



cber.co Colorado Economic Review Through February 2016

Colorado-based Business and Economic Research
Prepared
April 1, 2016



Overview of Economic Review

This chartbook provides a series of charts, graphs, and discussions that review changes in the global, U.S. and Colorado economies. The state added 83,000 jobs in 2014 and 76,300 jobs in 2015. It is on track to add 67,000 jobs in 2016. This review is divided into the sections listed below.

Global and U.S. Economy

- Global GDP
- U.S. Economy
 - Real GDP
 - Labor
 - Manufacturing, Services, Value of the Dollar, Profits
 - Equities, Commodities, and Real Estate

The Colorado Economy

- Overview
- Employment, Unemployment, Wages
- Personal Income, Population, and Per Capita Personal Income
- Broad Based Growth
- Summary of Outlook for 2016

Where is the U.S. Economy Headed?

There was mixed economic news during the first quarter of 2016. The data told a story of a solid U.S. labor market and an economy that was struggling.

The Economy is in Trouble

- Janet Yellen said there should be only two rate hikes this year instead of four, i.e. a vote of “no-confidence”.
- Oil prices were in the high \$20s.
- In early February the S&P closed near 1,830, down from 2,100+ in November.
- The IMF lowered projections for global growth.
- The dollar got much stronger.
- The ISM index for manufacturing was below 50 between October 2015 and February 2016.
- Manufacturing shipments decreased.
- Corporate profits decreased.
- Pending home sales were trending downward.

The Economy is on Solid Footing

- Janet Yellen said the economy was strong enough for two rate hikes this year, i.e. a vote of confidence.
- Oil prices rebounded and topped \$40 per barrel.
- In mid-March the S&P regained 200 points and reached 2,050.
- Fears of a recession diminished with decreased volatility in the equity markets.
- The ISM index for non-manufacturing companies remains above 50, although it has declined.
- There was continued solid U.S. job growth.
- Job openings are trending upwards.
- Unemployment continued to decline, with a slight uptick in March.
- Wages continued to increase at a rate greater than inflation.
- Housing prices continued to show strong appreciation.



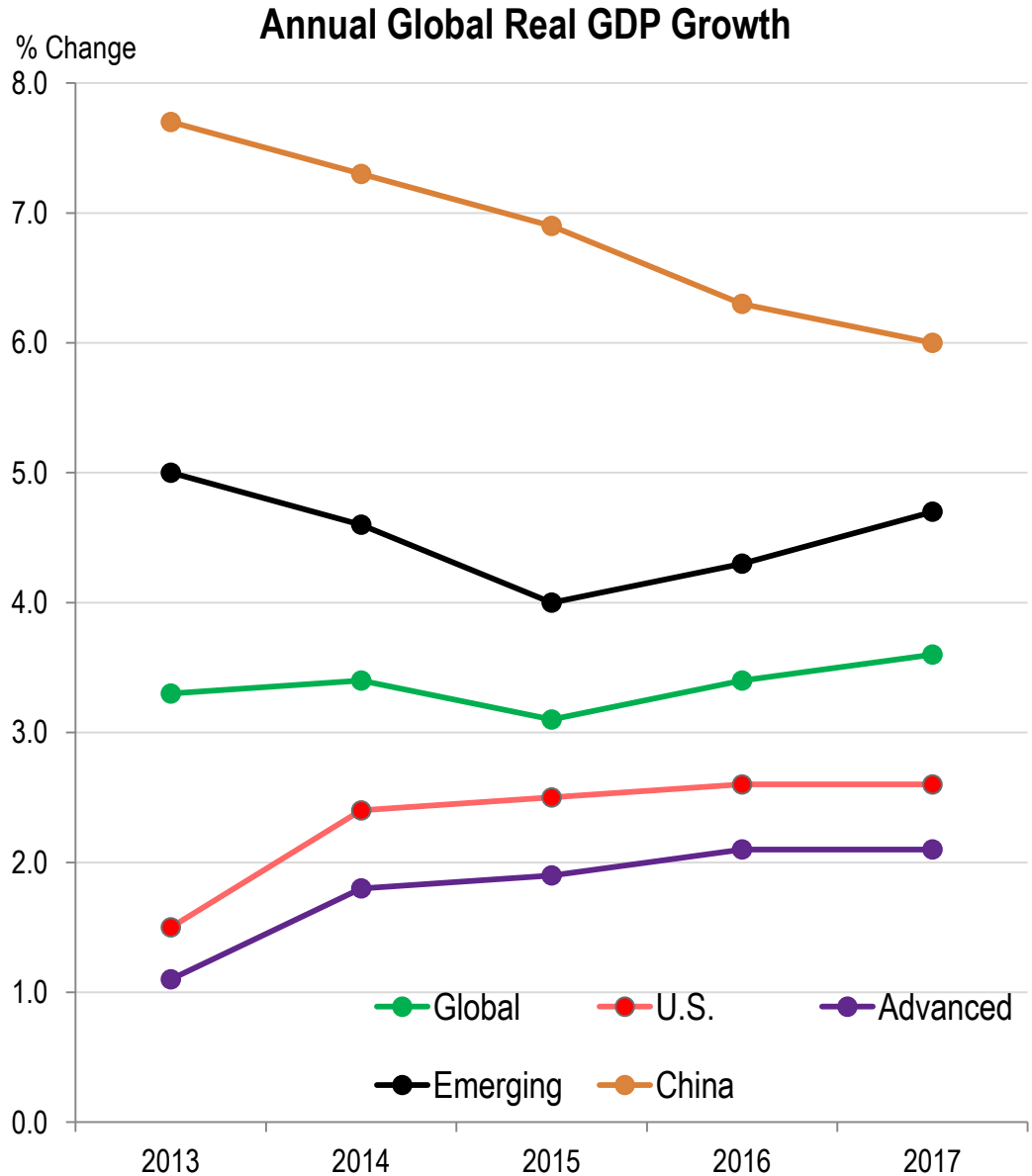
Global GDP

Global Real GDP Growth



In January the International Monetary Fund updated its global forecasts. Their forecast for GDP growth in China was unchanged. The forecasts for global, advanced economies, and U.S. GDP growth rates were lowered.

The IMF projected that global GDP growth (green) would decline in 2015 as a result of the slowdown in the rate of GDP growth in China (gold) and lower oil prices. It would then increase to 3.4% in 2016 and 3.6% in 2017 with about 70% of the growth occurring in emerging countries (black line).



Source: IMF, January 2016.

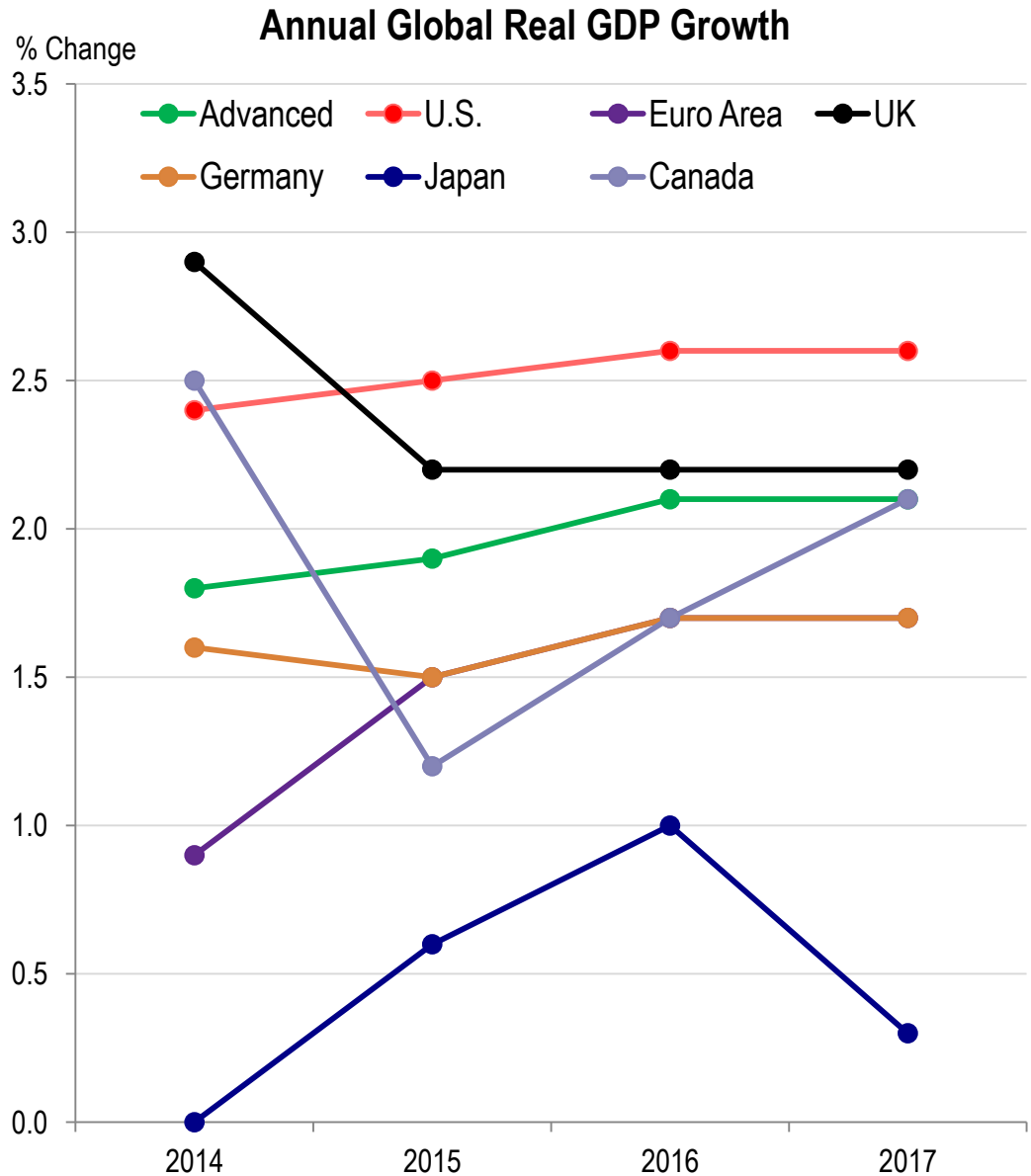
Global Real GDP Growth

Advanced Countries



In January the International Monetary Fund projected that GDP growth for the advanced countries (green) would increase slightly in 2015 and 2016 and flatten out in 2017.

The growth in most advanced countries will remain flat in 2017, with a decline in Japan (navy) and an increase in Canada (light blue). The growth of Germany and the Euro area are the same for 2015, 2016, and 2017.



Source: IMF, January 2016

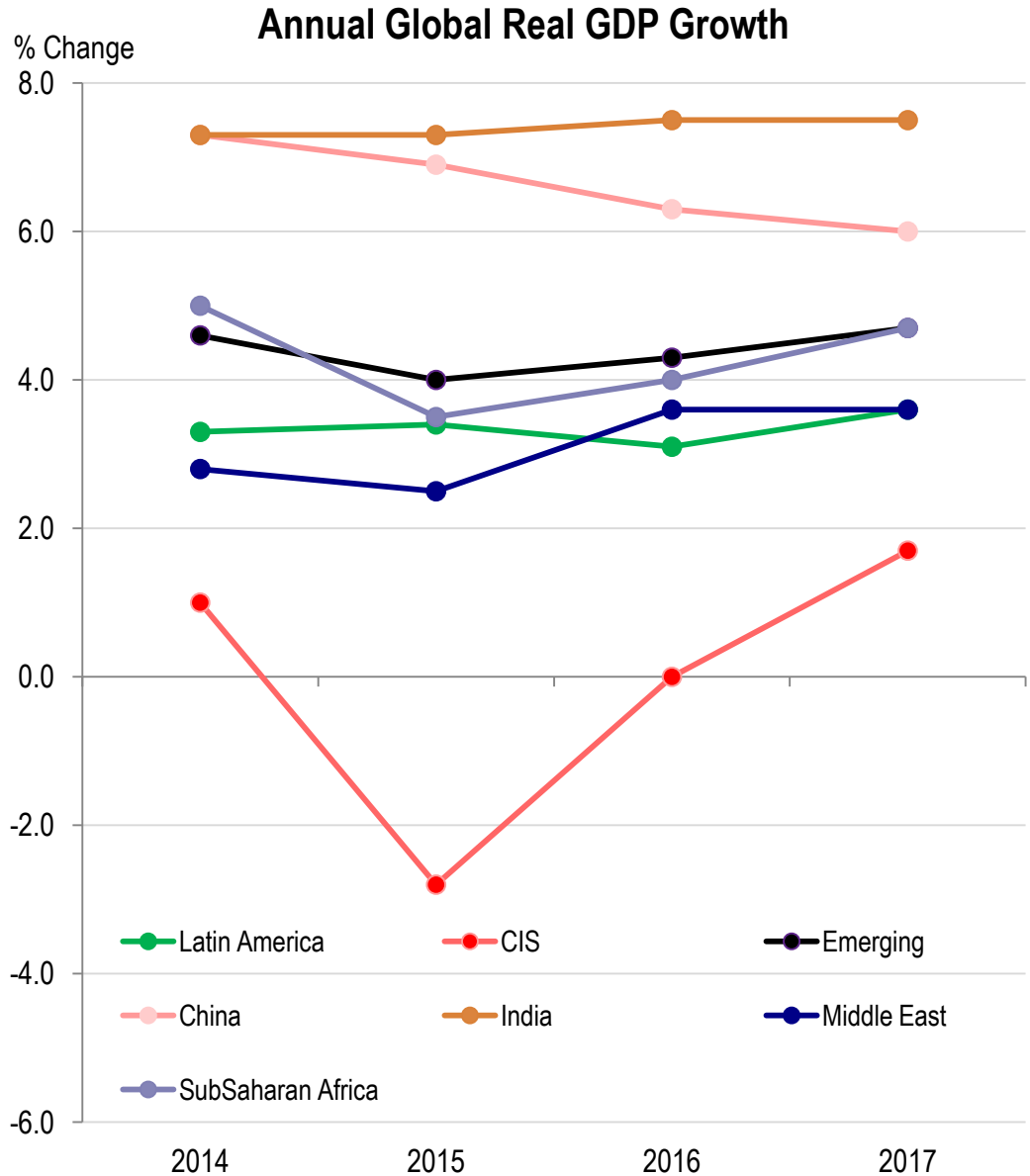
Global Real GDP Growth

Emerging and Developing Countries

The International Monetary Fund projected that GDP growth for global emerging countries (black) would decline in 2015 and advance to 4.3% in 2016 and 4.7% in 2018.

The most notable decline will occur in the Chinese GDP (pink). The GDP of India (beige) will remain at 7.5% in 2016 and 2017.

The CIS economy (red) was negative, primarily because of the recession in Russia. By 2017 it will have recovered and will see growth of 1.7%.



Source: IMF, January 2016.



