

Review of Colorado Economy Analysis of 2015 Employment Data Through June

Colorado-based Business and Economic Research

July 22, 2015



Overview

The 2015 cber.co Colorado Employment Forecast - The state will add 73,000 to 79,000 jobs in 2015. During the first six months the state added has added 68,600 jobs compared to the same time last year.

This brief analysis is divided into the following sections.

- Summary of Key Data.
- U.S. Economy – Gross Domestic Product.
- U.S. Economy – Employment and Unemployment.
- U.S. Economy – Consumer Sentiment and Key Industries.
- U.S. Economy – Reasons to Feel Good and Risks.
- Colorado Employment , Unemployment, and Wages.
- Change in Colorado Employment by Performance Category.
- Colorado Gross Domestic Product.
- The Impact of the Decrease in the Price of Oil on Colorado Employment.
- Other Industries
- Summary and Total Jobs Added.
- Appendix.

The 2015 cber.co forecast can be found at <http://cber.co/economic-forecasts/cber-co-economic-forecast/>

Summary of Key Data

United States and Colorado

United States

Real GDP – Annual growth will be 2.5% to 2.9% in 2015.

Retail Sales – Up 1.3% for 6 months, projected to be up 3.0% for 2015.

U.S. Employment – The U.S. is on track to add 3.1 million jobs this year.

Unemployment Rate – 5.3%, down from 6.1% a year ago, 8.3 million unemployed, trending down.

ISM Indices – Manufacturing is sluggish and expected to remain that way; Non-Manufacturing is steady and well above 50.

Price of a Barrel of Oil (WTI) – Since mid-March it has varied from \$43 to \$61. Currently in the low 50s, but trending down.

Construction – For 6 months, employment up 4.2%, weekly earnings up 3.0%.

Case Shiller Housing Prices – U.S. prices up 4.2% from a year ago.

Dow Jones Industrial Average – On July 17rd the DJIA was 18,086, up 1.5% from 17,823 at the end of the year.

Colorado

QCEW Revisions – Recent revisions to Q4 2014 could cause 2014 employment to be revised upward in the March 2016 benchmark revisions. There was stronger momentum coming into 2015 than originally anticipated.

Population - Colorado's population will increase by 88,800 people this year.

Unemployment Rate – 4.4%, down from 5.0% a year ago.

MSA Unemployment Rate – Boulder and Ft. Collins have the lowest rates at 3.5% and 3.6% respectively.

2014 Colorado GDP – The state Real GDP grew by 4.7% in 2014 compared to 2.2% for the U.S.

2014 Contribution to GDP Growth – The Mining sector accounted for 6.2% of GDP and 18.2% of GDP growth in 2014.

Wage and Salary Employment – On average Colorado has added 68,600 jobs this year based on current data. This is not adjusted for the projected revisions.

Leading Sectors for Growth – About 72.2% of the jobs have been added in the Health Care; Construction; Accommodations and Food Services; Professional, Scientific, and Technical Services; and Manufacturing.



U.S. Economy

Gross Domestic Product

Real US GDP Growth

Quarterly

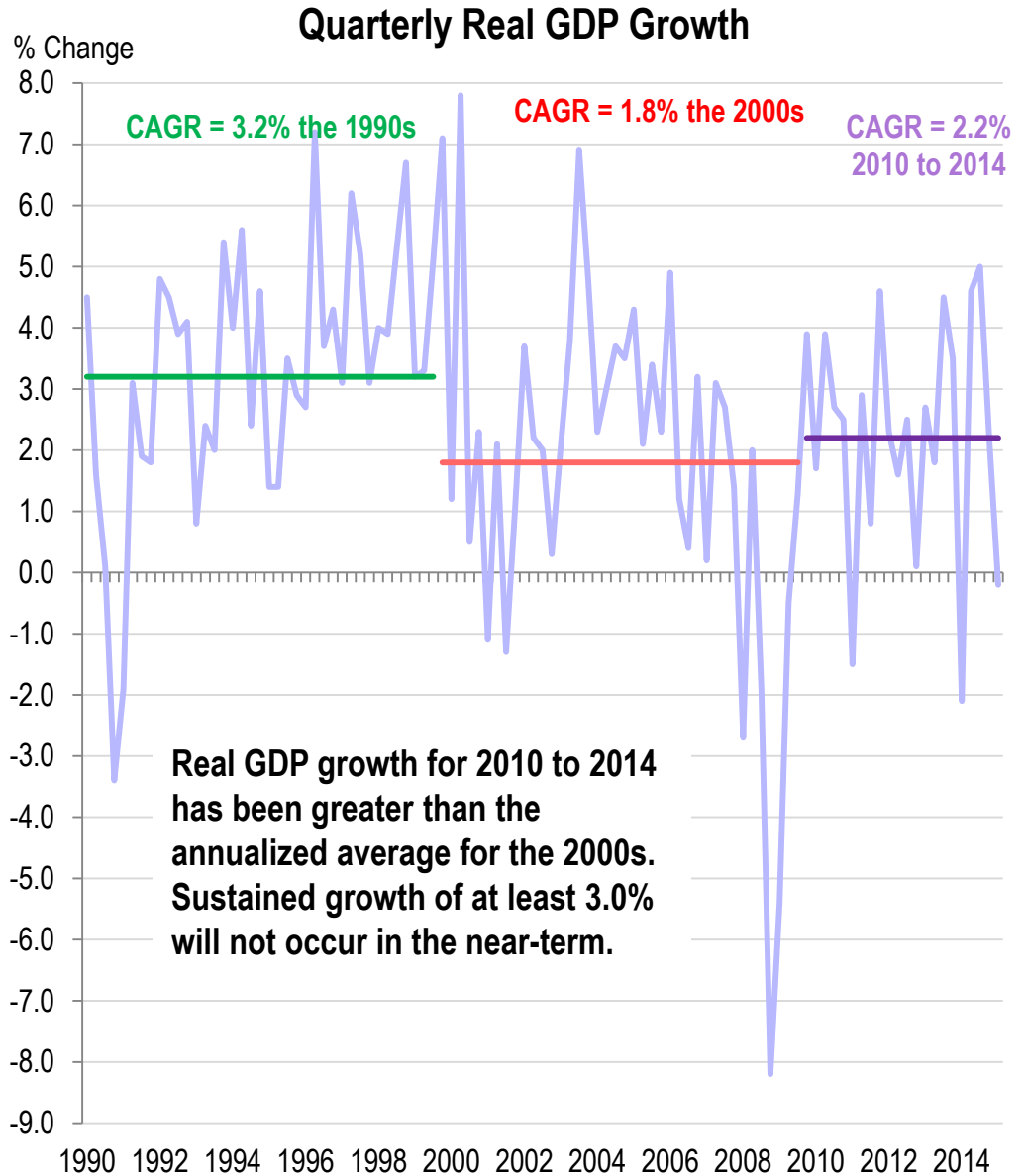
The cber.co 2015 forecast calls for real GDP growth of 2.5% to 2.9%, a slight increase over 2014.

Q1 2015 Real GDP growth was -0.2%. Q2 growth is estimated to be 2.5%.

Annualized Real GDP growth for the 1990s was 3.2% (green line). It was 1.8% for the 2000s (red line) and 2.2% from 2010 to 2014 (purple line).

Real GDP growth for the past five years was:

- 2010 2.5%
- 2011 1.6%
- 2012 2.3%
- 2013 2.2%
- 2014 2.4%



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

Change in Real Gross Domestic Product

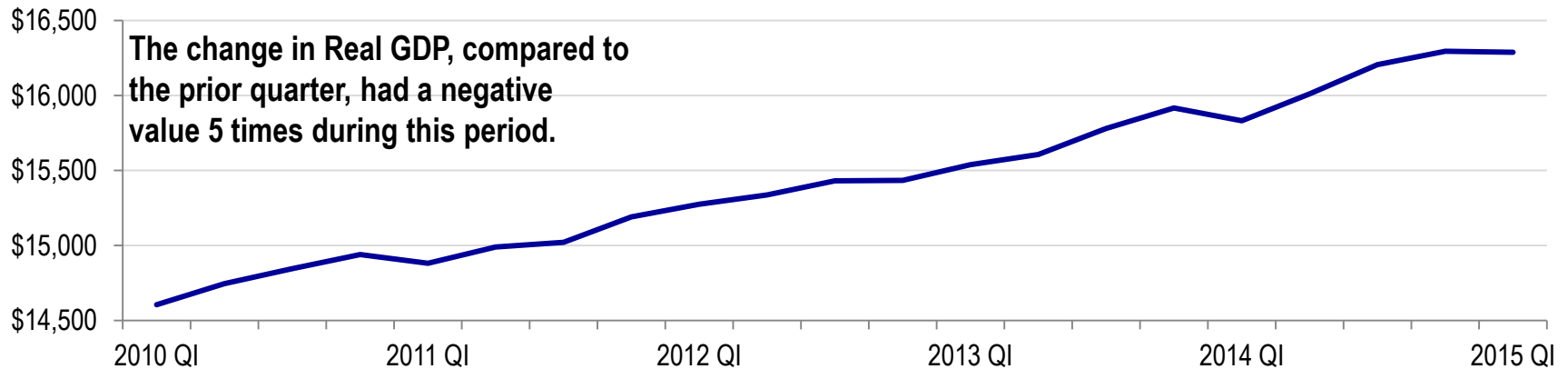
There are four components of the Gross Domestic Product. The current shares of each component are:

- Personal Consumption 68.5%
- Gross Private Domestic Investment 16.7%
- Net Exports (Exports minus Imports) -3.2%
- Government Consumption 17.9%

For this period the annualized rate of change is:

- Real GDP 2.2%
- Personal Consumption 2.4%
- Gross Private Domestic Investment 6.8%
- Government Consumption -1.3%
- Net Exports increased from \$-408.8 billion in 2010 to -\$548.0 billion.

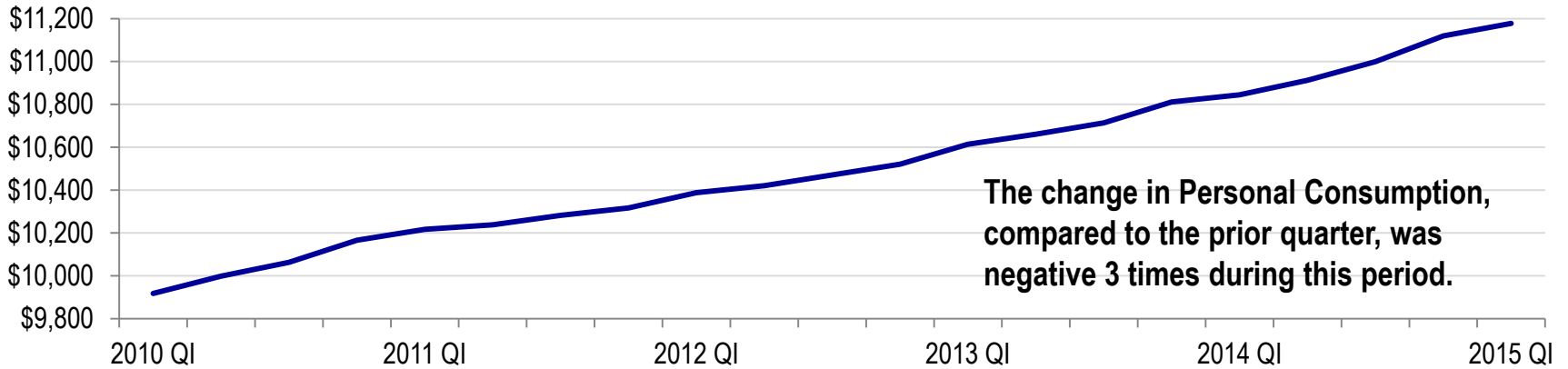
Real GDP (Billions)



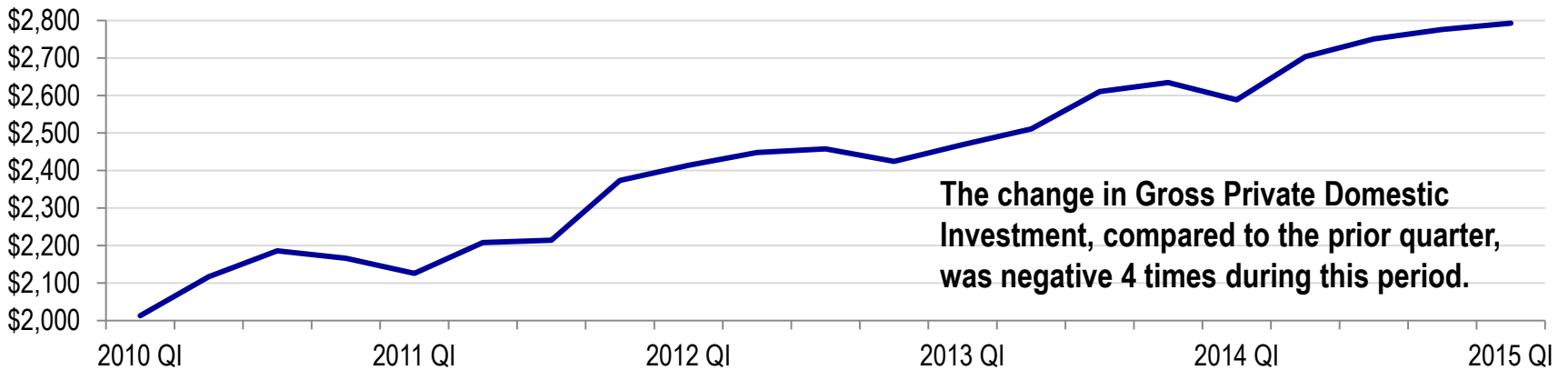
Source: Bureau of Economic Analysis, cber.co, Note GDP chained on 2009.

Change in Real Gross Domestic Product

Personal Consumption (Billions)



Gross Private Domestic Investment (Billions)

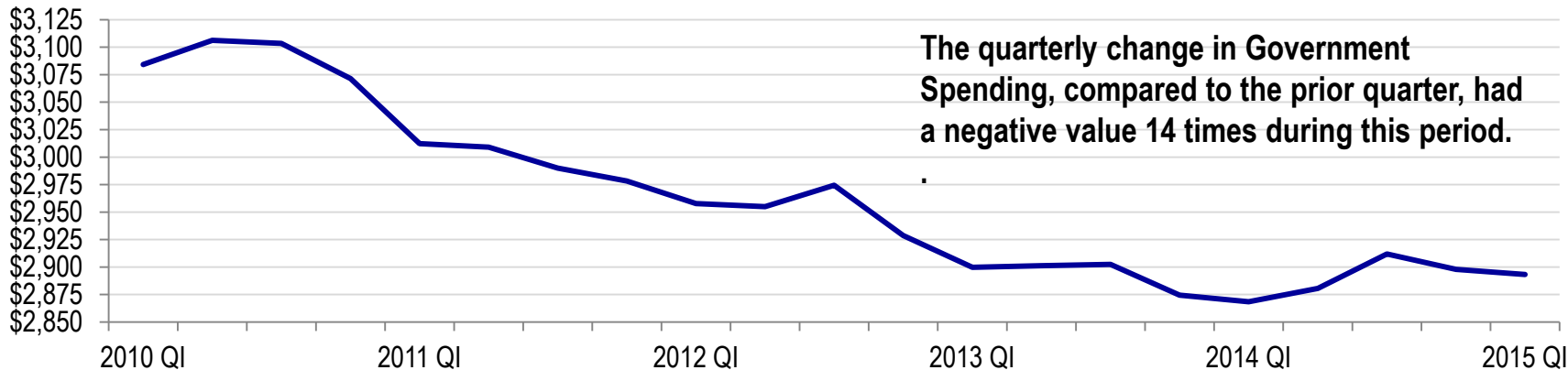


Source: Bureau of Economic Analysis, cber.co, Note GDP chained on 2009.

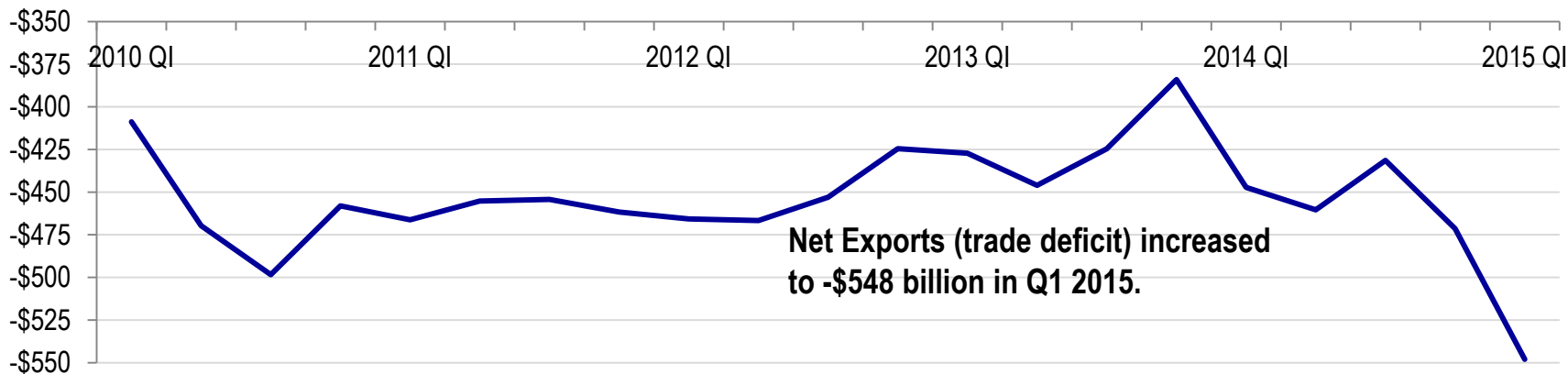
Change in Real Gross Domestic Product

Drag or Real GDP Growth

Government Spending (Billions)



Net Exports (Billions)



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

What the GDP Data Says About the U.S. Economy

Personal Consumption

- The U.S. economy relies on strong personal consumption to drive growth in manufacturing, services, and the overall economy.
- Personal Consumption has increased slowly as total employment has increased. Lackluster wage growth, debt, and a sense of caution have prevented stronger consumption.
- The growth of Personal Consumption has been solid and consistent.
- Consumer sentiment has steadily increased since late 2013.

Real Gross Private Domestic Investment

- Over this period Private Domestic Investment increased by 6.8%.
- The largest category, Equipment, increased by 8.2%.
- Residential increased by 6.0%.

Government Spending and Exports

- The trade deficit has increased since 2010 as the economies of key trading partners have struggles.
- The reduction in government budgets reduced the contribution of government spending to Real GDP.



U.S. Economy

Employment, Unemployment, and Wages

Change in U.S. Employment Month-Over-Month Prior Year



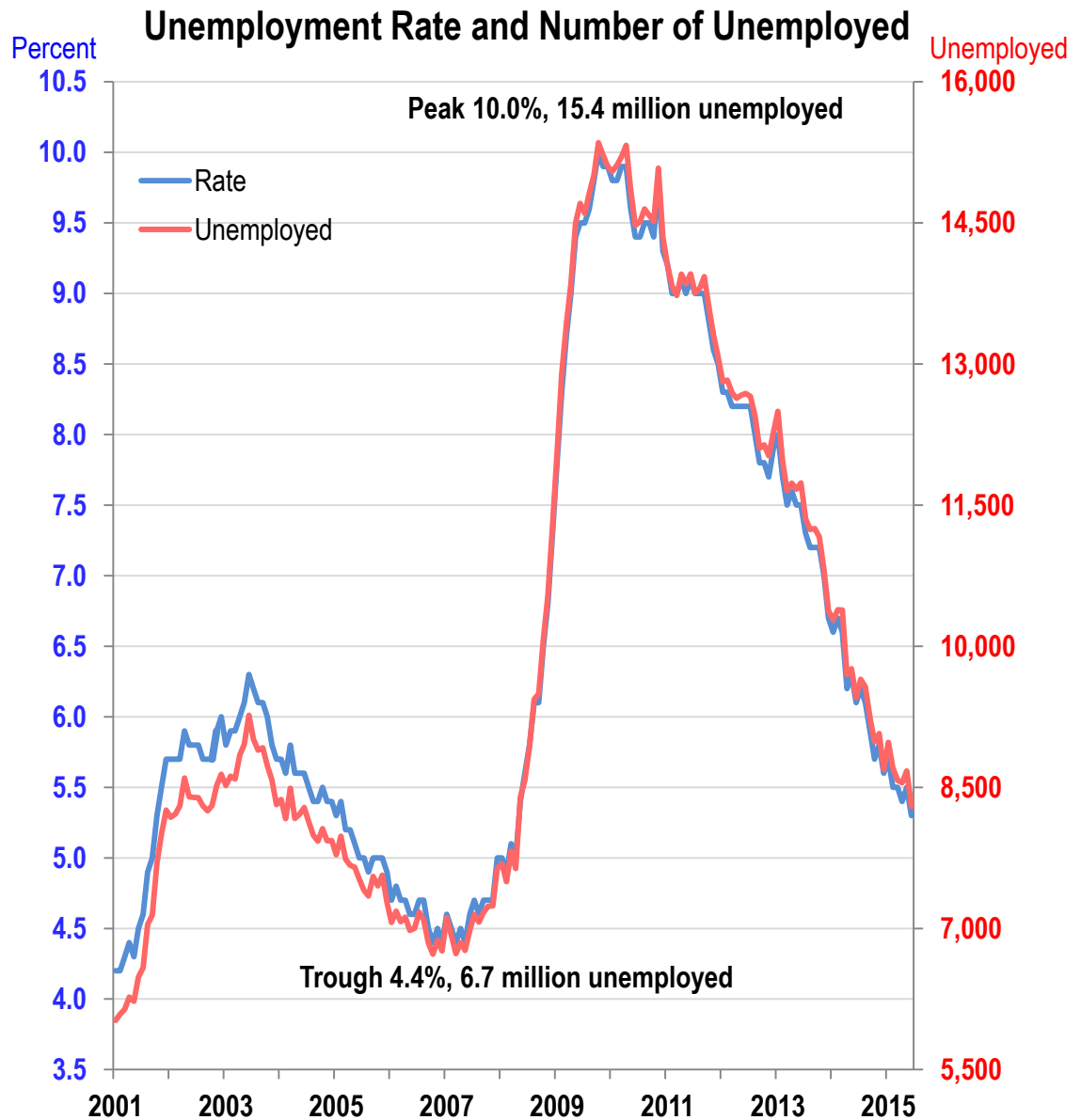
Source: Bureau of Labor Statistics, NSA.

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 8.299 million at the end of June 2015. This is 1.6 million above the low point in 2006 and 7.1 million below the high point in 2009.

The unemployment rate for June 2015 was 5.3%, down from 6.1% at the same time last year. The unemployment rate at the end of 2014 was 5.6%.



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

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Labor Force Participation Rate

After peaking in 2000, the labor force participation rate declined until mid-2013. During this decline the rate fell from 67.3% to 62.7%. It appears to have stabilized around that value.

While there is debate about the reason for the recent decrease, the primary factors are an increase in discouraged workers (a weak recovery from the Great Recession) and a change in demographics (more baby boomers retiring).

The Labor Force Participation Rate is the percentage of people eligible to participate in the labor force (either employed or actively looking for work) as a percentage of the labor force.

Labor Force Participation Rate



Source: Bureau of Labor Statistics, SA.

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U.S. Average Weekly Earnings of All Employees

U.S. Average Annual Weekly Earnings for all employees were:

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

The rate of increase for these wages was:

- 2012 2.4%
- 2013 1.8%
- 2014 2.4%

Wages are about 2.0% higher for the first half of 2015.

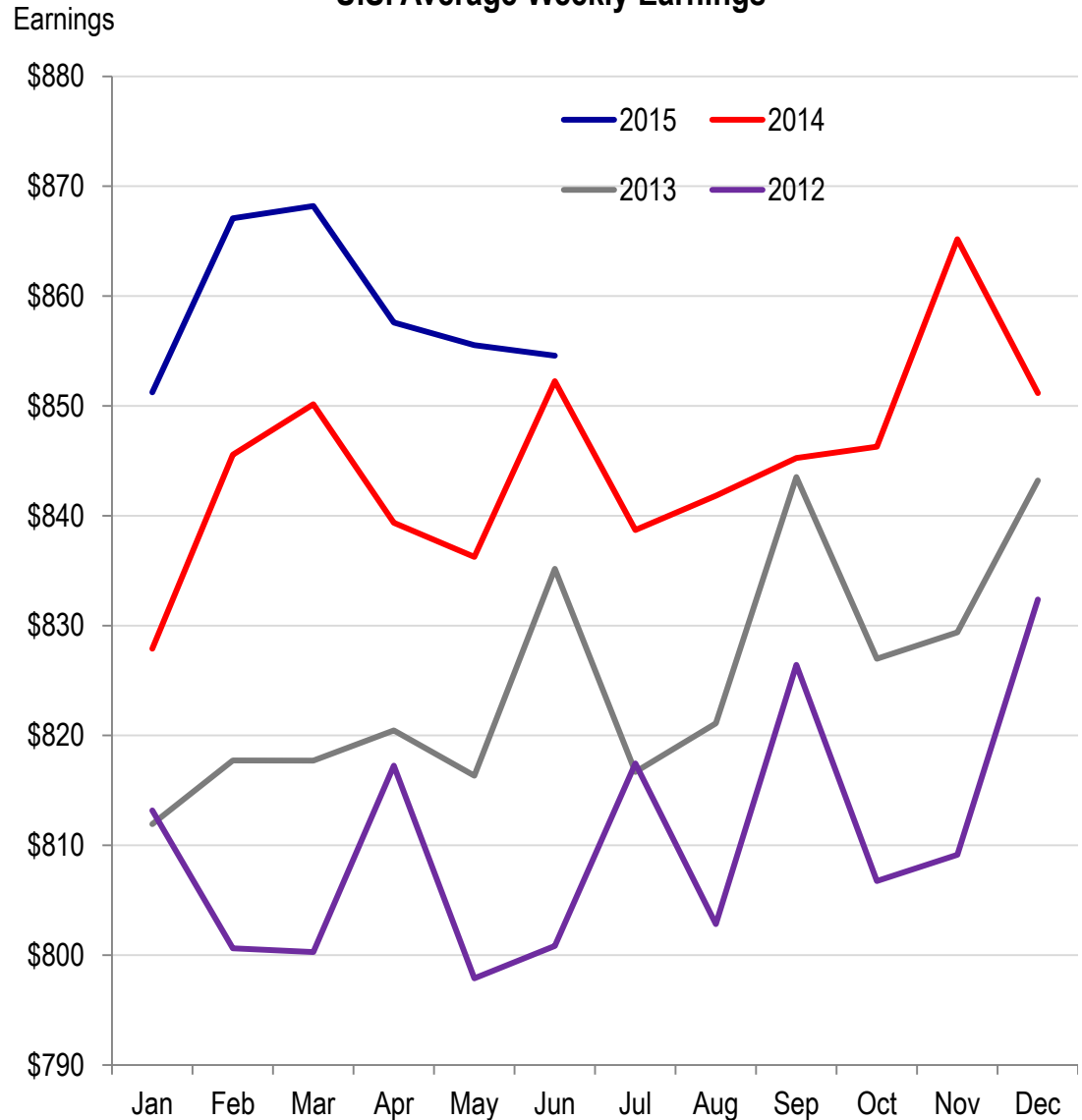
The increase in the CPI for these years was:

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

Wage increases have barely kept up with the rate of inflation.

