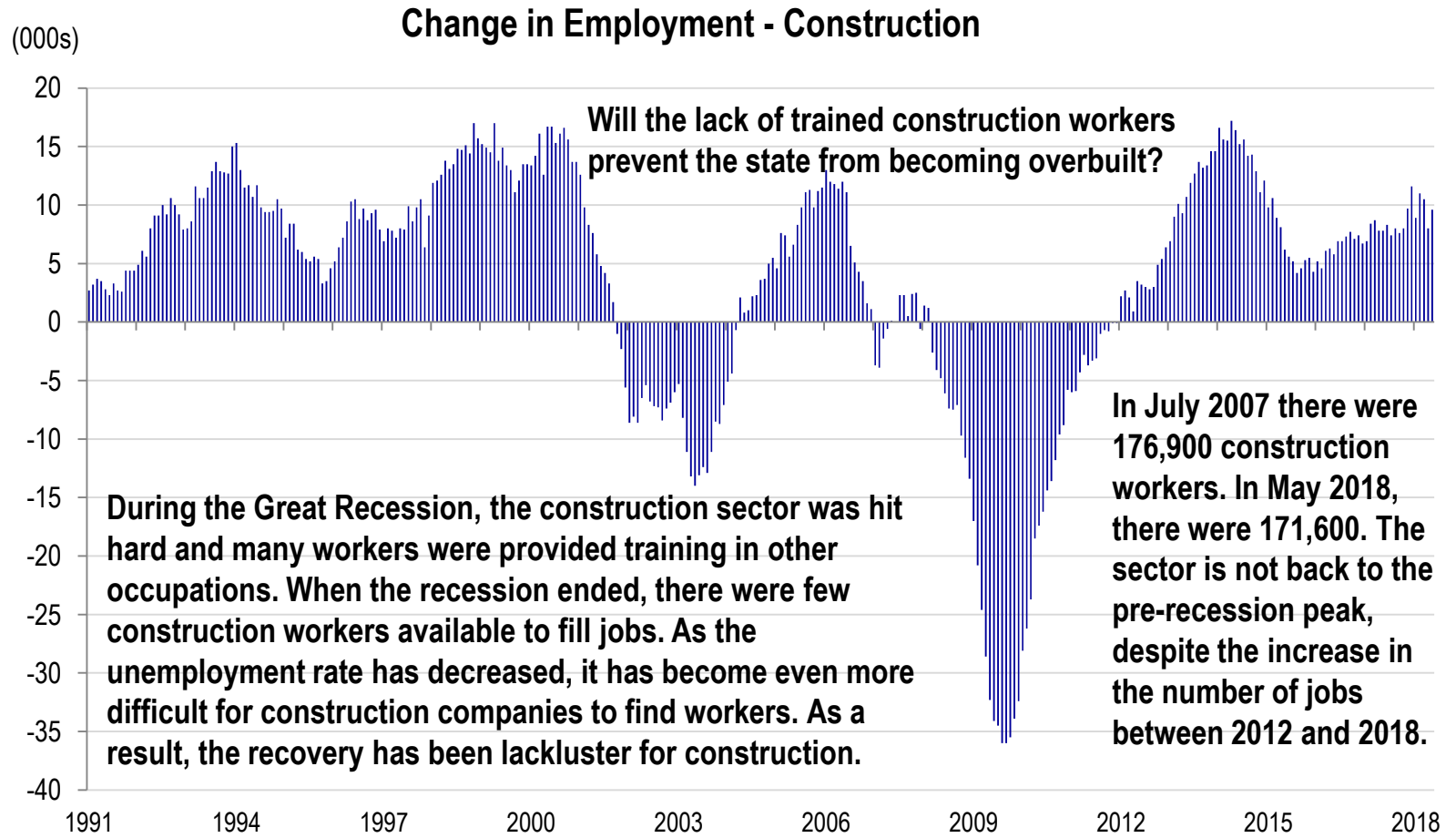


Colorado

Job Growth – Major Sectors – Construction, PST, AFS,
and Advanced Technology

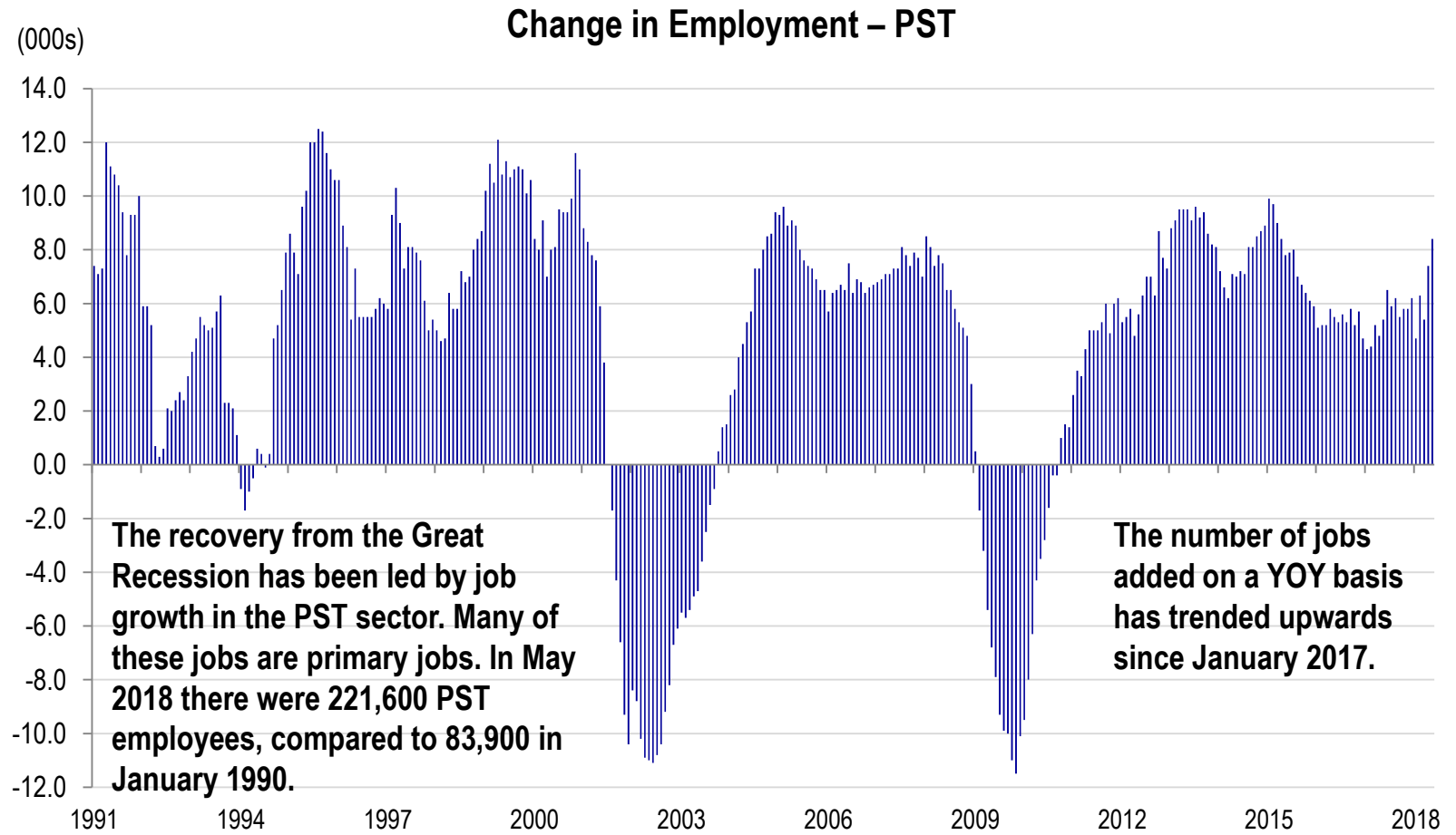
YOY Change in Colorado Employment

Construction



Source: BLS, cber.co.

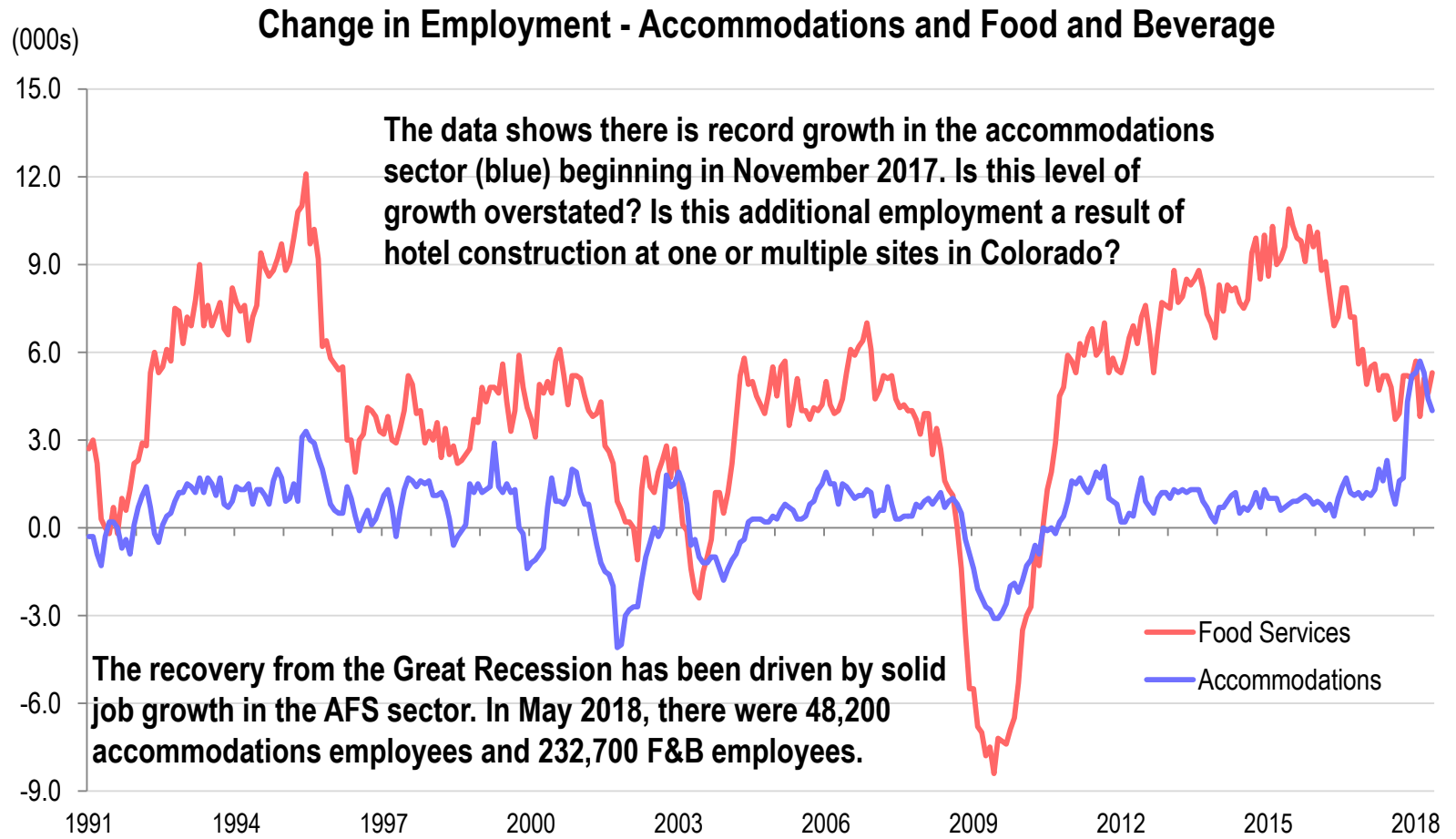
YOY Change in Colorado Employment Professional, Scientific, and Technical Services



Source: BLS, cber.co.