The United States Economy

Real GDP

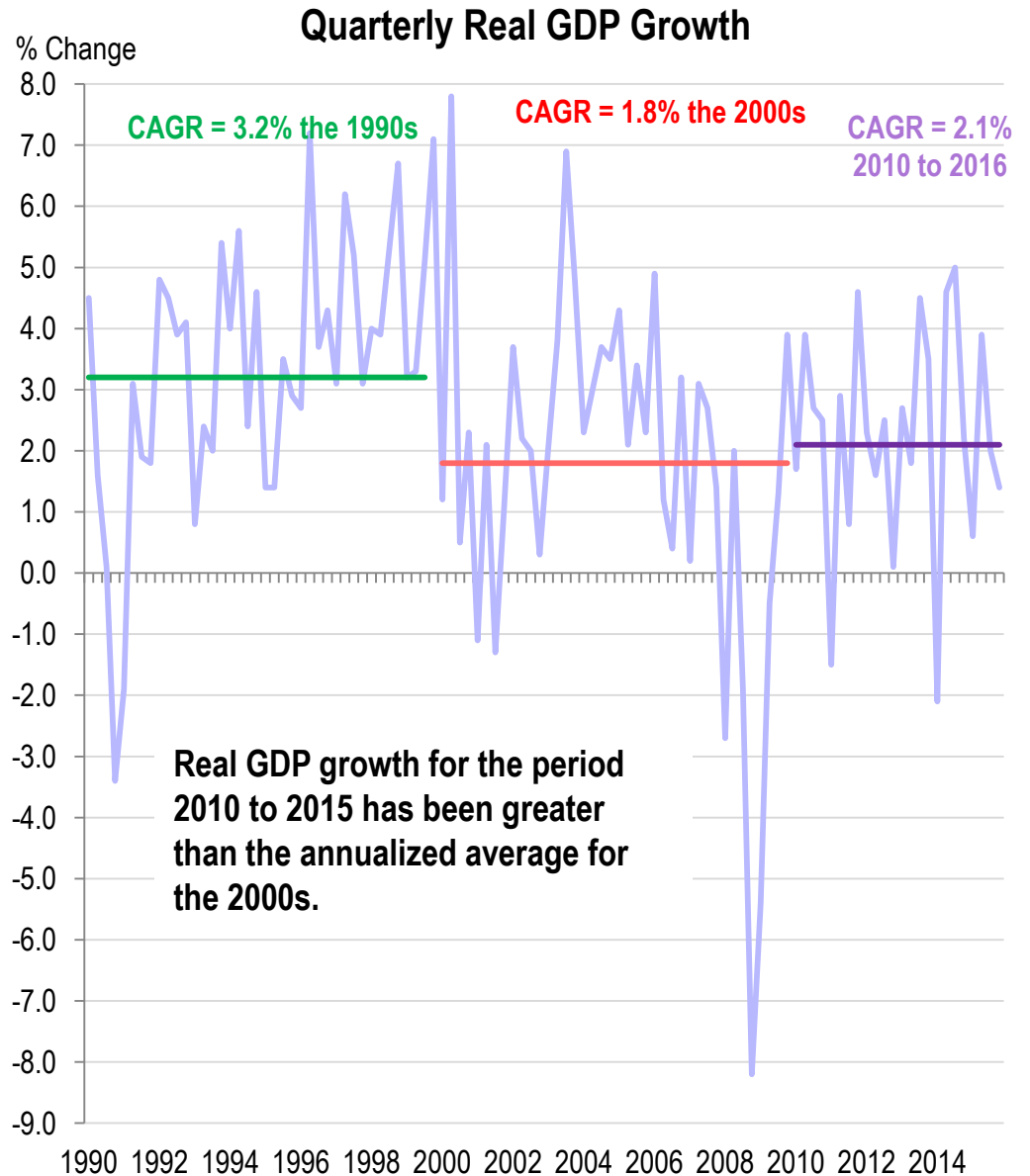
Real US GDP Growth Quarterly

Annualized real GDP growth for the 1990s was 3.2% (green line). It was 1.8% for the 2000s (red line) and 2.1% from 2010 to 2015 (purple line).

Real GDP growth for Q4 2015 was revised upward to 1.4% and the total for the year was 2.4%.

Real GDP growth for recent years was:

- 2010 2.5%
- 2011 1.6%
- 2012 2.2%
- 2013 1.5%
- 2014 2.4%
- 2015 2.4%



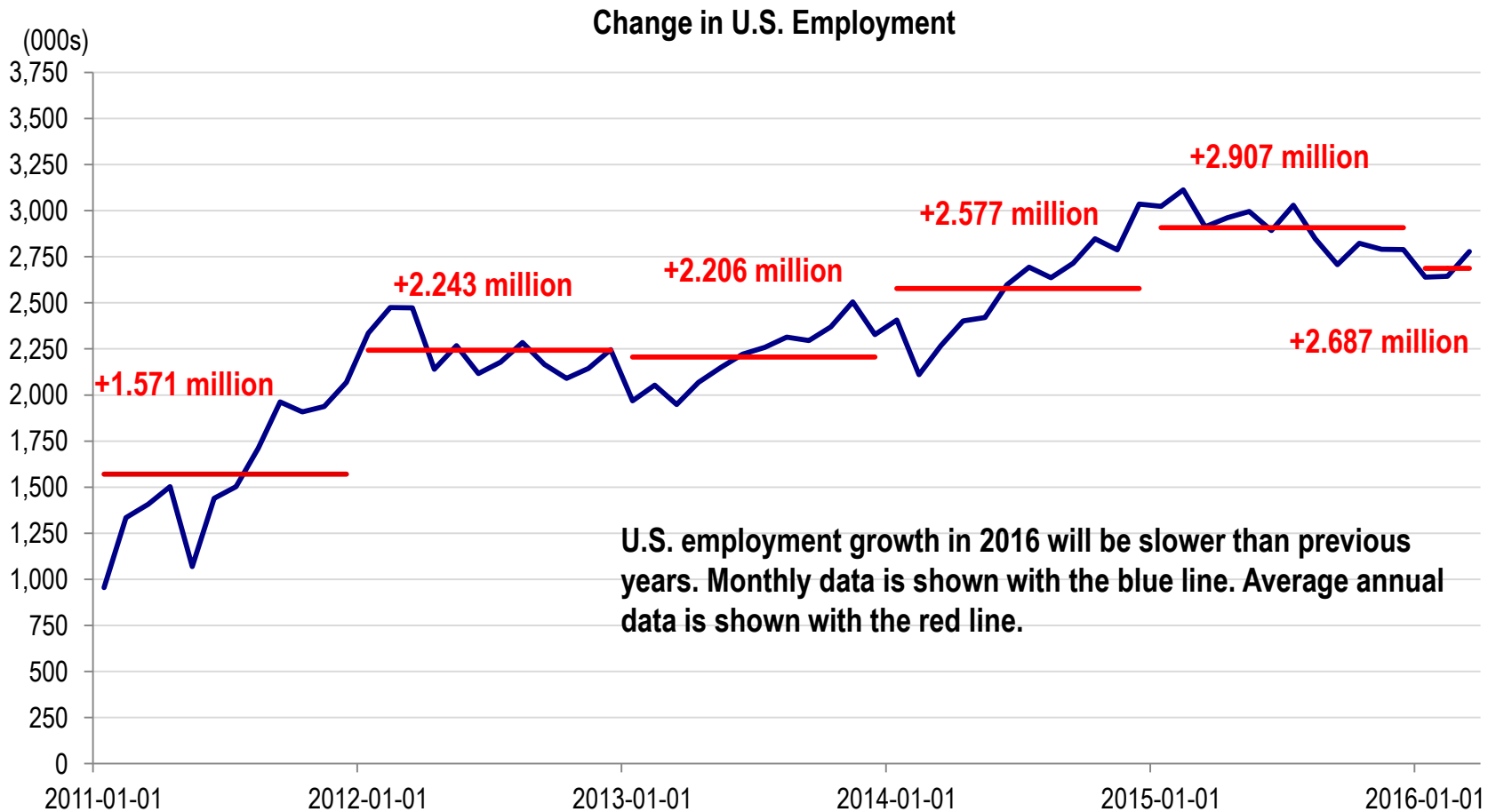
Source: Bureau of Economic Analysis, cber.co, Note GDP chained on 2009.



The United States Economy

Labor

Change in U.S. Employment Year-Over-Year Job Growth



Source: Bureau of Labor Statistics, NSA.

U.S. Unemployment Rate and Number of Unemployed

Both the unemployment rate and number of unemployed have slowly trended downward since peaking in late 2010. They are similar to levels in 2005.

The total number of unemployed (red) was 7.97 million at the end of March. This is 1.2 million above the low point in 2006 and 7.4 million below the high point in 2009.

The unemployment rate for March was 5.0%, unchanged from the end of 2015.

Average unemployment for 2015 was 5.3%, down from 6.2% in 2014 and 7.4% in 2013.



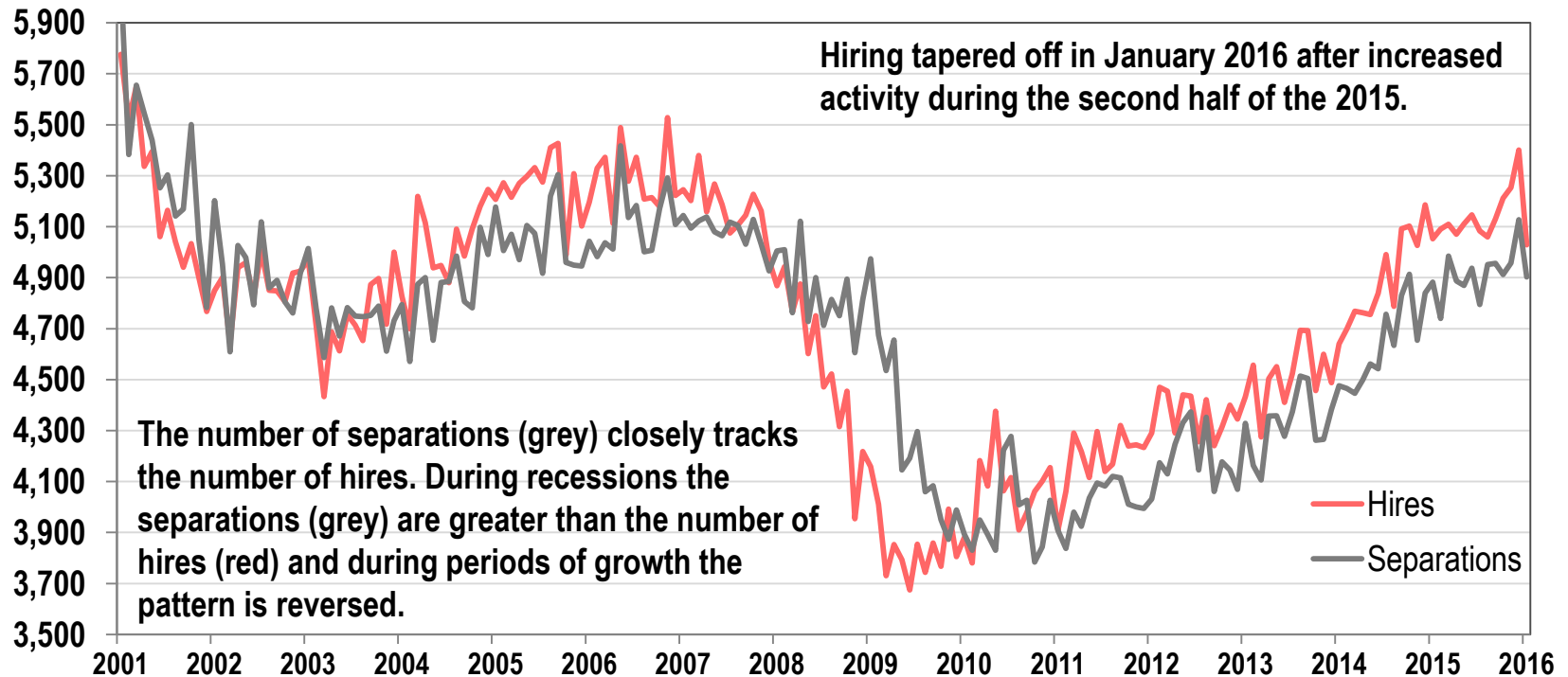
Source: Bureau of Labor Statistics, SA, cber.co.

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U.S. Hires and Separations

Hires and Separations

Thousands

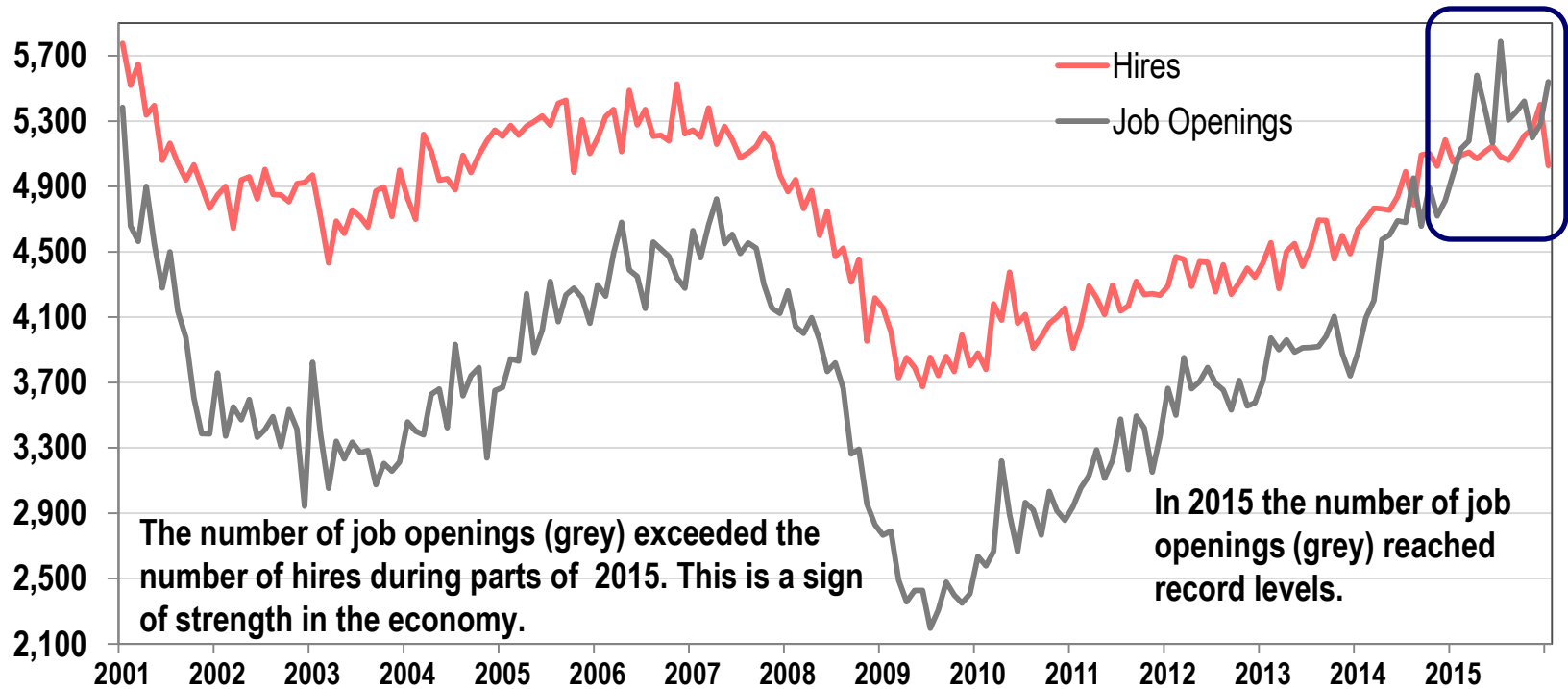


Source: Bureau of Labor Statistics, NSA.

U.S. Job Openings and Hires

Job Openings and Hires

Thousands



Source: Bureau of Labor Statistics.NSA.