Source: Bureau of Labor Statistics, NSA.

U.S. Average Weekly Earnings

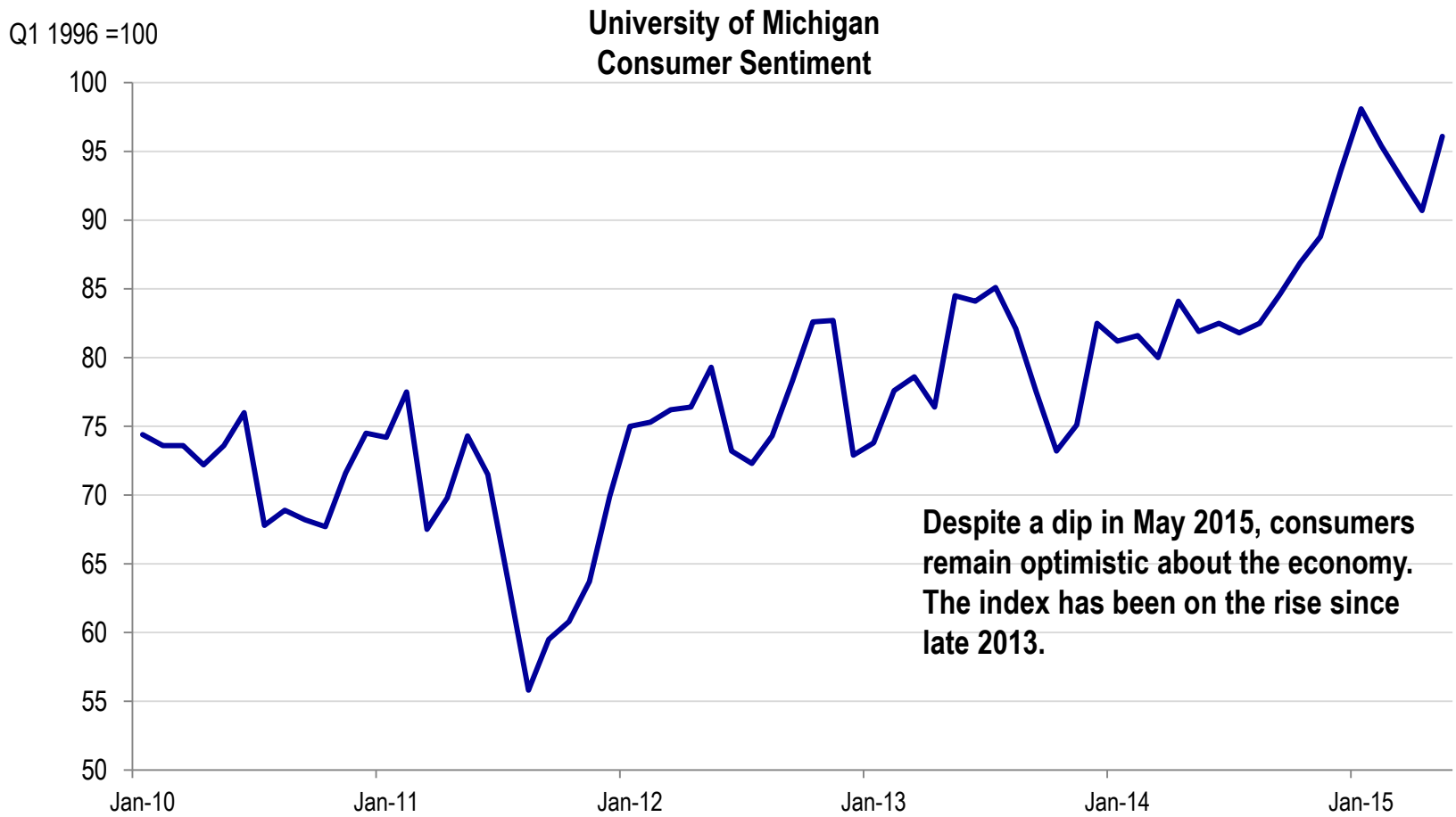




U.S. Economy

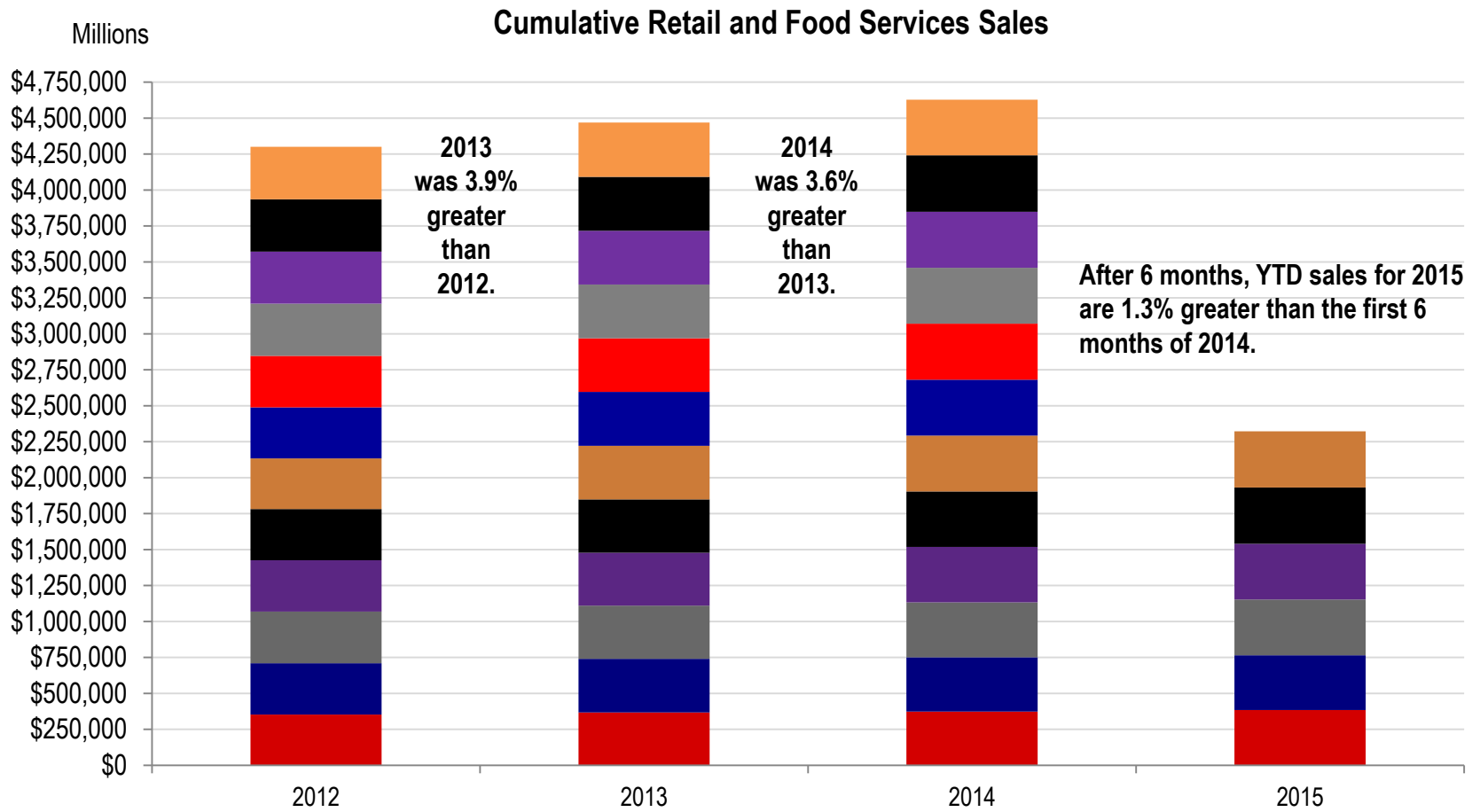
Consumer Sentiment and Key Industries

University of Michigan Consumer Sentiment



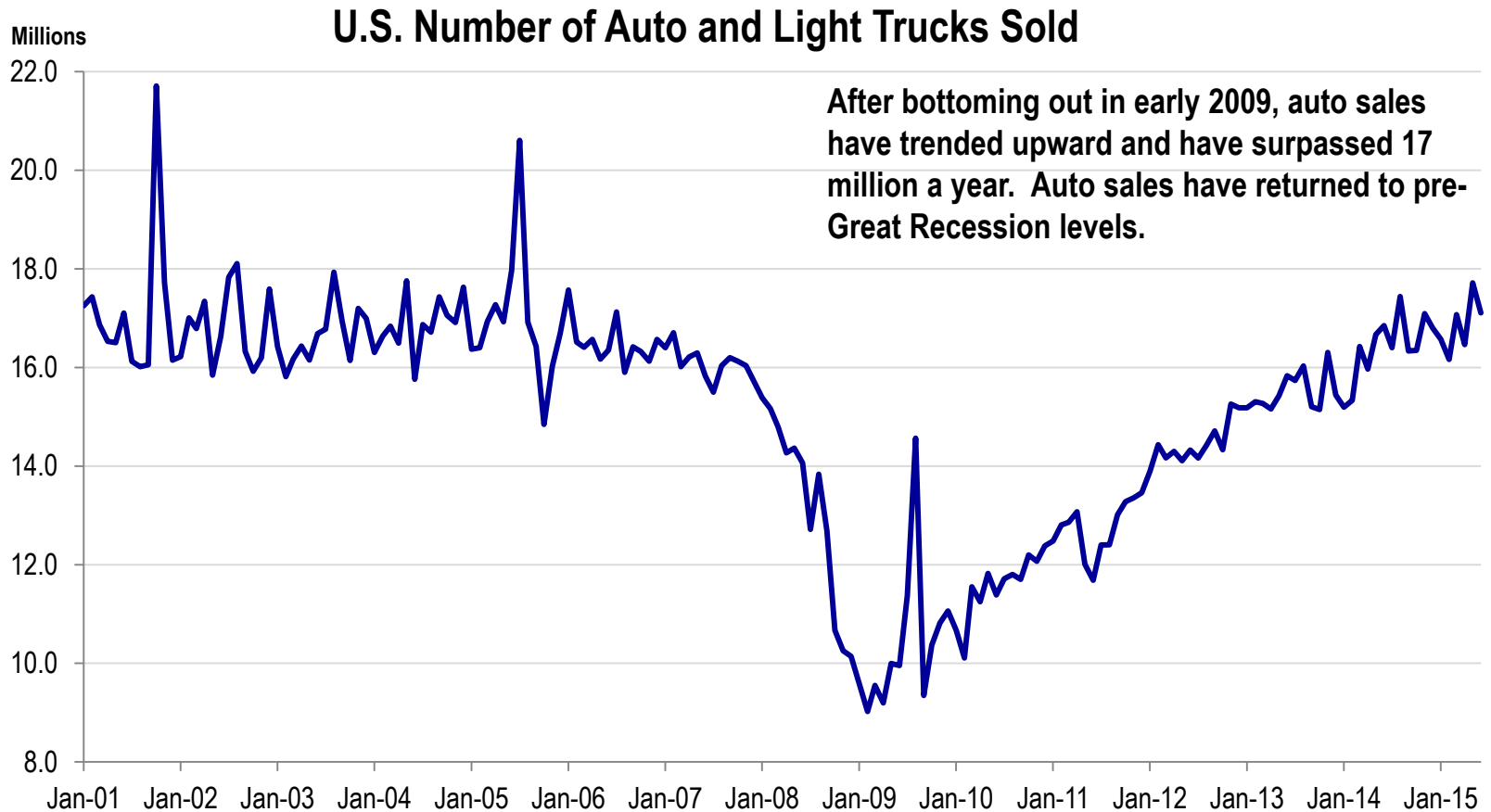
Source: Reuters, FRED.

Cumulative Retail, Excluding Food Services Sales



Source: U.S. Census Bureau, FRED. Note: Data is in descending order with December at the top and January at the bottom.

Weekly Auto and Light Truck Sales

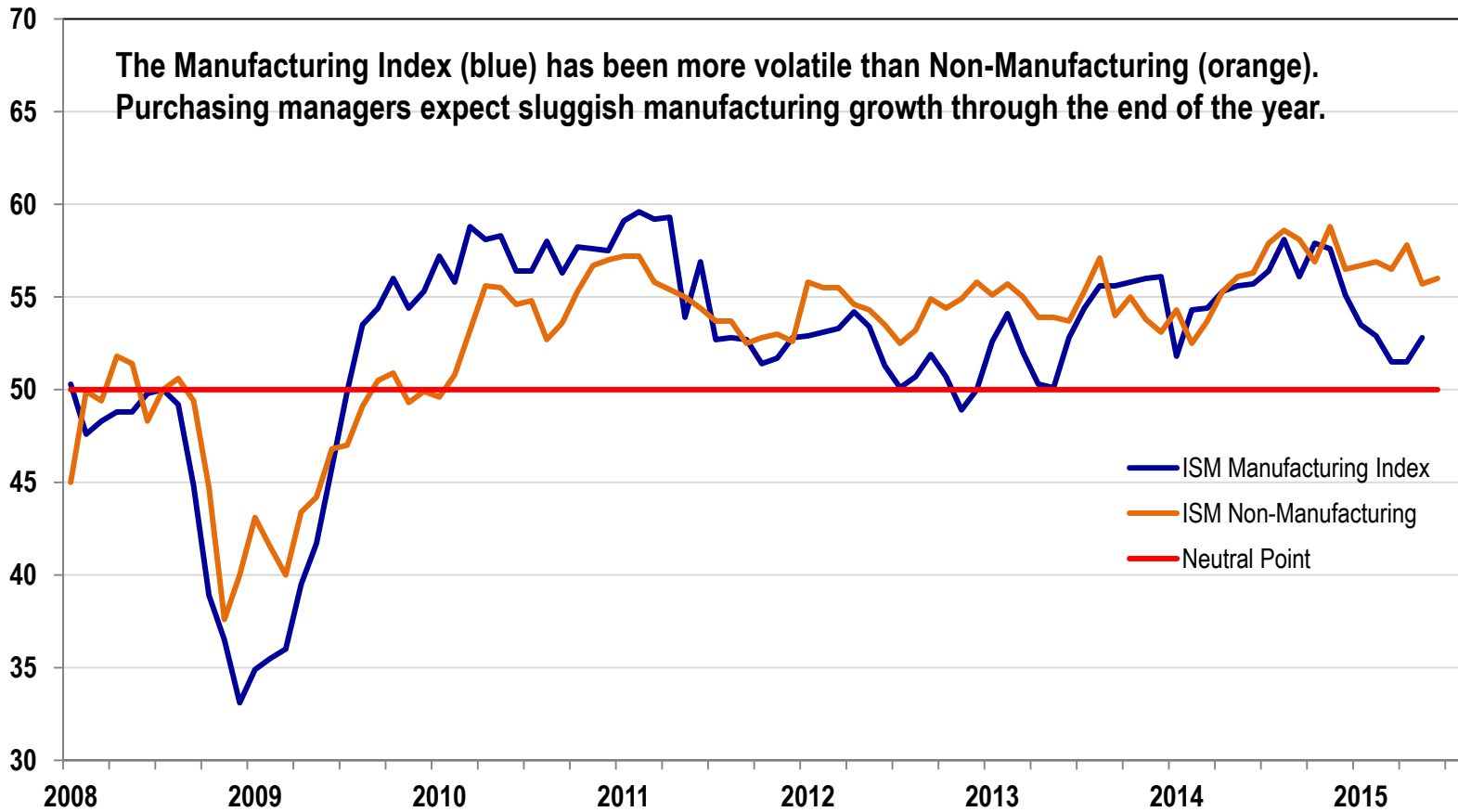


Source: FRED, BEA. Note: Seasonally Adjusted Annual Rate.

ISM PMI Composite Indices

Manufacturing vs. Non-manufacturing

ISM Manufacturing vs. Non-Manufacturing Indices



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

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Construction Update

June 2015 vs. June 2014

Employment, Wages, Unemployment

Construction Employment

- 2015 employment 6,572,000
- 262,000 increase; 4.2% over 2014

Construction Hours Worked per Week

- 2015 39.7 hours
- 2014 39.5 hours

Average Hourly Earnings

- 2015 \$27.16, 2.5% increase
- 2014 \$26.49

Average Weekly Earnings

- 2015 \$1,078.25, 3.0% increase
- 2014 \$1,046.36

Construction Unemployment

- 2015 7.4%
- 2014 9.2%

Employment Changes

Residential Construction

- 2015 employment 705,700
- 31,000 increase; 4.6% over 2014.

Non-Residential Construction

- 2015 employment 731,000
- 25,700 increase; 3.6% over 2014.

Heavy Construction

- 2015 employment 992,100
- 30,000 increase; 3.1% over 2014.

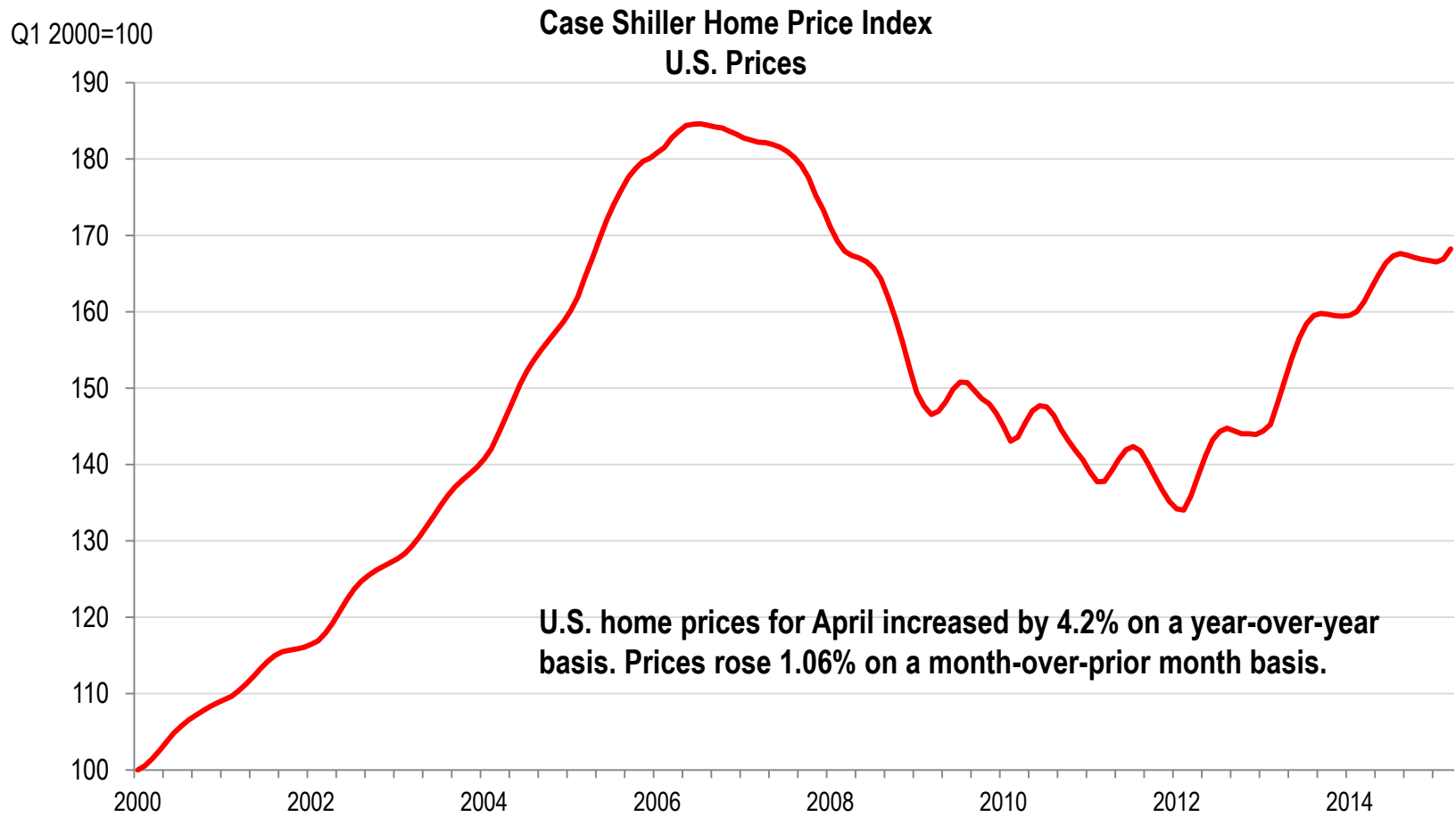
Specialty Trade

- 2015 employment 3,967,700
- 268,300 increase; 4.4% over 2014.

At the midpoint of the year, Construction employment is increasing at a rate about twice that of total employment; however, it may have peaked out. In recent months it has increased at a decreasing rate.

Source: Bureau of Labor Statistics.

U.S. Housing Prices – Case Shiller



Source: S&P Case-Shiller, FRED.



U.S. Economy

Reasons to Feel Good and Risks

Reasons to Feel Good about the U.S. Economy at the Midpoint of 2015

The U.S. economy is currently stronger than it was in 2014. There are a number of reasons to feel good about the U.S. economy. Fortunately, the reasons to be optimistic, listed below, outweigh the risks.

<p>The Fed - Janet Yellen has indicated the Federal Reserve is confident the U.S. economy is performing well enough that interest rates can be raised.</p>	<p>Industry Sentiment - Purchasing managers have a positive outlook for both goods and services. Manufacturing is more sluggish and may remain that way through the end of the year.</p>
<p>Real GDP - After a weak start in Q1, Real GDP growth for the year is projected to be in the 2.5% to 2.9% range - better than last year.</p>	<p>Inflation - Inflation is below the Fed's target rate of 2.0%. As interest rates increase, inflation will approach the target rate.</p>
<p>Retail - The woes of Q1 seem to be behind us. Consumer spending is expected to be stronger in the second half. This may lead to strong back-to-school sales - a significant source of revenue for retailers.</p>	<p>Construction - There is strong activity in both the residential and non-residential markets. Construction job growth will be constrained by the lack of trained workers.</p>
<p>Jobs - The U.S. is on track to add more than 3.0 million jobs this year. The unemployment rate and the long-term unemployment rate have continued to decline.</p>	<p>Housing Prices - The housing market remains strong - too strong in some areas.</p>
<p>Consumer Sentiment - According to the Consumer Sentiment Survey, consumers are upbeat.</p>	

Economic Risks - Midpoint of 2015

The U.S. economy is currently stronger than it was in 2014. Fortunately, the reasons to feel good about the economy outweigh the following risks.

<p>The Fed - Janet Yellen indicated there are still issues with the labor market. These concerns include such challenges as finding trained workers and weak wage growth.</p>	<p>Housing - In some parts of the country the rate of housing price appreciation may be problematic.</p>
<p>Real GDP - The rate of growth in business investments is lackluster. Increased demand for goods and services are needed to drive companies to invest in new equipment, software and buildings.</p>	<p>Price of Oil - Low oil prices have benefitted consumers (lower prices at the pump) and some industries, but they have hurt the extractive industries.</p>
<p>The Dollar - The strong dollar has made U.S. goods/exports less competitive in foreign markets.</p>	<p>International Situations- The current global situational and foreign policy challenges to the U.S. economy currently include Iran, Syria, China, Russia, Greece, Israel, Cuba, the EU, and Ukraine.</p>
<p>Industry Sentiment - Manufacturing may remain sluggish through the end of the year.</p>	



Colorado Employment and Unemployment



Preface to Employment Analysis

Release of Q4 2014 QCEW Data

During the first six months of 2015 the state added 68,600 jobs compared to the same time last year. The current CES data for 2015 shows year-over-year job growth decelerating.

In late-May BLS released the state's Q4 2014 QCEW employment data. It indicates there was much stronger growth during that period than anticipated.

Colorado's Labor Market Information group published the level of the possible updates on LMI's website. These projections show the first four months of 2015 may be revised upwards by 16,300. If this is the case, then this analysis understates the level of growth in 2015.