YOY Change in Colorado Employment

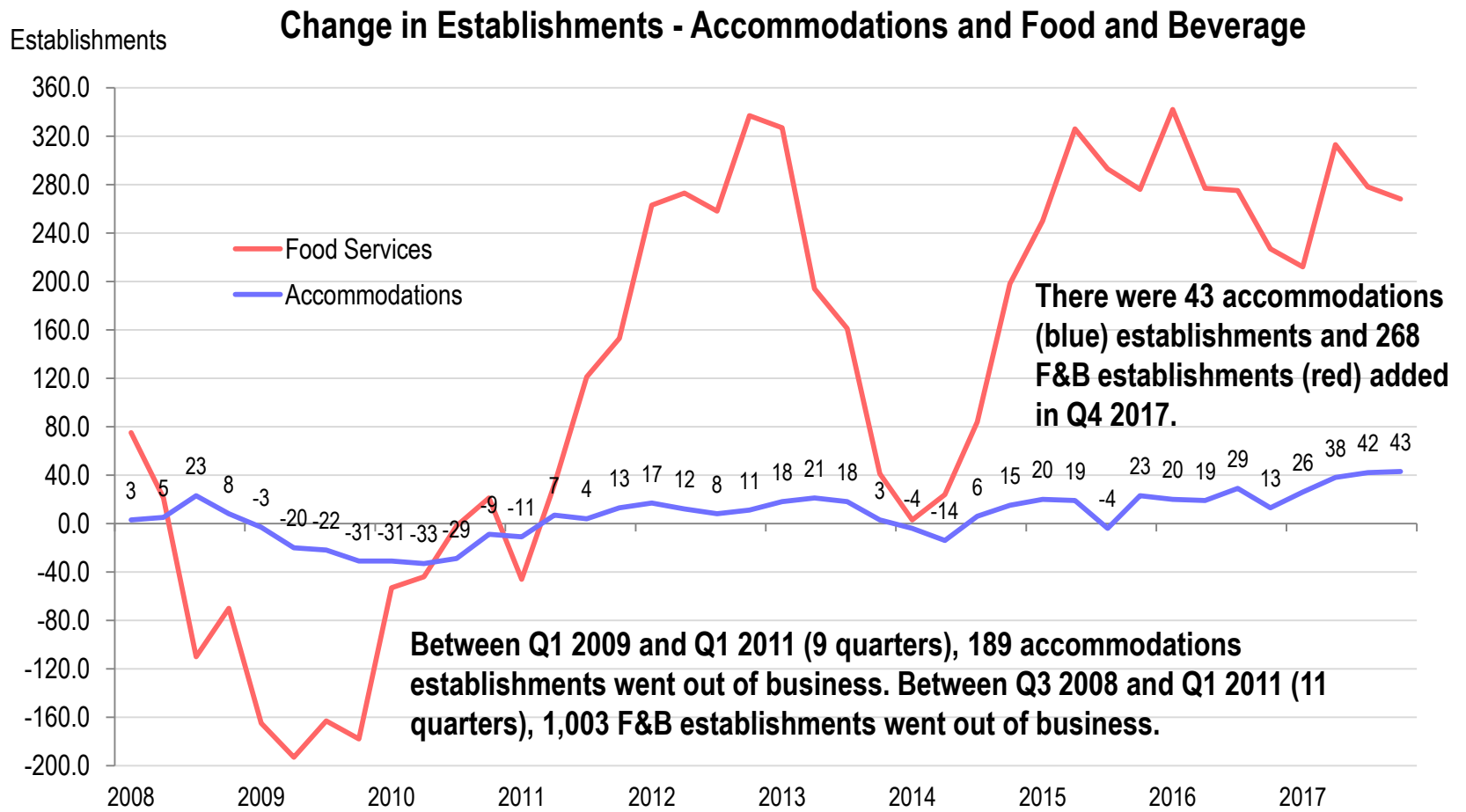
Accommodations and Food and Beverage (Leisure and Hospitality)



Source: BLS, cber.co.

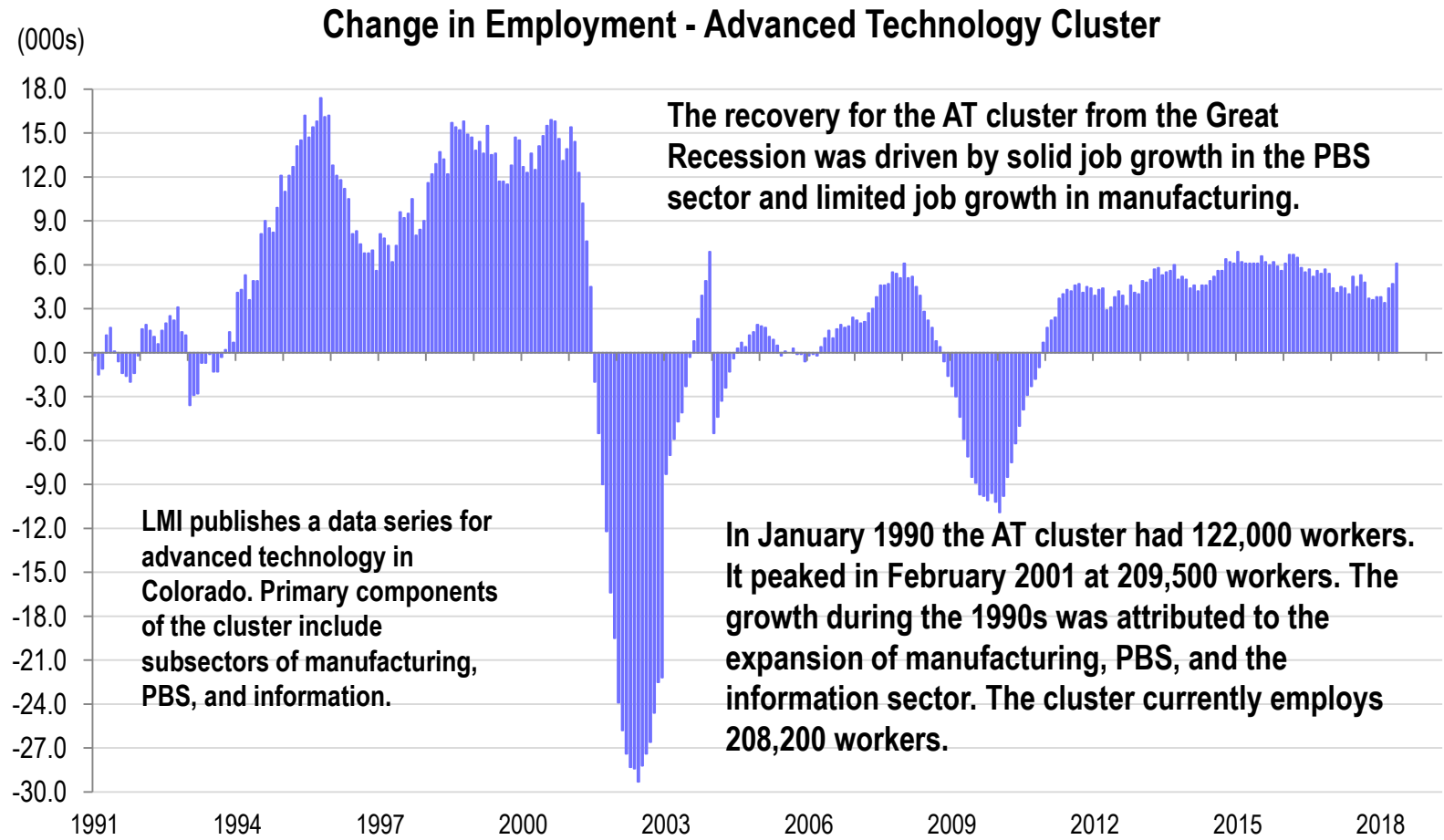
YOY Change in Colorado Establishments

Accommodations and Food and Beverage



Source: BLS, cber.co.

Change in Colorado Employment Advanced Technology Cluster



Source: Labor Market Information, <https://www.colmigateway.com/gsipub/index.asp?docid=370m>, CDLE, cber.co.