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● U.S. Average Weekly Earnings of
● All Employees (Private Sector)

● U.S. Average Weekly Earnings (NSA) for
 all employees were:

- 2012 \$810.46
- 2013 \$825.11
- 2014 \$845.06
- 2015 \$864.10

The rate of increase for these wages was:

- 2012 2.4%
- 2013 1.8%
- 2014 2.4%
- 2015 2.3%

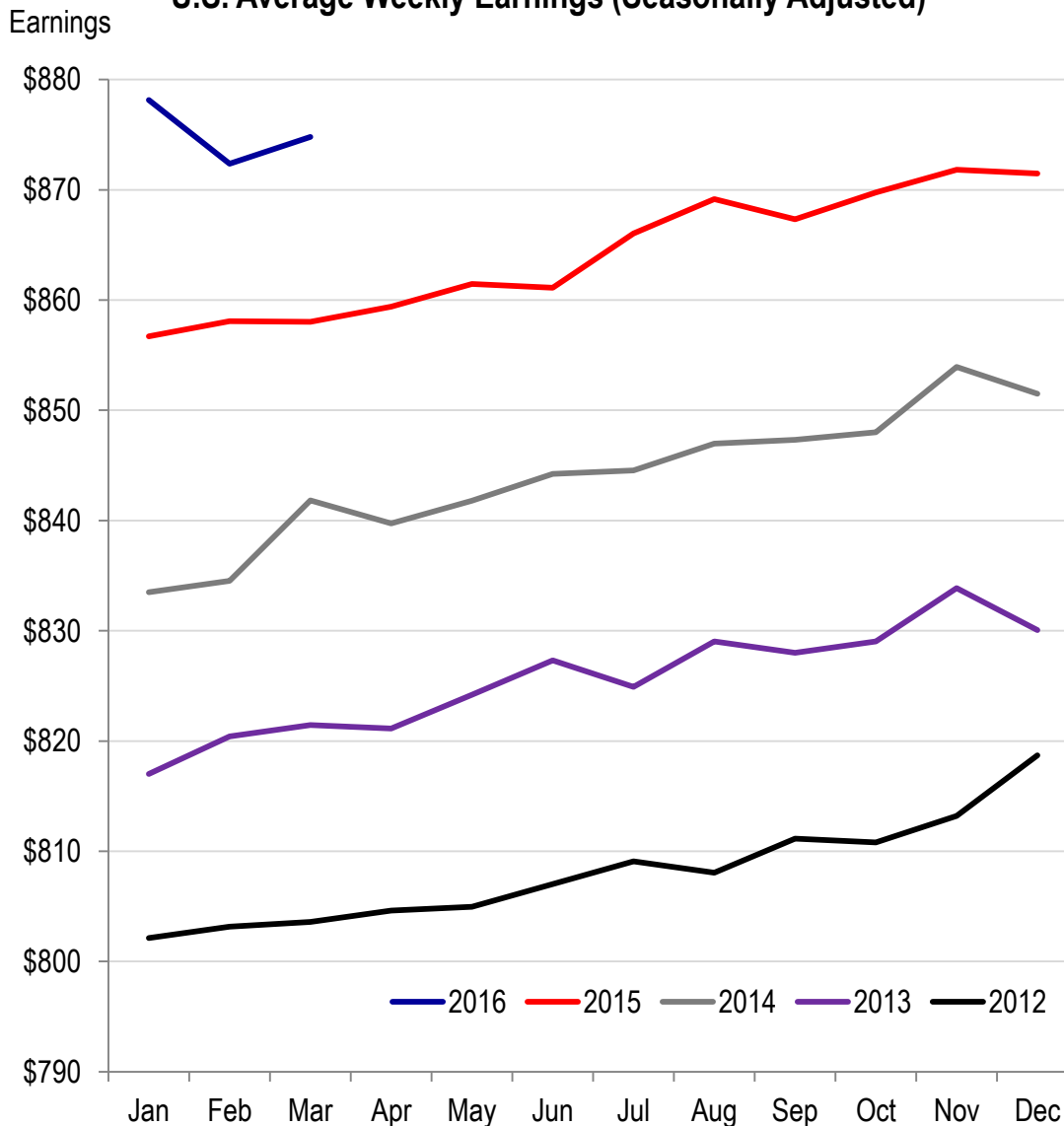
The increase in the CPI for these years was:

- 2012 2.1%
- 2013 1.5%
- 2014 1.6%
- 2015 0.2%

Wage increases were slightly greater than the rate of inflation for 2012 and 2013. That changed in 2014. Stronger wage growth is expected in 2016.

Source: Bureau of Labor Statistics, SA.

U.S. Average Weekly Earnings (Seasonally Adjusted)



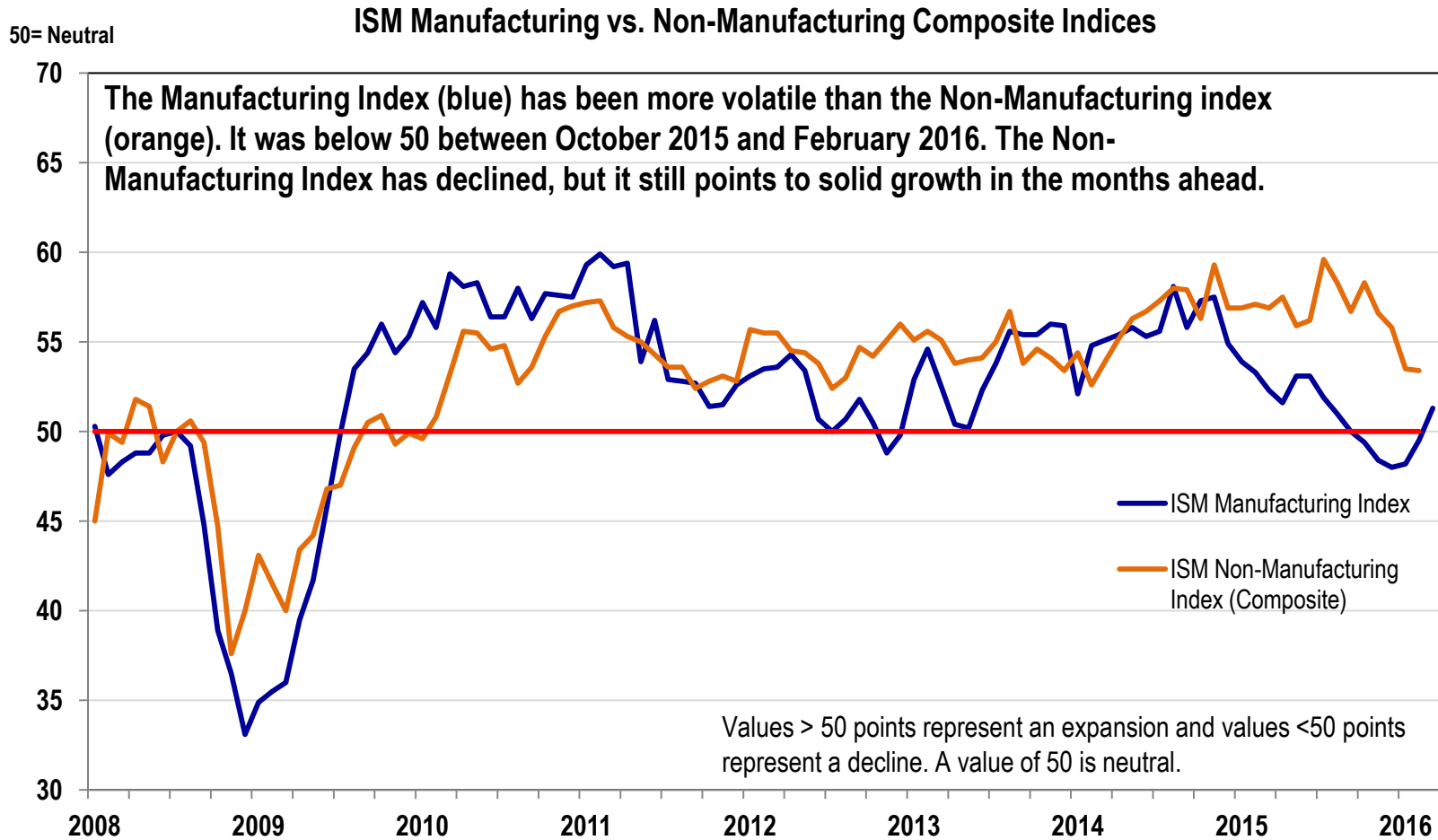


The United States Economy

Manufacturing, Services, Value of the Dollar, Profits

ISM PMI Composite Indices

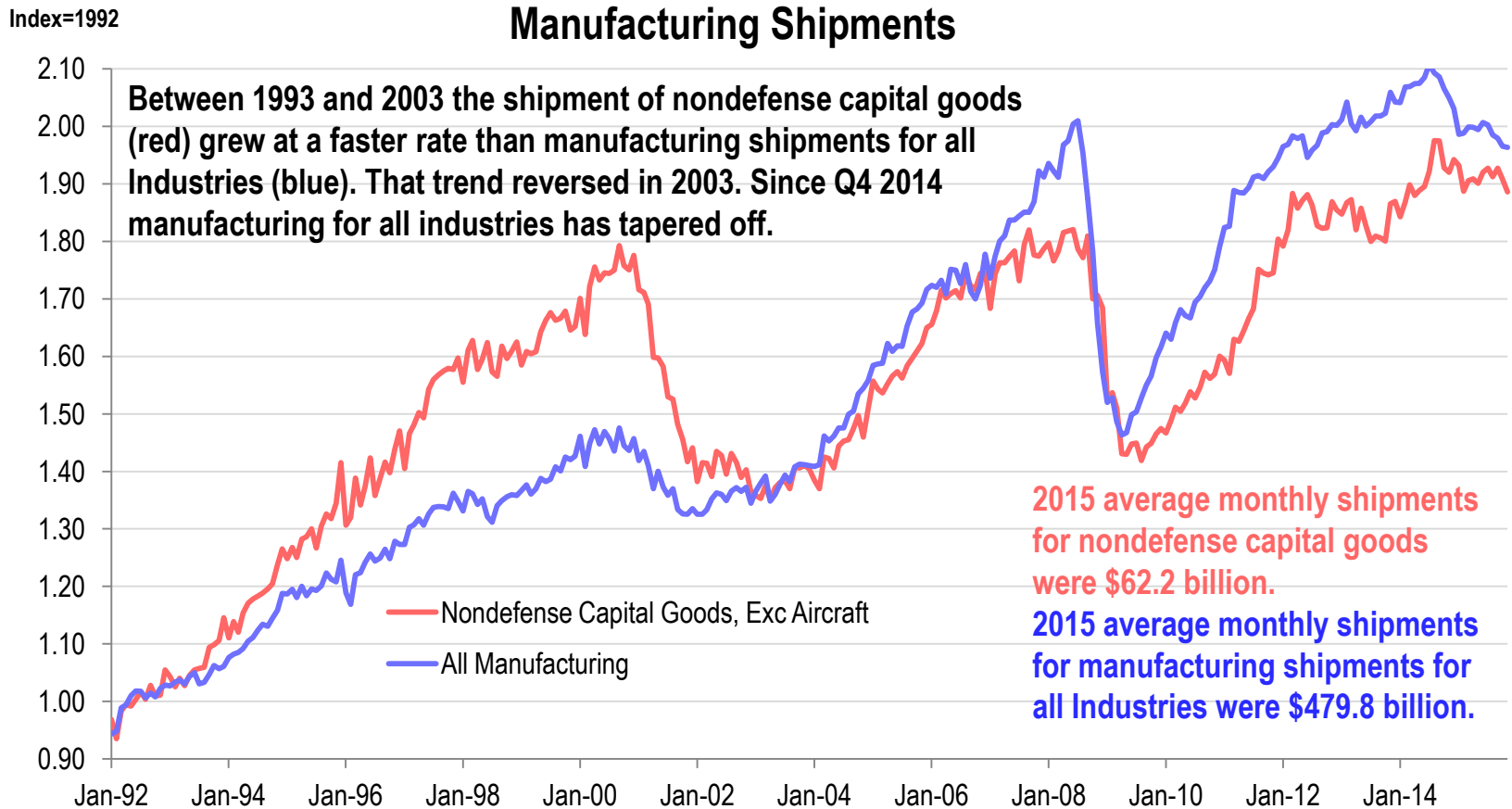
Manufacturing vs. Non-manufacturing



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

U.S. Manufacturing Shipments

All Industries vs. Nondefense Capital, Excluding Aircraft



Source: FRED, SA. U.S. Bureau of the Census. Note: Not adjusted for inflation.

Trade Weighted U.S. Dollar Index: Broad



Trade Weighted U.S. Dollar Index: Broad



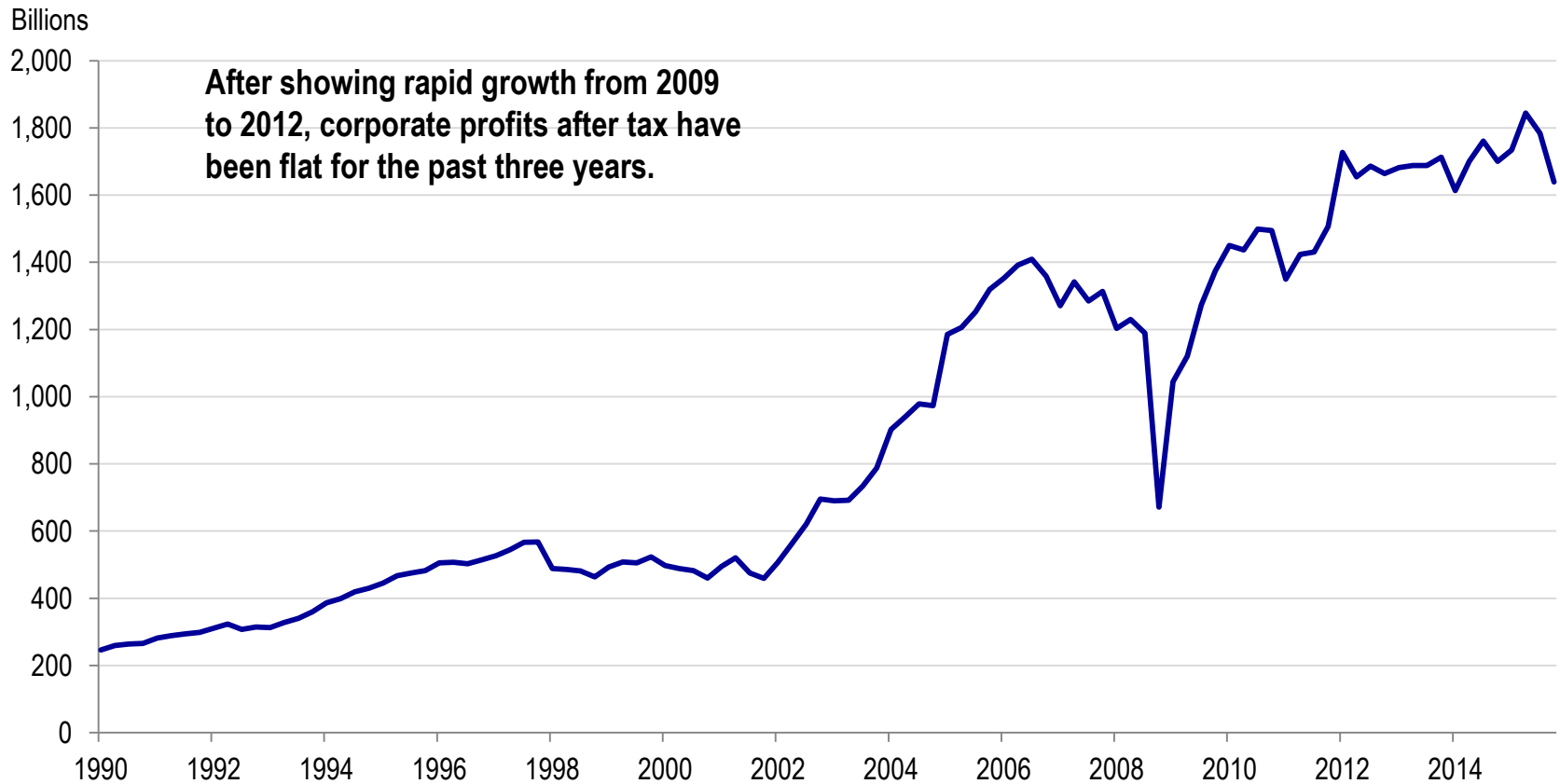
Source: FRED, The Federal Reserve.

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Corporate Profits After Tax (without IVA and CCAdj)



Corporate Profits After Tax



Source: FRED, BEA.