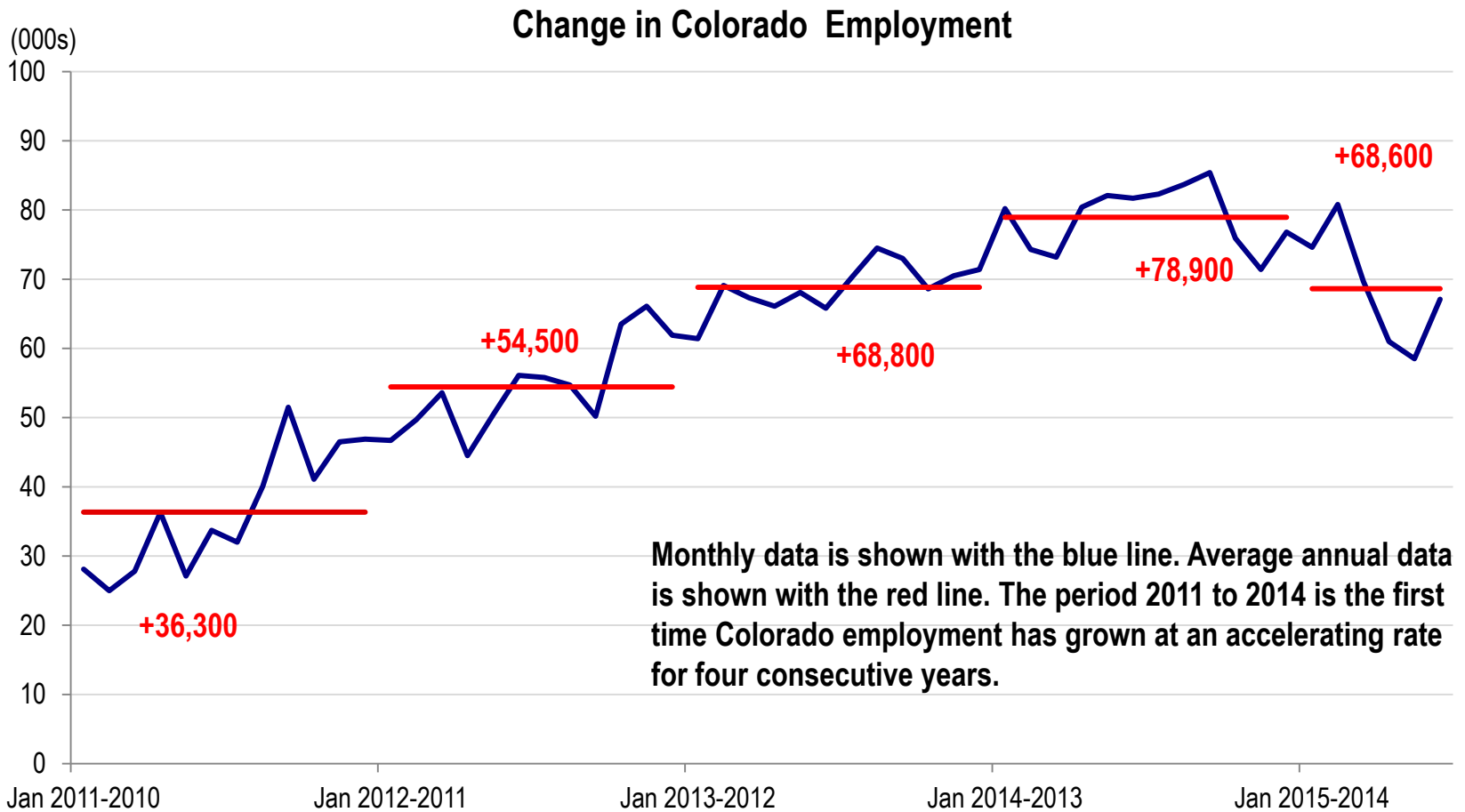
Implications

The QCEW data is used to benchmark the CES data. Assuming the recently released QCEW data is correct there are several implications:

- The March 2016 benchmark revisions for 2014 may show a significant increase for Q4 and an increase of as much as 3,600 jobs for the year.
- The revision to Q4 2014 suggests the state had much greater momentum coming into the year than originally anticipated.
- As a result, it is likely the first part of 2015 will be revised upwards.

For more information about the benchmarking process, see the Appendix.

Change in Colorado Employment Year-Over-Year



Source: Bureau of Labor Statistics, NSA.

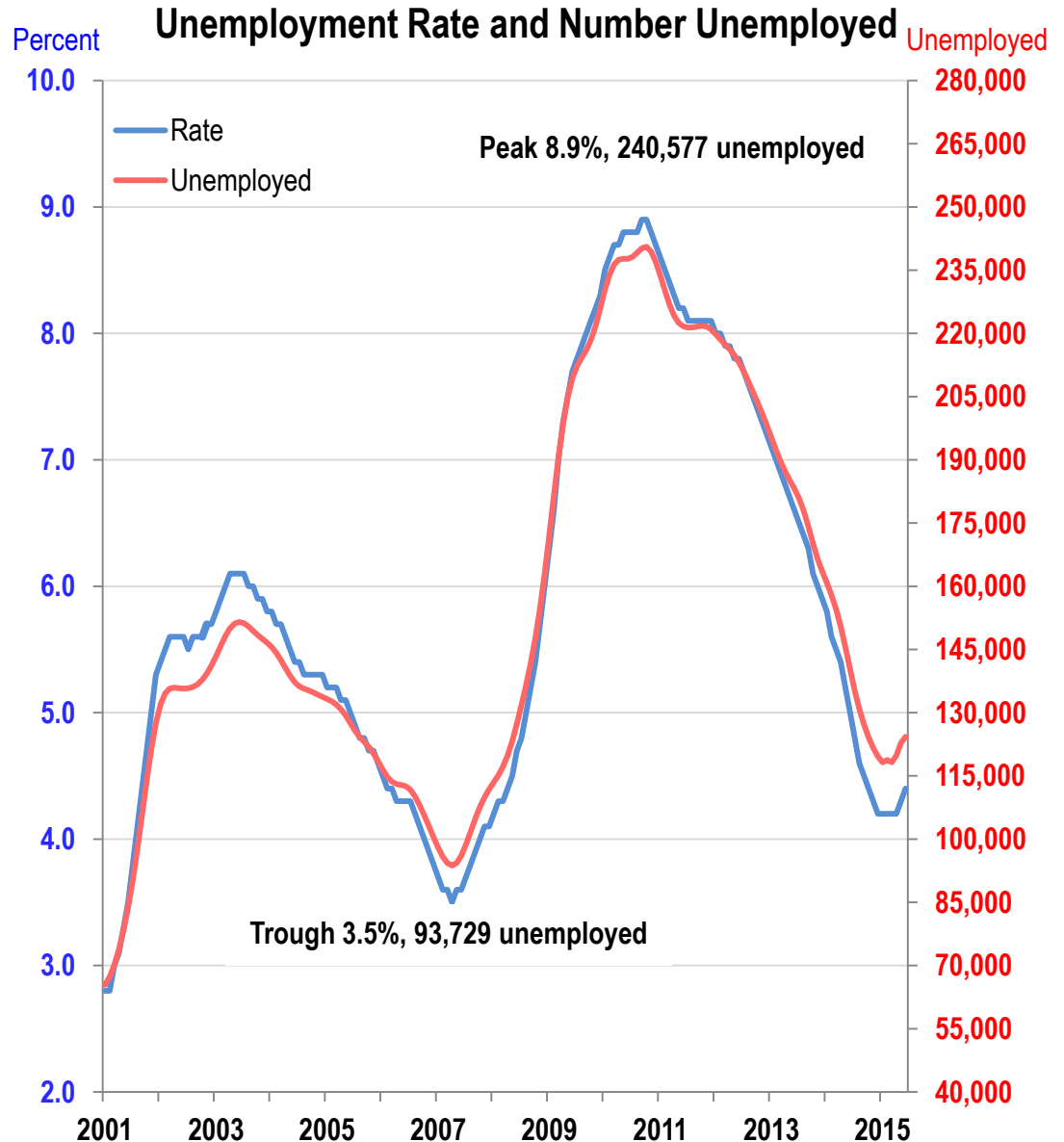
Colorado Unemployment Rate and Number of Unemployed

The number of unemployed has slowly trended downward since peaking in late 2010; however, in May and June it has risen by 4,479.

The total number of unemployed workers (red) at the end of June 2015 was 124,298.

The total number of unemployed is 30,569 greater than the trough in May 2007 and 116,279 less than the peak in October 2010.

There is a shortage of trained workers in key sectors and occupations. The 2015 unemployment rate (blue) of 4.4% is down from 5.0% in June 2014.



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

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Change in Colorado Employment by Performance Category



cber.co Forecast and Analysis

An efficient way to forecast and analyze job employment for Colorado is to categorize 22 NAICS industries into three categories based on the consistency, volatility, and the magnitude of their job growth. The categories are:

- Strong Growth – These industries consistently show stronger than average job growth. The focus of these industries is business and personal services.
- Solid Growth – These industries consistently show solid job growth, at levels below the Strong Growth category. Their focus is trade and government.
- Volatile – These industries have consistently been volatile. In many cases that volatility occurs for a variety of reasons such as changes in technology or industry structure.

The process for creating these categories is discussed in greater depth in the Appendix.

Summary of Strong, Solid, and Volatile Growth Categories

In 2015, the growth of the Strong, Solid, and Volatile Growth Categories will be similar to 2014.

The Strong Growth Category of sectors (green) has consistently shown strong job growth over time. The category added jobs as expected in 2014.

Over time, the Solid Growth Category of sectors (yellow) has been more volatile than the Strong Growth Category.

Finally, the Volatile Category of sectors (red) was a significant source of growth in 2013 and 2014 and is projected to do the same in 2015. Prior to that the category was a source of weak job growth or job losses.



Source: Bureau of Labor Statistics, cber.co.

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Annual Employment Situation for the Strong Growth Category

Over the past two 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 - Business to Business (Not Employment Services)
- Private Education
- Health Care
- Arts, Entertainment, and Recreation
- Other Services.

Total employment for this category was:

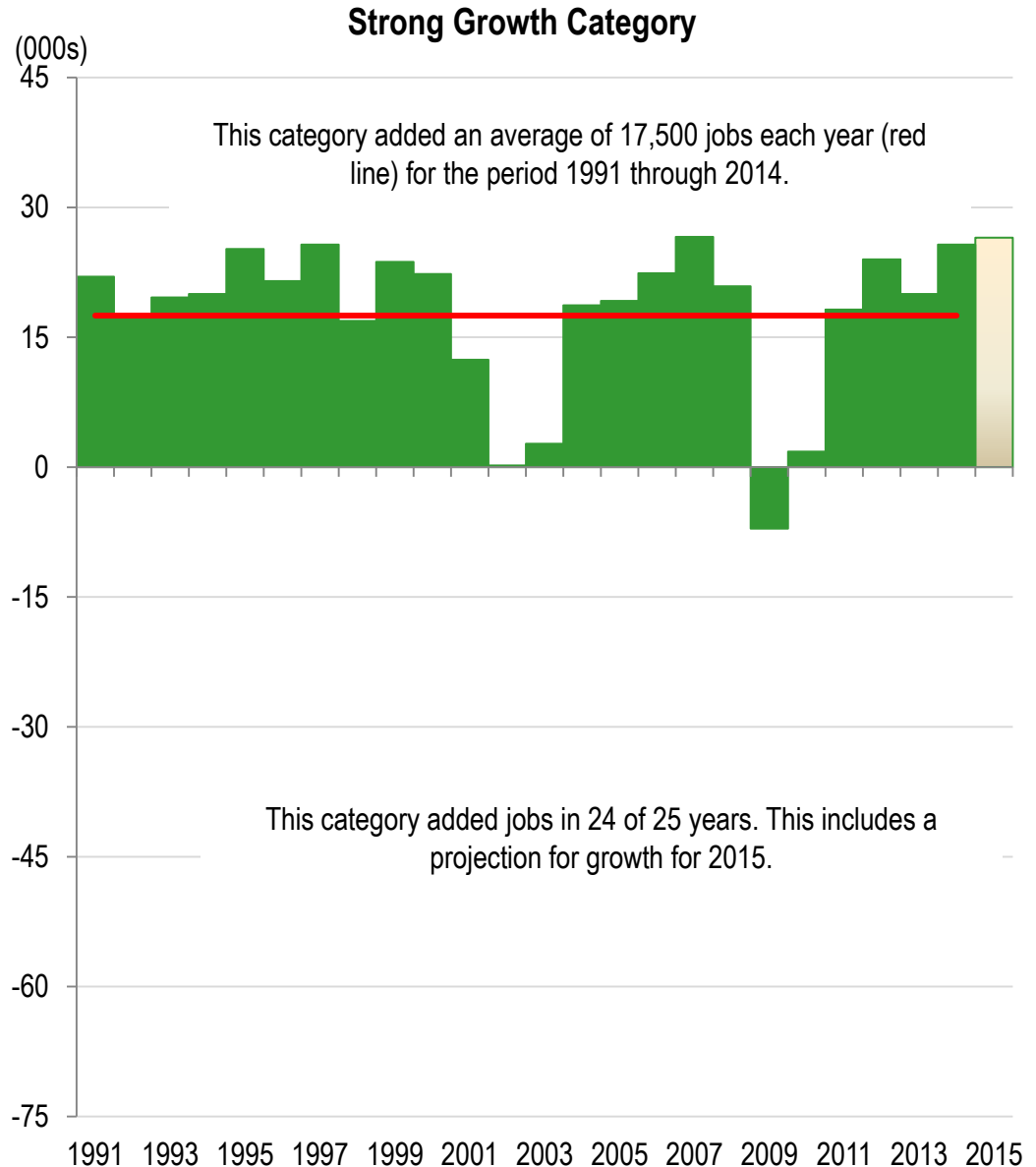
1994 445,200 workers, 25.4% of total employment
 2004 615,900 workers, 28.3% of total employment
 2014 786,700 workers, 32.0% of total employment

In 2015, absolute job growth of this category will be similar to job growth in 2007 and 2014.

In 2015, between 24,500 and 28,500 workers will be added at a rate of 3.1% to 3.6%. This rate of growth is slightly greater than 2014

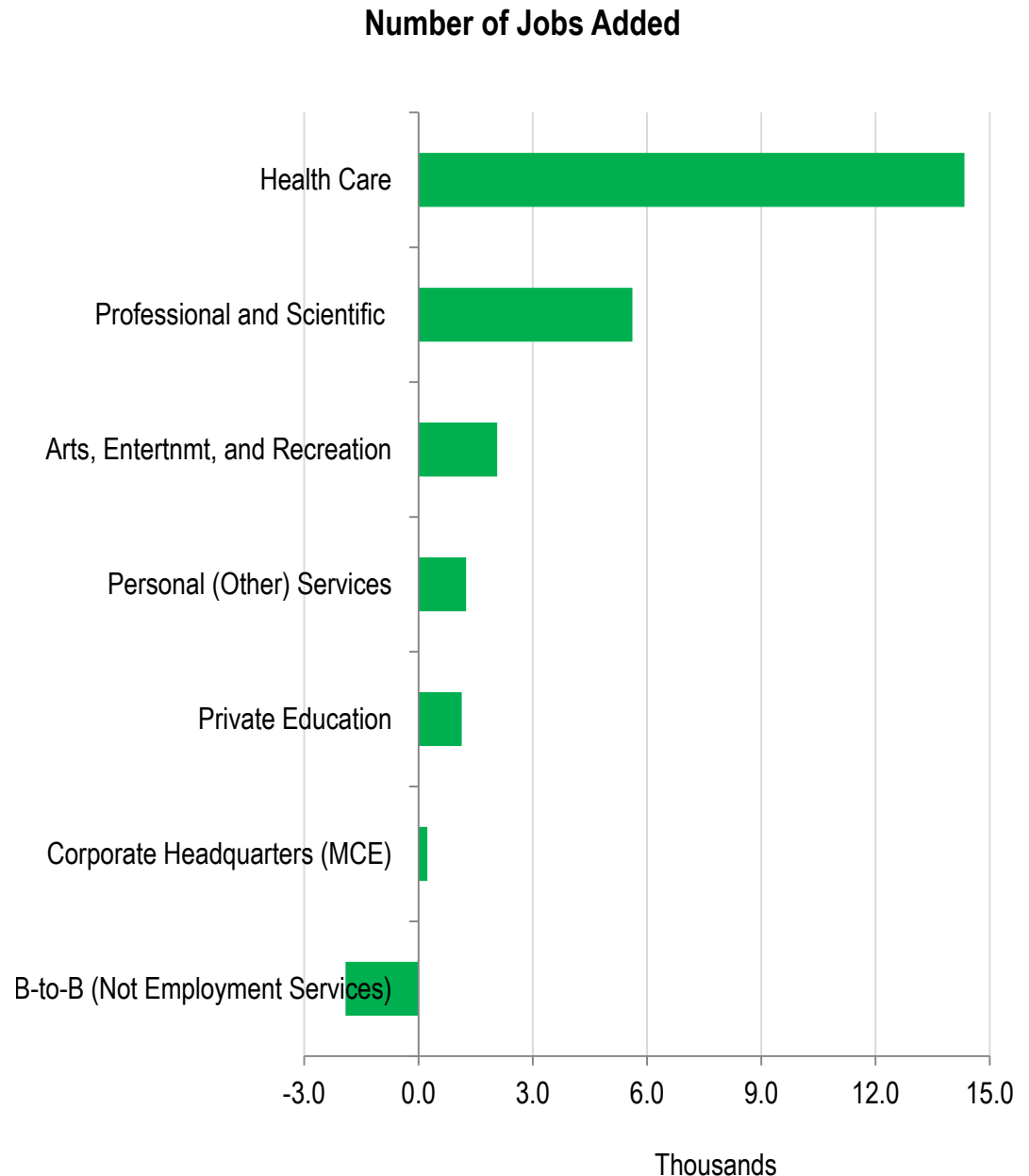
Source: Bureau of Labor Statistics, cber.co.

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● Strong Growth Sectors

- Through the first six months of 2015 this group of industries added 22,700 jobs compared to the same period in 2014.
- This category is projected to add 24,500 to 28,500 for the year. To date, its performance is slightly below the projected range.
- In 2014, these sectors accounted for 32.6% of the growth and 32.0% of total employees in 2014.
- Health Care and Professional and Scientific and Technical Services were the sectors with the strongest growth for the first six months of 2015. Most likely the data for B-to-B (Not Employment Services) is understated.



Source: Bureau of Labor Statistics.

Annual Employment Situation for the Solid Growth Category

Over the past two decades the following sectors generally posted gains. The category posted stronger jobs gains during the 1990s than the 2000s.

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

Total employment for this category was:

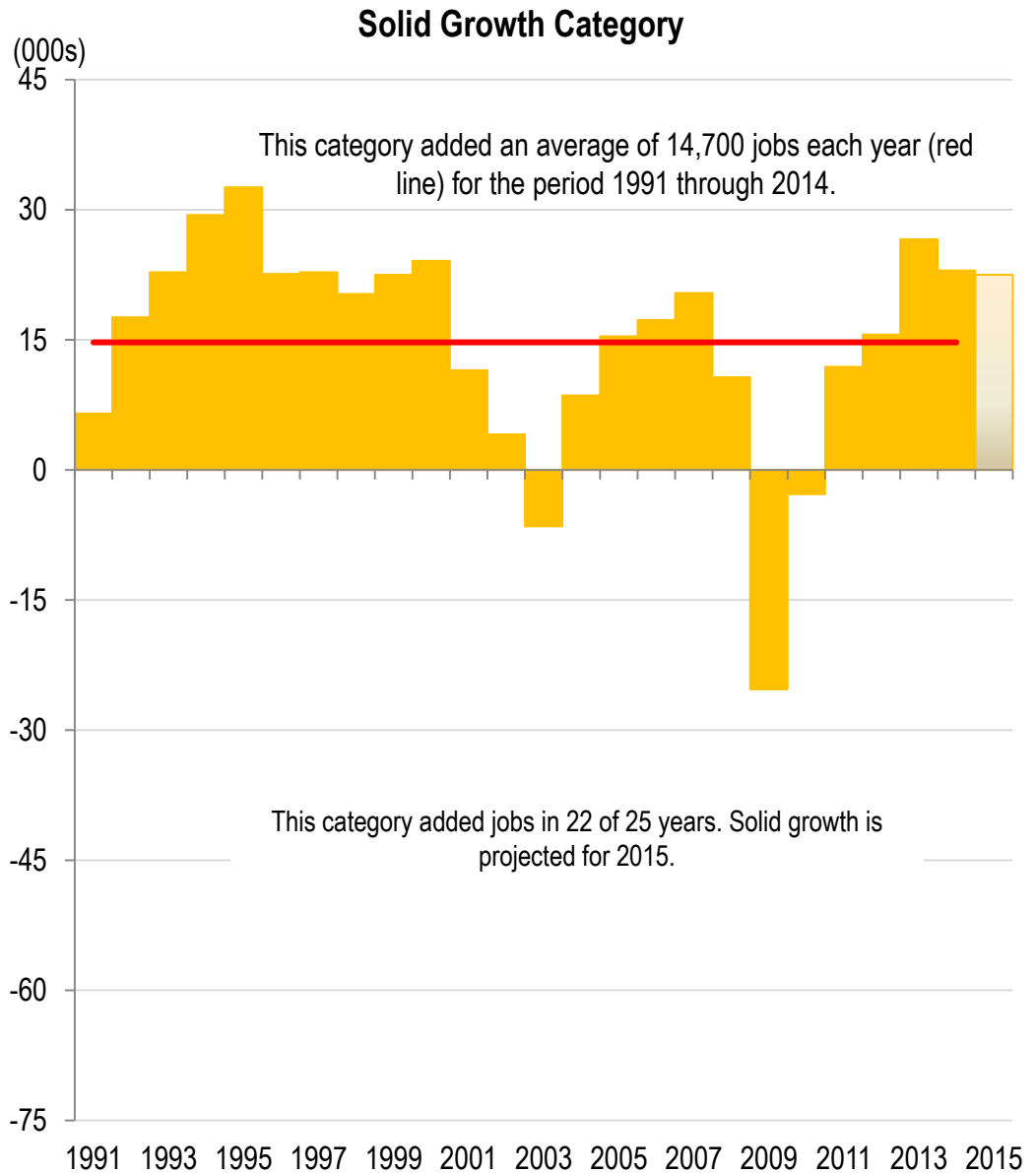
1994 685,400 workers, 39.0% of total employment

2004 848,000 workers, 38.9% of total employment

2014 961,100 workers, 39.0% of total employment

In 2015 absolute job growth in this category will be comparable to most years during the 1990s.

In 2015, between 22,500 and 26,500 workers will be added at a rate of 2.3% to 2.8%. This rate of growth is slightly less than 2014.



Source: Bureau of Labor Statistics, cber.co.

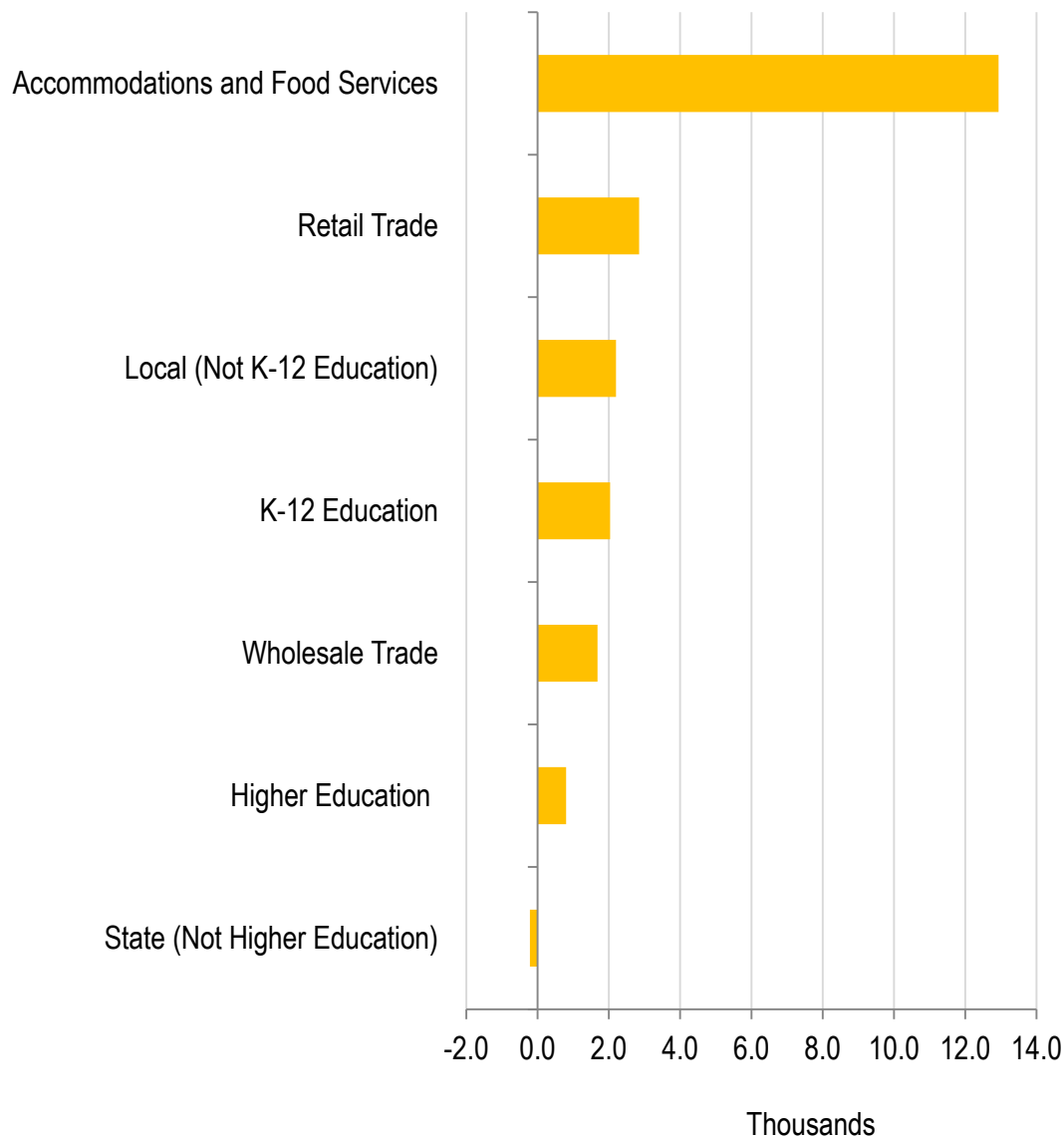
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Solid Growth Sectors

- Through the first six months of 2015 this group of industries added 22,300 jobs compared to the same period in 2014.
- This category is projected to add 22,500 to 26,500 for the year. To date, its performance is slightly below the projected forecast range.
- These sectors accounted for 29.1% of total job gains and 39.0% of total employees in 2014.
- A majority of the growth for the first six months of 2015 has occurred in the Accommodations and Food Services, Retail Trade, and Local Government sectors. Most likely the job growth for AFS is overstated.

Number of Jobs Added



Source: Bureau of Labor Statistics.

Annual Employment Situation for the Volatile Category

Over the past two decades the sectors listed below were the primary source of volatility in total employment.