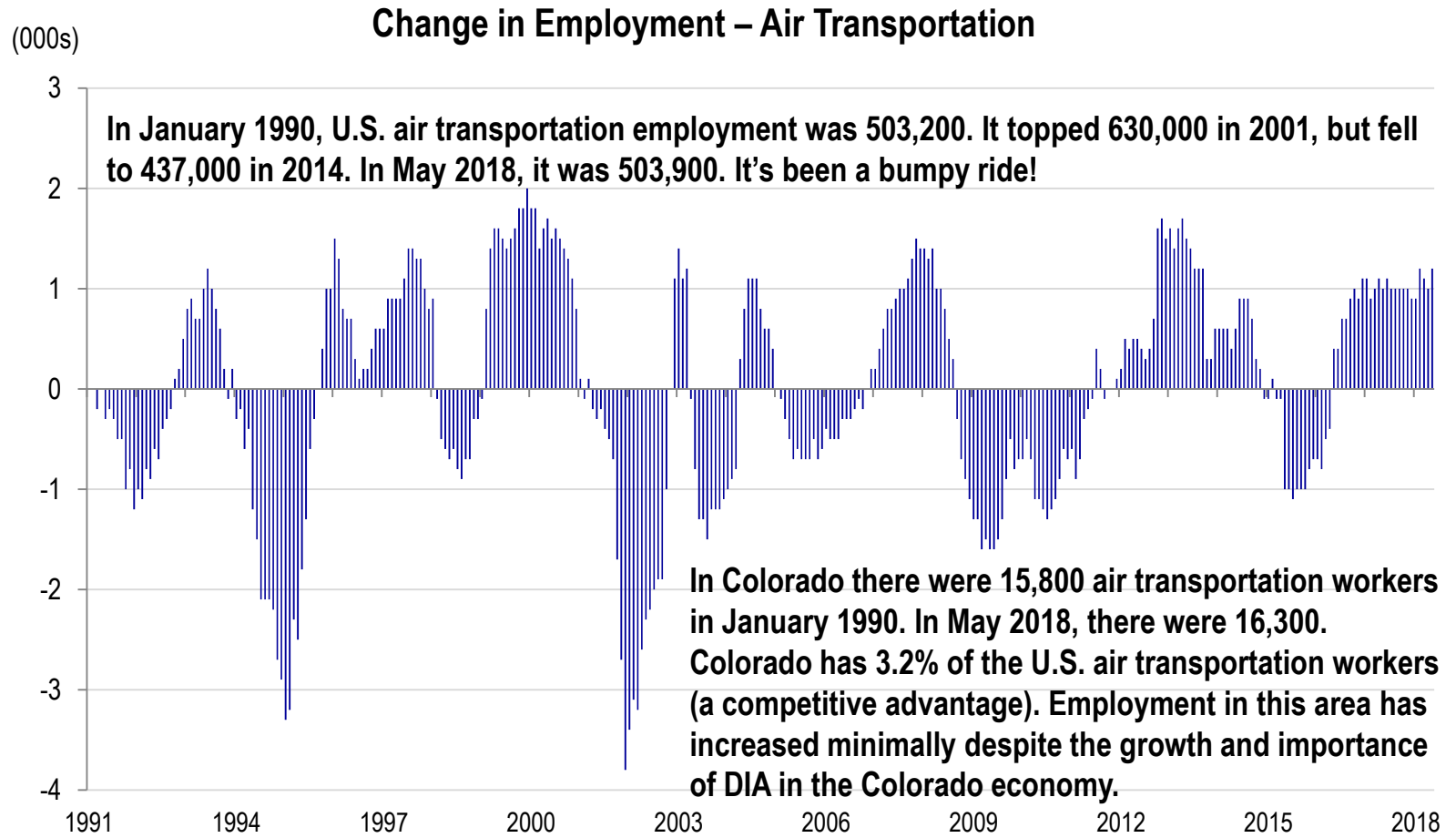


Colorado

Job Growth – Select Sectors – Air Transportation; Truck Transportation; Credit Intermediaries; Insurance; Telecommunications; and Architecture and Engineering Services

YOY Change in Colorado Employment

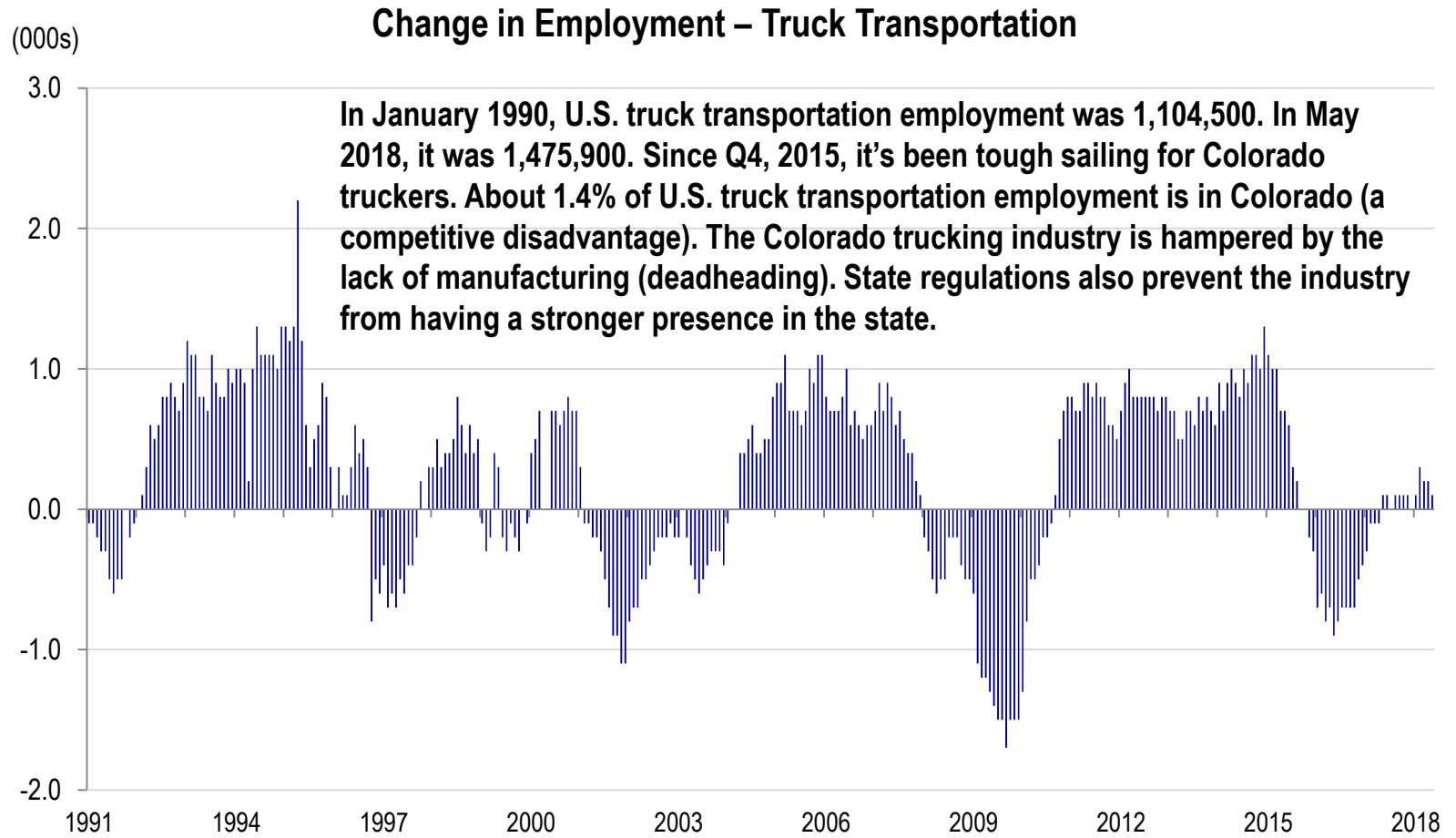
Air Transportation



Source: BLS, cber.co.

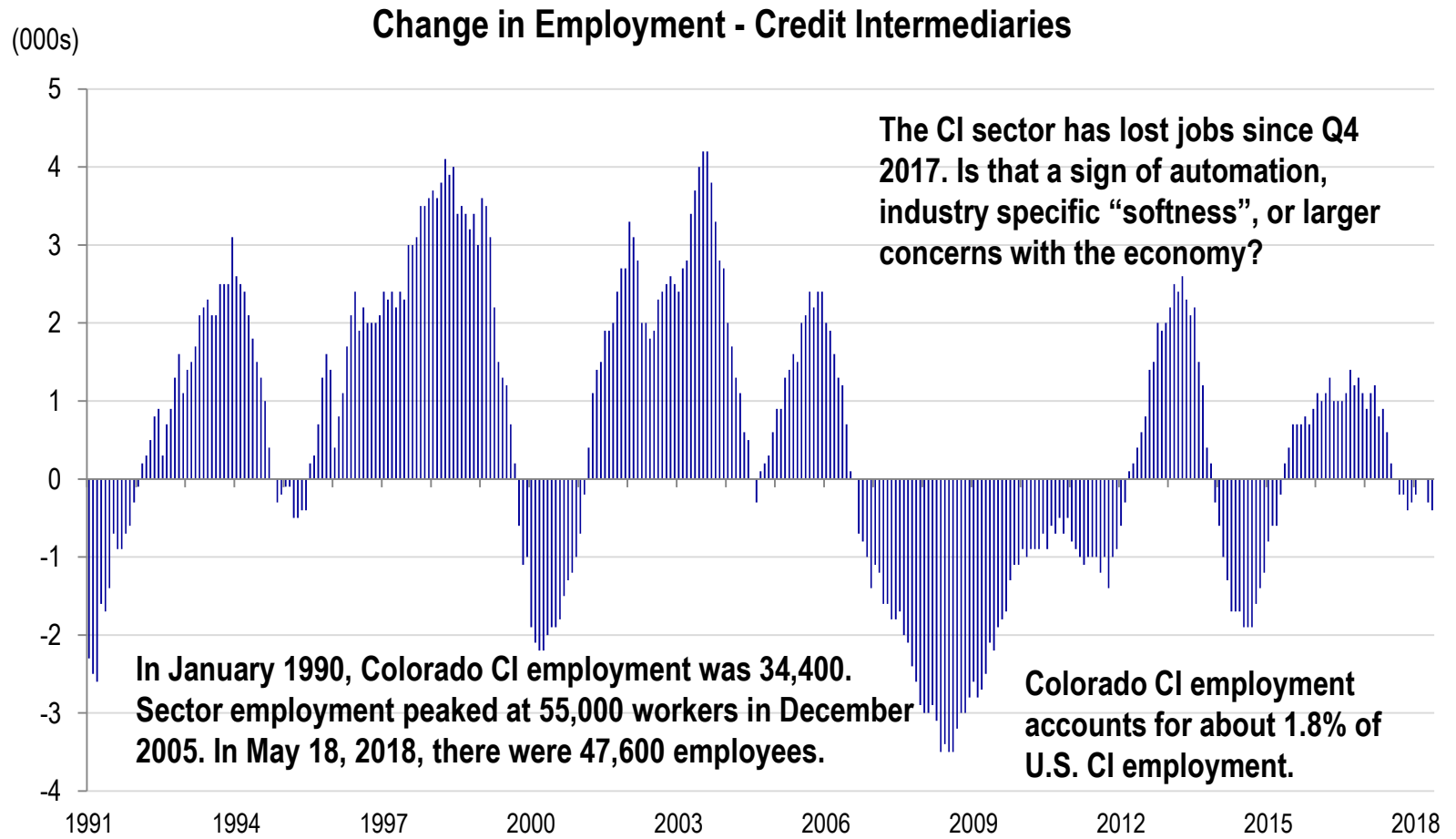
YOY Change in Colorado Employment

Truck Transportation



Source: BLS, cber.co.