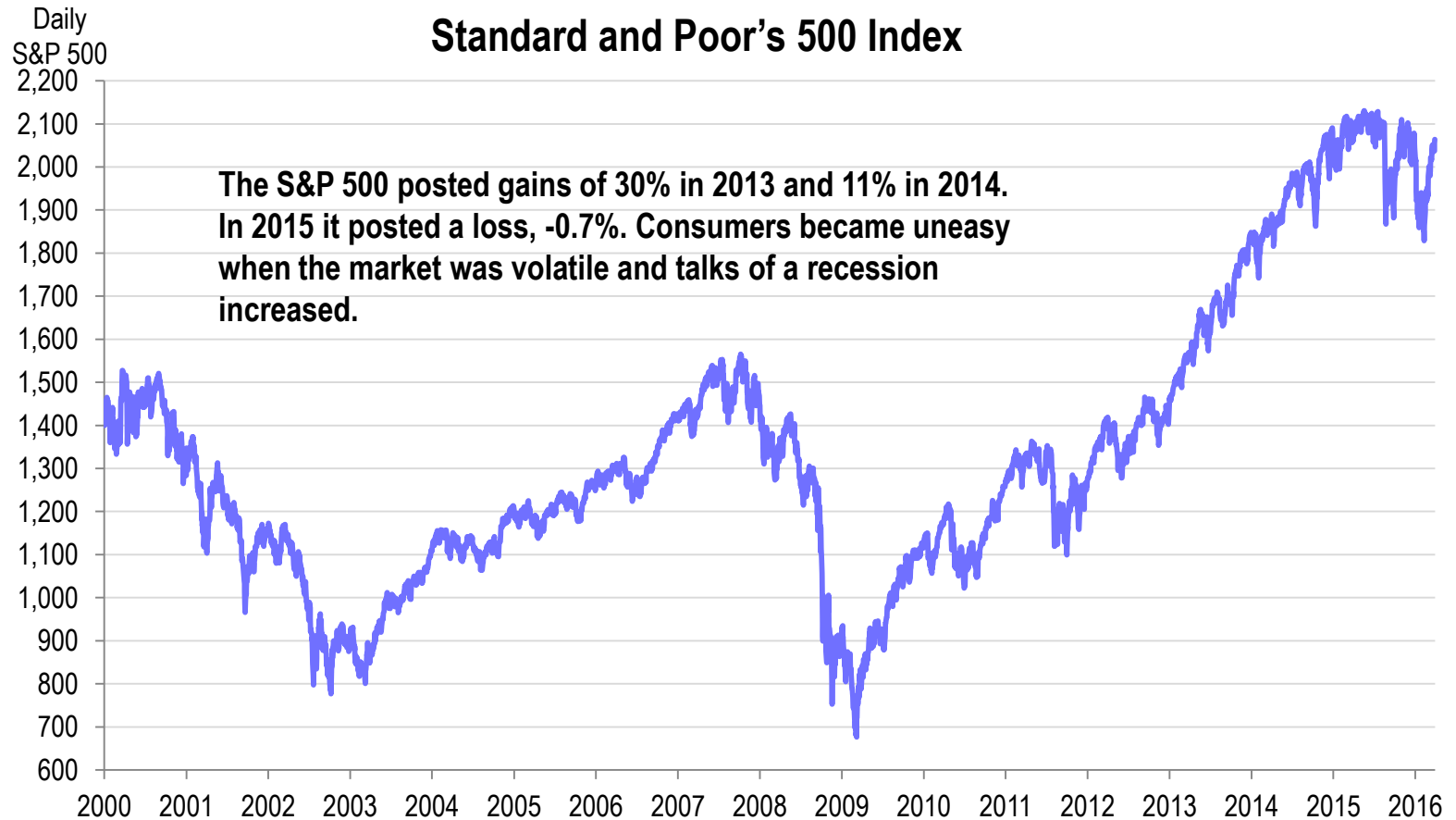
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The United States Economy

Equities, Commodities, and Real Estate

Standard and Poor's 500 Index

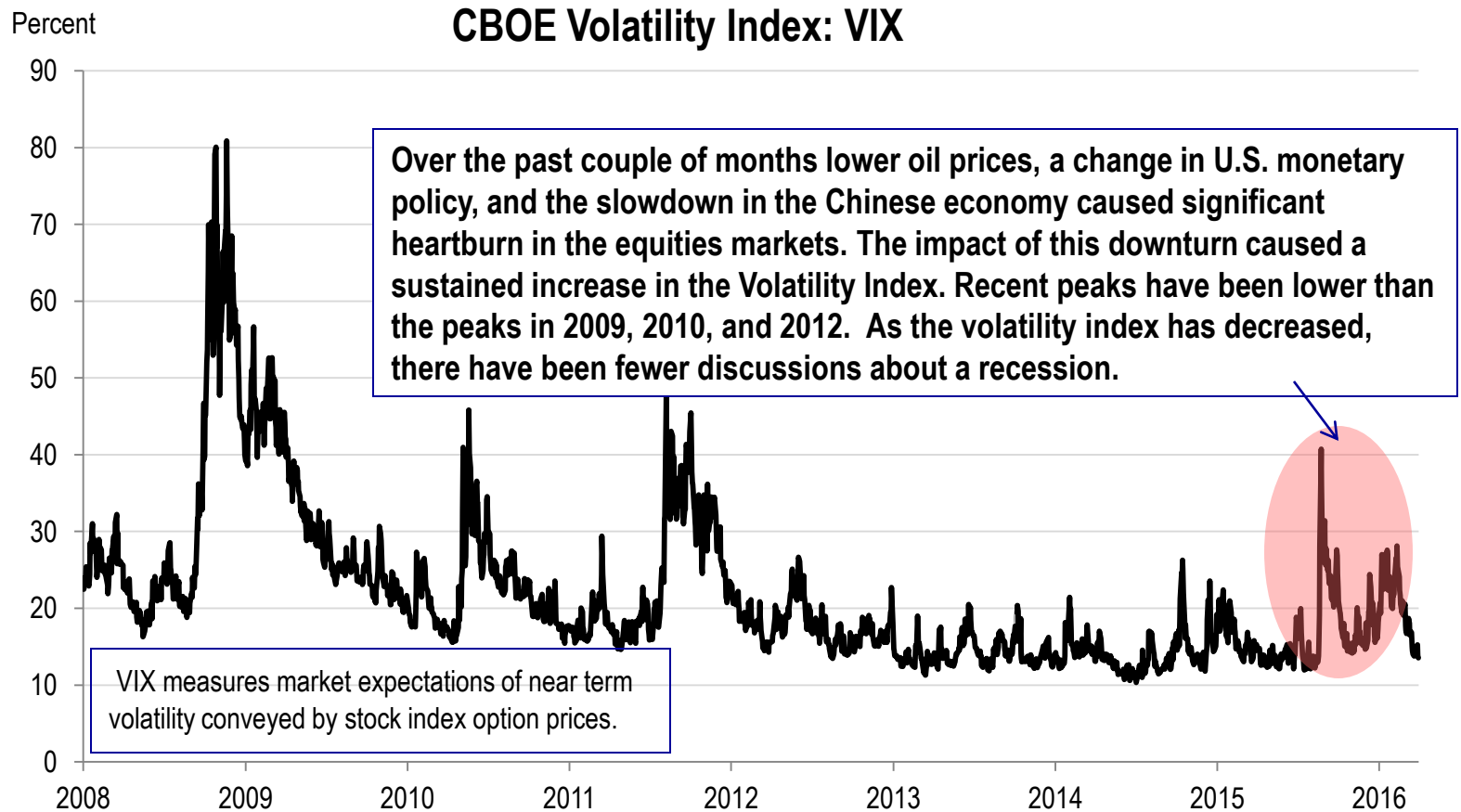


Source: FRED, S&P 500.

● CBOE Volatility Index

● VIX (VIXCLS)

●



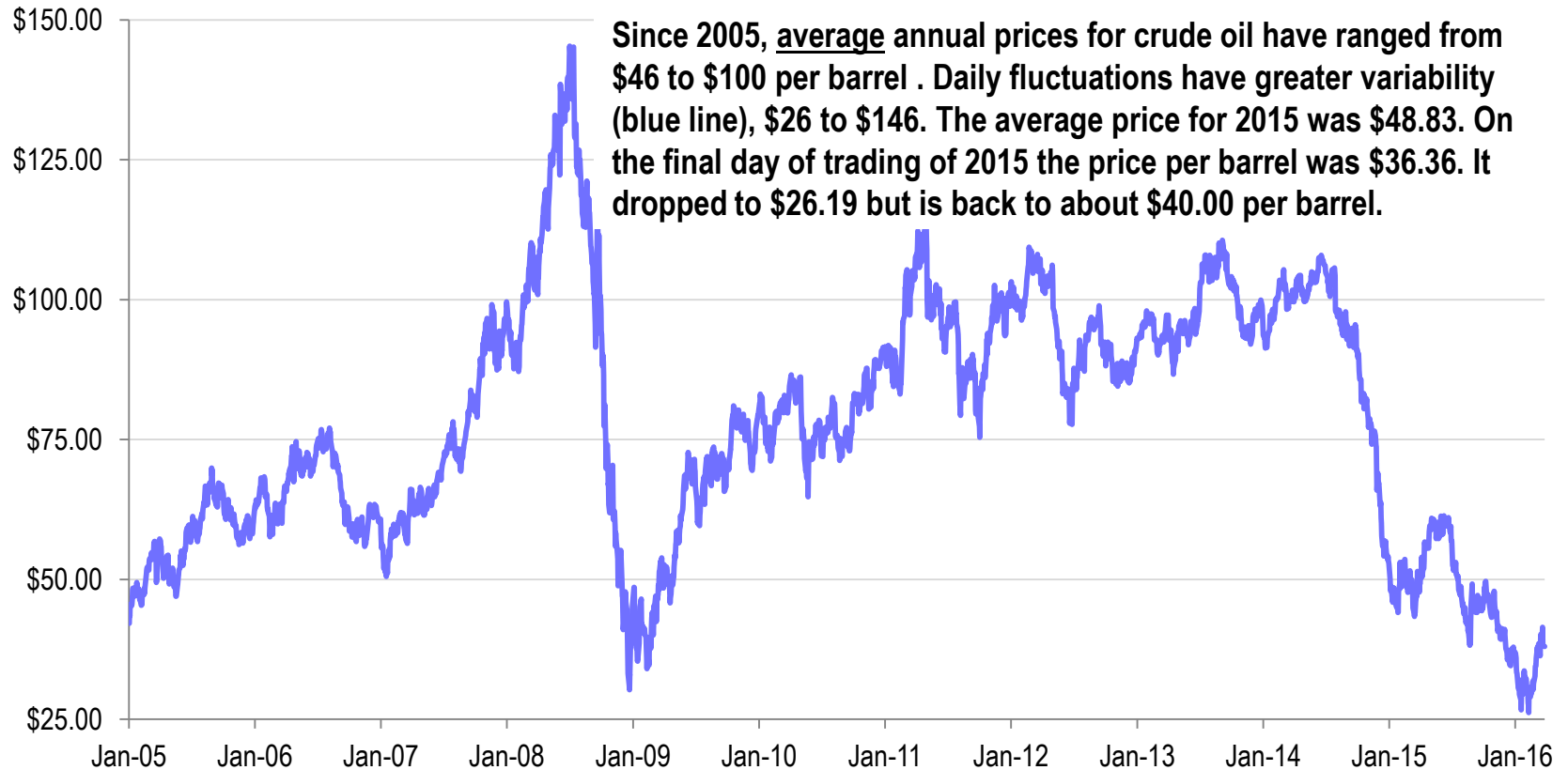
Source: FRED, CBOE.

Crude Oil Prices

West Texas Intermediate

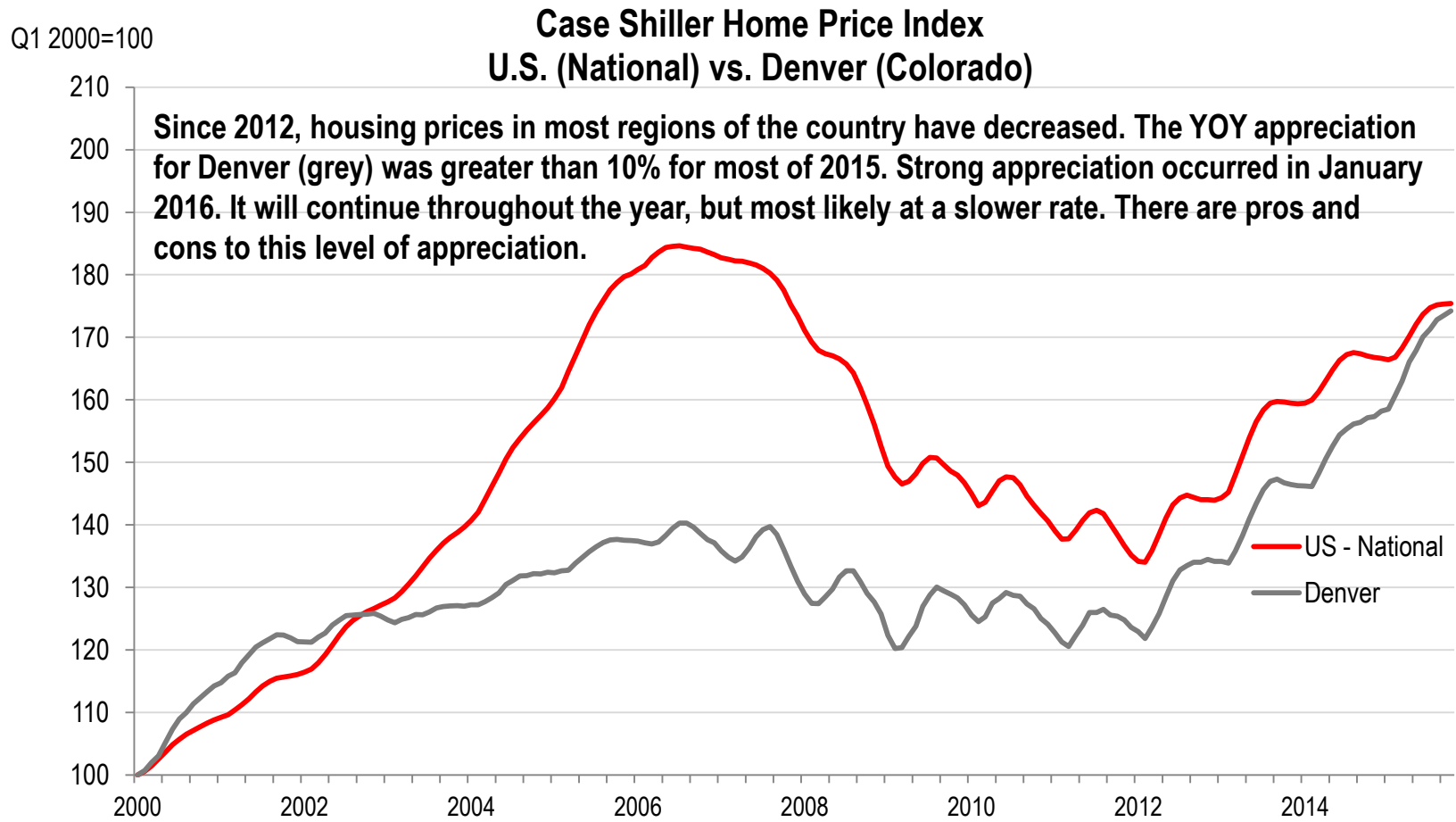
Dollars
per Barrel

Crude Oil Prices: West Texas Intermediate, Cushing, Oklahoma



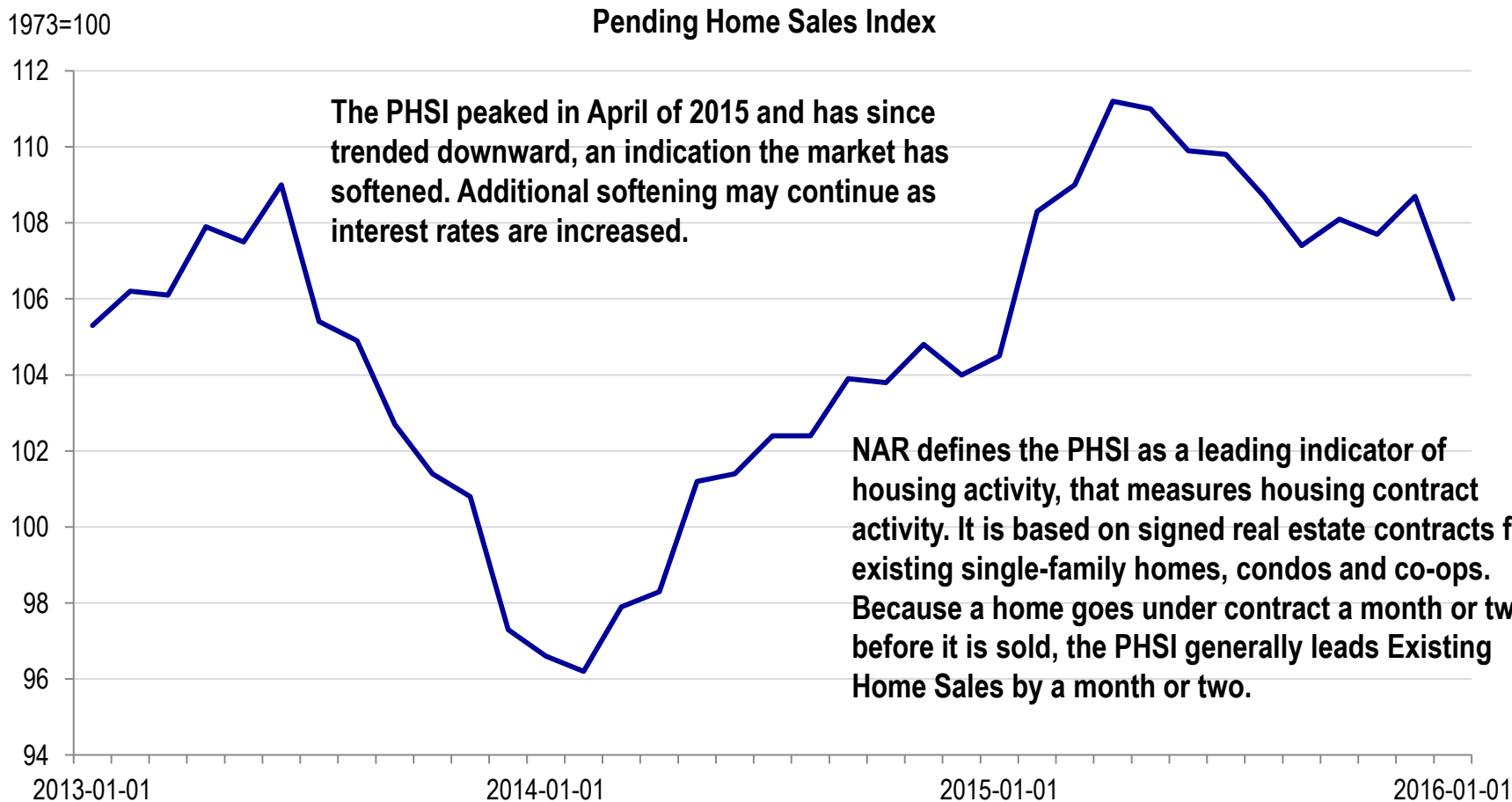
Source: FRED, EIA.