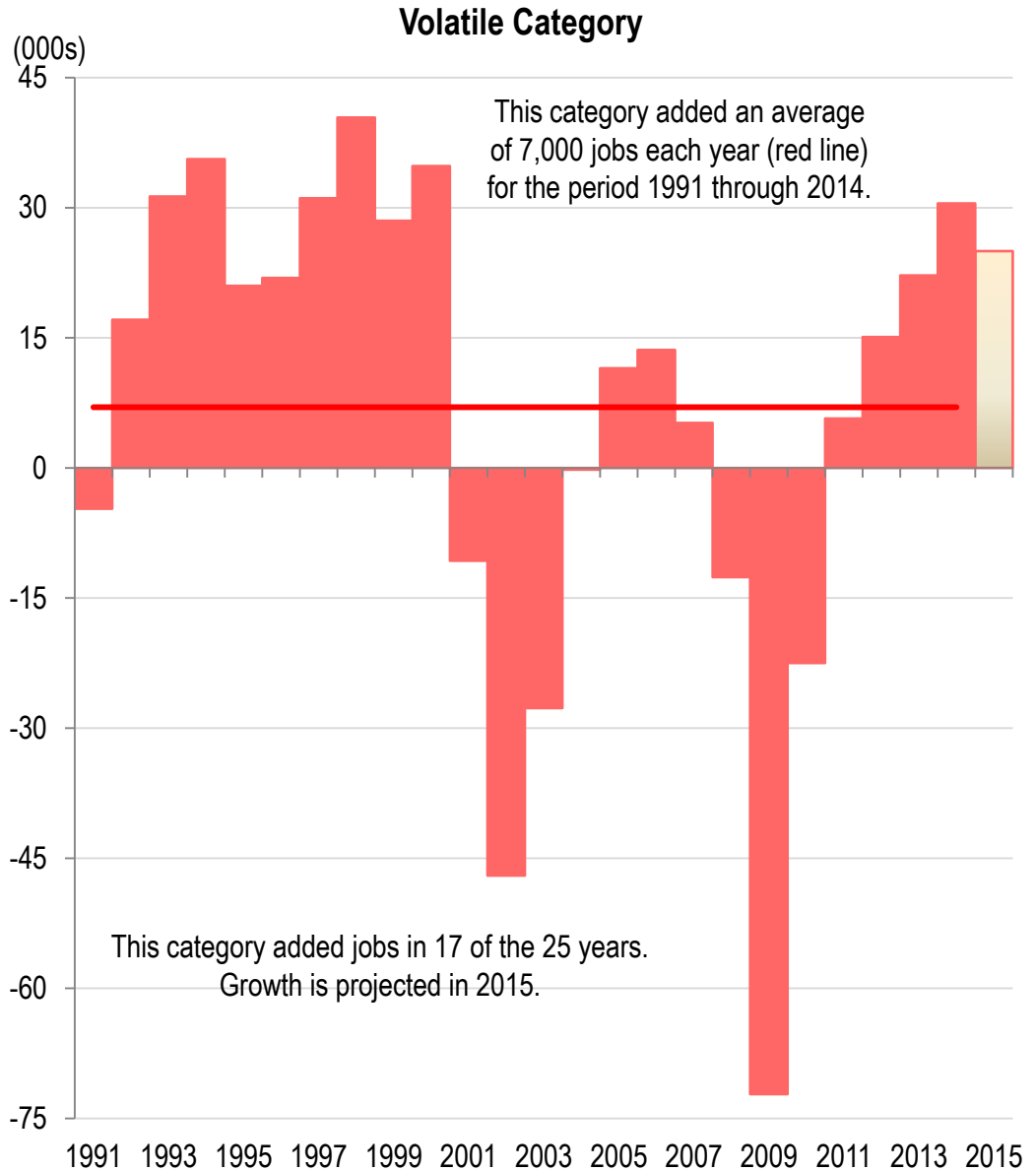
The sectors are:

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

Total employment for this category was:

1994 625,400 workers, 35.6% of total employment
 2004 716,000 workers, 32.8% of total employment
 2014 713,000 workers, 29.0% of total employment

In 2015 between 23,000 and 27,000 jobs will be added, at a rate of 3.2% to 3.8%. This rate of growth is slower than 2014.



Source: Bureau of Labor Statistics, cber.co.

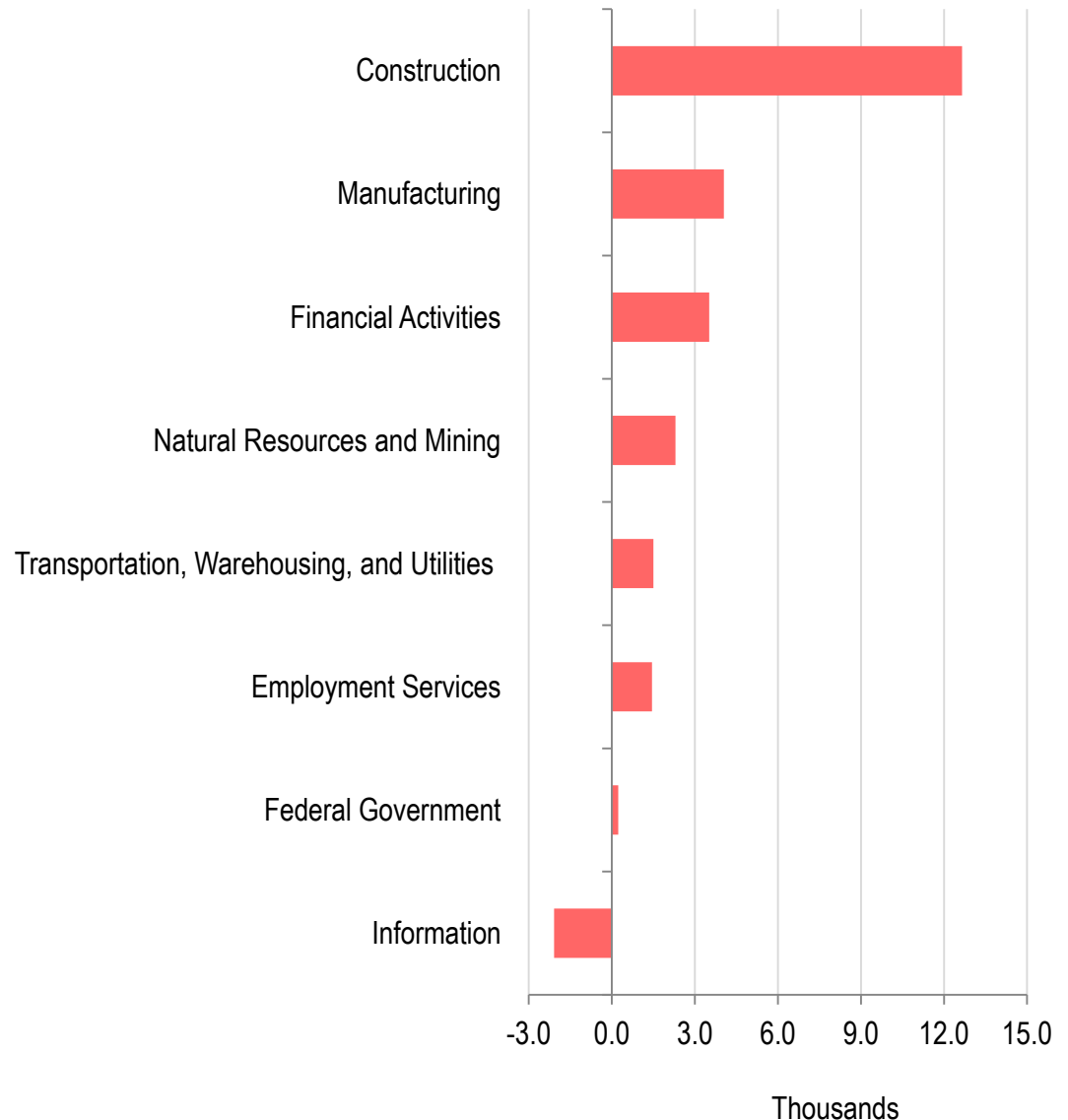
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● Volatile Sectors

- Through the first six months of 2015 this group of industries added 23,600 jobs compared to the same period in 2014.
- This category is projected to add 23,000 to 27,000 for the year. Its performance is at the bottom end of the forecast range.
- In 2014 these sectors accounted for 32.3% of total job gains and 29.0% of total employees.
- The Construction, Manufacturing, and Financial Activities Sectors added the greatest number of jobs and the Information Sector lost jobs during the first six months.

Number of Jobs Added



Source: Bureau of Labor Statistics.

Summary of Performance to cber.co 2015

Employment Forecast



On the chart, the forecast ranges for the categories are:

- Strong Growth – green box.
- Solid Growth – yellow box.
- Volatile – pink box.
- Total Employment – grey box.

The blue lines indicate the level of employment for BLS data.

Through the first six months the strong and solid categories were slightly below their respective forecast ranges. The volatile category was within its forecast range.

The overall forecast was slightly below the projected range (grey box).

This does not account for projected revisions that will occur in March 2016.

Performance by Category for the 2015 cber.co Forecast – First Six Months



The numbers of jobs added for the Strong and Solid Growth Categories are slightly below the forecast range. It is at the bottom of the range for the Volatile category. As a result the overall number of jobs added is slightly below the projected range.

Source: Bureau of Labor Statistics, cber.co.

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Colorado Gross Domestic Product



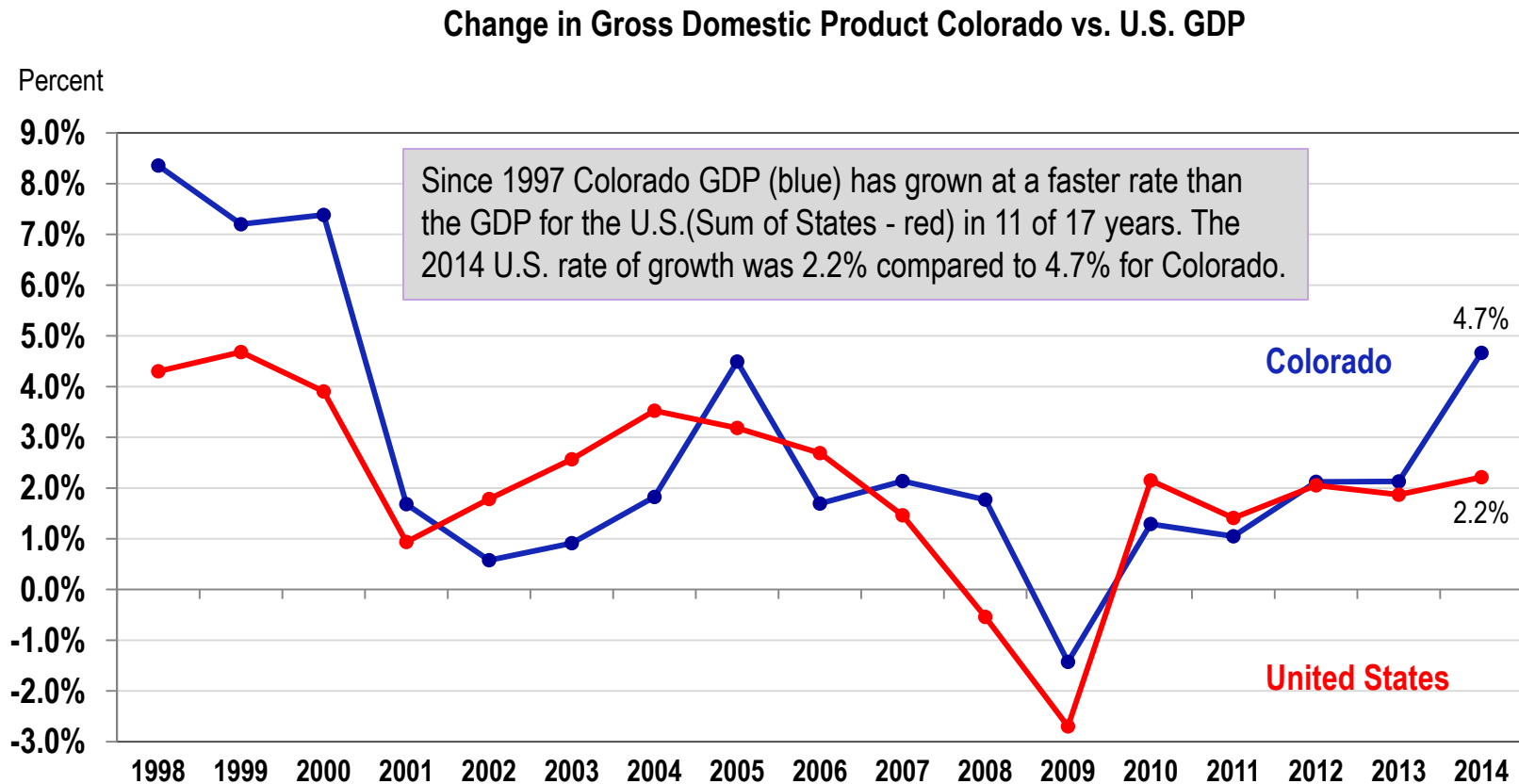
Colorado Gross Domestic Product

The Bureau of Economic Analysis recently released the advance estimate for state GDP at the two-digit NAICS level for 2014 and the 2013 data for subsectors.

- The advance estimate shows that the GDP for Colorado expanded at a rate more than twice that of the nation.
- Since 1997 the GDP for Colorado has grown at a faster pace than the U.S.
- Eight sectors accounted for about 46.5% of the growth in the GDP, yet these sectors accounted for 27.1% of the 2014 state GDP. These sectors gained “share” in 2014. The sectors were Arts, Entertainment, and Recreation; Utilities; Management of Companies and Enterprises; Transportation and Warehousing; Accommodation and Food Services; Construction; Wholesale Trade; Mining. (The AER and AFS sectors are typically regarded as the Tourism Industry).
- The remaining twelve sectors accounted for 53.5% of the growth in the GDP and 72.9% of the 2014 state GDP. These sectors lost “share” in 2014.

Gross Domestic Product

Annual % Change Colorado vs. U.S. (Sum of States)



Source: Bureau of Economic Analysis, Chained on 2009.

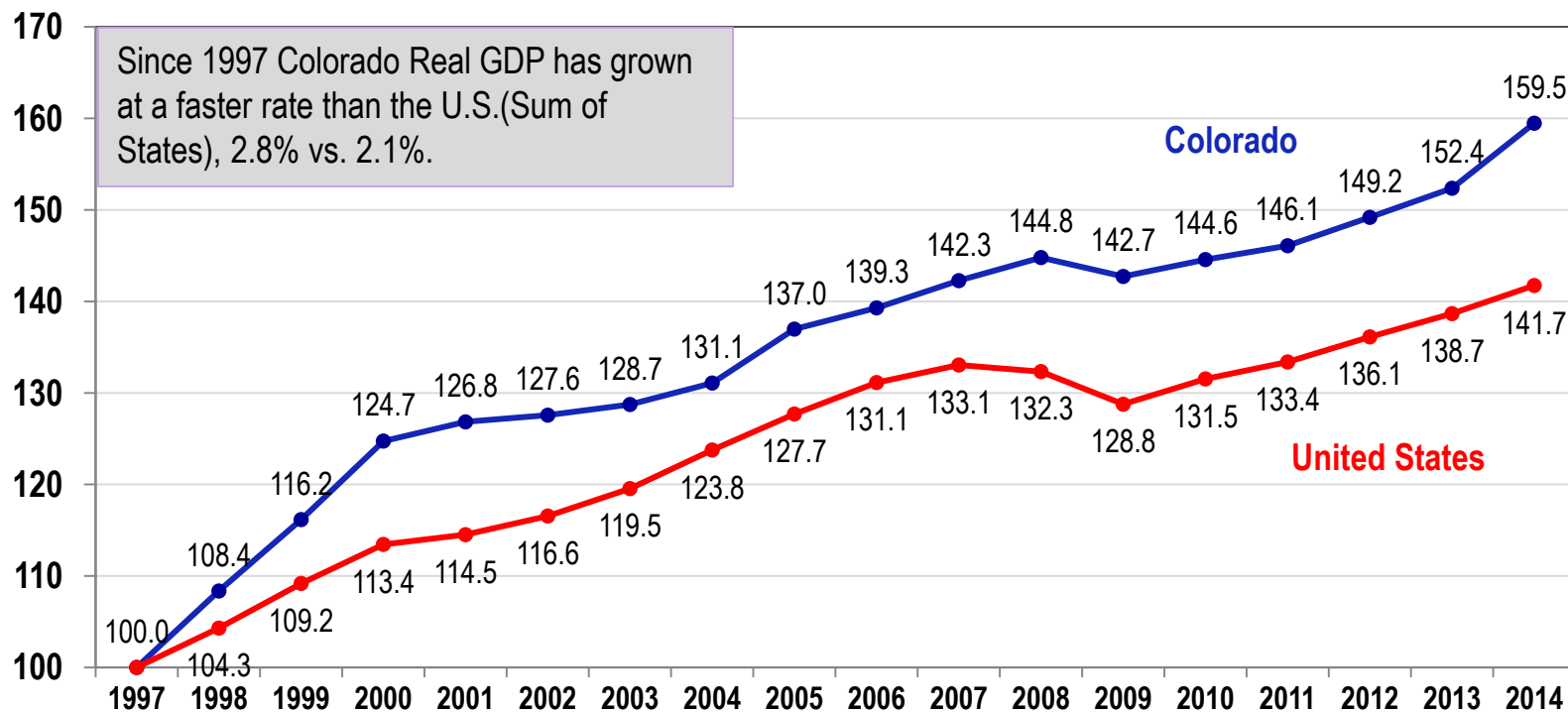
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- Real Gross Domestic Product
- Index of Colorado vs. U.S. (Sum of States)
-

Index of Colorado vs. U.S. GDP

1997=100



Source: Bureau of Economic Analysis, Chained on 2009.

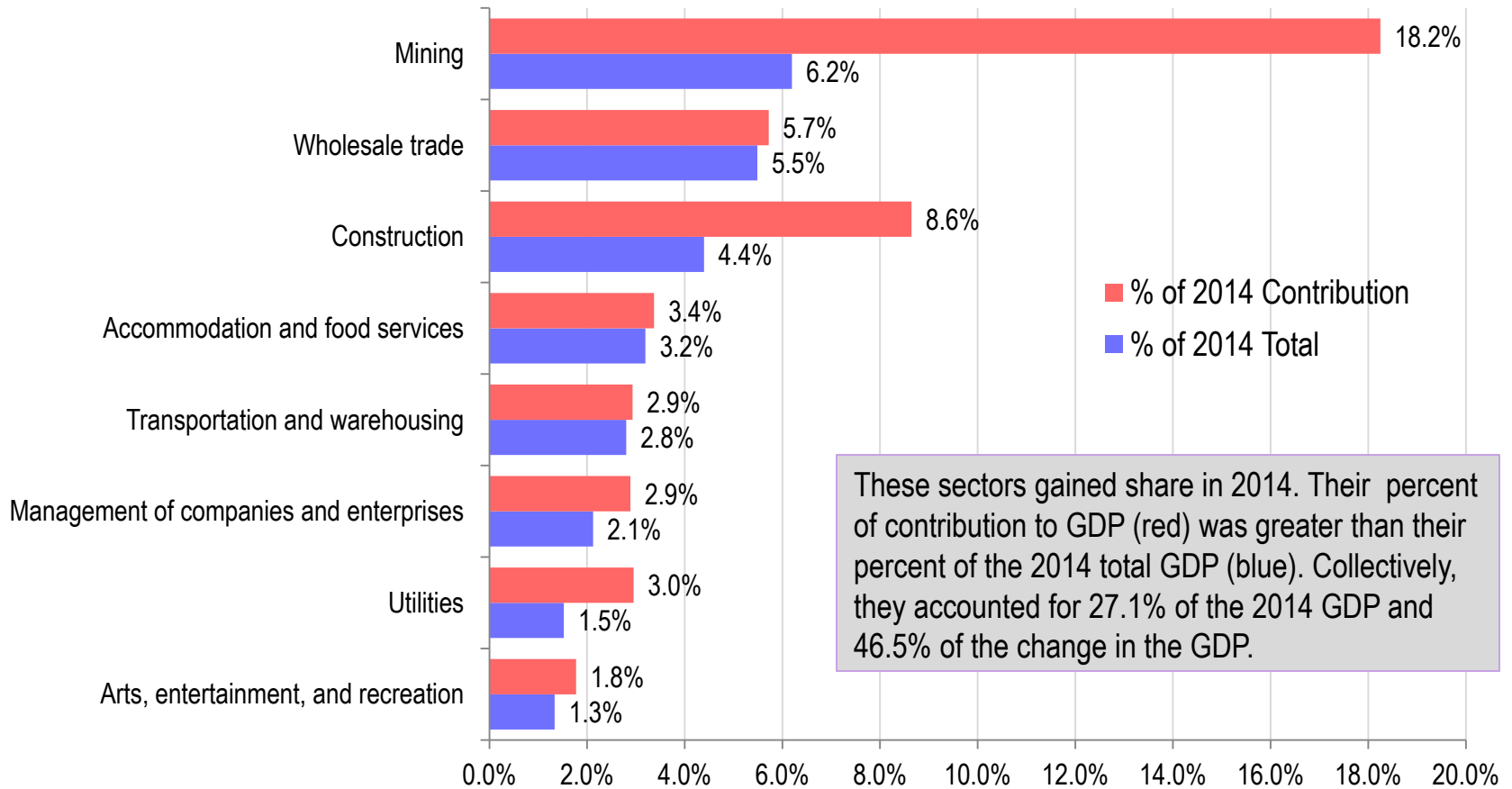
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Colorado Sector GDP

% of GDP vs. % of Contribution to 2014 GDP

GDP % vs. Contribution %



Source: Bureau of Economic Analysis.

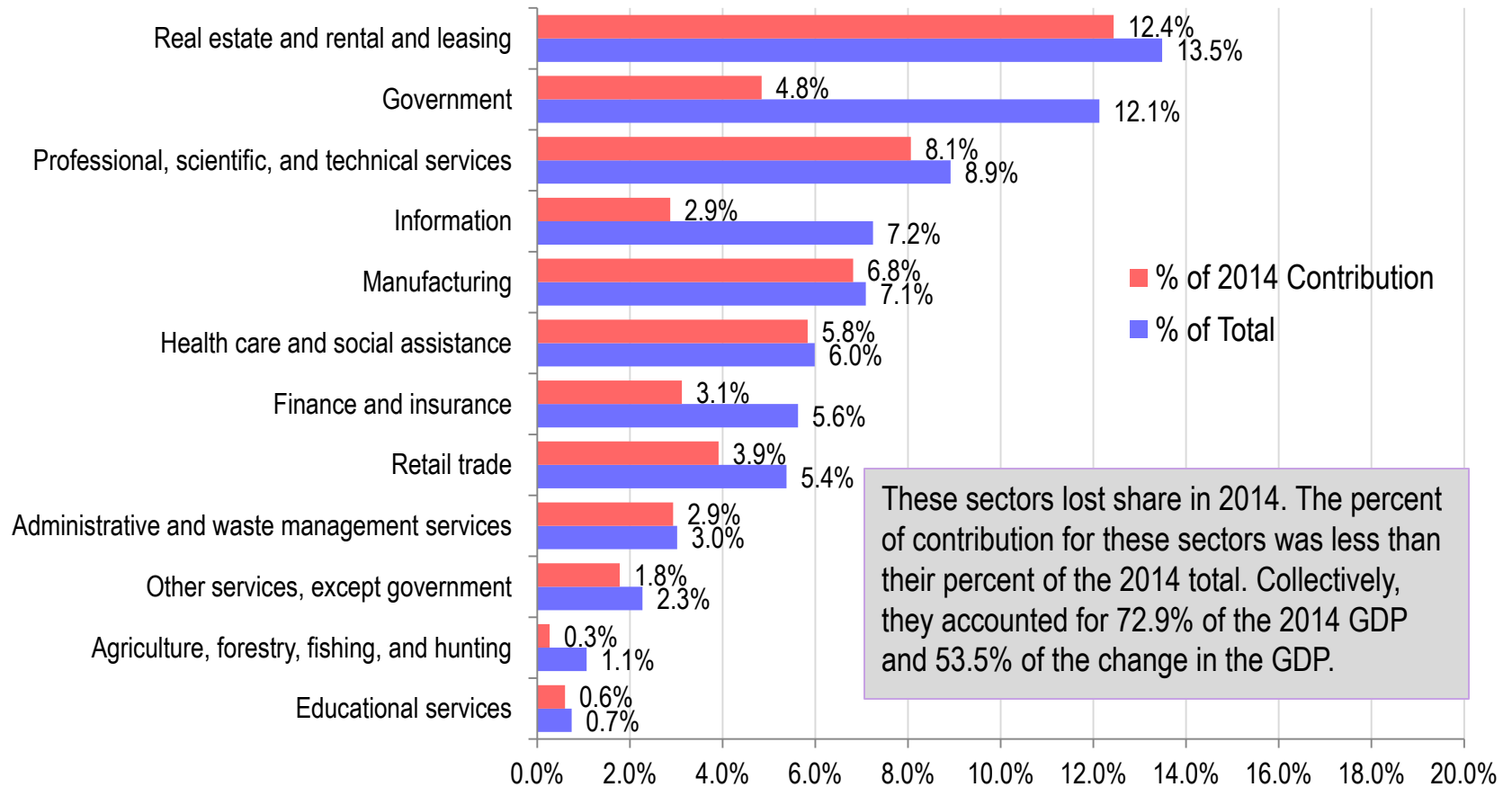
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Colorado Sector GDP

GDP % vs. % of Contribution to 2014 GDP

GDP % vs. Contribution %



Source: Bureau of Economic Analysis.

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The Impact of the Decrease in the Price of Oil on Colorado Employment

The Impact of the Decrease in the Price of Oil on Colorado Employment

This section will discuss how the decline in the price of oil is affecting employment in the Oil and Gas Industry in Colorado.

Price of a barrel of oil (WTI)

- In August 2014 the price of oil began a free-fall.
- It bottomed out in March, 2015 at \$43.39 per barrel.
- Lower prices caused oil and gas companies to operate in a more efficient manner. They have responded to the challenge.