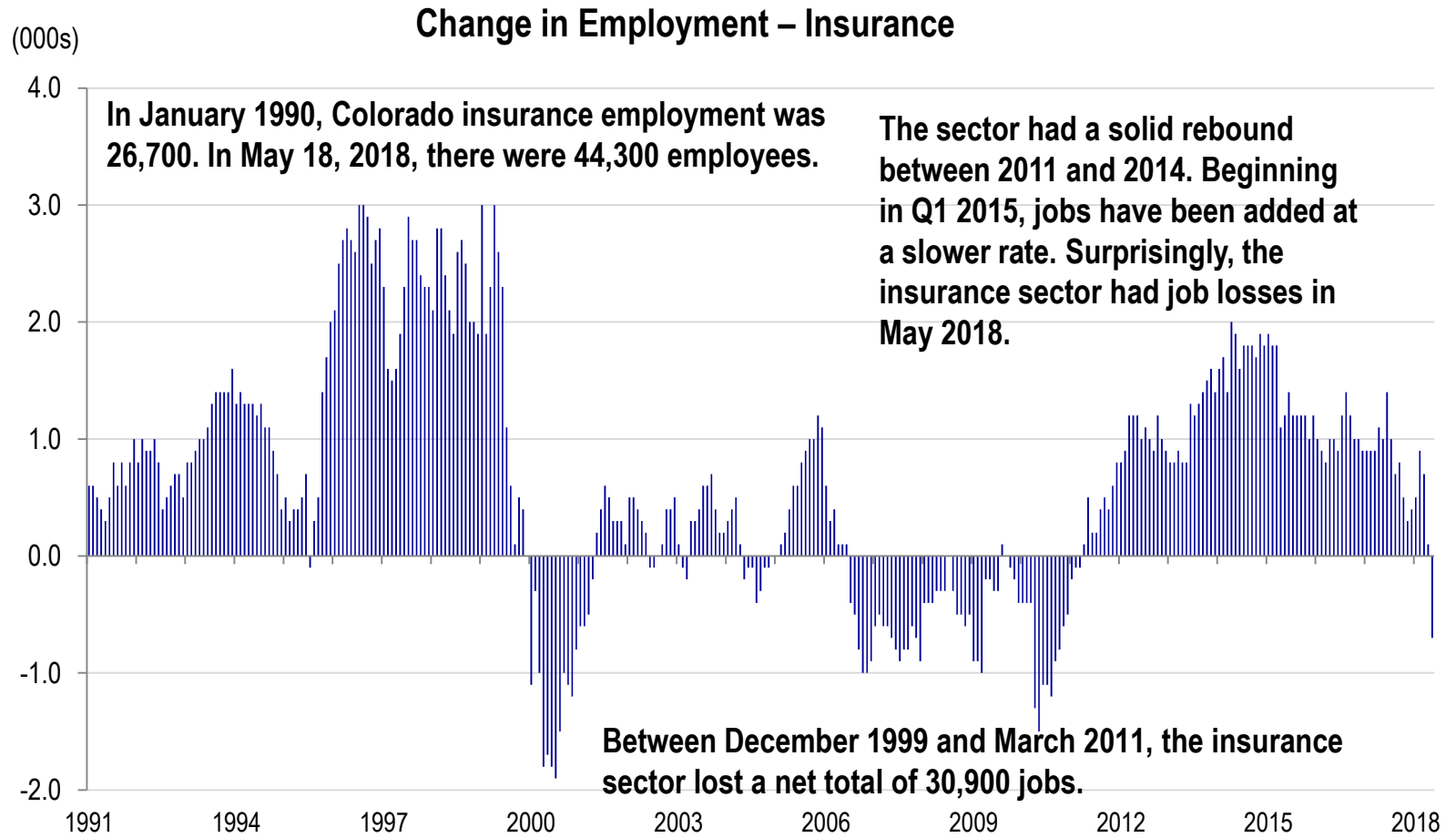
YOY Change in Colorado Employment Credit Intermediaries



Source: BLS, cber.co.

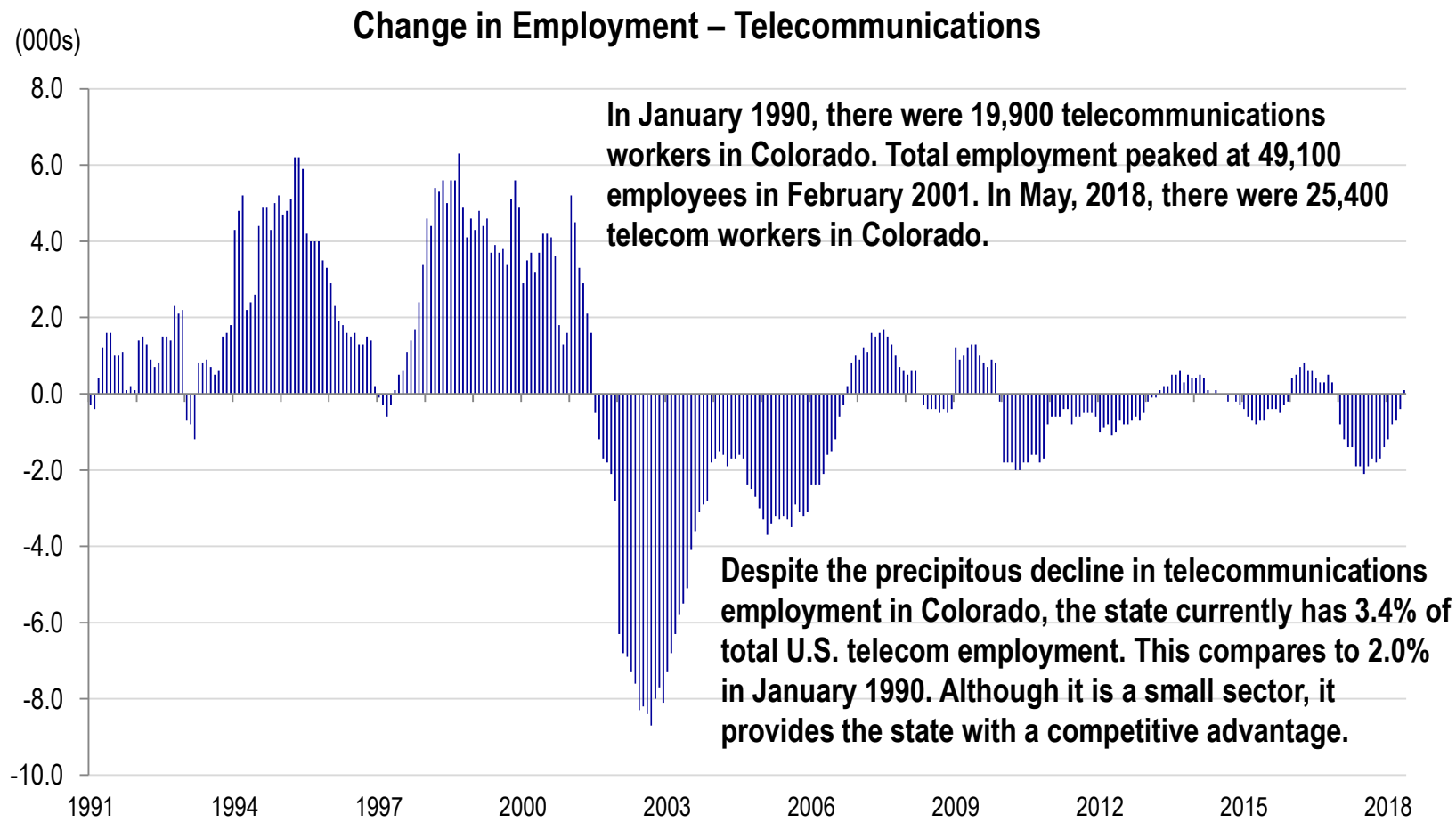
YOY Change in Colorado Employment

Insurance



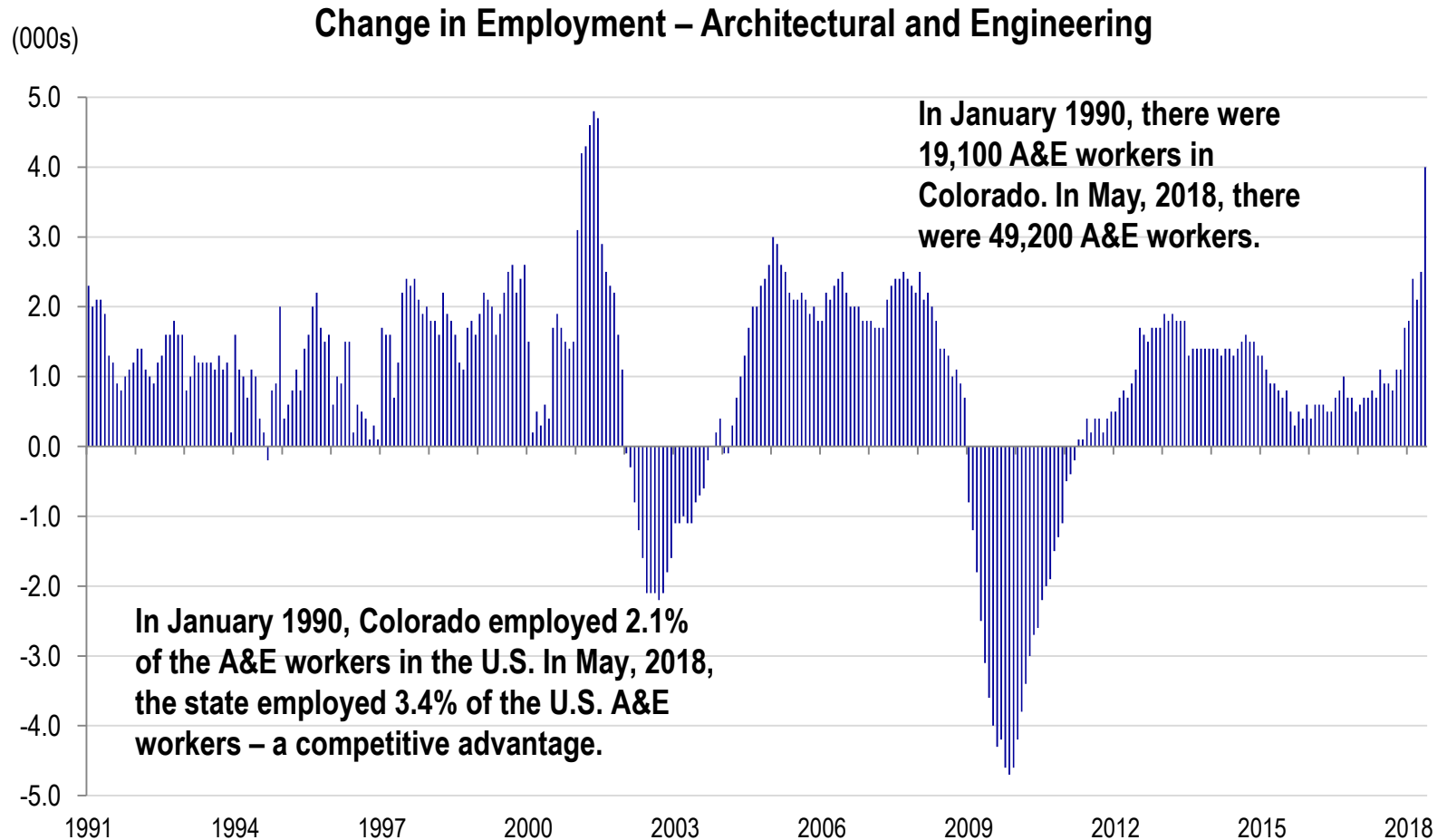
Source: BLS, cber.co.