Case Shiller Home Price Index National vs. Denver (Colorado)



Source: S&P Case-Shiller.

Pending Home Sales Index



Source: National Association of Realtors, SA.



The Colorado Economy

Reasons to be Bullish on Colorado in 2016

For much of the first quarter, volatility in the stock market, lower oil prices, a slower global economy, problems finding trained workers associated with low unemployment rates, and the potential impact of the Fed's monetary policy created a temporary sense of panic about the U.S. economy.

These headwinds are real and point to slower growth in Colorado in 2016; however, the rate of growth will still be solid.

This month the analysis of the Colorado economy will focus less on the level of employment and more on other factors that justify solid growth for 2016.



The Colorado Economy Overview

The Story of Solid Job Growth in 2015

Colorado's Economic Growth in 2016

In 2014 Colorado posted its 3rd best year of job growth in the history of the state. In 2015 the state recorded its 9th best year. It is not realistic to expect job growth to be similar to previous years given the current headwinds. Job growth will be solid in 2016 based on the broad-based strength of Colorado's industries.

Employment

The cber.co forecast states that the number of Colorado jobs will increase by 2.7% to 2.9%. The state will add 67,000 to 73,000 jobs in 2016. The average YOY change in employment for the past 7 months is 67,000.

Personal Income

- Colorado personal income has increased at a faster rate than the U.S. since 2011.
- The gap between the 2015 Colorado PCPI and the U.S. PCPI was about \$2,800.
- The Colorado population increased by 101,566 in 2015. This is the greatest annual increase since 1999.

Broad-Based Growth

The following are examples of the strength of Colorado's economy:

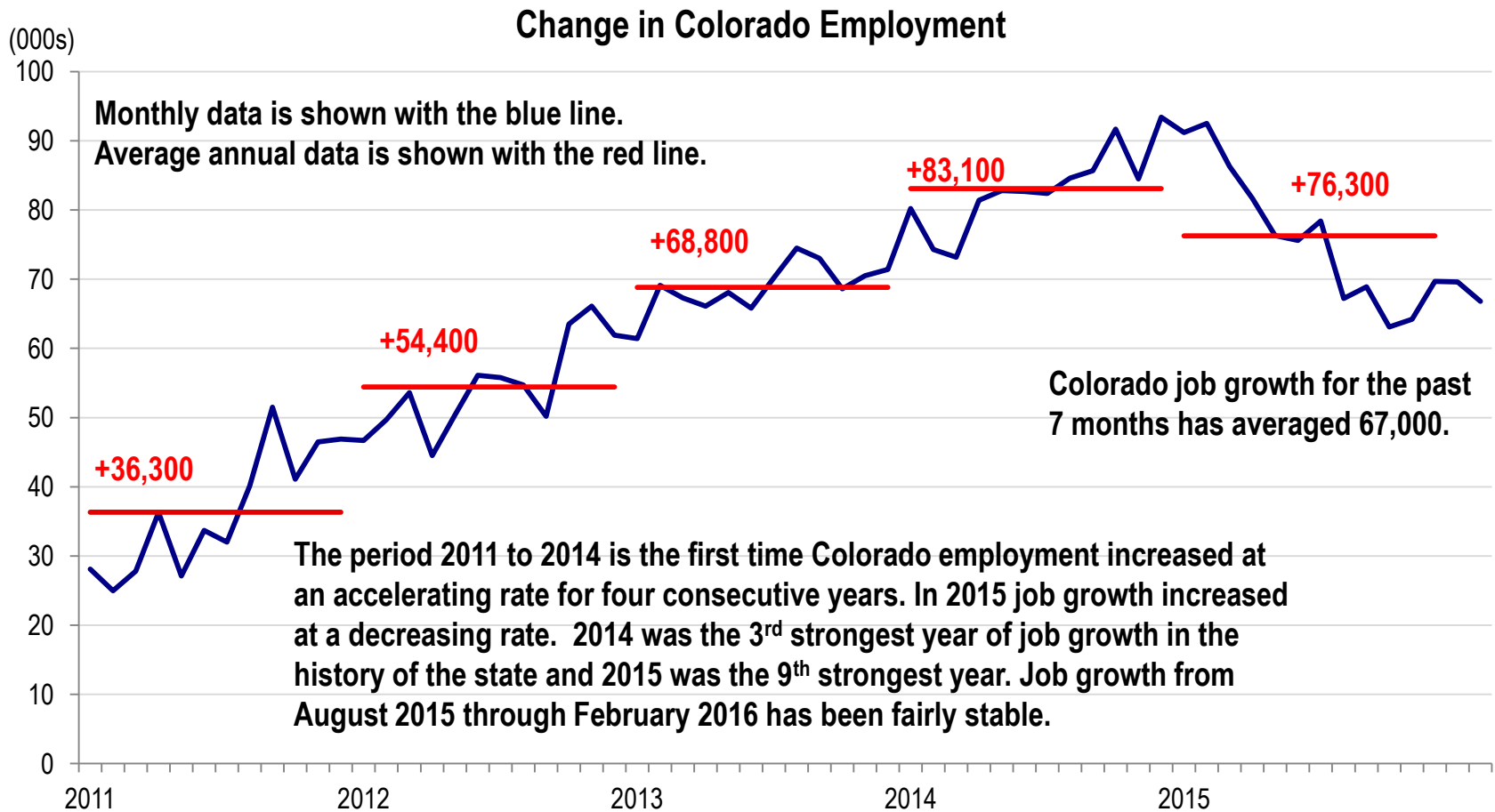
- The rate of GDP growth for most Colorado industries is greater than the corresponding rate of growth for the U.S.
- The number of private sector business establishments has increased by more than 19,000 since 2011.
- New car registrations are on a torrid pace to exceed the record sales posted in 2015.
- DIA continues to become an even greater part of the Colorado economy.
- The Colorado construction industry is projected to have a banner year in 2016.



The Colorado Economy

Employment, Unemployment, and Wages

Change in Colorado Employment Year-Over-Year



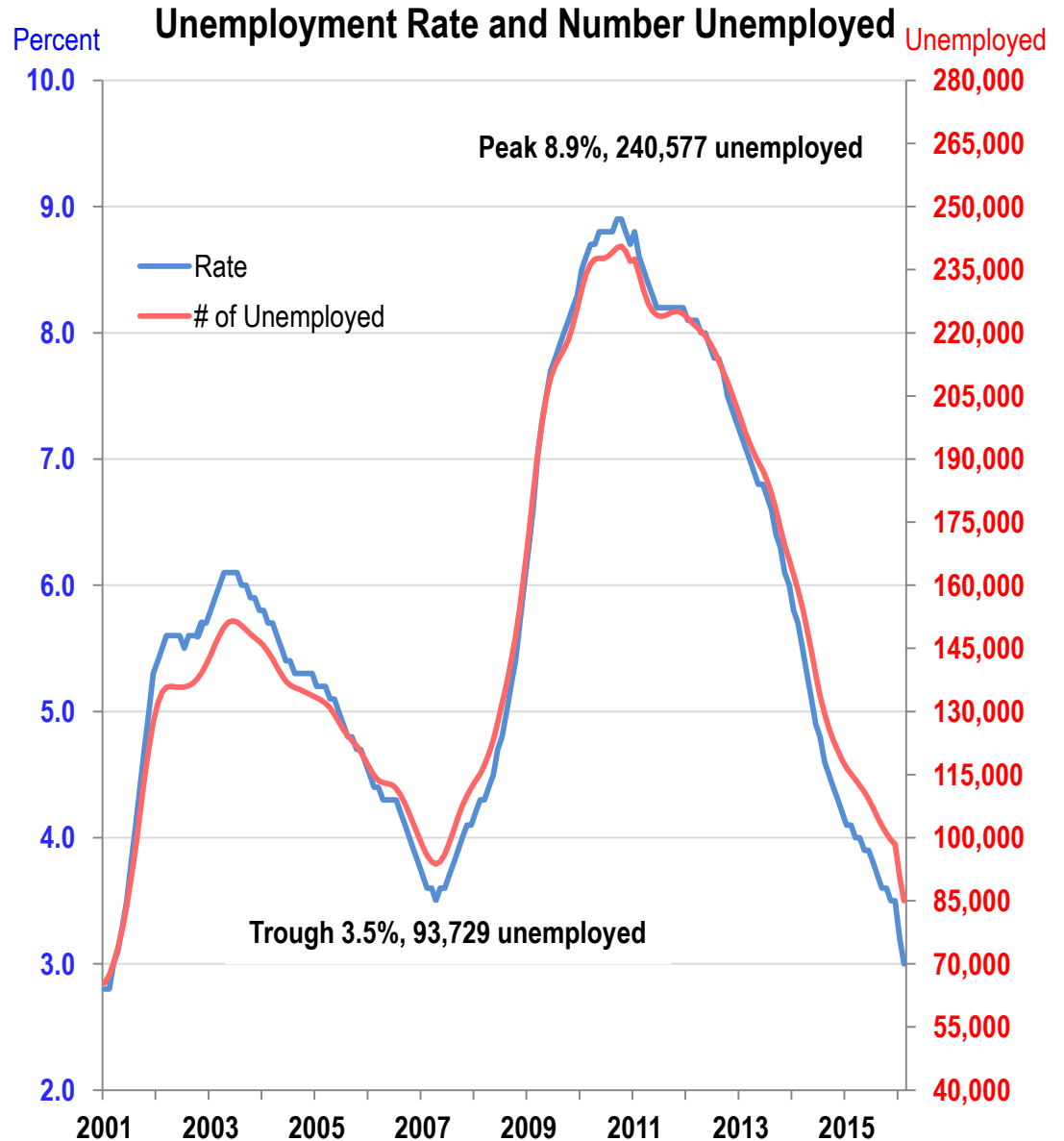
Source: Bureau of Labor Statistics, NSA.

Colorado Unemployment Rate and Number of Unemployed

The number of unemployed has slowly trended downward since peaking in late 2010.

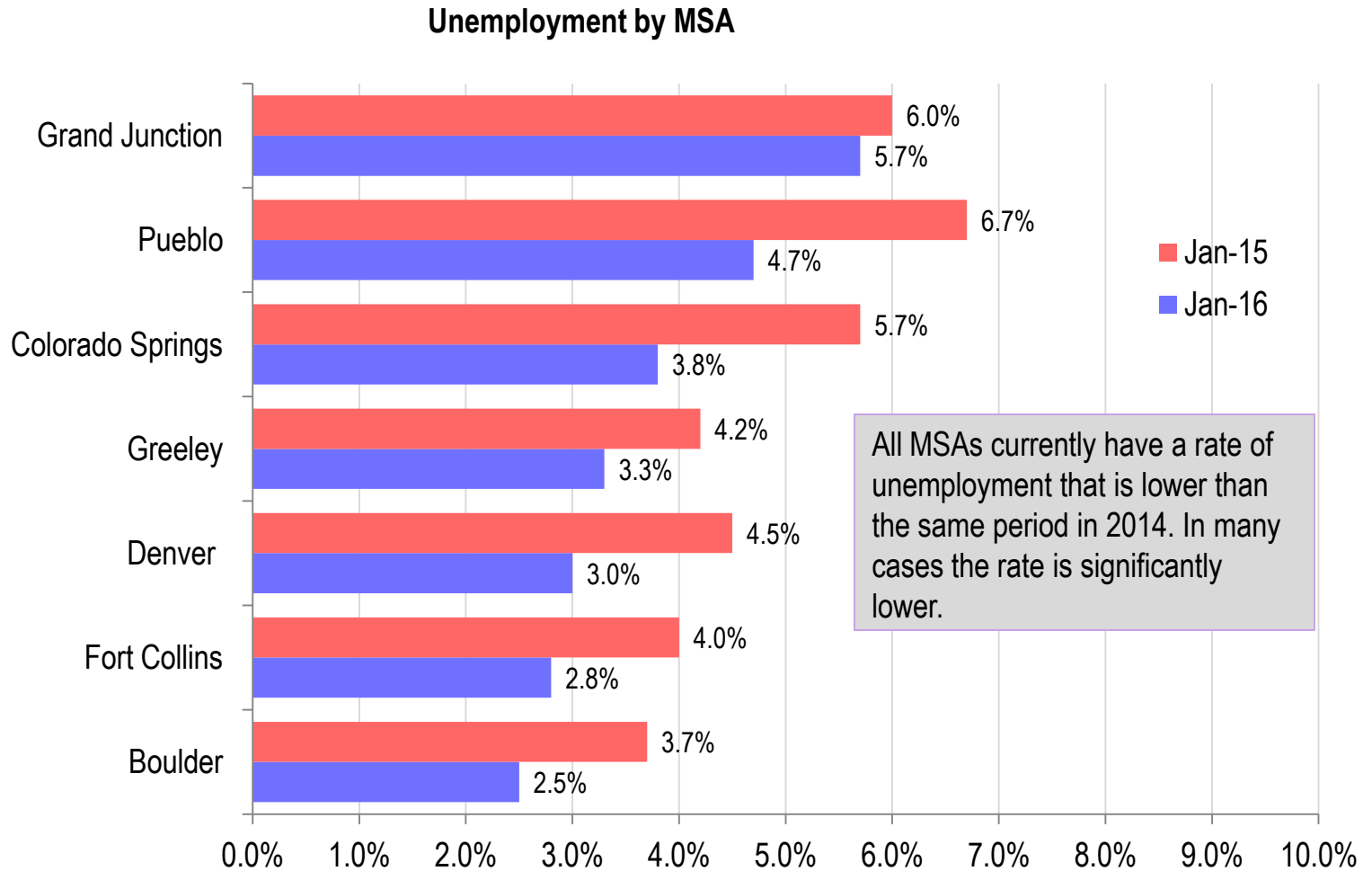
The total number of unemployed workers (red) at the end of February 2016 was 85,014. The current total number of unemployed is 8,715 less than the trough in May 2007 and 155,563 less than the peak in October 2010.

Lower unemployment rates have brought about shortages of trained workers in key sectors and occupations.



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

Unemployment by MSA 2015 vs. 2016



Source: Bureau of Labor Statistics, NSA. Note: MSA unemployment lags by one month and is reported on a non-seasonally adjusted basis.