Rig Count

- The Colorado rotary rig count dropped from 77 in September 2014 to 36 in April 2015.
- The rig count has stabilized around 40.
- Less efficient wells were capped as a way of improving production in an efficient manner.

Colorado Oil Production

- Colorado oil production reached record levels in 2014.
- That level of production has continued in 2015.
- Production is necessary because the U.S. is importing less oil.

Colorado Real Gross Domestic Product

- The rate of growth for the Colorado GDP was greater than the rate of growth for the U.S. GDP.
- Colorado's Mining Sector has a small number of employees, but it contributed 18.2% to Colorado's GDP in 2014.

U.S. Oil and Gas Employment

- The number of U.S. Oil and Gas Extraction workers declined for the first four months of 2015, but bounced upward in May.

U.S. Oil and Gas Support Employment

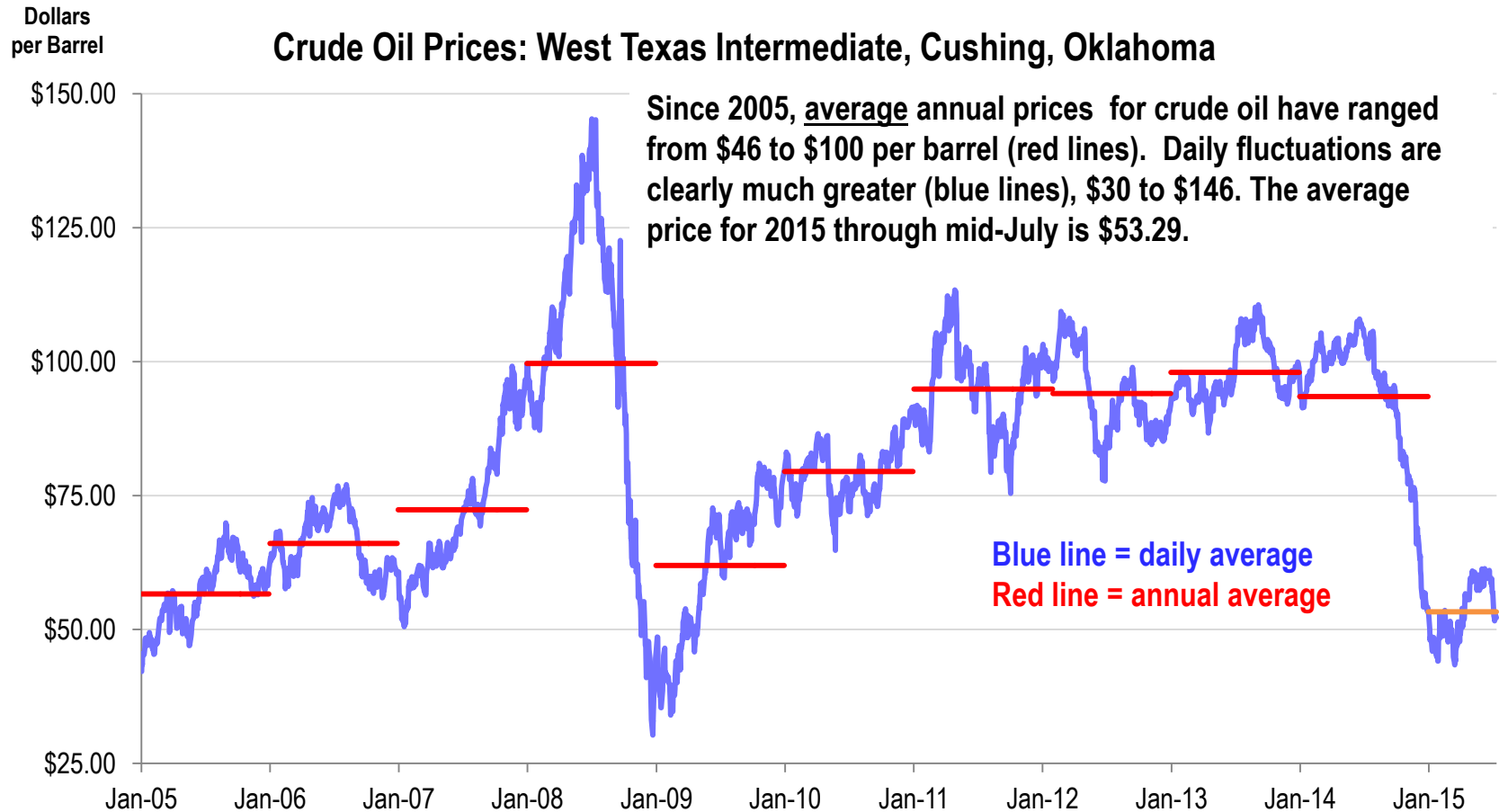
- The number of U.S. Oil and Gas Support workers declined for the first five months of 2015.

Colorado Oil and Gas Employment

- Oil and Gas Extraction and Support employment is not available for Colorado. It is included in the Mining Sector.
- Presumably, employment in the support companies will decline further than the extraction companies, as is the case at the national level.

Crude Oil Prices

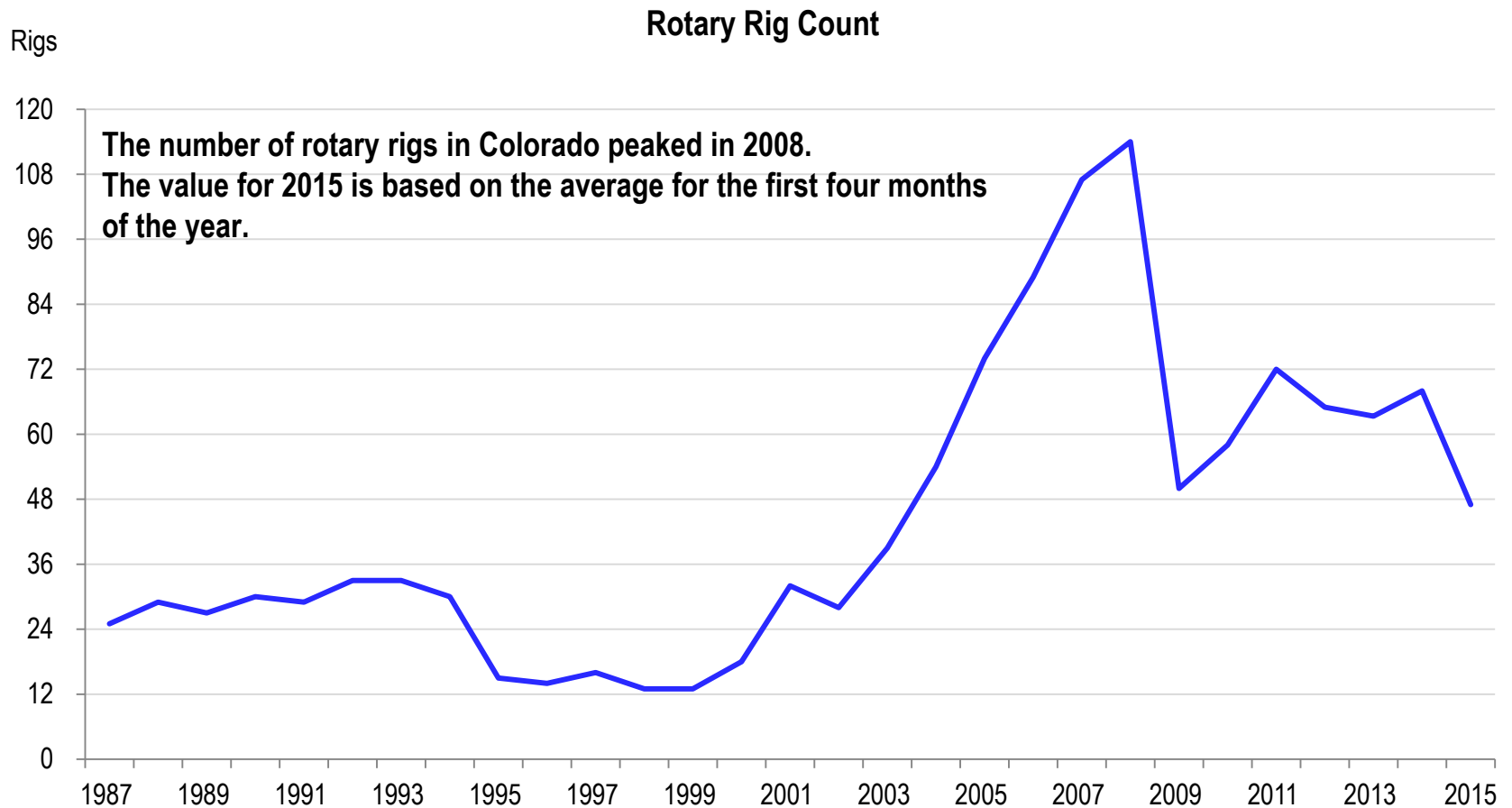
West Texas Intermediate



Source: FRED, EIA.

Colorado Annual Rotary Rig Count

1987 to 2015

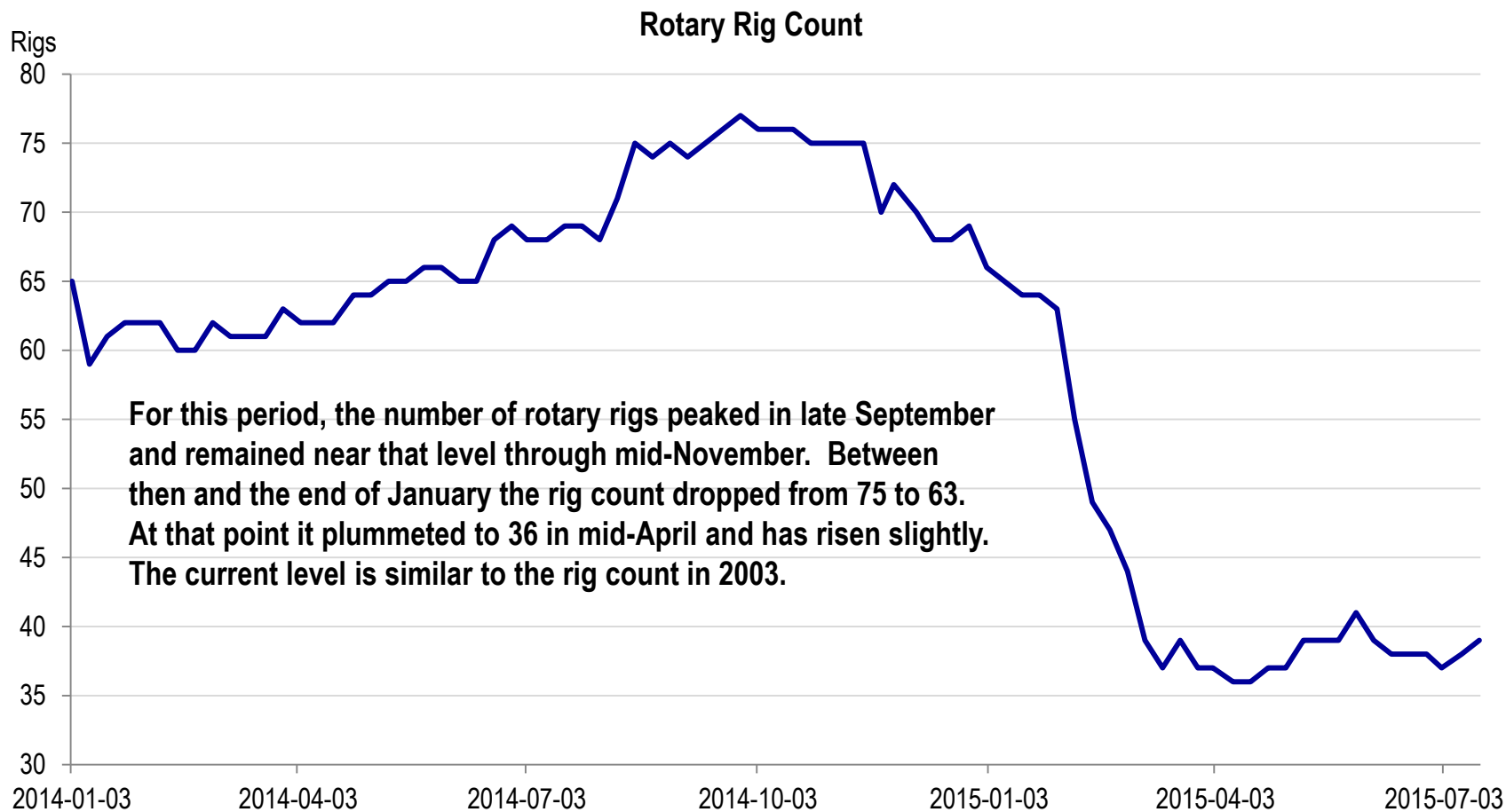


Source: Baker-Hughes.

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Number of Rotary Rigs in Colorado 2014 to Present

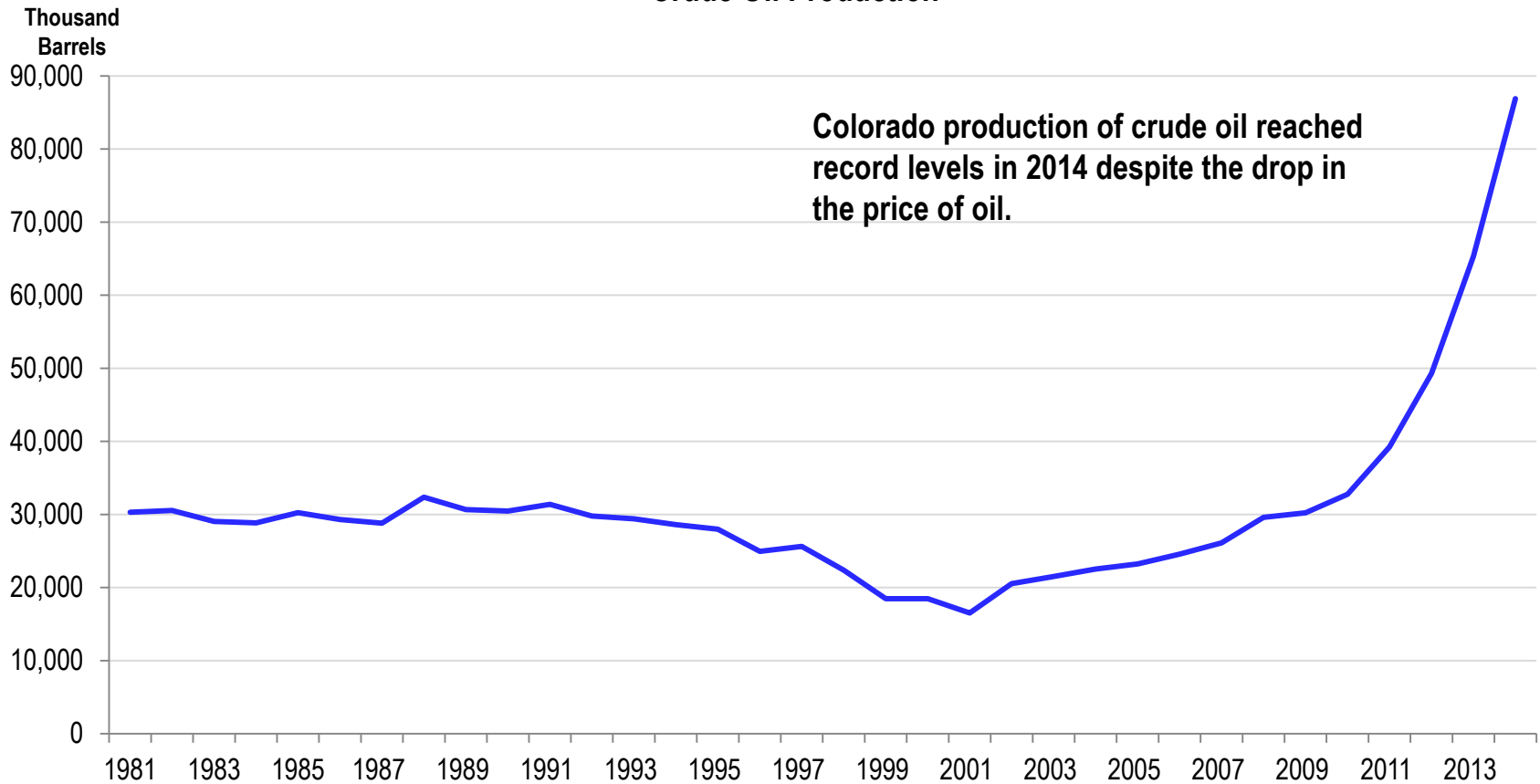


Source: Baker Hughes Rig Count.

Colorado Crude Oil Production

1981 to 2014 (Thousand Barrels)

Crude Oil Production



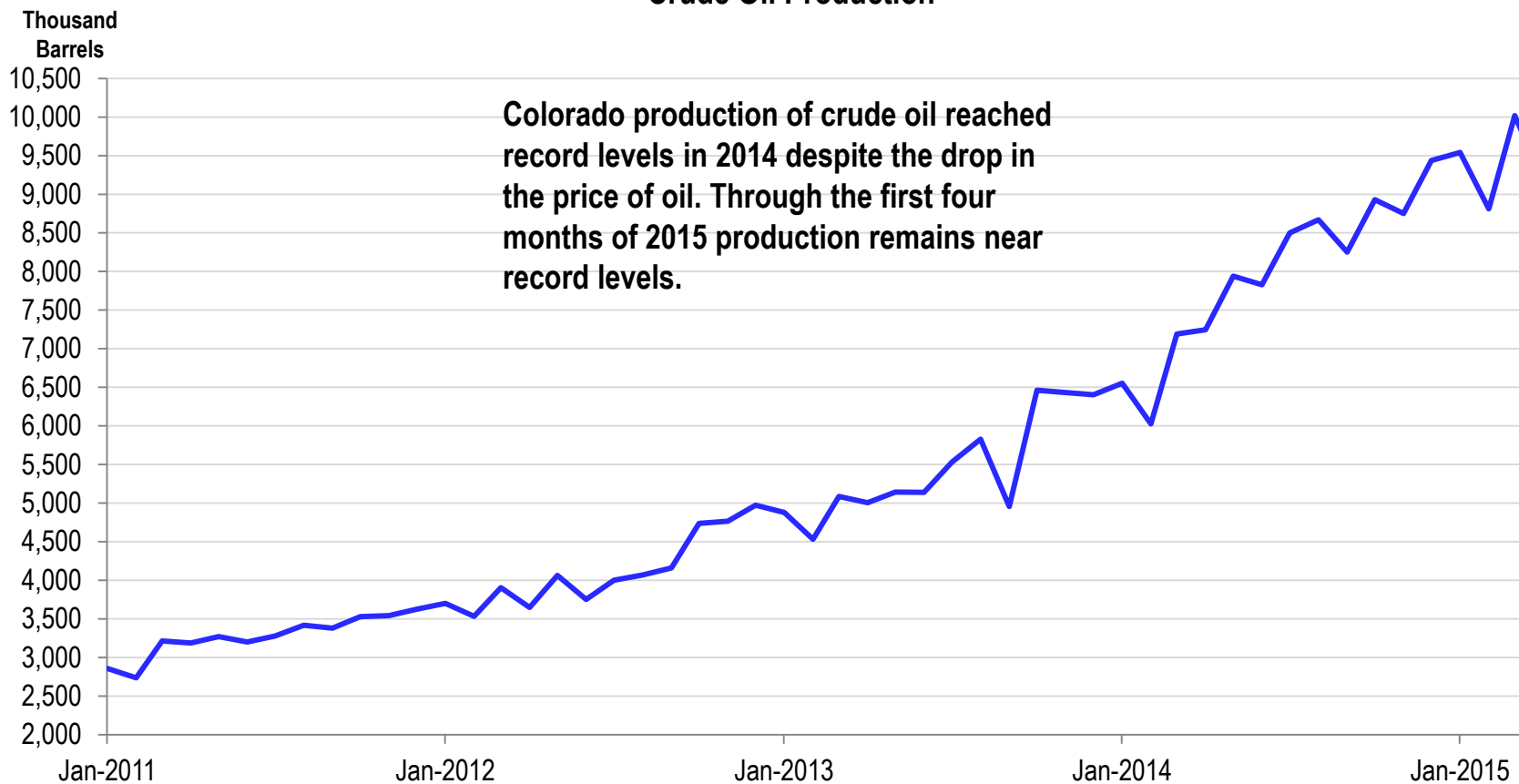
Source: EIA.

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Monthly Colorado Crude Oil Production 2011 to 2015 (Thousand Barrels)

Crude Oil Production



Source: EIA.

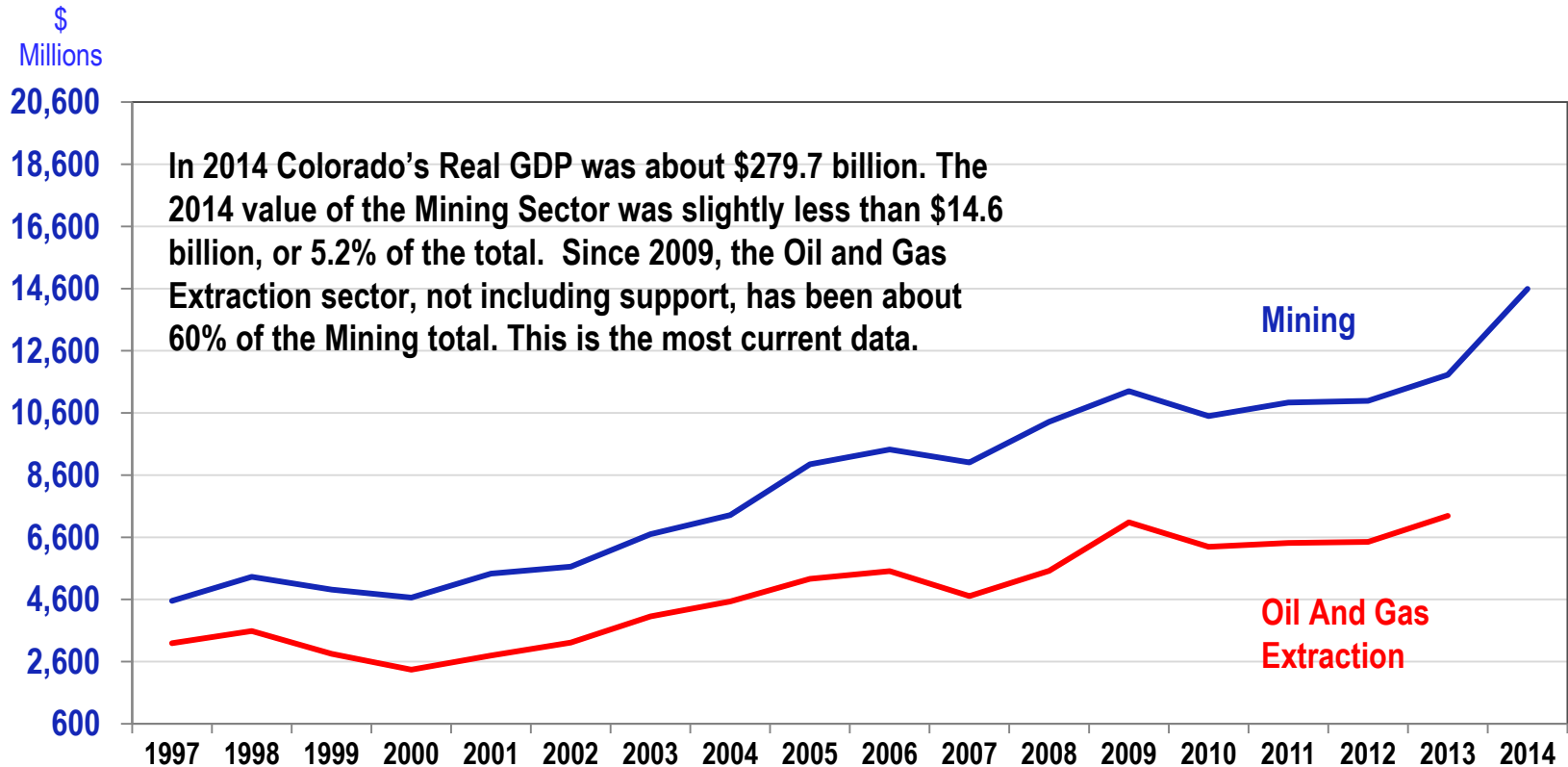
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Colorado Real Gross Domestic Product

Mining vs. Oil and Gas Extraction

Colorado Mining and Oil and Gas Extraction

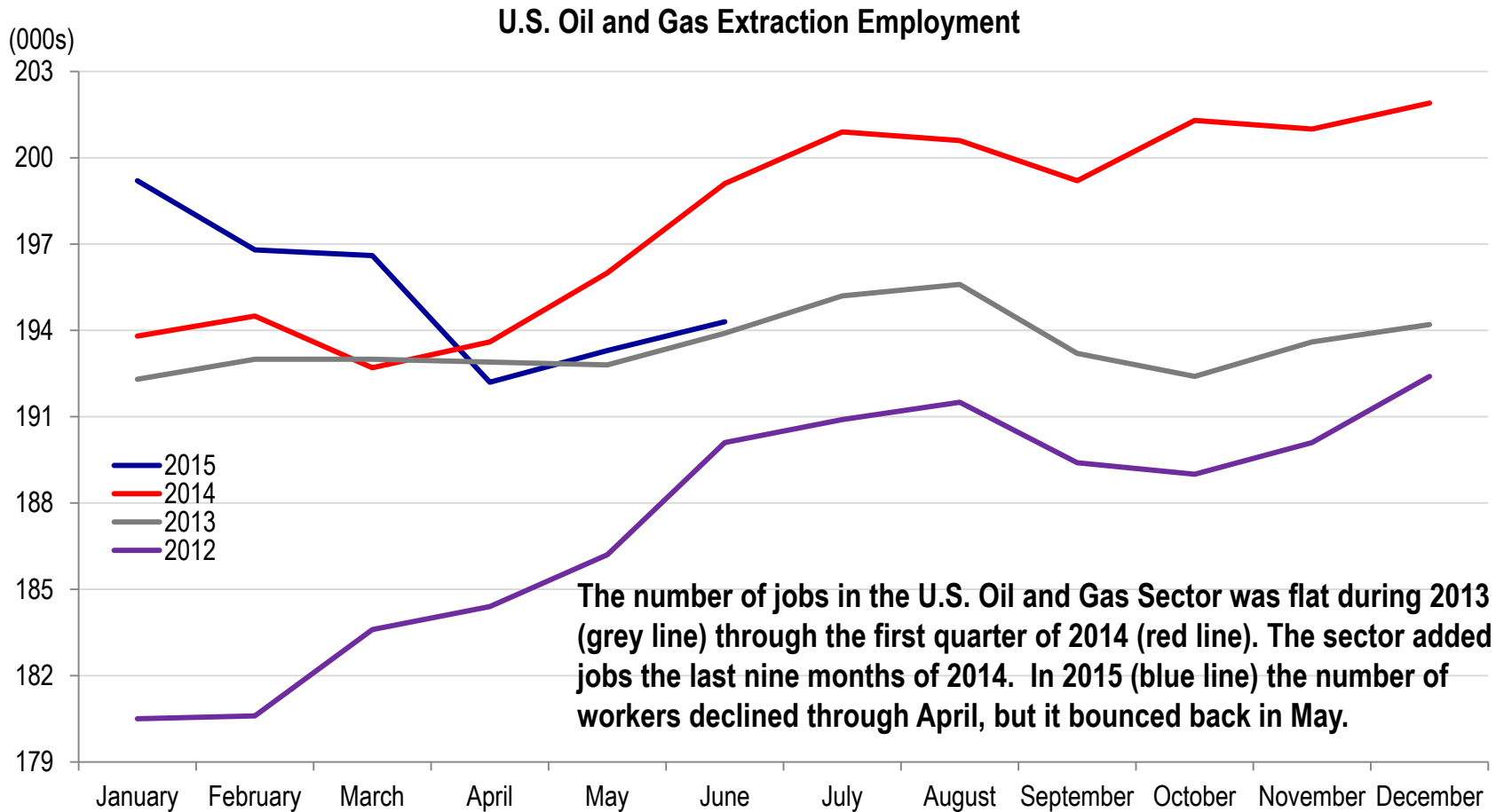


Source: Bureau of Economic Analysis.