YOY Change in Employment Telecommunications



Source: BLS, cber.co.

YOY Change in Colorado Employment Architectural, Engineering and Related Services



Source: BLS, cber.co.



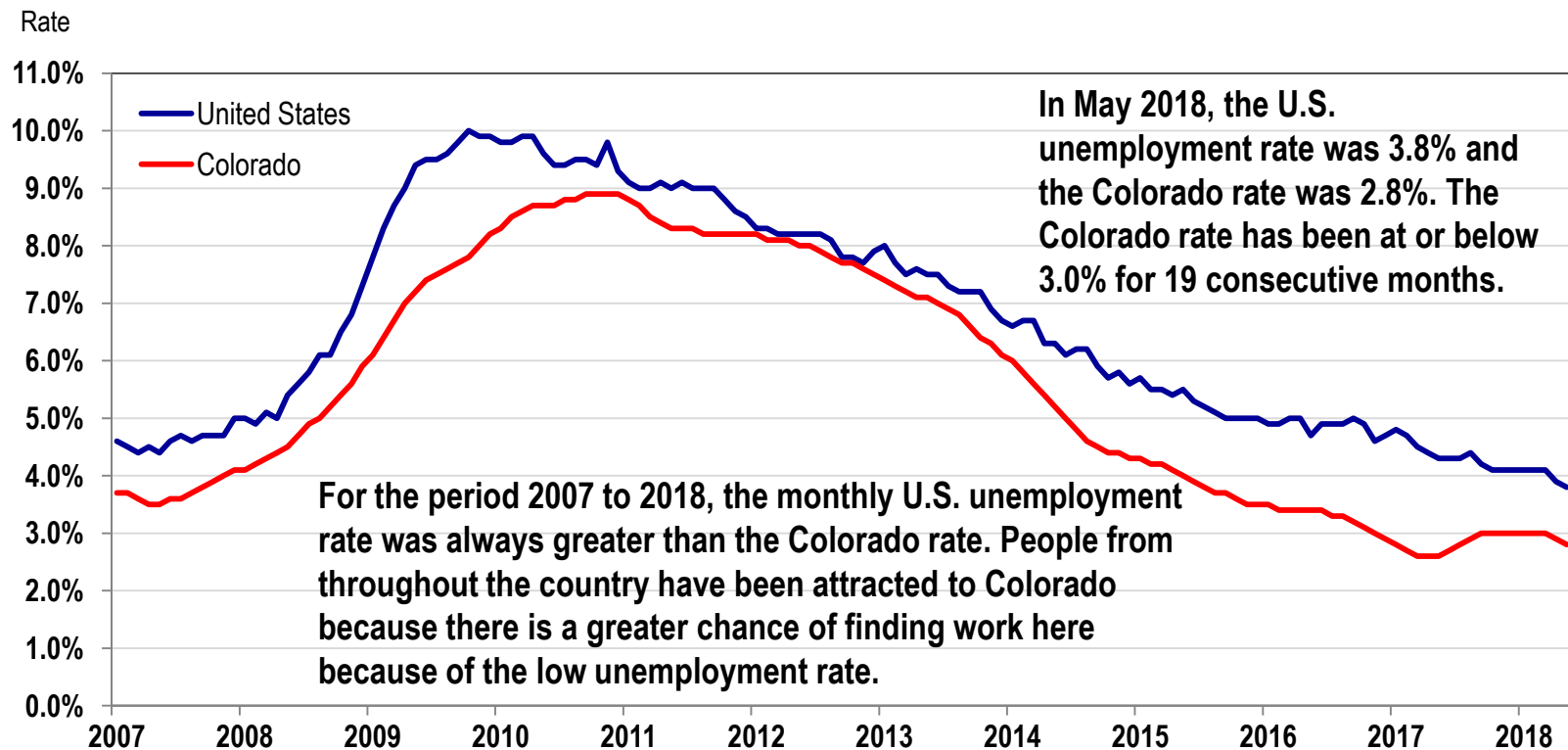
The Colorado Economy

Unemployment and Change in Labor Force

Annual Unemployment Rate

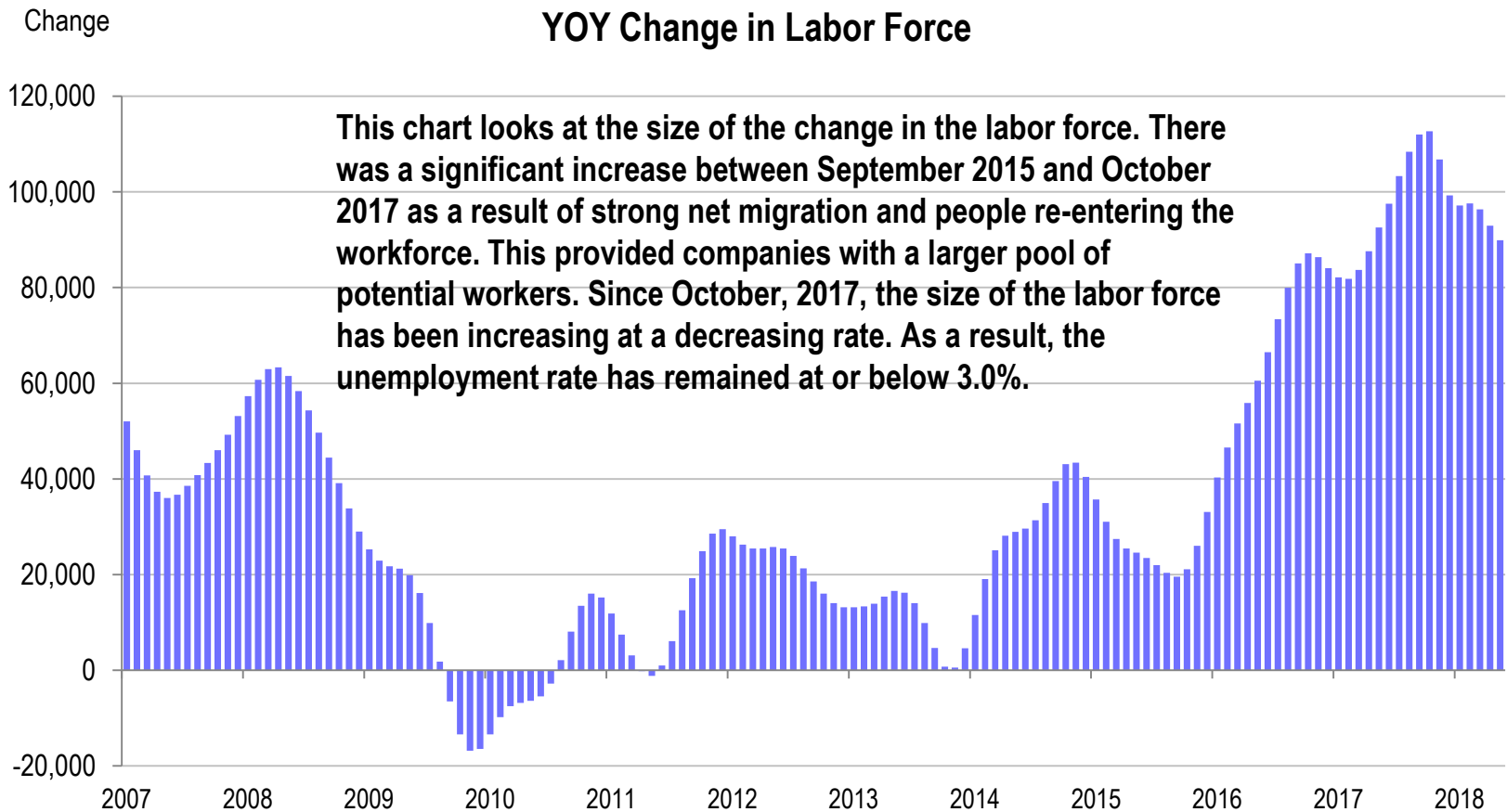
Colorado vs. U.S.

Unemployment Rate – Colorado vs. U.S.



Source: Bureau of Labor Statistics, cber.co.