● Colorado Average Weekly Earnings of All Employees (Private Sector)

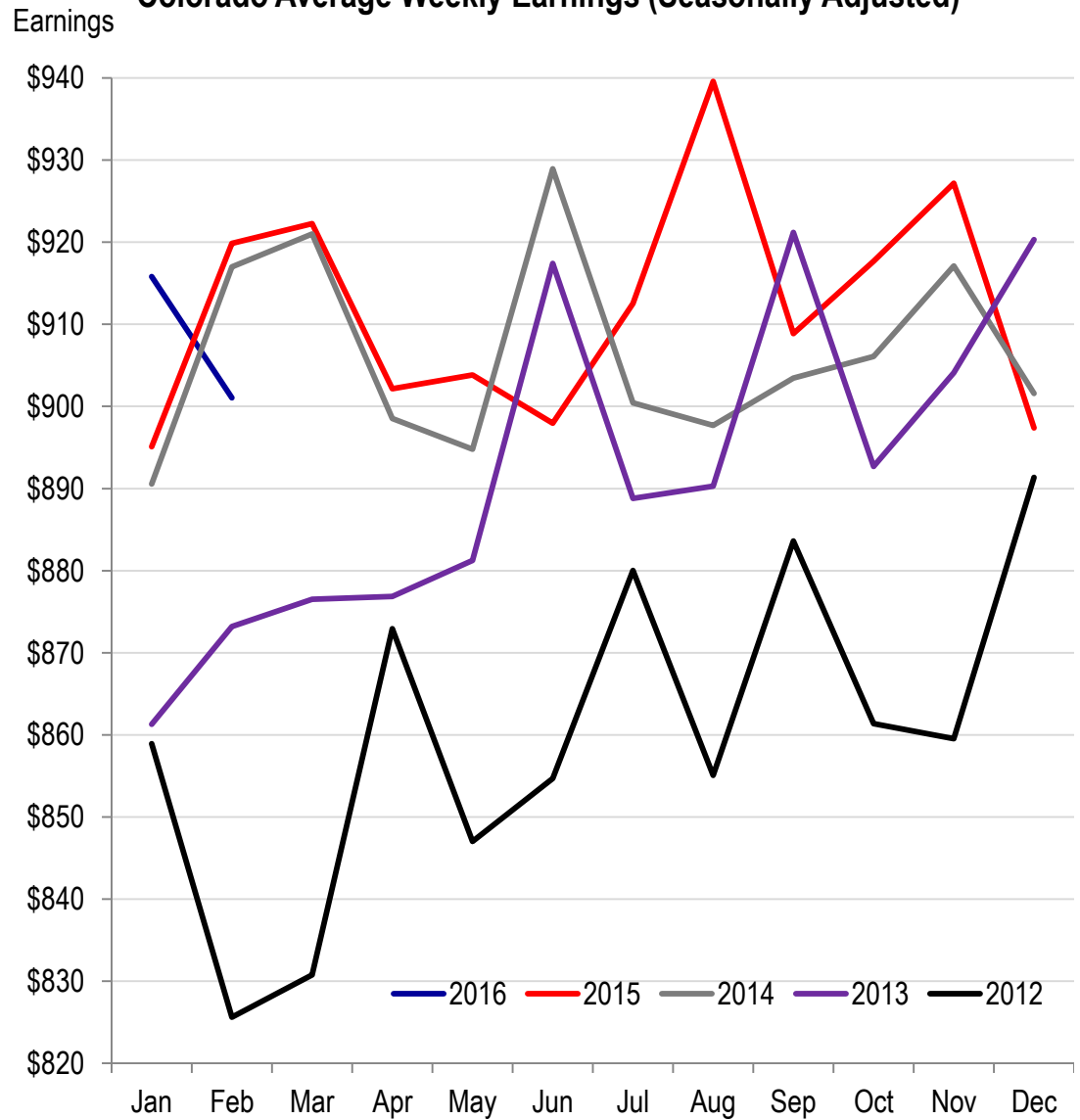
- Average Weekly Earnings (NSA) for all private sector employees were:
- 2012 \$810.46
 - 2013 \$825.11
 - 2014 \$845.06
 - 2015 \$864.10

- The rates of increase for these wages were:
- 2012 4.2%
 - 2013 3.6%
 - 2014 1.7%
 - 2015 0.6%

- The increase in the CPI for these years was:
- 2012 1.9%
 - 2013 2.8%
 - 2014 2.0%
 - 2015 2.5%

Wage increases were greater than the rate of inflation in 2012 and 2013, whereas inflation was greater than wage increases in 2014 and 2015.

Colorado Average Weekly Earnings (Seasonally Adjusted)



Source: Bureau of Labor Statistics, NSA.



The Colorado Economy

Personal Income, Population and PCPI

● Growth in Personal Income is Area of Strength for ● Colorado

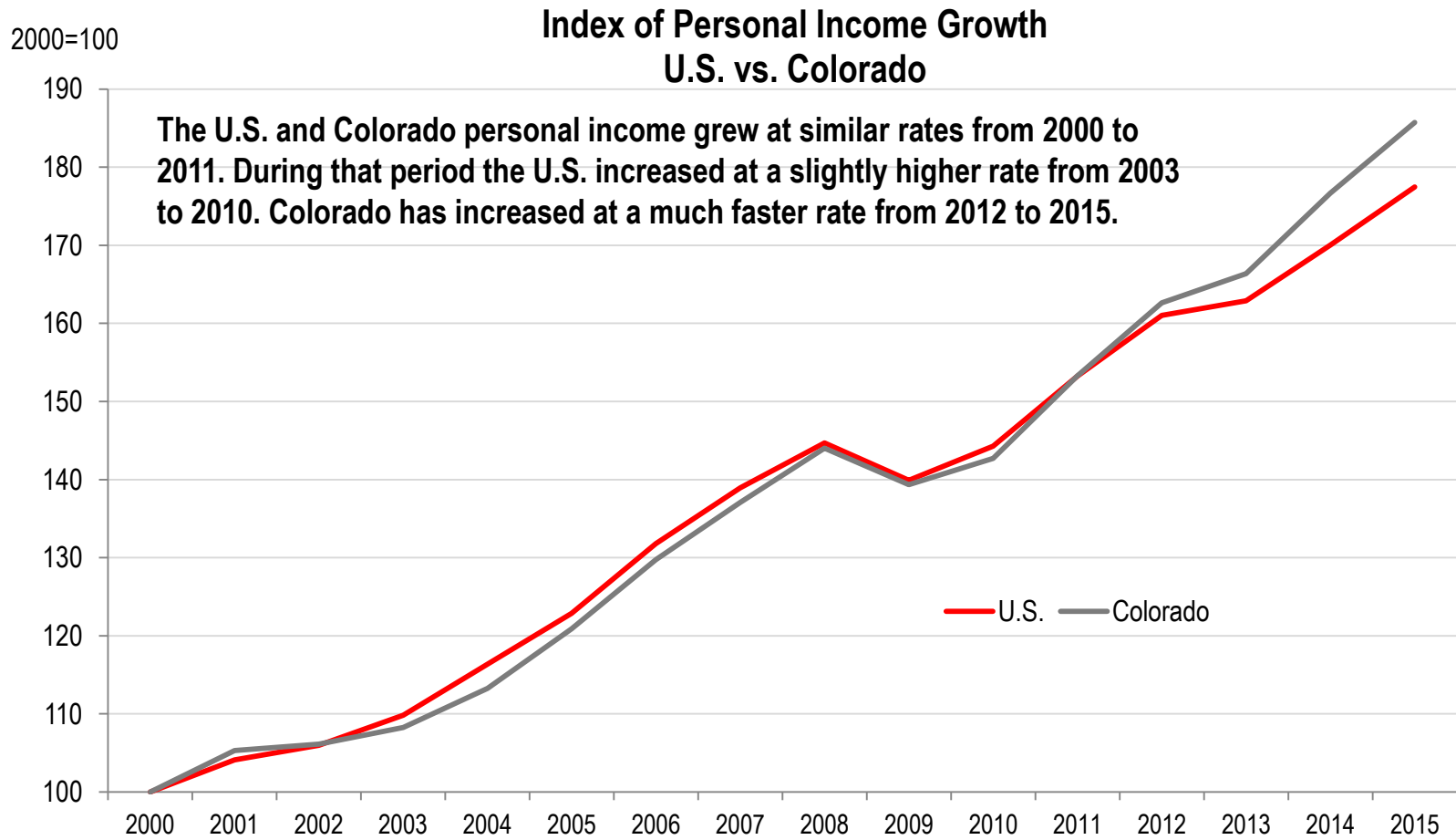
● The Bureau of Economic Analysis recently released annual personal income data for 2015. The series also included per capita personal income and annual population data.

Key findings are:

- Colorado personal income has increased at a faster rate than the U.S. since 2011.
- The gap between the 2015 Colorado PCPI and the U.S. PCPI is about \$2,800. It has increased since 2011.
- The Colorado population increased by 101,566 in 2015. This is the greatest annual increase since 1999.

The fundamentals have not changed drastically and the state will continue to show solid growth in each of these three areas during 2016.

Index of Personal Income Growth U.S. vs. Colorado



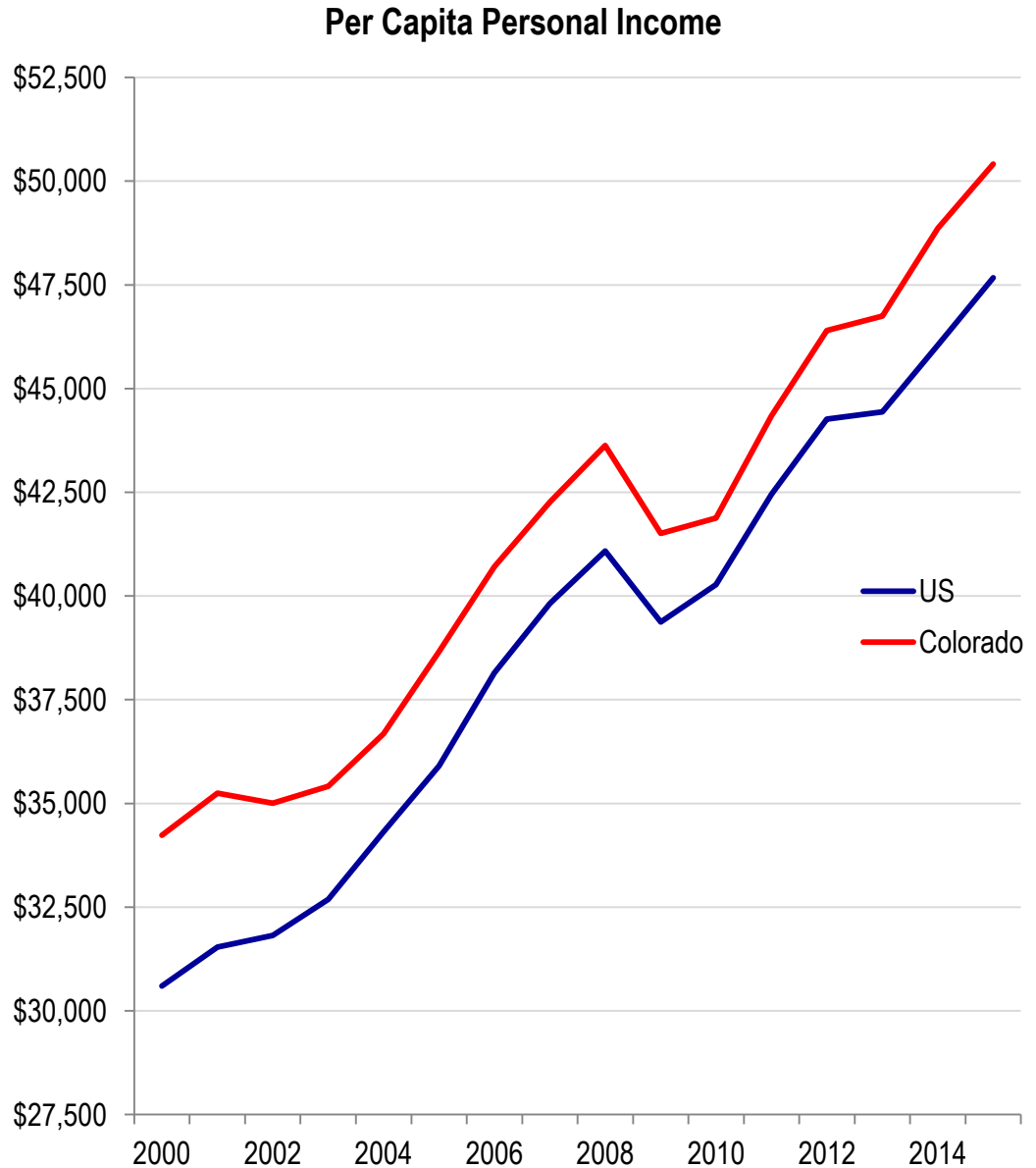
Source: Bureau of Economic Analysis, cber.co.

Per Capita Personal Income (PCPI) U.S. vs. Colorado

The U.S. and Colorado PCPI showed negligible growth in 2002 and both declined in 2009. They posted gains in all other years.

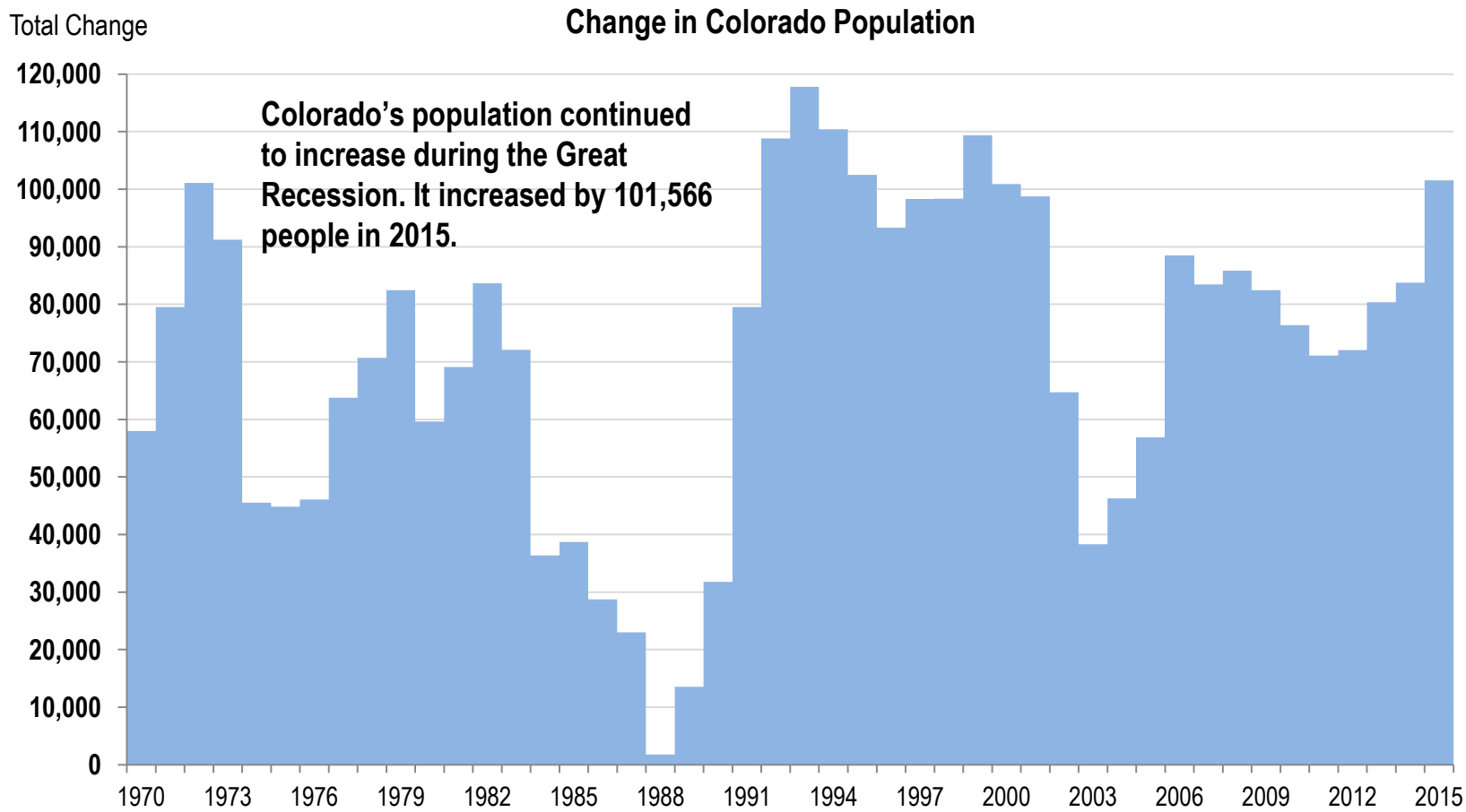
In 2000 and 2001 the gap between the Colorado PCPI (red) and the U.S. PCPI (blue) was about \$3,700. The gap declined to about \$1,600 in 2010. It has since increased and was about \$2,800 in 2014 and 2015.

For this period the U.S. PCPI increased at an annualized rate of 3.0% while the Colorado PCPI grew at an annualized rate of 2.6%.



Source: Bureau of Economic Analysis, SA-1 Personal Income – State, cber.co. Note: Not adjusted for inflation

Annual Change in Population



Source: Bureau of Economic Analysis, cber.co.



The Colorado Economy

Broad-Based Growth

● Strength in Colorado's Diverse Economy



The strength and the diversity of Colorado's economy can be seen in the following data sets.