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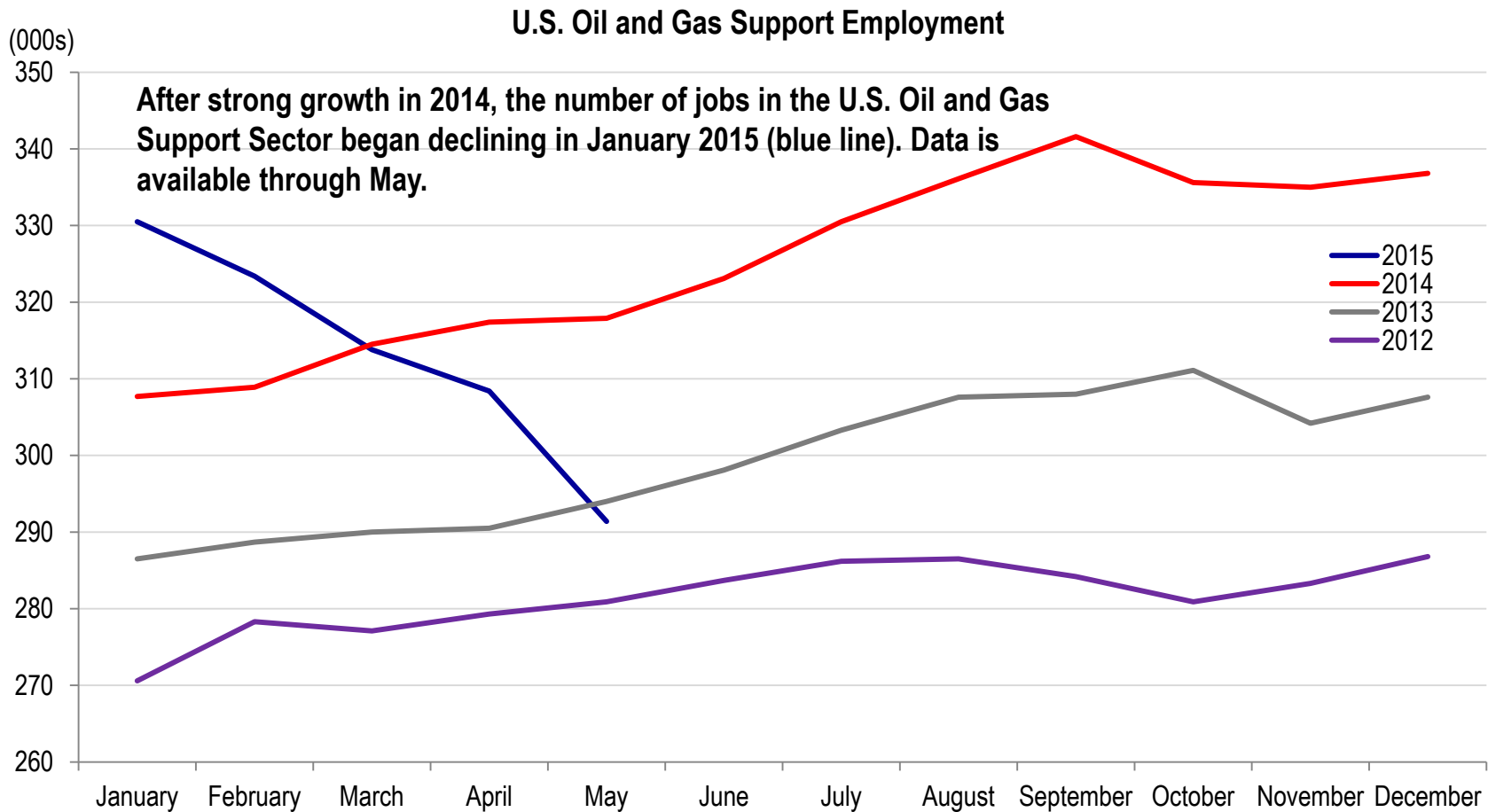
<http://cber.co>

U.S. Oil and Gas Extraction Employment



Source: Bureau of Labor Statistics, NSA.

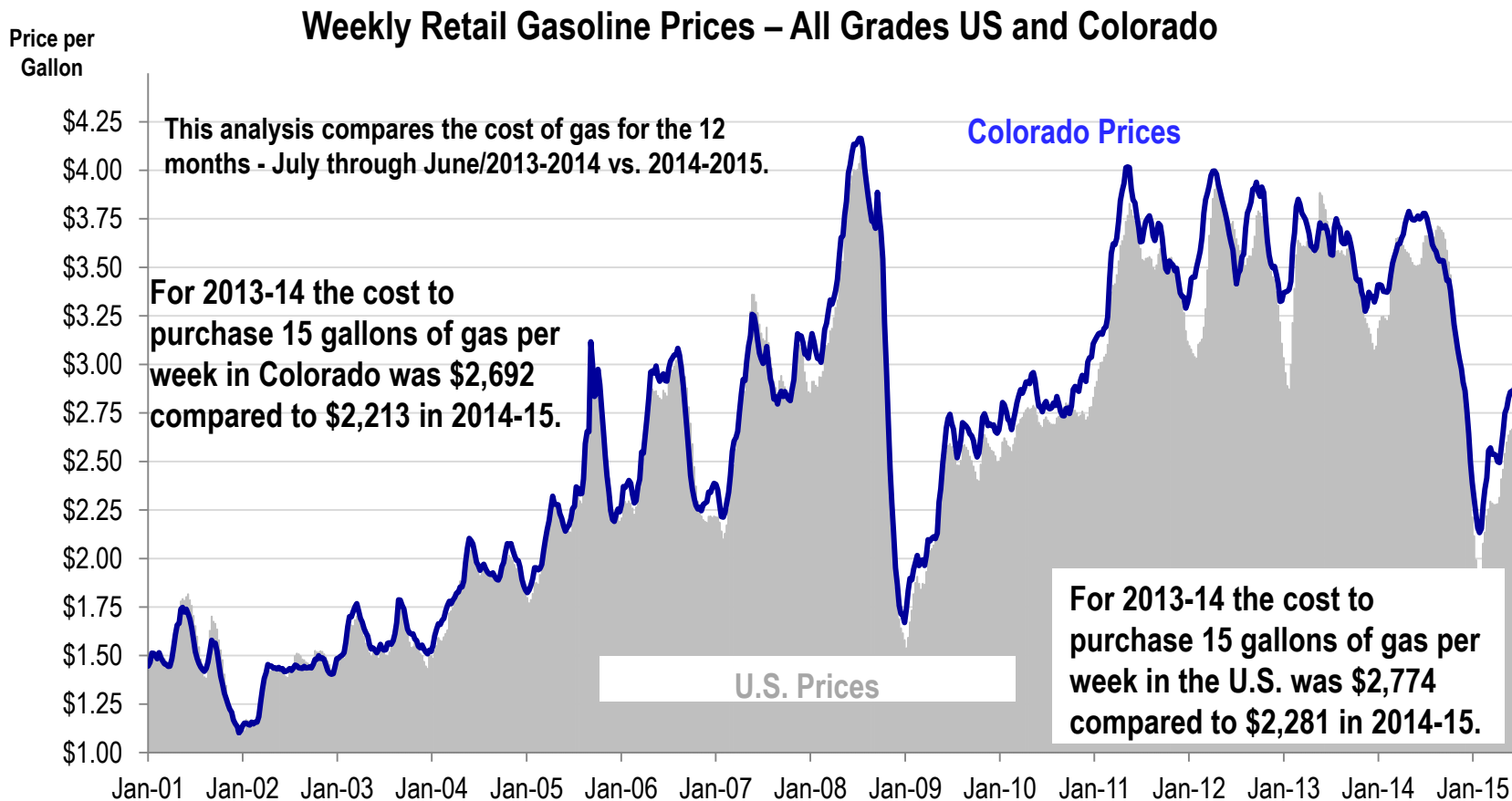
U.S. Oil and Gas Support Employment



Source: Bureau of Labor Statistics, NSA.

Weekly Gas Prices

Cost to Fill-up at the Pump is Lower



Source: EIA.

Weekly Gas Savings U.S. and Colorado

The following information provides the difference in cost to purchase gasoline for the periods July to June (2013-14 and 2014-15). The annual cost assumes that a person fills a car with 15 gallons of gas per week, or 780 gallons per year. The weekly price is for All Formulations and All Grades (source: EIA).

Colorado

2013-14

- 780 gallons, average price per gallon \$3.41
- Total cost = \$2,692.02
- The costs in Colorado are \$82.67 less than the U.S.

2014-15

- 780 gallons, average price per gallon \$2.80
- Total cost = \$2,213.51
- The costs in Colorado are \$68.12 less than the U.S.
- The 2014-15 costs were \$478.51 less than 2013-14.

2015

- In January, cber.co projected that savings in 2015 would be \$780.

United States

2013-14

- 780 gallons, average price per gallon \$3.51
- Total cost = \$2,774.69

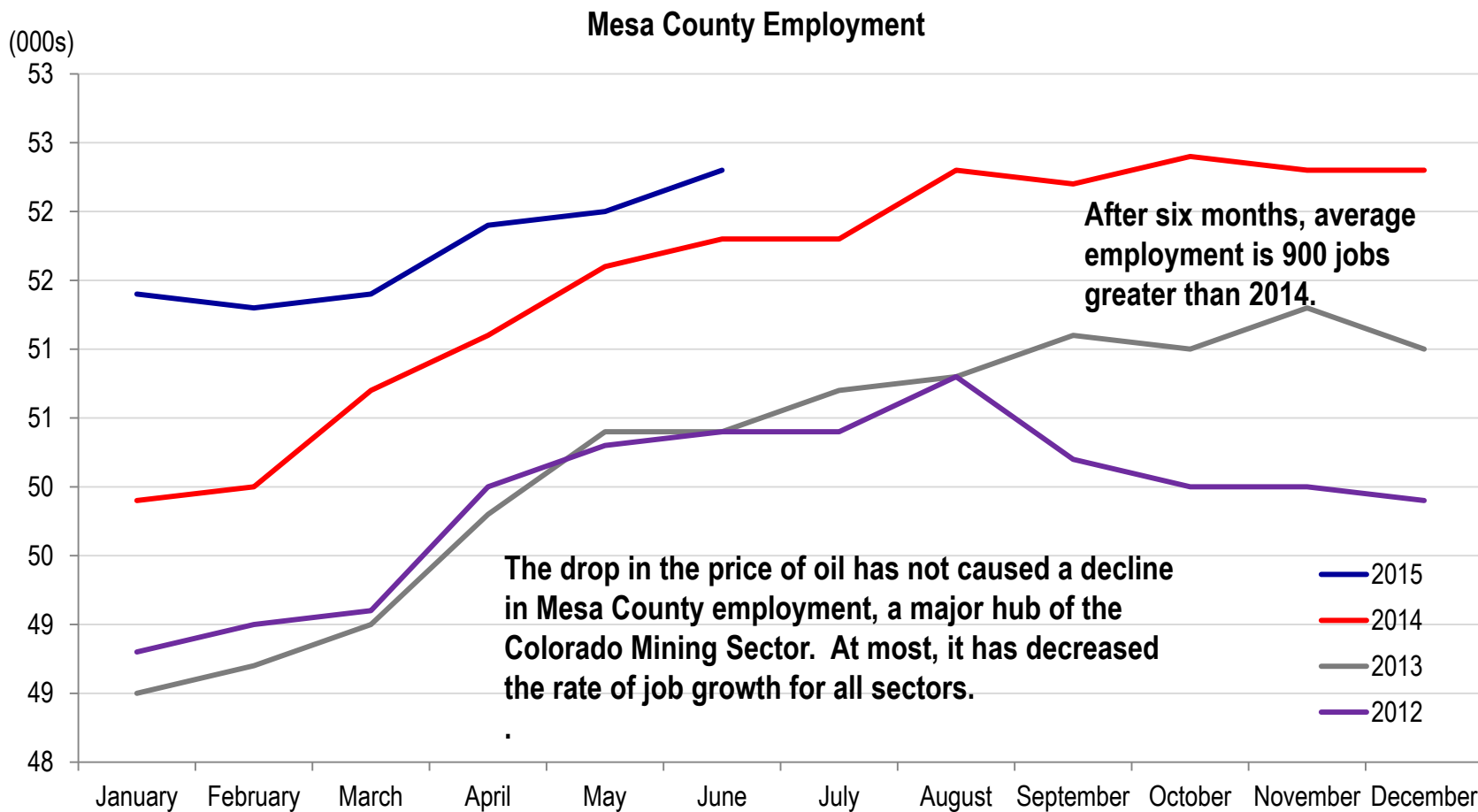
2014-15

- 780 gallons, average price per gallon \$2.88
- Total cost = \$2,281.63
- The 2014-15 costs were \$493.05 less than 2013-14.

2015

- In January, cber.co projected that savings in 2015 would be \$780.

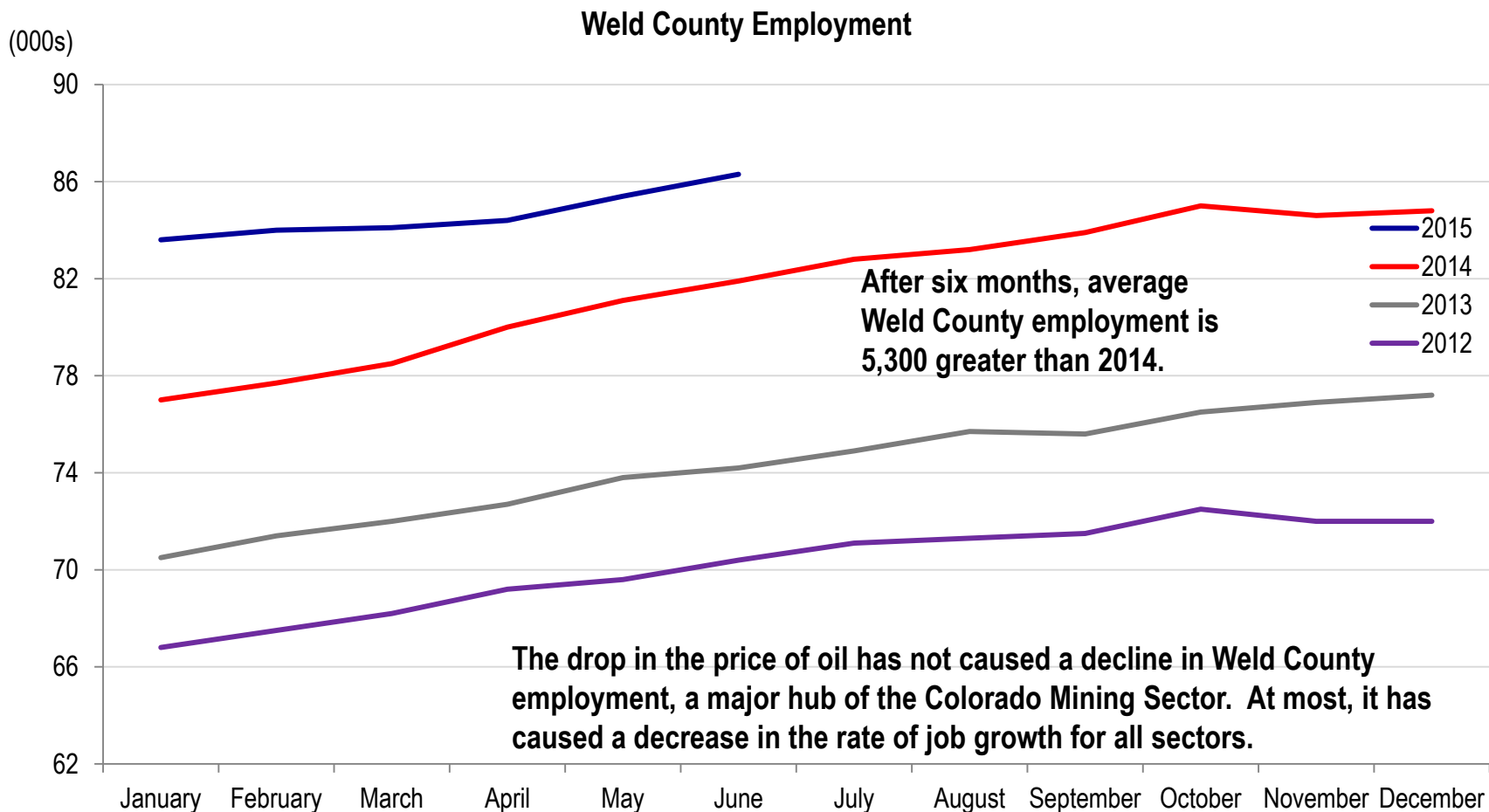
Mesa County Employment 2012 to 2015



Source: Bureau of Labor Statistics, NSA.

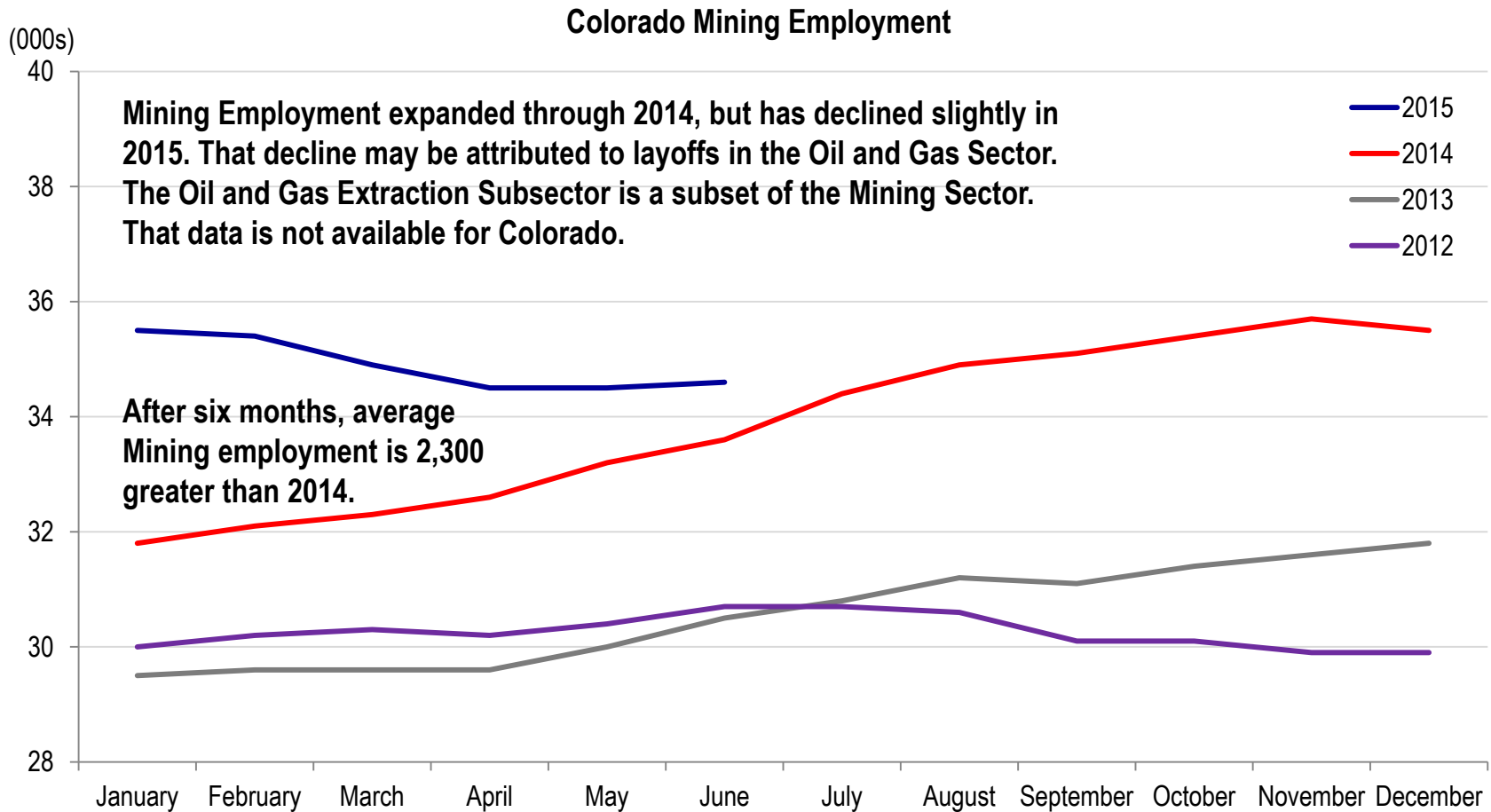
Weld County Employment

2012 to 2015



Source: Bureau of Labor Statistics, NSA.

Colorado Mining Employment 2012 to 2015



Source: Bureau of Labor Statistics, NSA.



Other Industries



Other Industries

This section looks at New Car Registrations, Building Permits, Construction Employment, and Housing Prices as a broad-based gauge of the health of the economy.

New Car Registrations

After seven years of decline, new car registrations posted double digit growth for the three years 2011-2013. Growth dropped off to a more sustainable 6.8% in 2014. After five months into 2015, new car registrations are 5.0% greater than 2014. New car registrations are a good indicator of retail sales for the state. Retail sales are projected to increase by about 5.0% in 2015.

Colorado Tourism Employment

Tourism employment has accounted for 22% of job growth in 2015.

Colorado Health Care Employment

Health care employment has accounted for 15% of job growth in 2015.

Housing Prices

Denver leads the nation in home appreciation. This is a mixed blessing. Homeowners like it because it increases their “paper wealth”, which may in turn increase consumer confidence. Government entities that rely on property taxes like it because it increases their revenue. The down side is it is more difficult for people to enter the housing market.

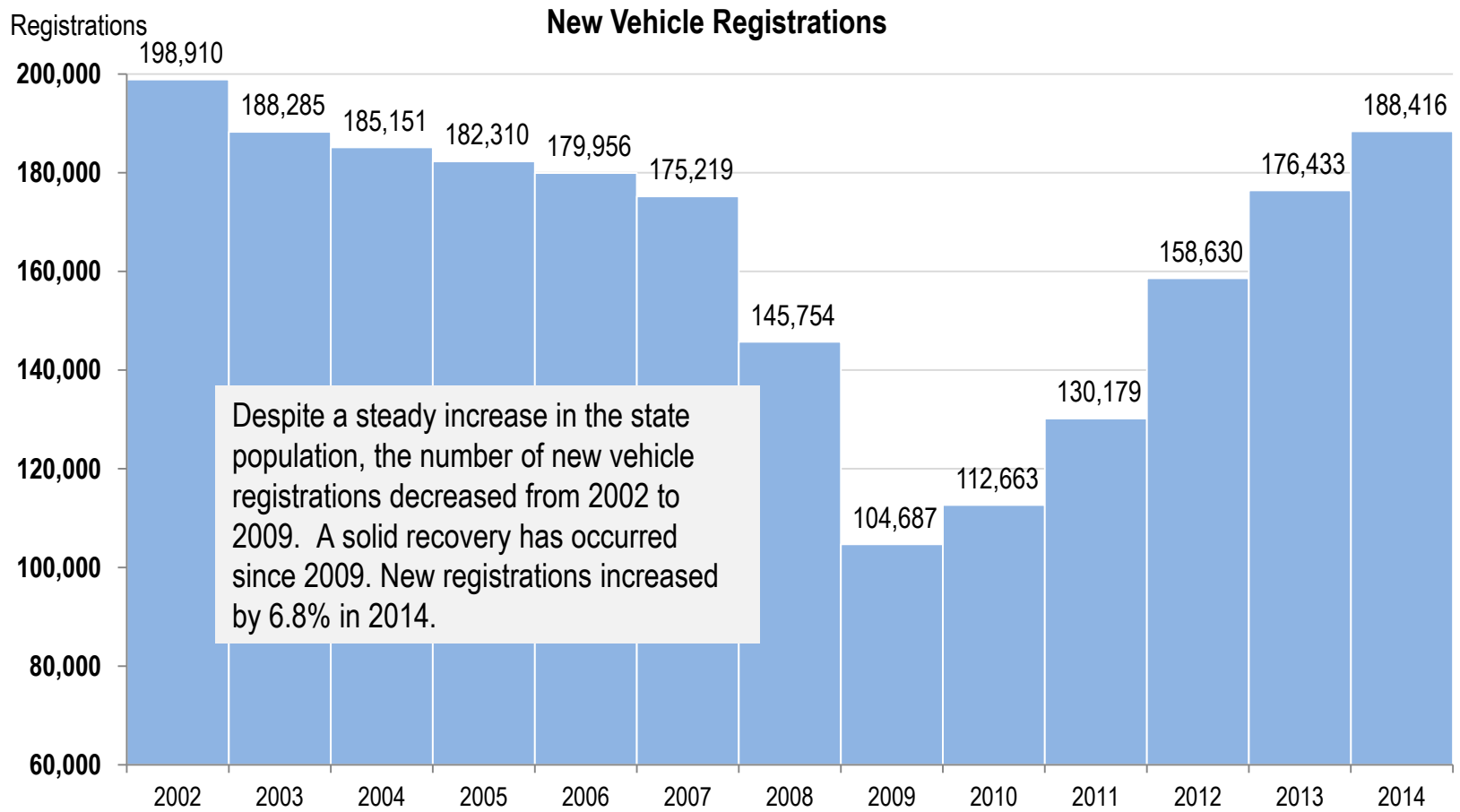
Building Permits

The number of single family permits are slightly ahead of last year while the multi-family permits are down. Construction activity remains strong.