YOY Change in Colorado Labor Force



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

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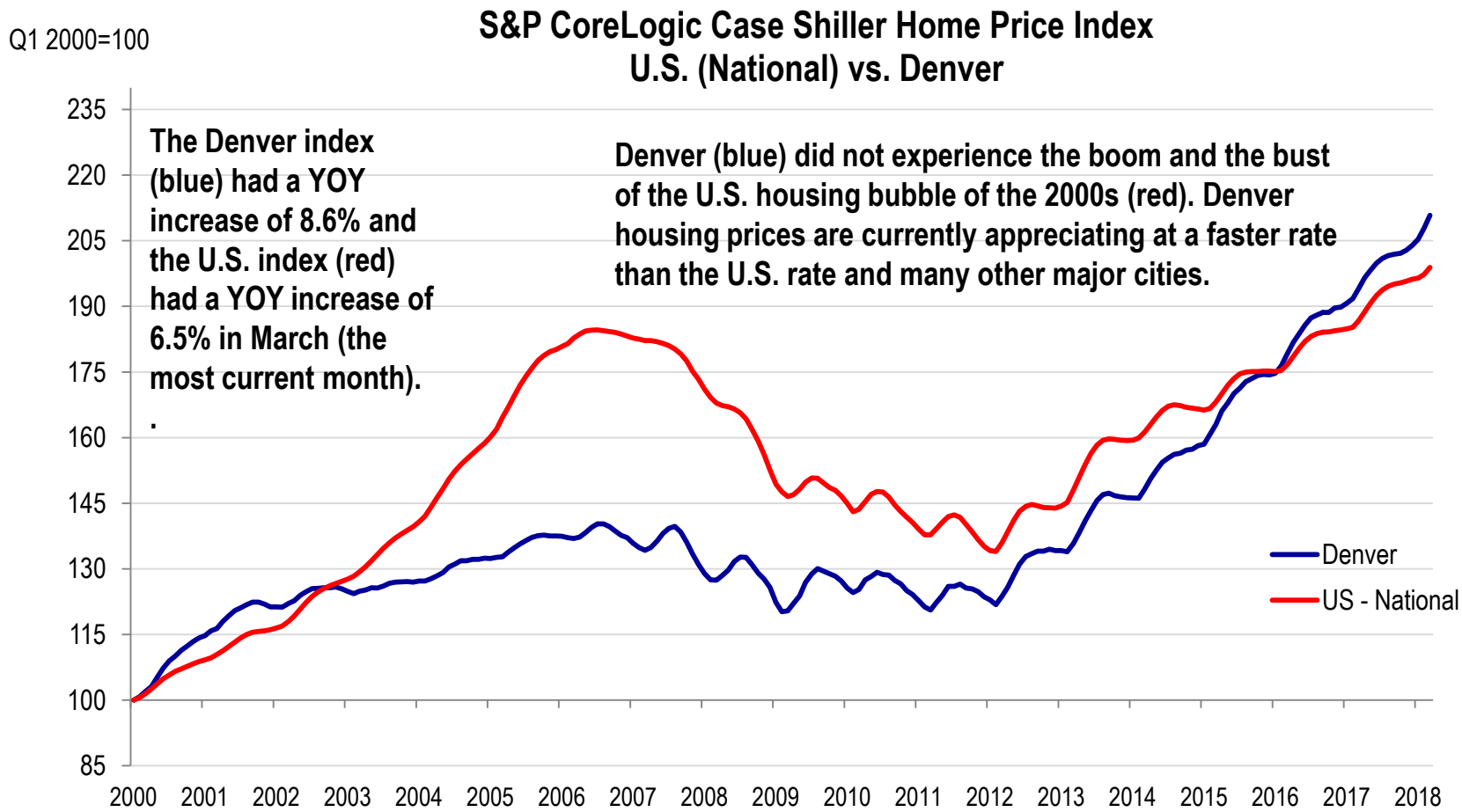