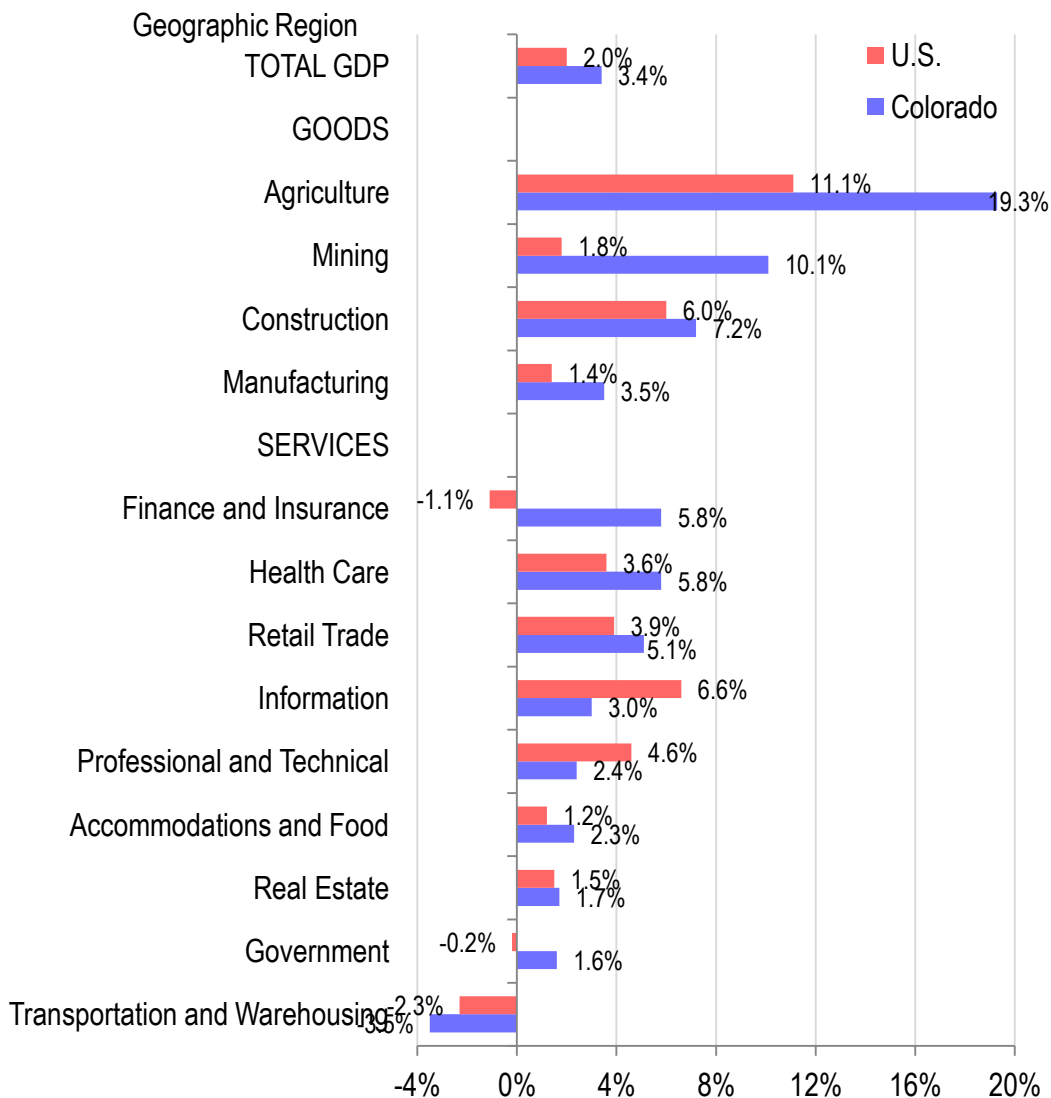
- The rate of GDP growth for most Colorado industries is greater than the corresponding rate of growth for the U.S. As a result the growth of Colorado's GDP is much stronger than the U.S.
- Since bottoming out in Q1 2011, the number of private sector business establishments has increased by more than 19,000.
- New car registrations are on a pace to exceed the record sales posted in 2015. This is a function of solid consumer confidence, low interest rates, easy access to capital (which could be a two-edged sword), low prices at the pump, and increased employment and population.
- DIA continues to become an even greater part of the Colorado economy. A record number of passengers traveled through DIA in 2015.
- The Colorado construction industry is projected to have a banner year in 2016.

Colorado vs. U.S. Real GDP Growth Q3 2015 vs. Q3 2014

This chart shows the Real GDP growth for Colorado (blue) and the U.S.(red) by key sectors for the period Q3 2015 vs. Q3 2014.

For this period the Colorado GDP outperformed the GDP in all industries, except Information; Professional, Scientific, and Technical Services, and Transportation and Warehousing.

Real GDP Growth Colorado vs. U.S.



Source: BEA, cber.co.

Number of Colorado Private Establishments

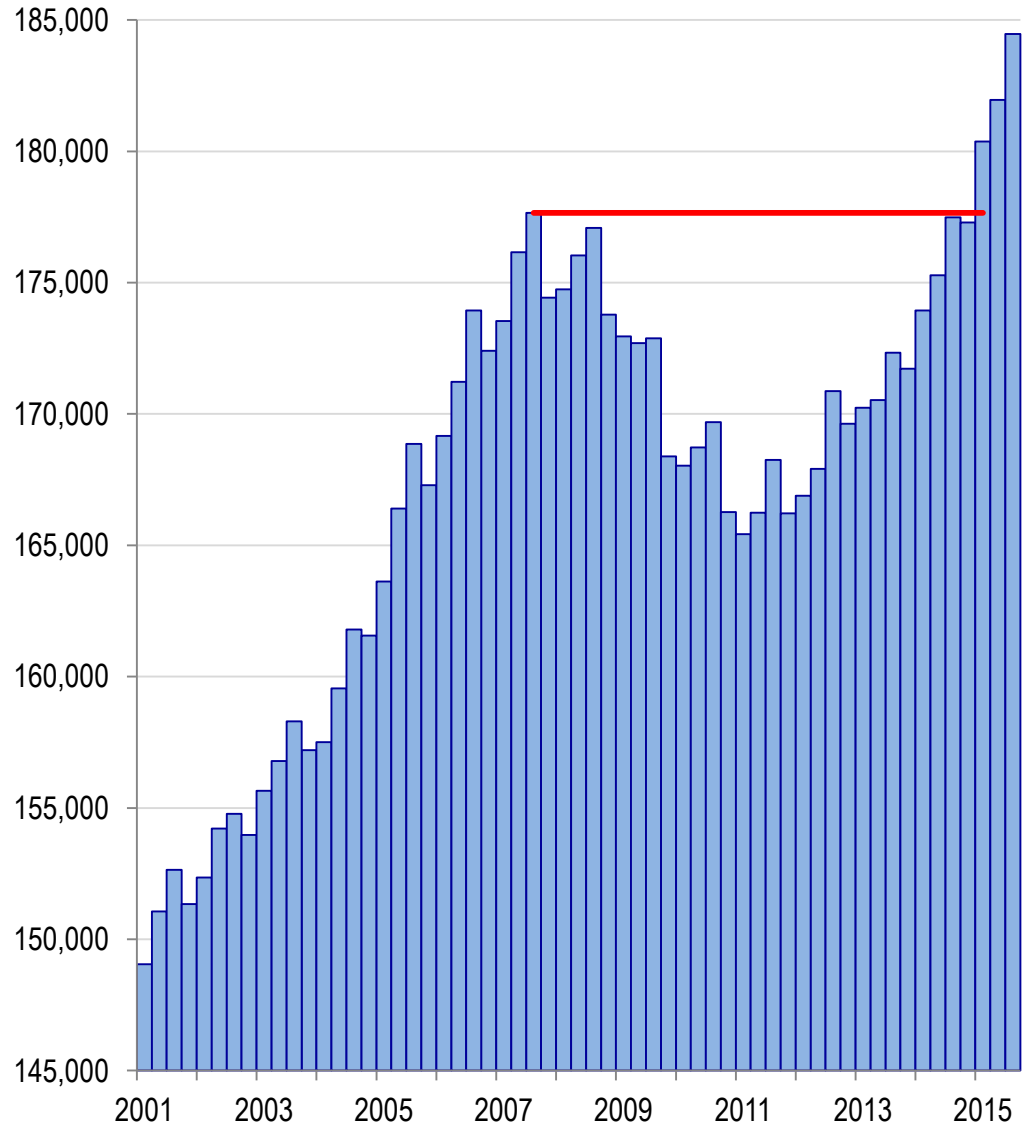
The number of Colorado private sector establishments peaked at 177,657 in Q3 2007.

As a result of the Great Recession, the number of Colorado business establishments declined and bottomed out at 165,249 in Q1 2011.

Since then, there has been steady growth in the number of establishments and in Q1 2015 the state returned to the previous 2007 peak.

The creation of new establishments will be a source of job growth in 2016 and beyond.

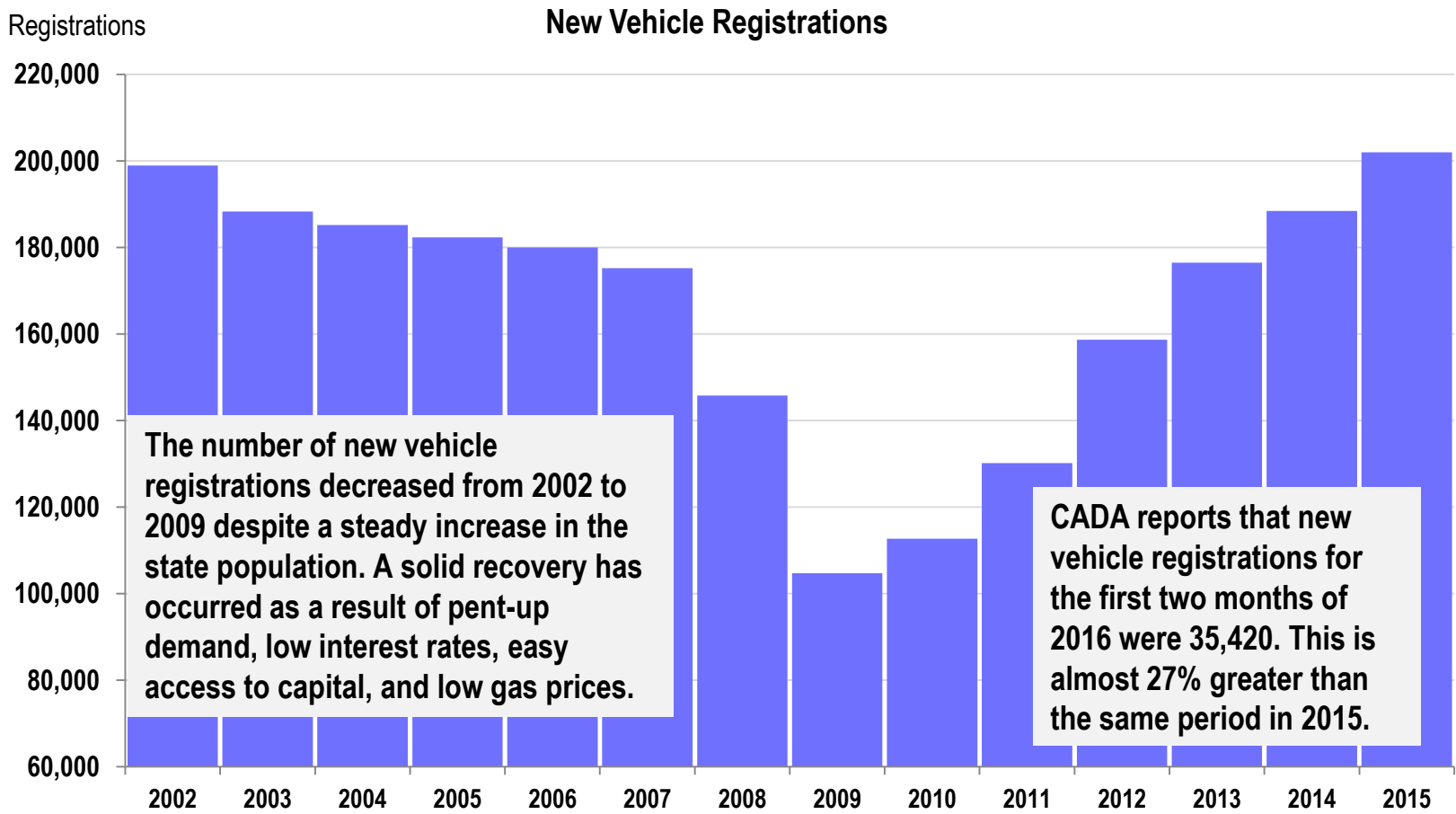
Number of Private Establishments



Source: Bureau of Labor Statistics, cber.co.

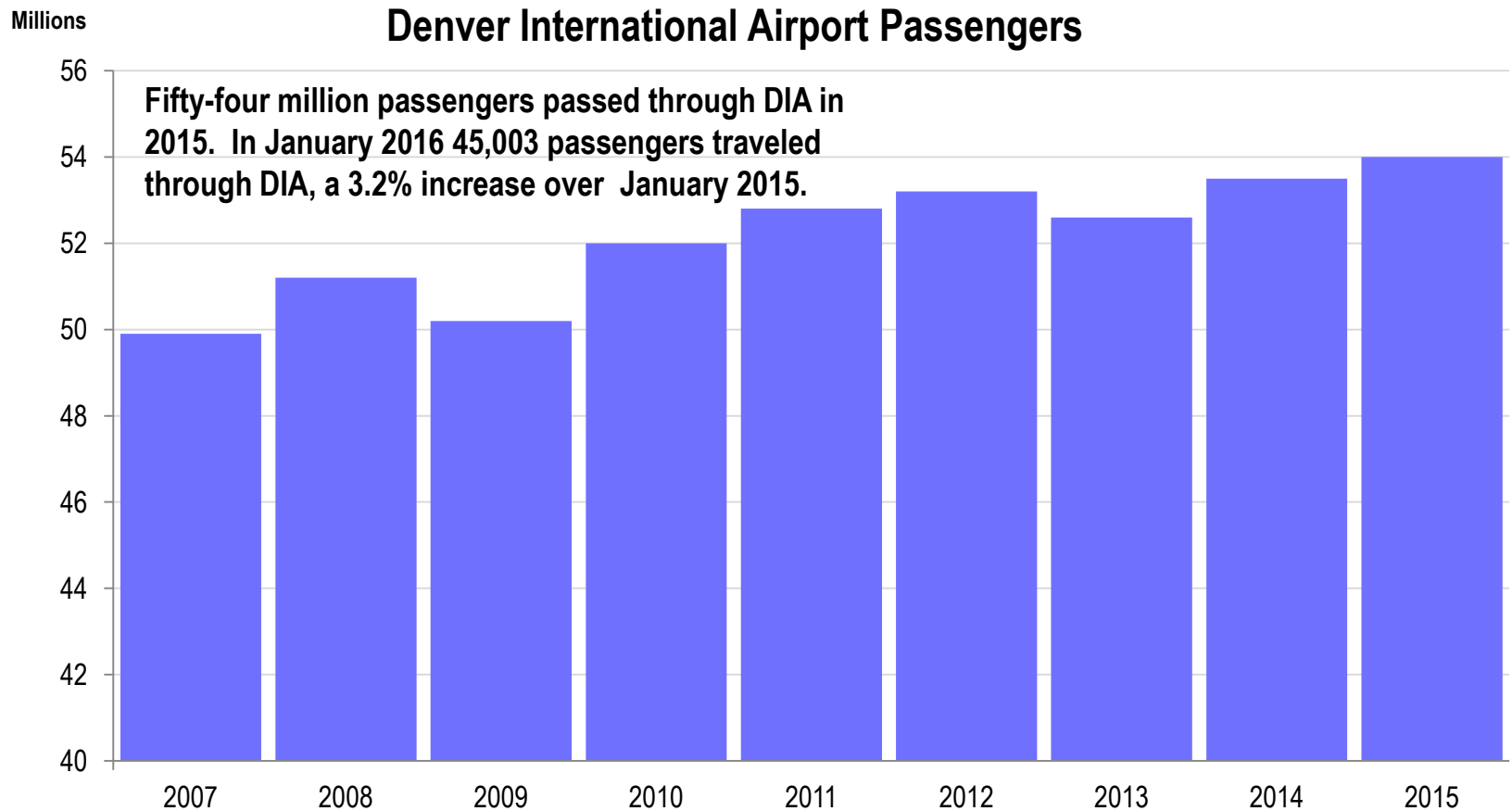
Colorado-based Business and Economic Research <http://cber.co>

New Vehicle Registrations Colorado



Source: Colorado Auto Dealers Association, cber.co.