Construction Employment

Through the first half of the year construction employment accounted for 18% of total jobs added. The location quotient has trended upward since late 2012 and is 1.35. Colorado’s construction industry is growing faster than the U.S. construction industry.

New Vehicle Registrations Colorado 2002 to 2014

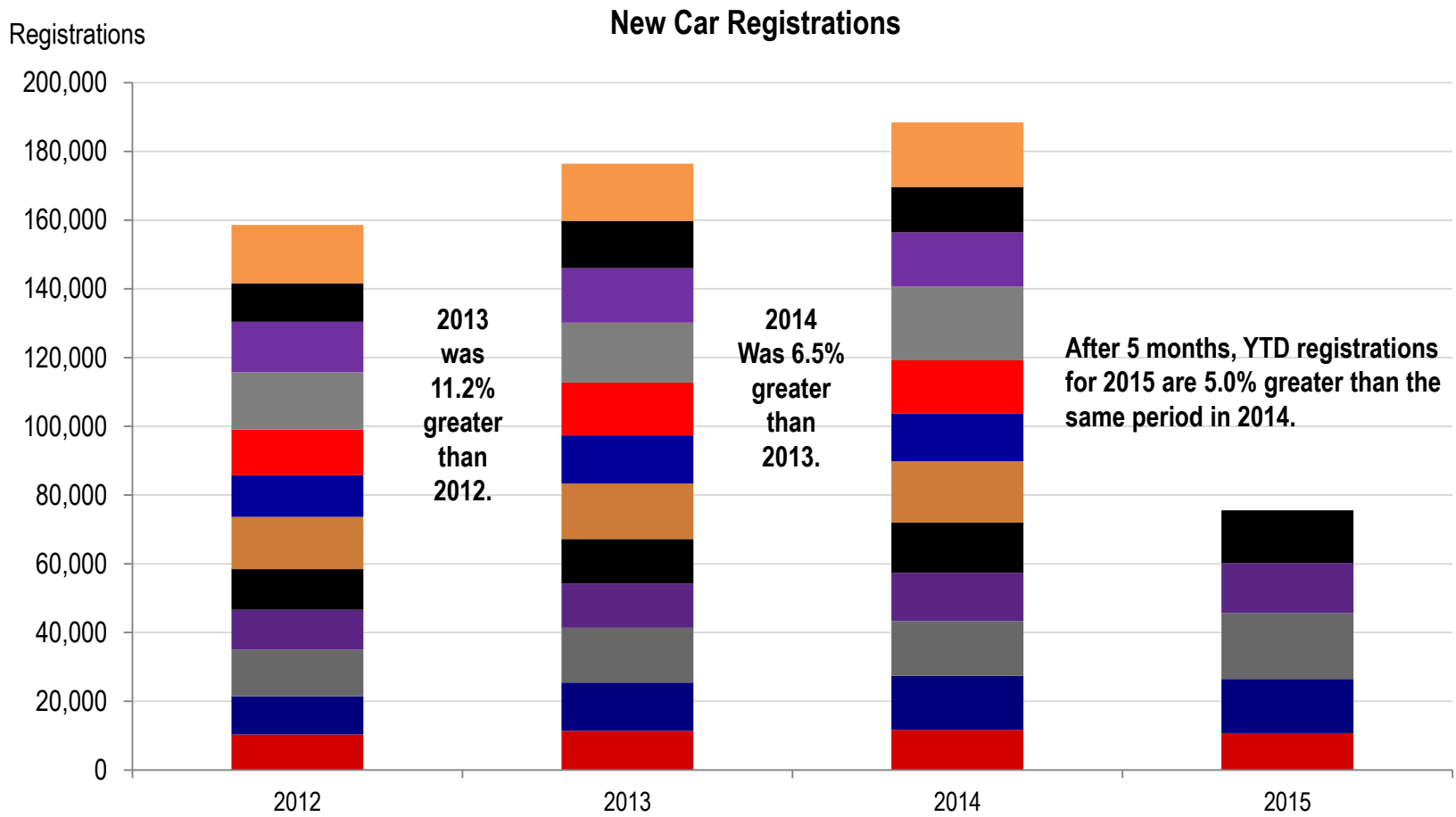


Source: Colorado Auto Dealers Association, cber.co.

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New Car Registrations

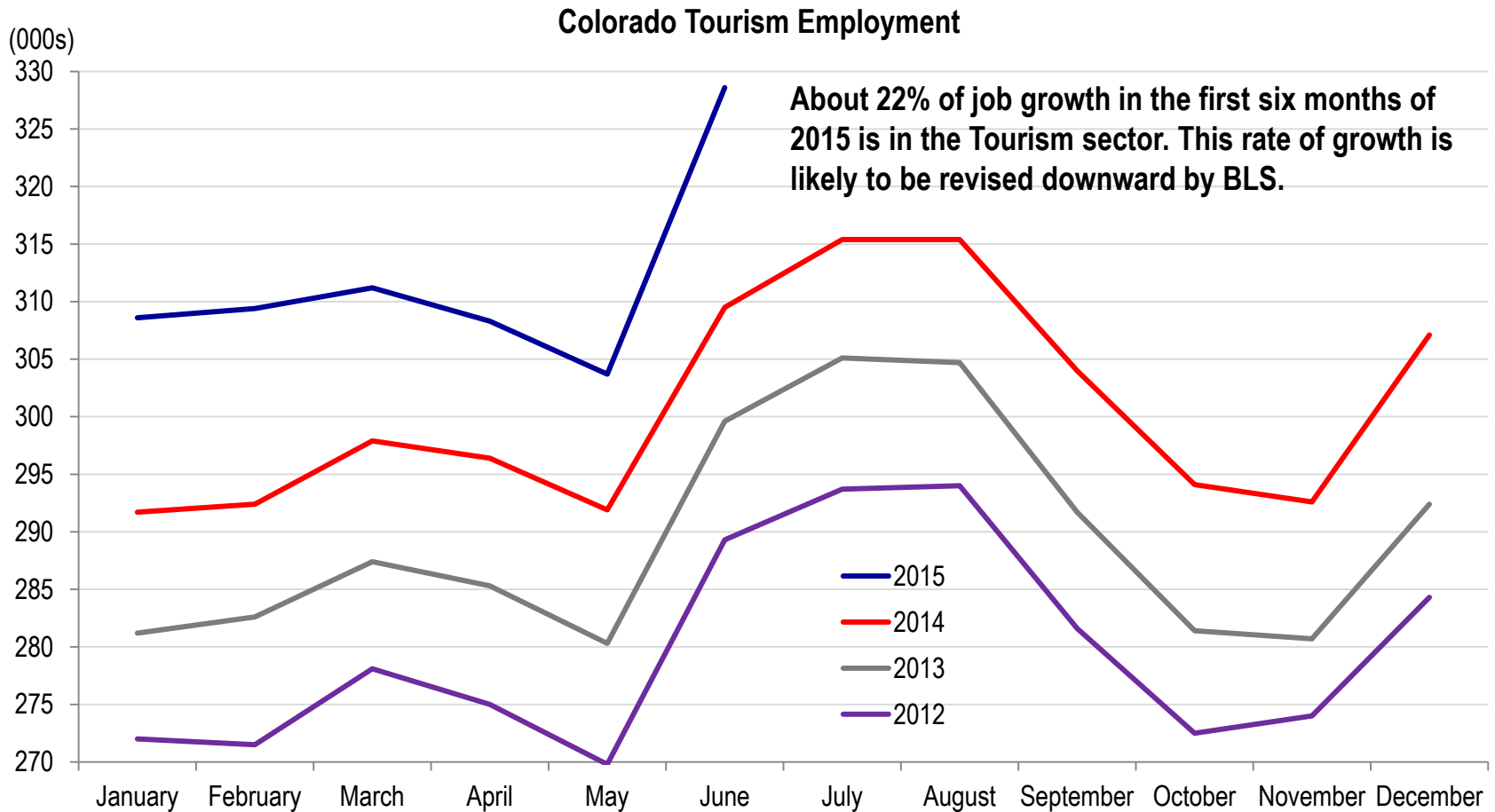


Source: Colorado Auto Dealers Association.

Note: Data is in descending order with December at the top and January at the bottom.

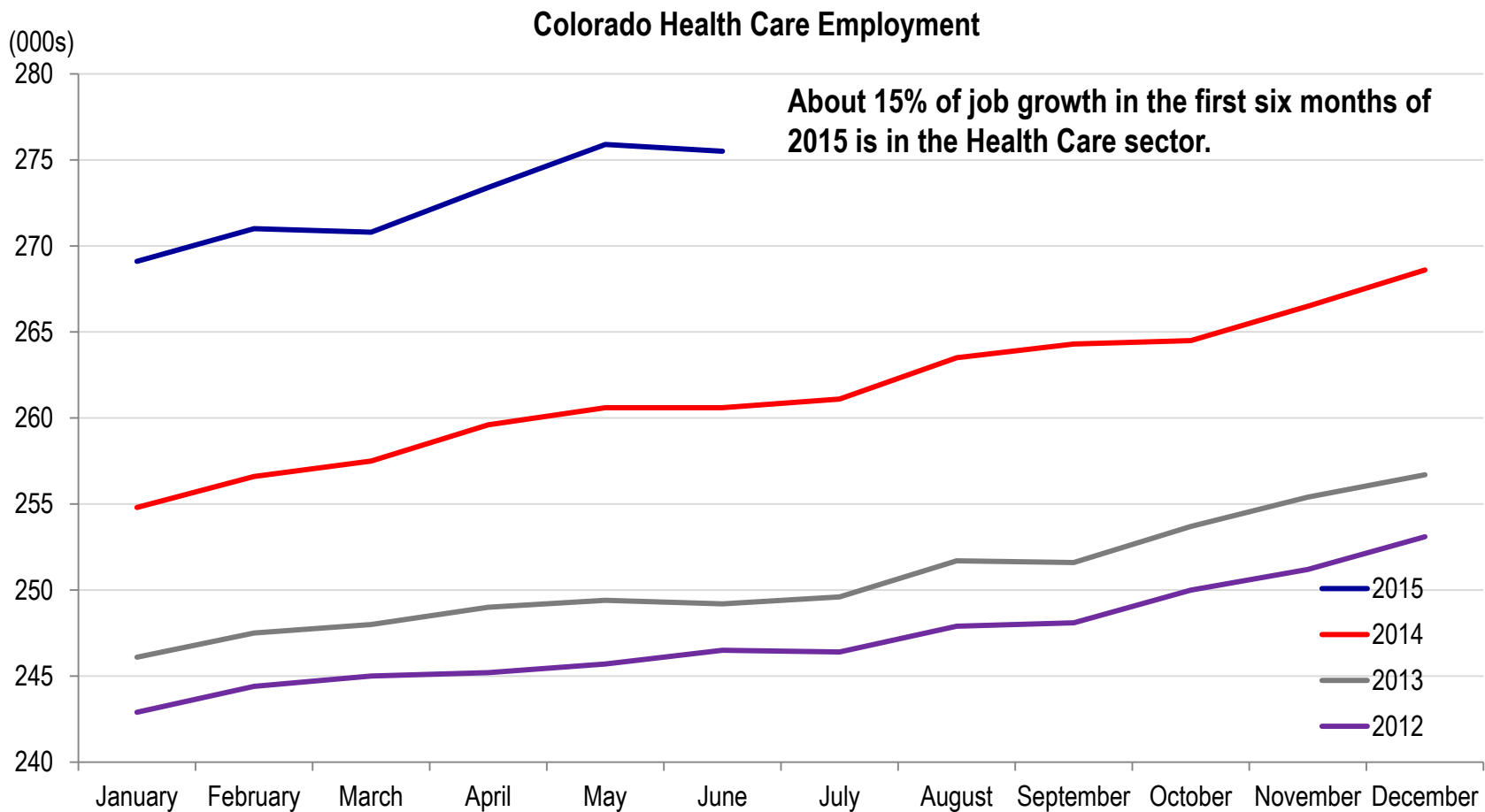
Colorado Leisure and Hospitality Employment

2012 to 2015



Source: Bureau of Labor Statistics, NSA.

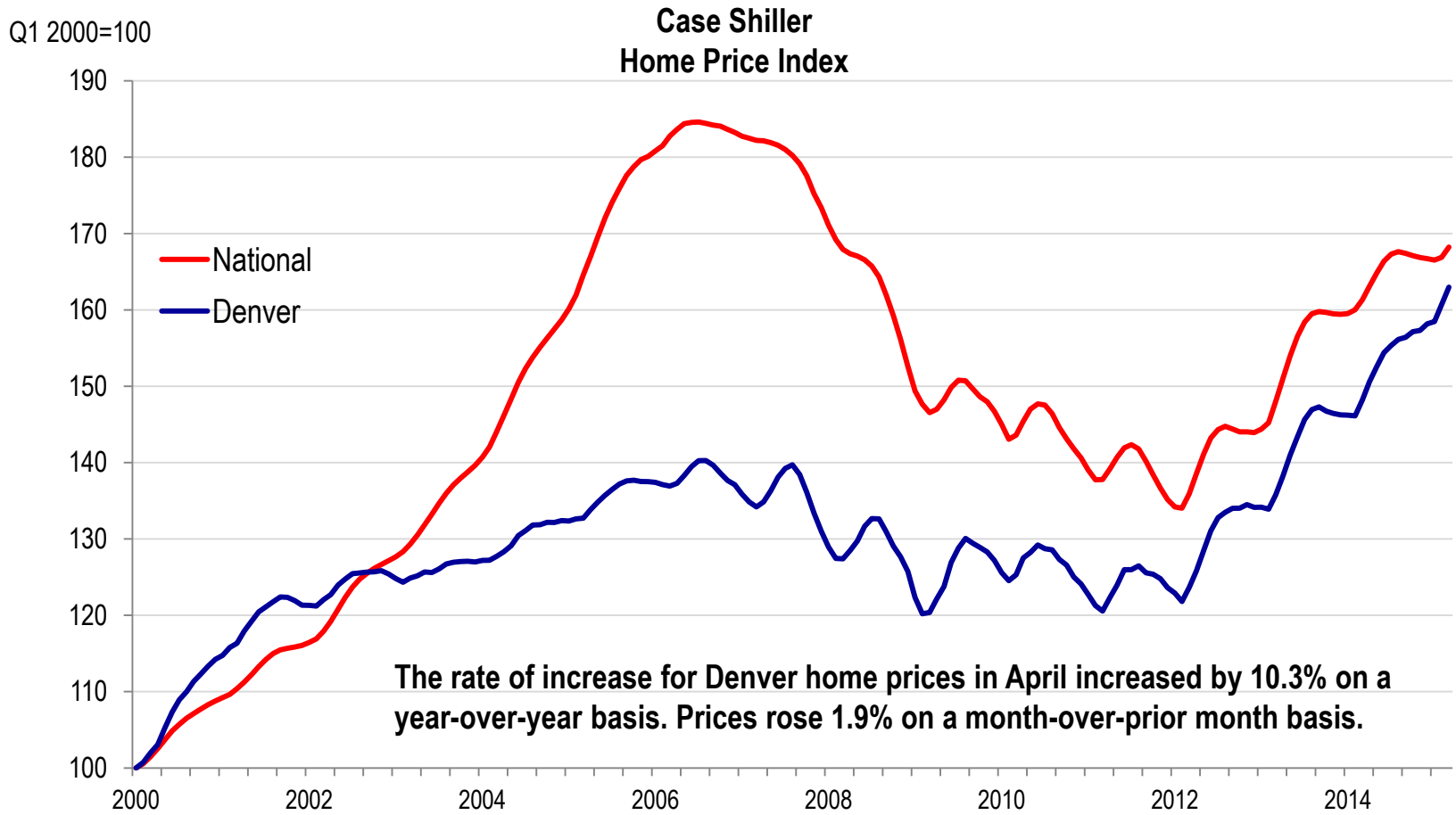
Colorado Health Care Employment 2012 to 2015



Source: Bureau of Labor Statistics, NSA.

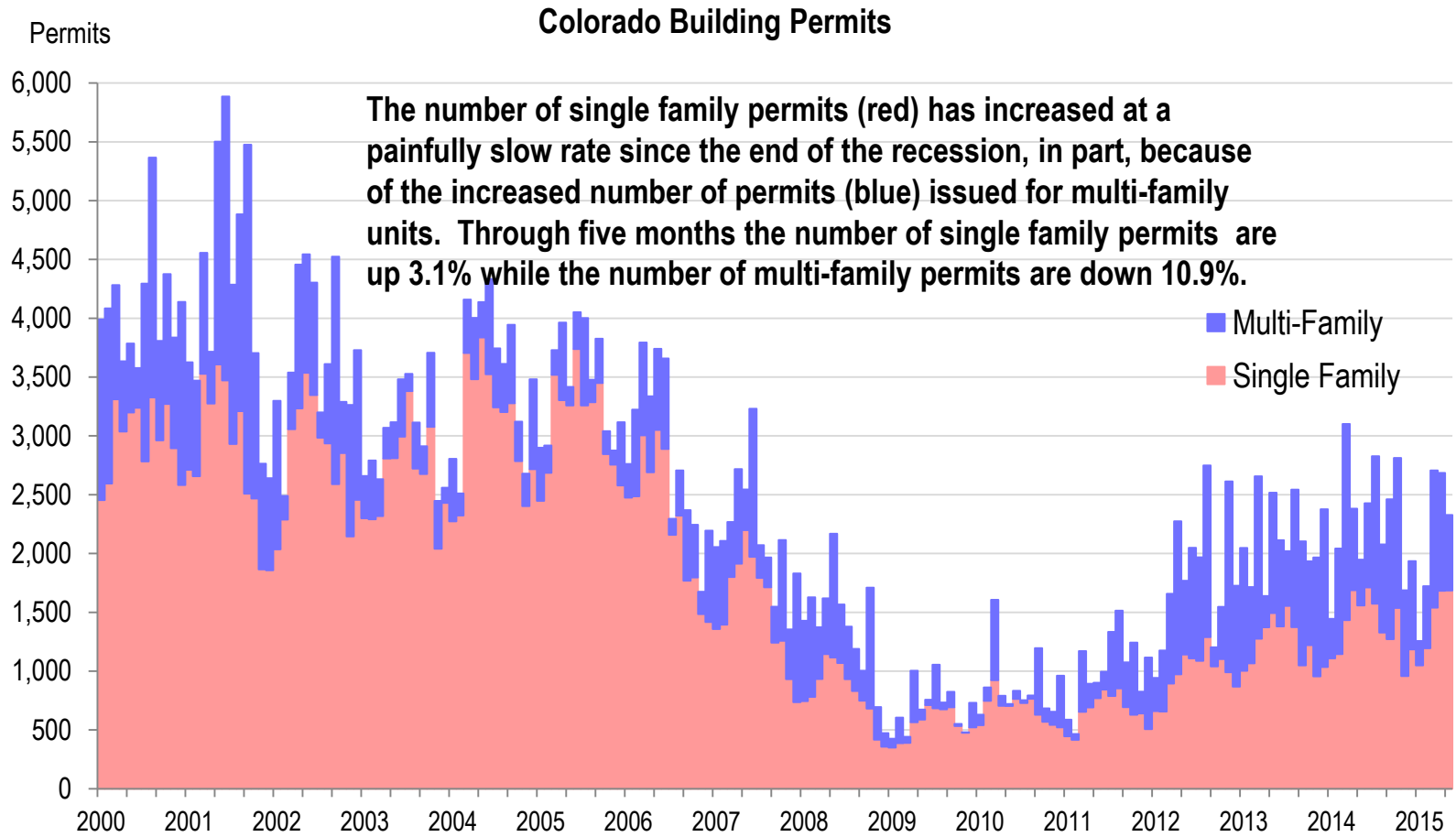
Housing Prices – Case Shiller

U.S. vs. Denver



Source: S&P Case-Shiller, FRED.

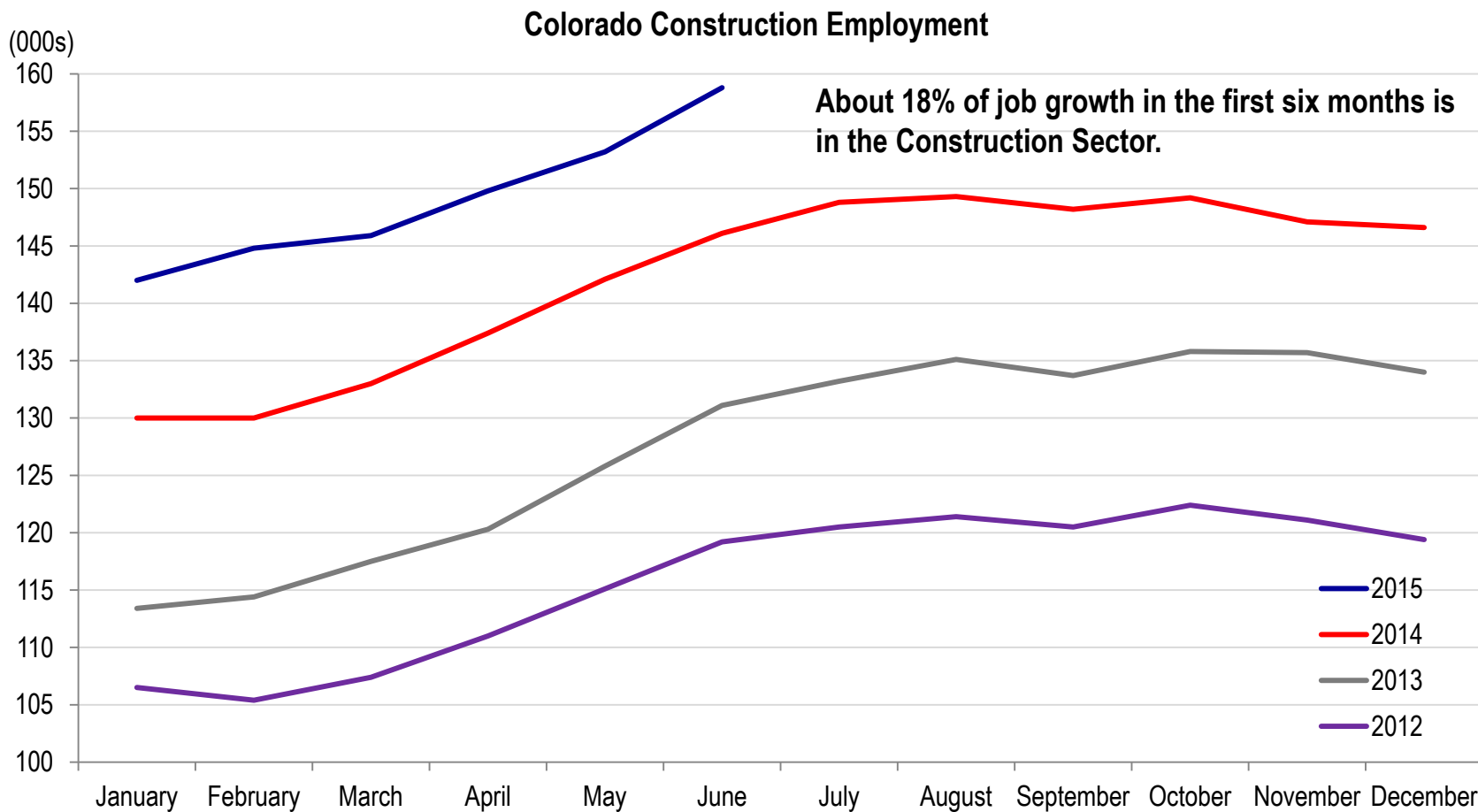
Colorado Building Permits



Source: TAMU Real Estate Center.

Colorado Construction Employment

2012 to 2015



Source: Bureau of Labor Statistics, NSA.