The Colorado Economy

Housing Prices and Building Permits

Case Shiller Home Price Index

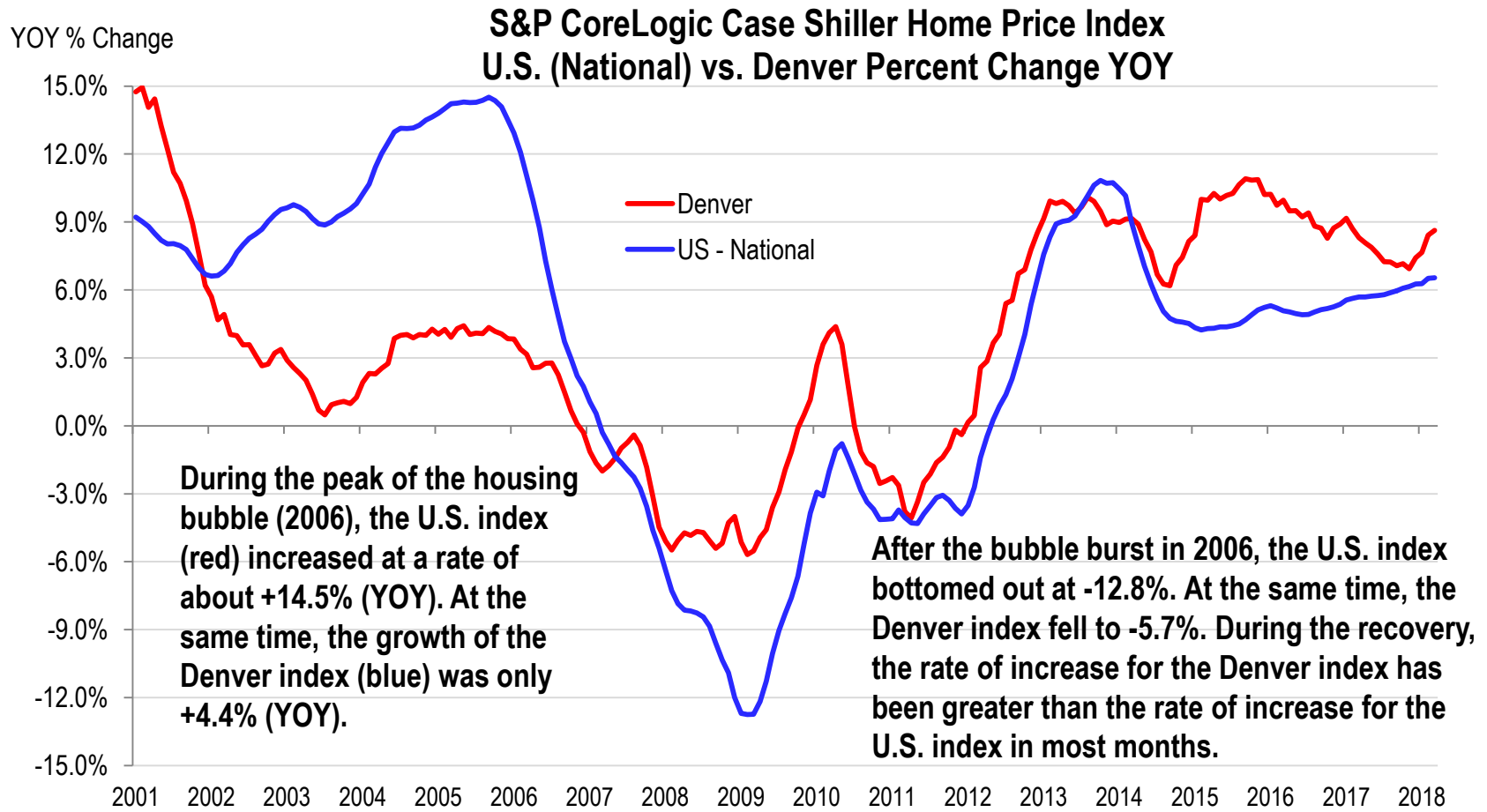
National vs. Denver Index Value



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

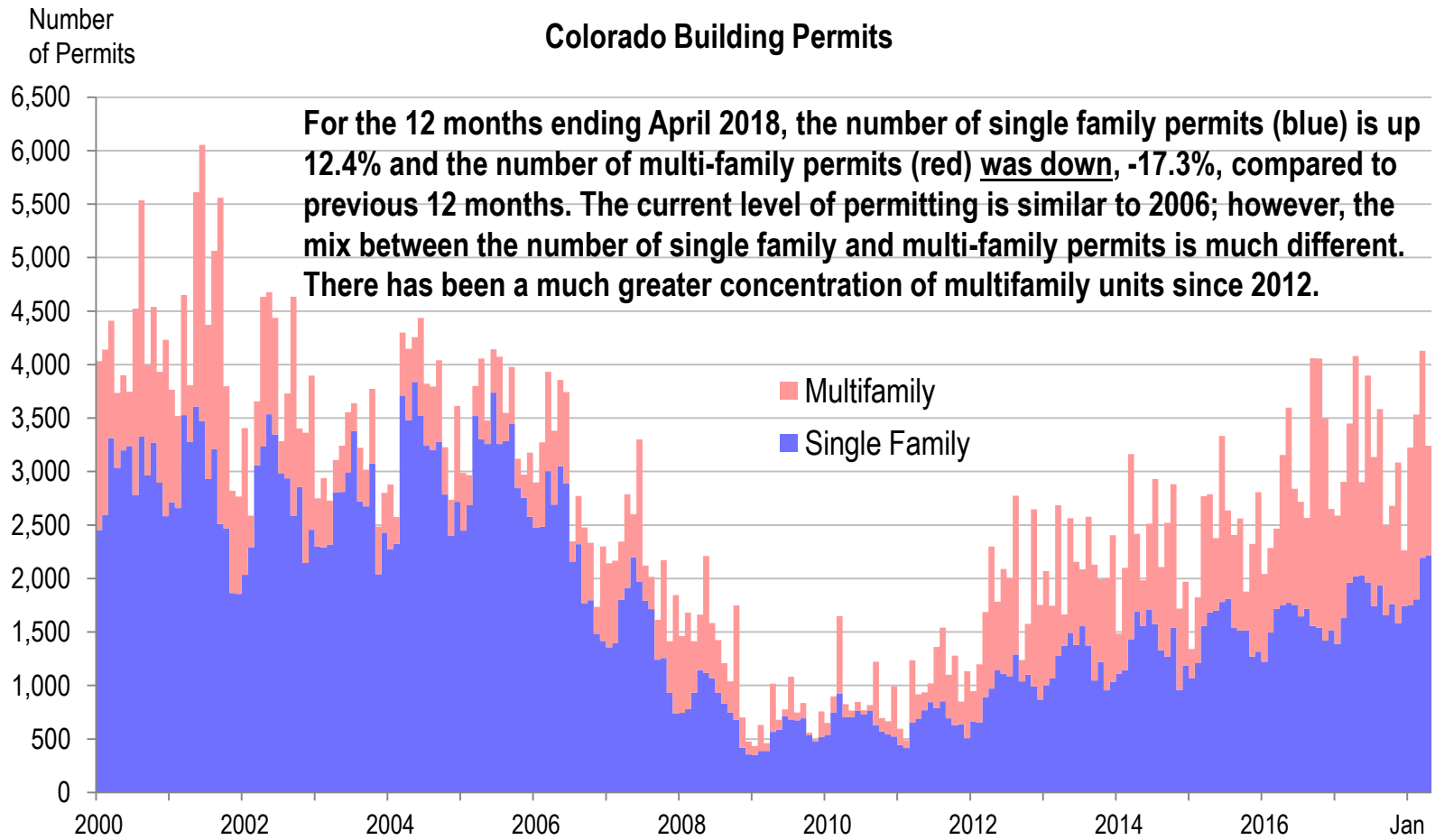
Case Shiller Home Price Index

National vs. Denver YOY Rate of Change



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

Colorado Residential Building Permits - Units



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

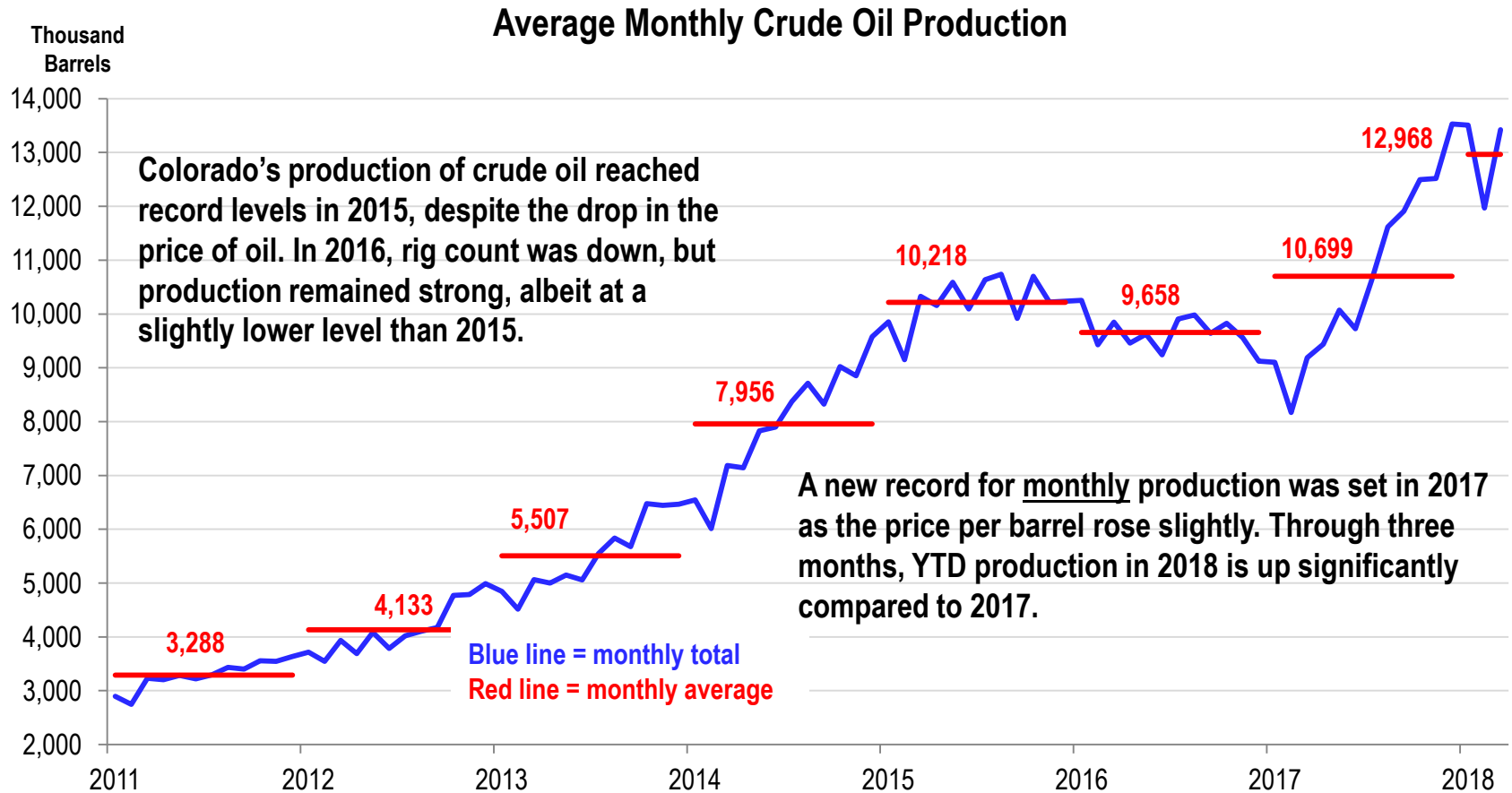


The Colorado Economy

Oil Production, DIA Passengers, and Vehicle Registrations

Average Monthly Field Production of Crude Oil

2011 to 2018 (Thousand Barrels)



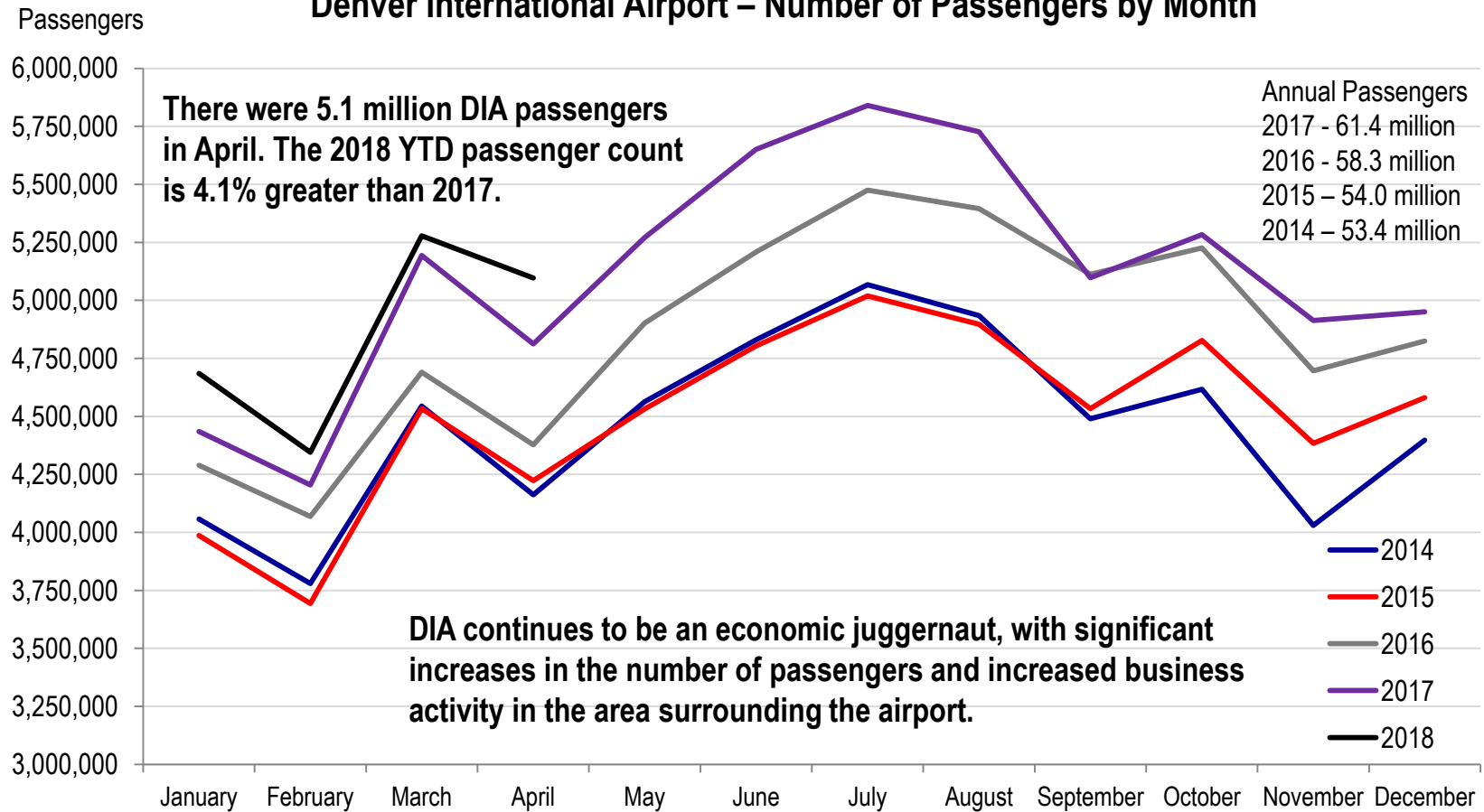
Source: EIA, cber.co.

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Denver International Airport

Passengers

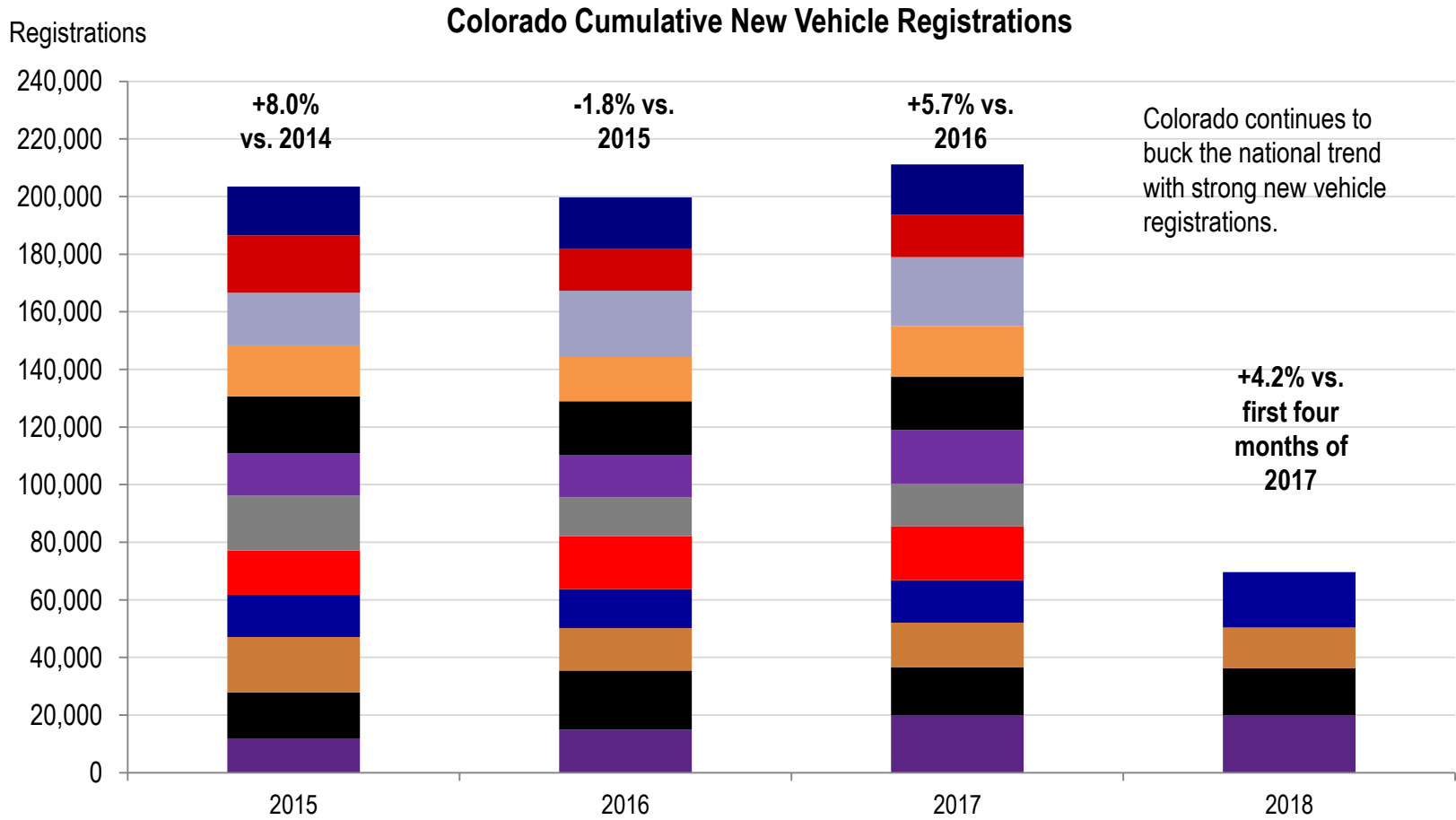
Denver International Airport – Number of Passengers by Month



Source: FlyDenver.com, cber.co.