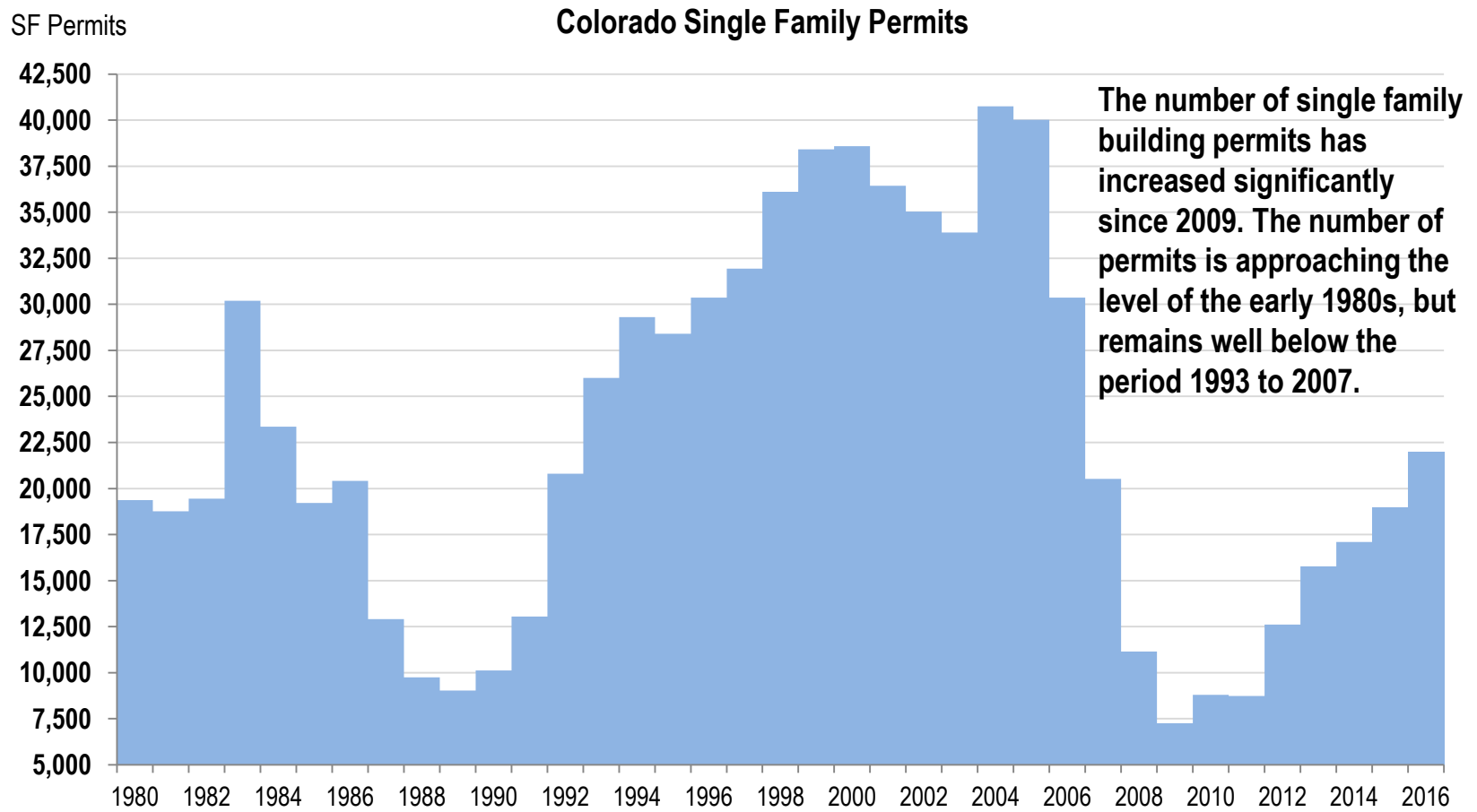
DIA Passengers



Source: flydenver.com, cber.co.

Colorado Construction

Single Family Permits



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

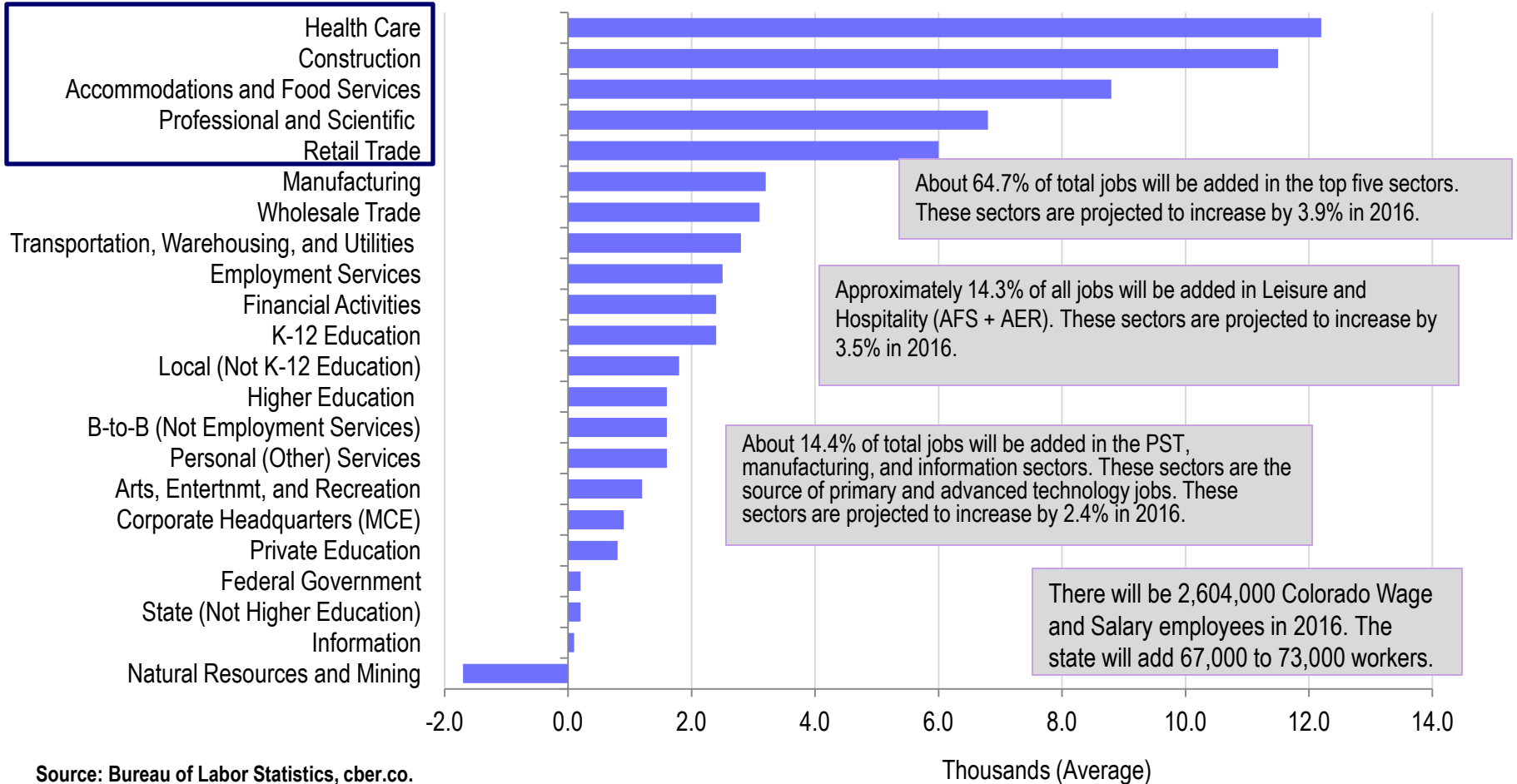


The Colorado Economy

Summary of Outlook for 2016

Projected Job Changes 2016

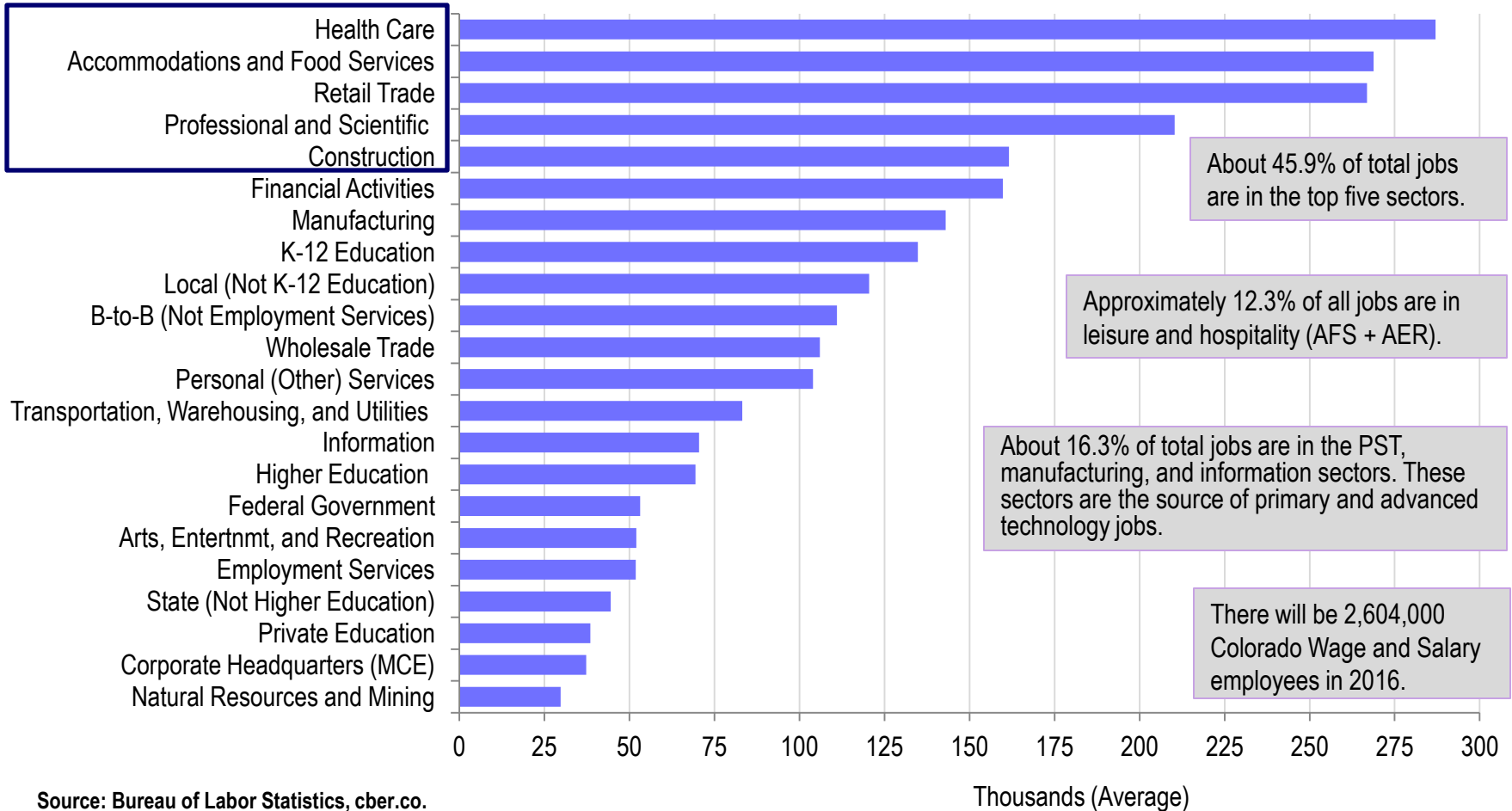
Job Change All Sectors



Source: Bureau of Labor Statistics, cber.co.

Colorado Wage and Salary Employment 2016 Forecast

Employment



About 45.9% of total jobs are in the top five sectors.

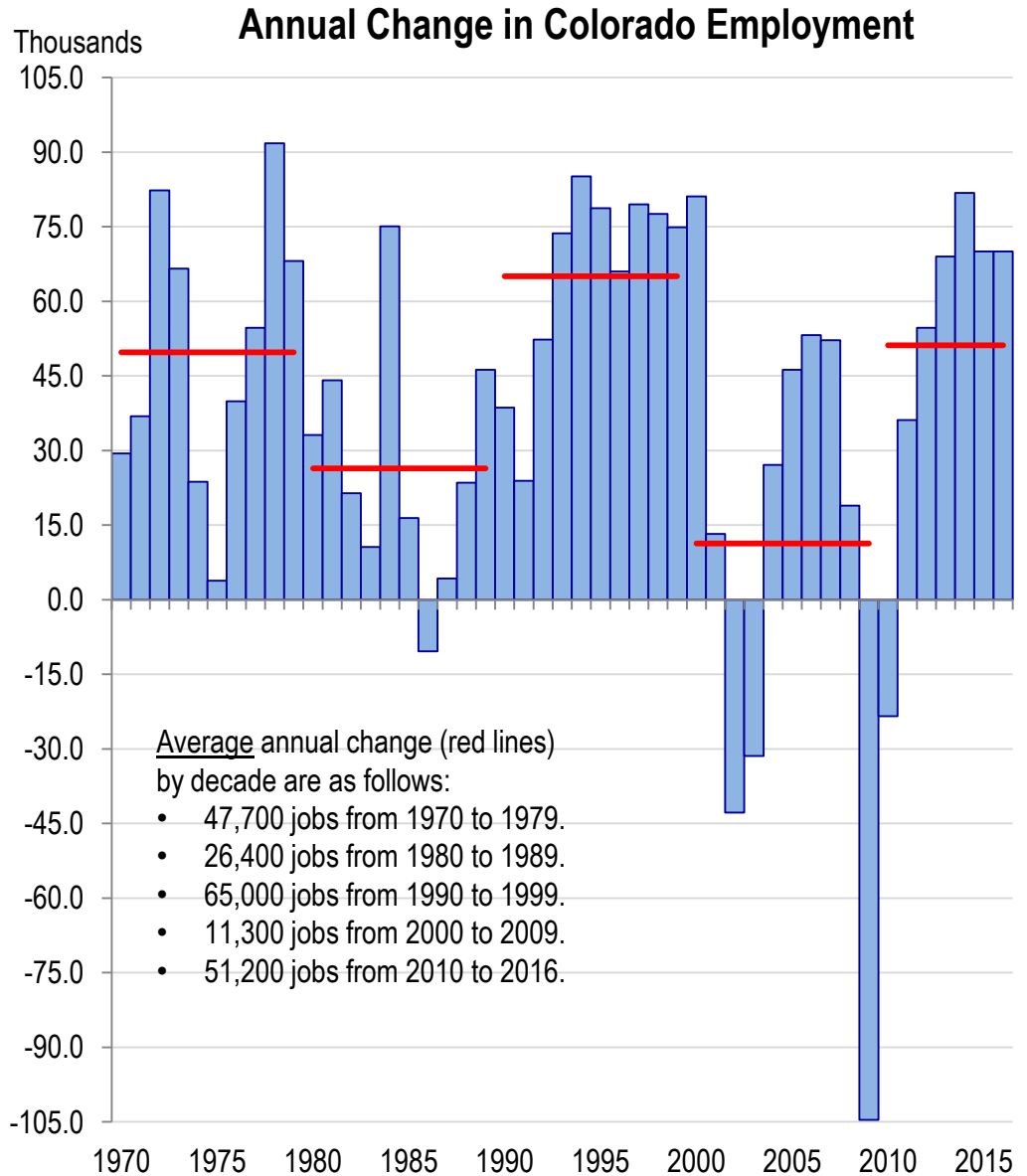
Approximately 12.3% of all jobs are in leisure and hospitality (AFS + AER).

About 16.3% of total jobs are in the PST, manufacturing, and information sectors. These sectors are the source of primary and advanced technology jobs.

There will be 2,604,000 Colorado Wage and Salary employees in 2016.

● Annual Employment
● Change in Colorado
● Employment

The state will add 67,000 to 73,000 jobs in 2016. Colorado employment will increase by 2.7% to 2.9%.



Source: Bureau of Labor Statistics, cber.co.

Final Thoughts

The uncertainty about the U.S. economy is justified – there are reasons to feel confident and there are reasons for concern. As Janet Yellen said, “the Fed will proceed cautiously” on interest rate hikes.

At the moment the Colorado economy is poised to post solid job gains this year. As well, it will continue to outperform the U.S. economy in most areas.



cber.co Colorado Economic Review Through February 2016

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

ABOUT THE AUTHOR

Gary Horvath has produce 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.

In addition, Horvath was the principal investigator for a state and federally funded project to prepare a nanotechnology road map 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, which is part of OEDIT’s early stage and proof of concept programs.