Cumulative Colorado New Vehicle Registrations

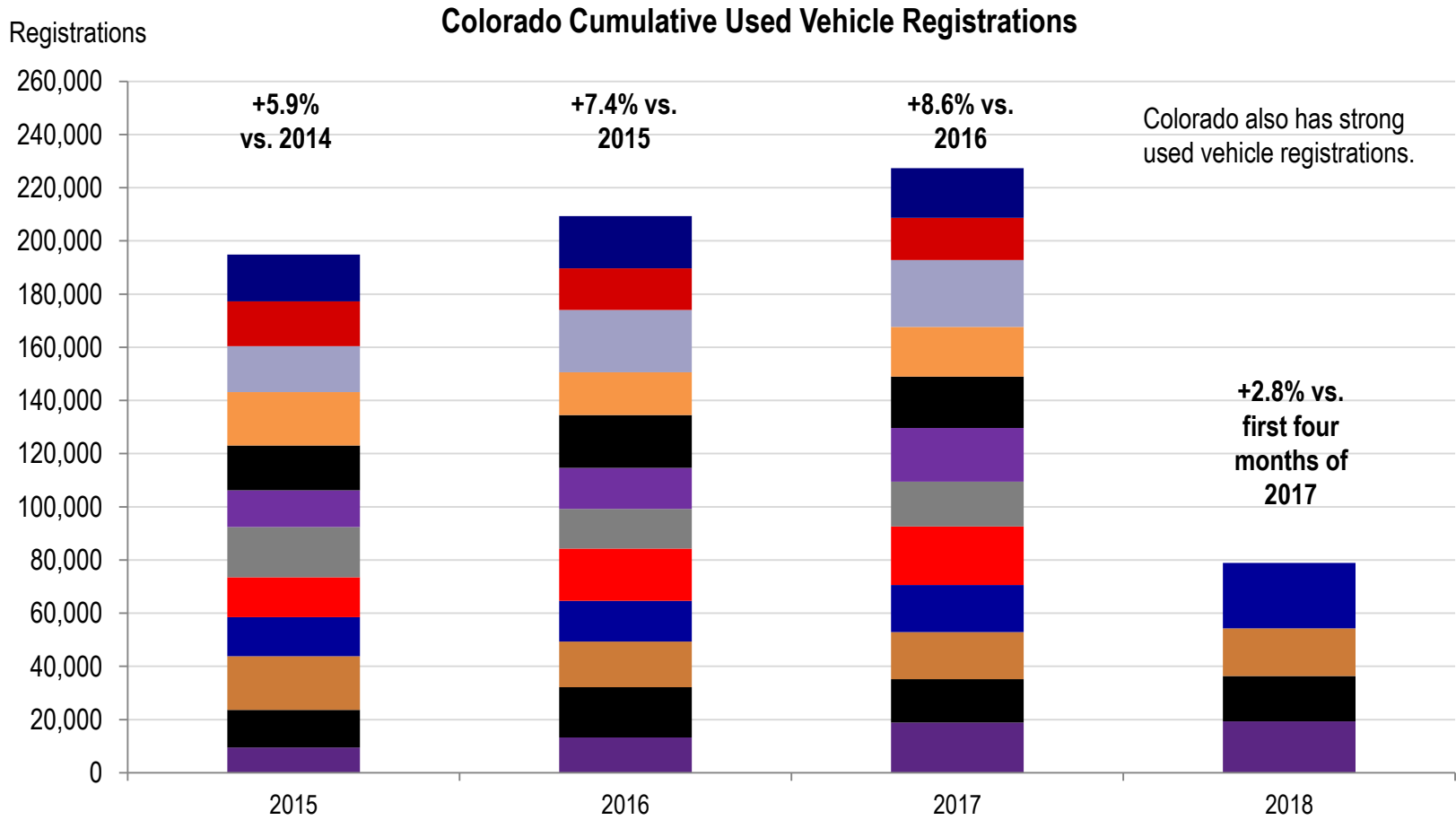
Monthly Registrations



Source: Colorado Auto Dealers Association, cber.co. Note: Data is in descending order with December at the top and January at the bottom, not adjusted for inflation.

Cumulative Colorado Used Vehicle Registrations

Monthly Registrations



Source: Colorado Auto Dealers Association, cber.co. Note: Data is in descending order with December at the top and January at the bottom, not adjusted for inflation.



The Colorado Economy

Summary



Summary

Colorado

The U.S. Economy is on solid footing. This provides a foundation for a solid Colorado economy (column on the left). As is always the case, there are headwinds (column on the right).

Positives

- Solid and broad-based job growth.
- Solid GDP growth.
- Wage growth appears to be improving.
- Strong consumption.
- Strong reputation as a place to live and do business.

Concerns

- Companies have struggled to find qualified and clean workers because of the low unemployment rate.
- Colorado's rate of inflation is greater than the U.S.
- The rate of wage growth has been less than the rate of inflation.
- The rate of appreciation in housing is important to homeowners, but housing is unaffordable and unattainable for some newcomers and first time buyers.
- Continued net migration is necessary to fill new jobs, but it puts a strain on the infrastructure and state budget.
- There is insufficient funding to improve the state's infrastructure, even with the transportation and broadband legislation that was passed this last session.

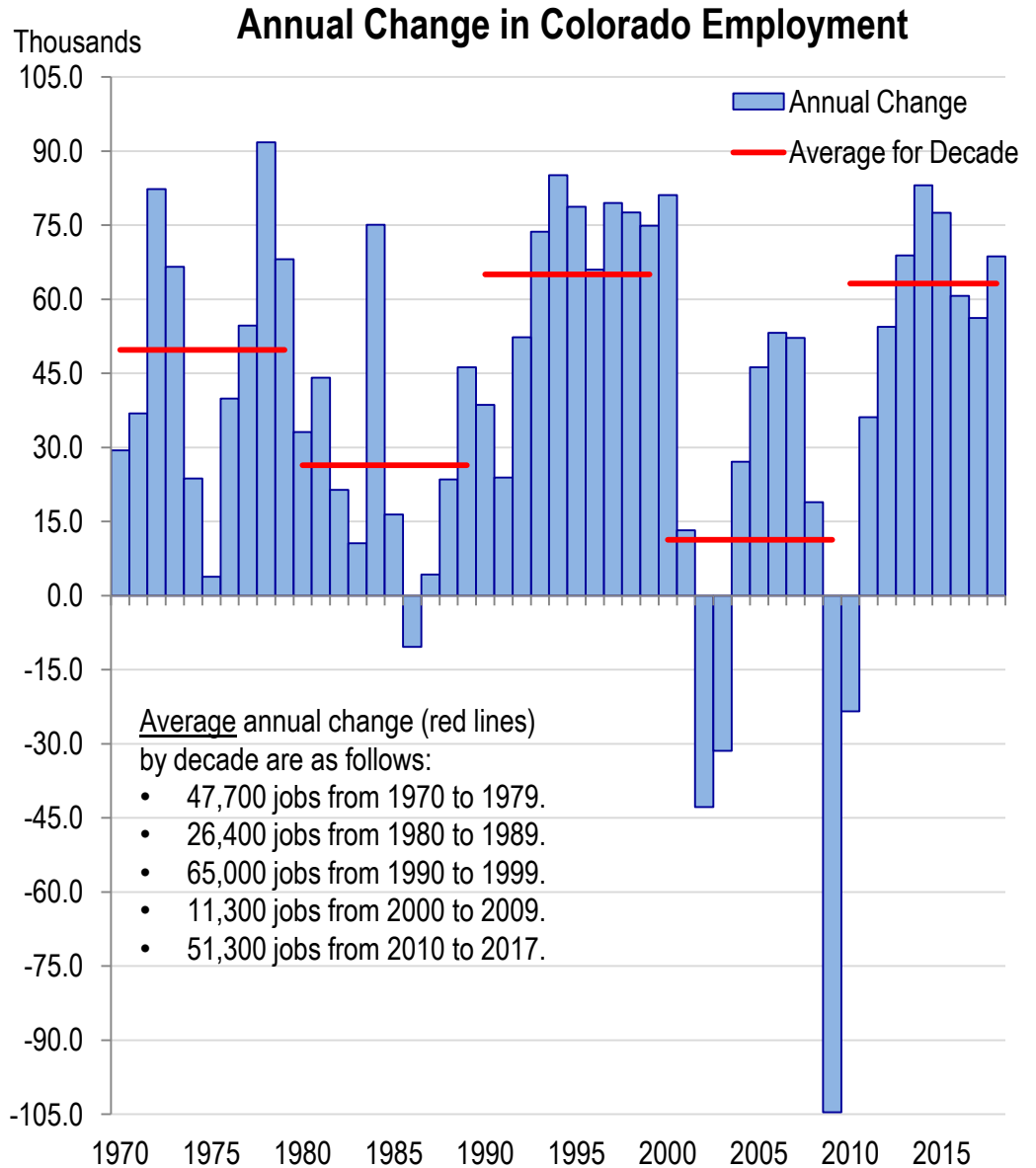
There will be new leadership in the executive and legislative branches of the state government in January 2019 because of term limits. The last two sessions of the state legislature have been productive because critical fiscal issues were addressed with some success. Will that same continuity continue in the future.

● Annual Employment
 ● Change in Colorado
 ● Employment

Employment for the first five months of 2018 is 68,700 jobs greater than the same period in 2017. The number of jobs increased at a rate of 2.6%.

The state added 56,200 jobs in 2017 and employment increased by 2.2%. The cber.co forecast for 2018 calls for slightly slower job growth than 2017, in the range of 1.9% to 2.1%.

On average, employment for the first 9 years of this decade has increased at an average of 63,200 jobs.



Source: Bureau of Labor Statistics, cber.co.



cber.co Review of Colorado Employment Data through May 2018

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.

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For additional information contact cber.co at cber@cber.co.

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, Broomfield Economic Development Corporation, and Colorado Photonics Industry Association. Horvath has also been the lead for the photonics/electronics cluster in OEDIT’s early stage and proof of concept grant programs.