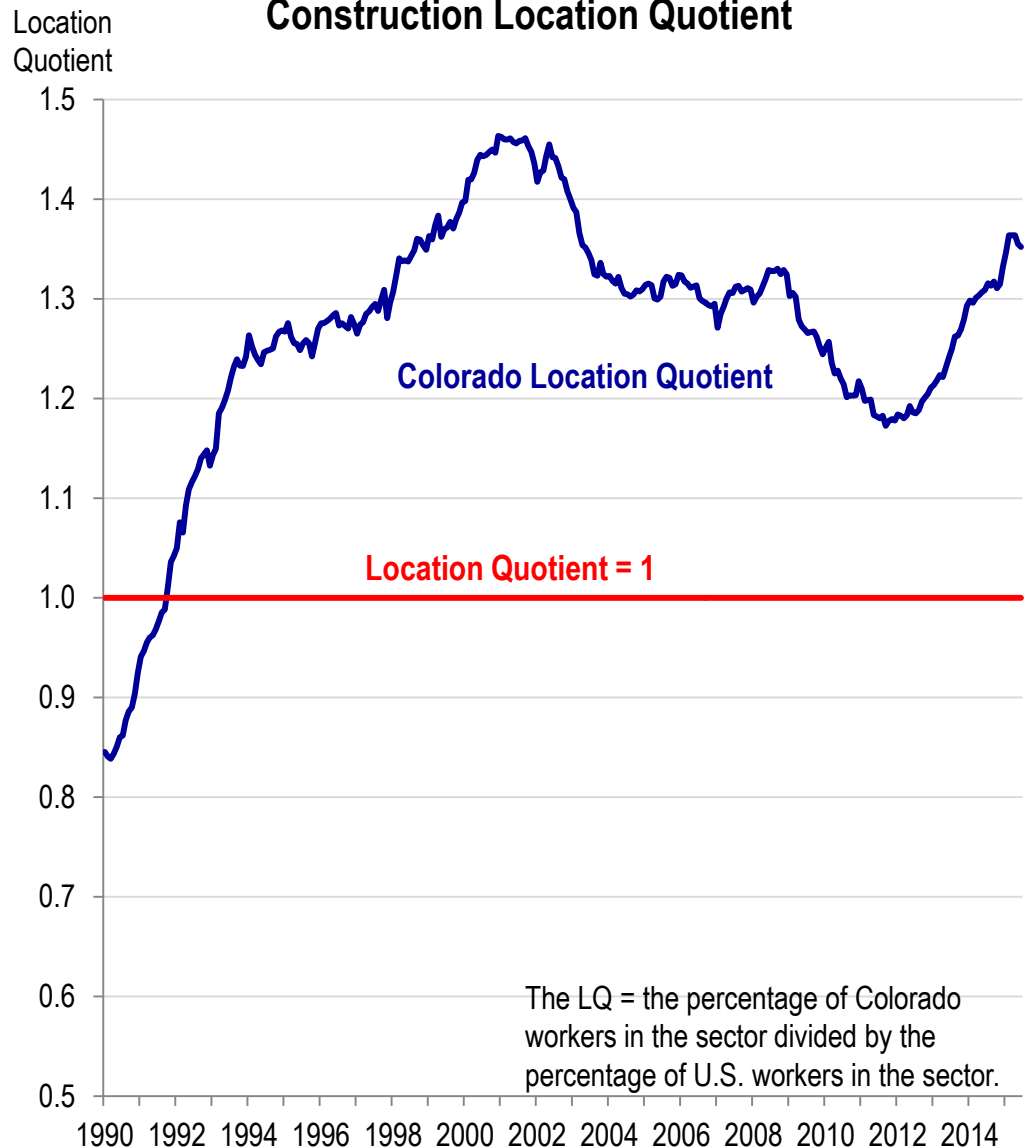
How Has the Construction Sector Performed Relative to the Nation?

It is difficult for geographically large states to develop distinctive competencies in construction. In other words, the location quotient (LQ), or concentration relative to other industries, should be near 1.0.

During the late 1980s, the Colorado single family market was overbuilt. As a result, the industry LQ was below 1.0 through mid-1991. Over the next 10 years the LQ increased to about 1.5 in 2001.

In early 2001, the LQ began declining and dropped off sharply for three years (2004). It leveled off for five years, then plummeted again in 2009. It bottomed out in mid-2011 and was flat until 2013. It has increased through 2015.

Construction Location Quotient



Note: Location quotient based on all wage and salary workers.
Source: BLS, SA.



Tourism, Health Care, and Construction Employment

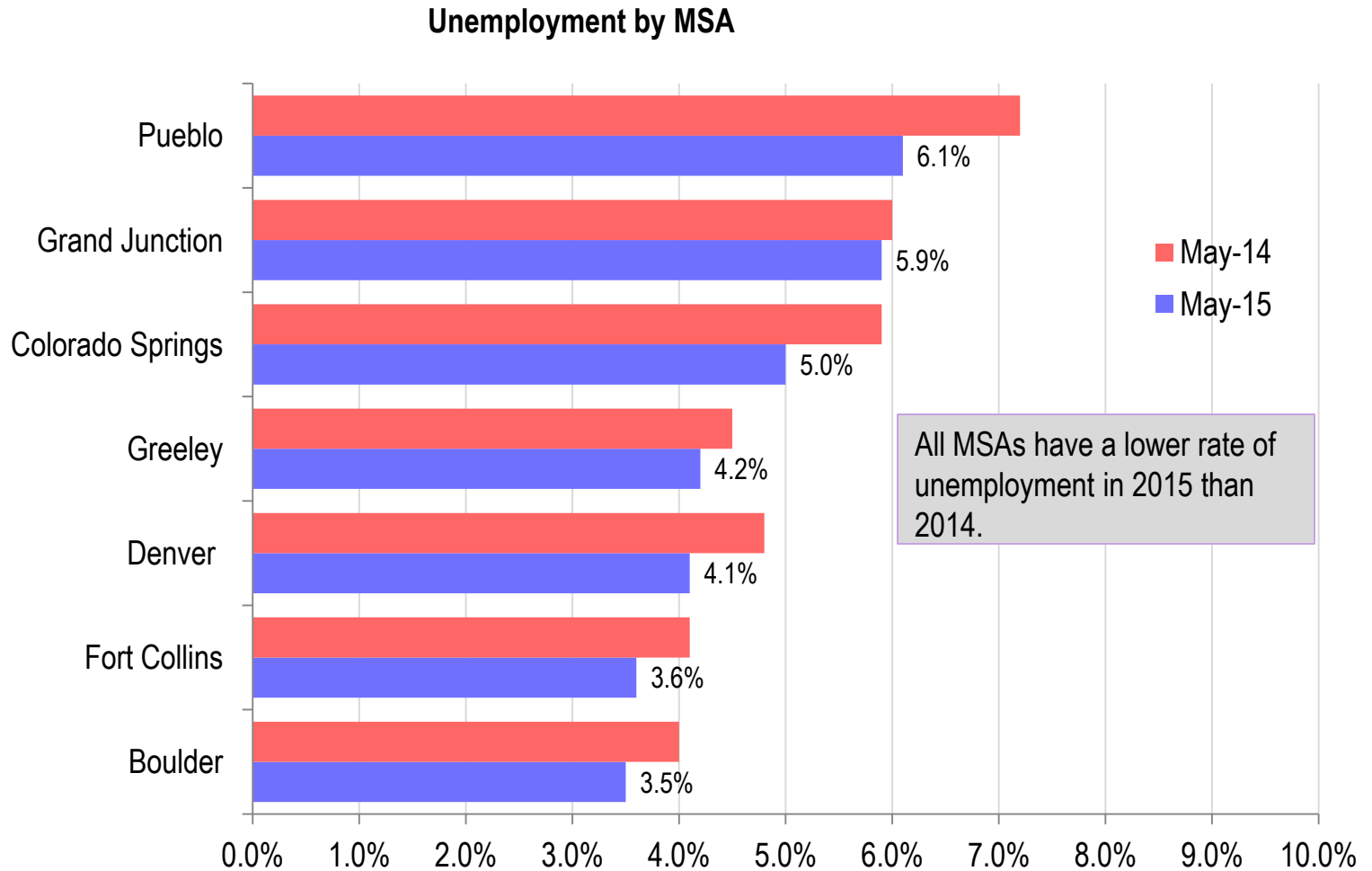
Combined, these sectors account for 61% of the jobs added in 2015.

If Colorado is to have sustained job growth it must add more primary jobs – jobs that attract outside wealth and create support and supply-chain related jobs.



Summary and Total Jobs Added

Unemployment by MSA 2014 vs. 2015



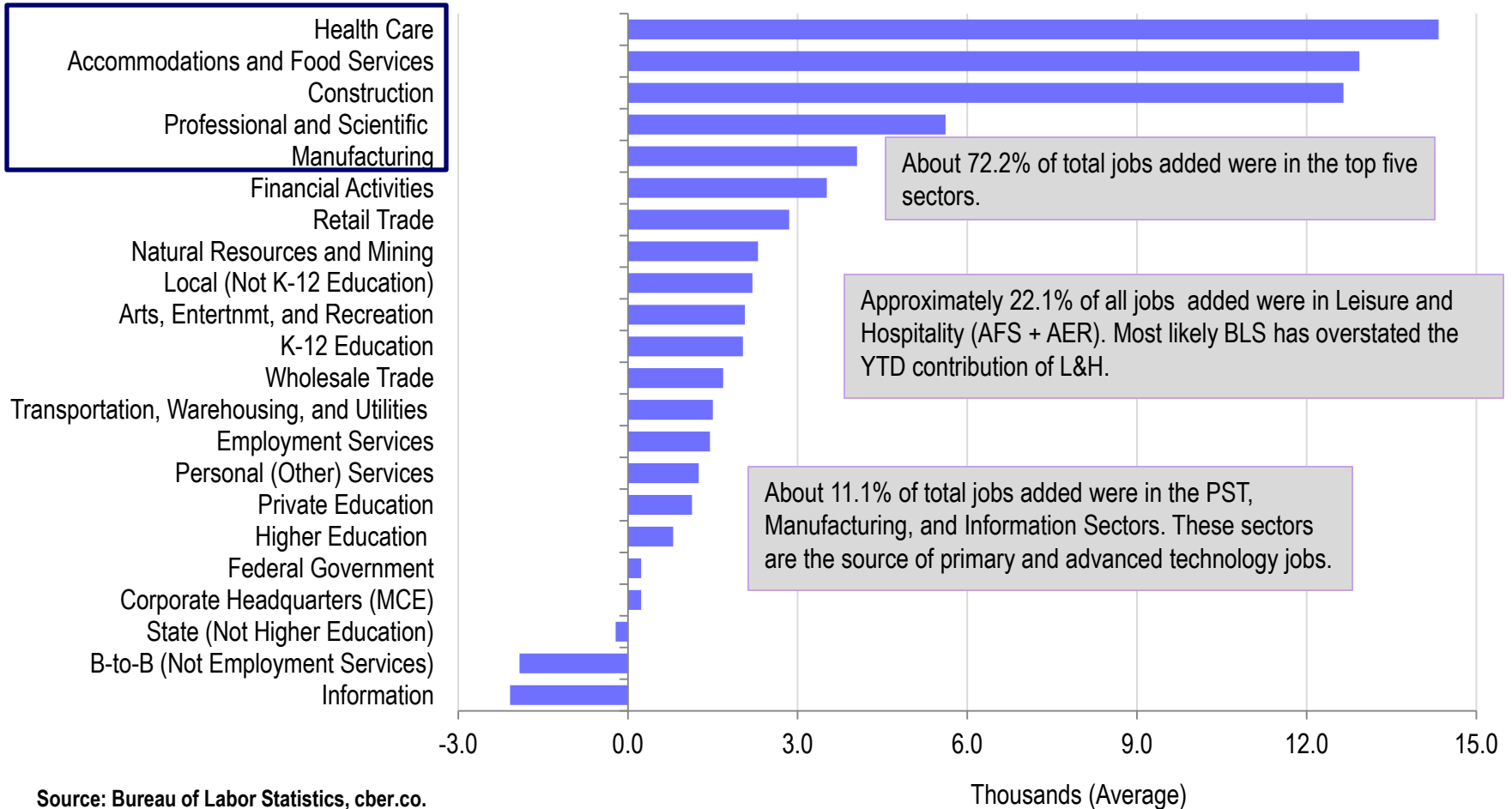
Source: Bureau of Labor Statistics, NSA. Note: MSA unemployment lags by one month and is reported on a non-seasonally adjusted basis.

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Change in Employment First Six Months 2015

Number of Jobs Added



Source: Bureau of Labor Statistics, cber.co.

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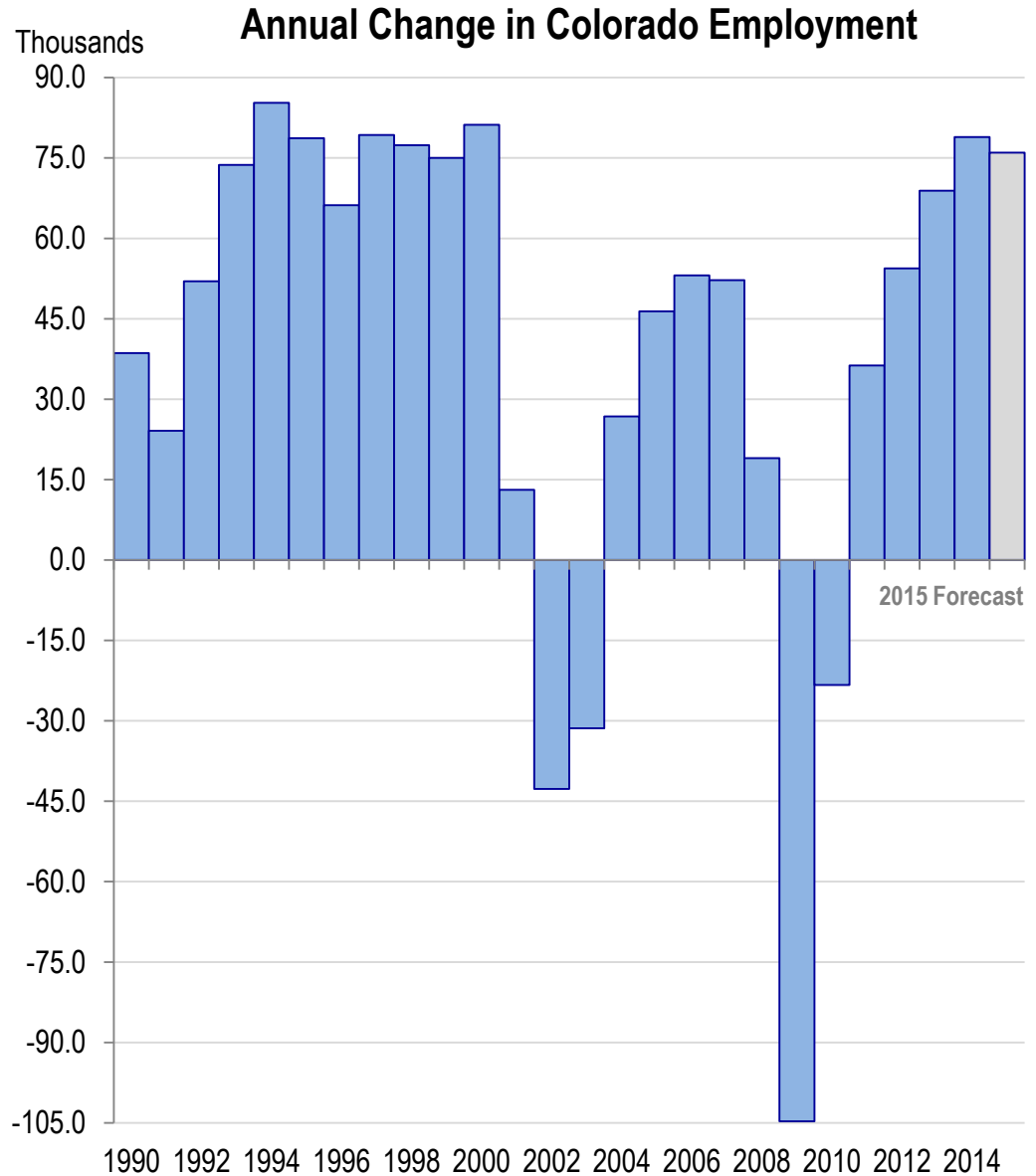
Annual Employment Change in Colorado

In 2014, Colorado experienced accelerating job growth for the fourth consecutive year. The state added 78,900 workers, an increase of 3.3% on a base of 2,381,900 jobs.

The state is projected to add 73,000 to 79,000 jobs in 2015, an increase of 3.0% to 3.2%.

For the first six months of 2015 Colorado employment is 68,600 jobs greater than the same period last year. The published data shows the state is growing at a solid, but decreasing rate of growth.

The Colorado Department of Labor and Employment has indicated they will make a significant upward adjustment to Q4 2014 data and data for the first four months of 2015.



Source: Bureau of Labor Statistics, cber.co.

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Reasons to Feel Good about the U.S. Economy at the Midpoint of 2015 - 1 of 2

There are a number of reasons to feel good about the U.S. economy. This table is a summary of how these factors will impact the Colorado economy.

THINGS TO FEEL GOOD ABOUT AT THE NATIONAL LEVEL	HOW COLORADO IS AFFECTED
<p>The Fed - Janet Yellen has indicated the Federal Reserve is confident the U.S. economy is performing well enough that interest rates can be raised.</p>	<p>Colorado has experienced stronger economic growth than the nation throughout the first half of the year. The state will continue to experience solid growth in the second half of the year.</p>
<p>Real GDP - After a weak start in Q1, Real GDP growth for the year is projected to be in the 2.5% to 2.9% range - better than last year.</p>	<p>In 2014, Colorado's rate of Real GDP growth was more than twice that of the U.S. Solid growth is expected to continue in 2015.</p>
<p>Retail - The woes of Q1 seem to be behind us. Consumer spending is expected to be stronger in the second half. This may lead to strong back-to-school sales - a significant source of sales for retailers.</p>	<p>The Colorado economy had strong momentum coming into 2015. It did not experience problems felt elsewhere in Q1. Population and job growth will drive continued solid retail growth in 2015.</p>
<p>Jobs - The U.S. is on track to add more than 3.0 million jobs this year. The unemployment rate and the long-term unemployment rate have continued to decline.</p>	<p>As the year has progressed, U.S. job growth has increased at a solid, but decreasing rate. A similar trend may be happening in Colorado.</p>

Reasons to Feel Good about the U.S. Economy at the Midpoint of 2015 - 2 of 2

There are a number of reasons to feel good about the U.S. economy. This table is a summary of how these factors will impact the Colorado economy.

THINGS TO FEEL GOOD ABOUT AT THE NATIONAL LEVEL	HOW COLORADO IS AFFECTED
Consumer Sentiment - According to the Consumer Sentiment Survey, consumers are upbeat.	The mood of shoppers in the malls and the waiting times at local restaurants suggests that Coloradans are upbeat about the economy.
Industry Sentiment - Purchasing managers have a positive outlook for both goods and services. Manufacturing is more sluggish and may remain that way through the end of the year.	Continued optimism in the non-manufacturing sectors points to ongoing solid growth for these industries and the overall Colorado economy.
Inflation - Inflation is below the Fed's target rate of 2.0%. As interest rates increase, inflation will approach the target rate.	The increase in Colorado housing prices will cause the state's rate of inflation to further exceed that of the nation.
Construction - There is strong activity in both the residential and non-residential markets. Construction job growth will be constrained by the lack of trained workers.	Despite the lack of trained construction workers, the industry is responsible for about 18% of the jobs added in 2015.
Housing Prices - The housing market remains strong - too strong in some areas.	Home owners like having greater equity. Local governments benefit from higher property taxes.

Economic Risks - Midpoint of 2015 – 1 of 2

There are a number of risks that face the U.S. economy. This table summarizes how those risks might impact the Colorado economy.

RISKS AT THE NATIONAL LEVEL	HOW COLORADO WILL BE AFFECTED
<p>The Fed - Janet Yellen indicated there are still issues with the labor market. These concerns include finding trained workers and weak wage growth.</p>	<p>Colorado's low unemployment rate has caused companies to have difficulty finding trained workers in such industries as construction and the high tech sector. Areas of strong wage growth have occurred in occupations where there is high demand for workers.</p>
<p>Real GDP - The rate of growth in business investments is lackluster. Increased demand for goods and services will drive companies to invest in new equipment, software and buildings.</p>	<p>The decrease in the price of oil has caused Colorado companies in the Oil and Gas industry to curtail investments in their business.</p>
<p>The Dollar - The strong dollar has made U.S. goods/exports less competitive in foreign markets.</p>	<p>The strong dollar is one of many factors that could challenge Colorado exporters in 2015.</p>
<p>Industry Sentiment - Manufacturing may remain sluggish through the end of the year.</p>	<p>The growth of Colorado manufacturing output was disappointing in 2014. That is unlikely to change in 2015.</p>

Economic Risks - Midpoint of 2015 – 2 of 2

There are a number of risks that face the U.S. economy. This table summarizes how those risks might impact the Colorado economy.

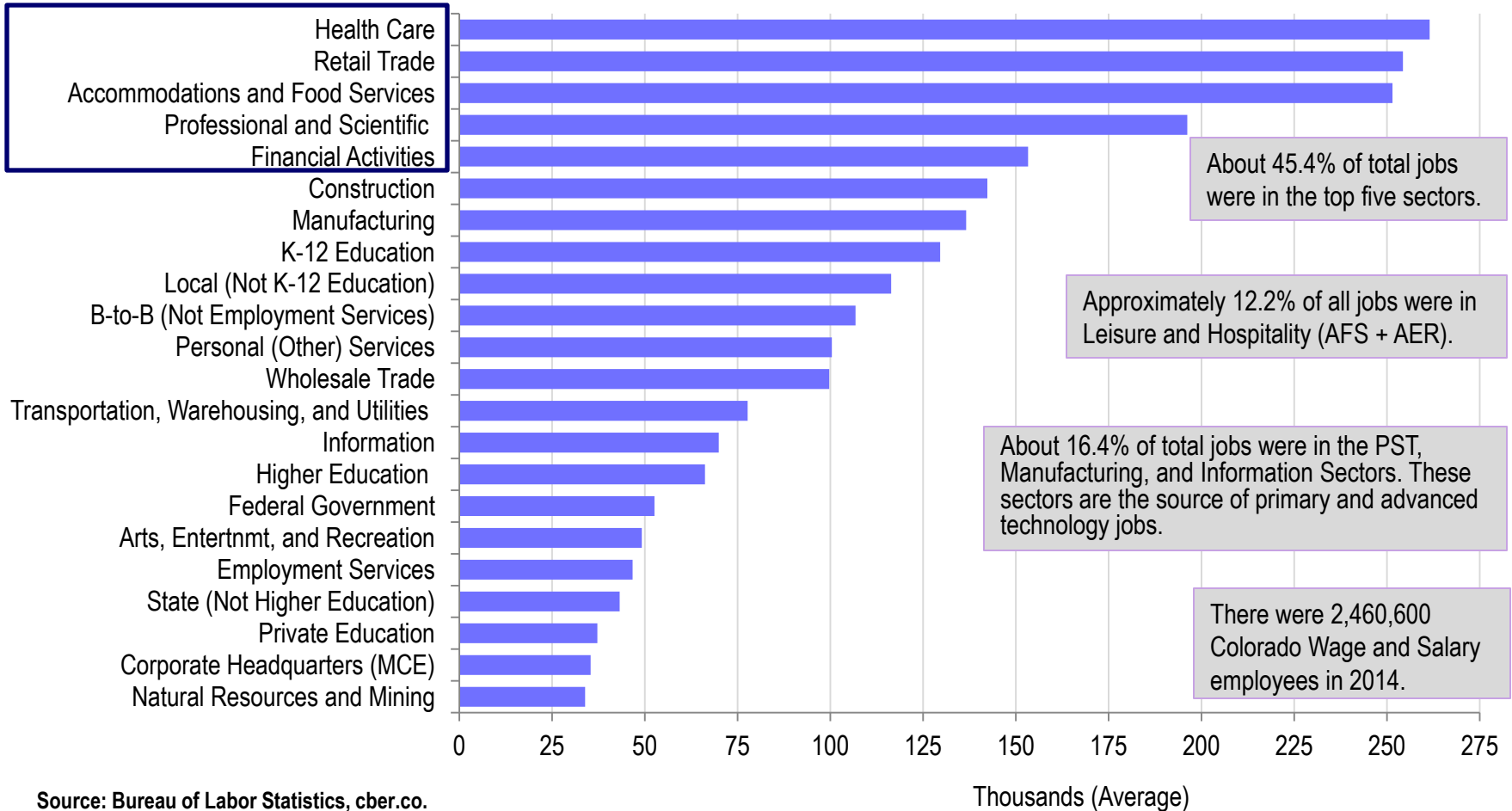
RISKS AT THE NATIONAL LEVEL	HOW COLORADO WILL BE AFFECTED
<p>Housing - In some parts of the country the rate of housing price appreciation may be problematic.</p>	<p>It will be more difficult to find attainable and affordable housing as a result of the sharp increases in housing prices. These rising prices will cause the state's rate of inflation to increase.</p>
<p>Price of Oil - Low oil prices have benefited consumers (lower prices at the pump) and some industries, but they have hurt the extractive industries.</p>	<p>Through the first half of the year, consumers have saved about \$480 with lower gasoline prices. Currently, it is not possible to measure the impact of cheaper oil on the Oil and Gas industry.</p>
<p>International Situations- The current global situational and foreign policy challenges to the U.S. economy currently include Iran, Syria, China, Russia, Greece, Israel, Cuba, the EU, and Ukraine.</p>	<p>At the moment Colorado shares a level of risk similar to the U.S. as a result of situational and foreign policy challenges.</p>



Appendix

2014 Colorado Wage and Salary Employment

Employment



Source: Bureau of Labor Statistics, cber.co.

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Colorado Economic Forecast Sector Portfolio Analysis

Attempt to Improve Forecast Accuracy

The primary focus of most state economic forecasts is to project total employment.

Some economists also produce sector forecasts. They usually add projections for the sectors to derive the state total, an approach that introduces more variables for error.

cber.co feels the most accurate forecast is achieved by projecting total employment based on projections for categories of sectors. Sectors are grouped into three categories based on their past performance.

Projections for the categories and overall employment are based on trends, feedback from business leaders, economic developers, and other economists. The sum of these categories are then compared to the projections for overall total employment. Minor adjustments are made and the final forecast is produced for three scenarios. The most likely scenario is used as the final cber.co forecast. This final step helps create a better understanding of upside and downside risk.

Strong Growth, Solid Growth, and Volatile Categories

This portfolio approach has made it easy to see that some sectors consistently create jobs at a higher rate of growth, some show solid growth, and others are more volatile. Ultimately, the volatile category tends to have a greater influence on the amount of change in total job growth than the sectors with steady growth.

In 2012, 2013, and 2014 cber.co evaluated the performance of 23 sectors over the past two decades and refined the manner in which the sectors are grouped. The evaluation factors for grouping include the rate of growth, number of years with positive job growth, size of the sector, and volatility in job growth. The data used for classifying the sectors is available in the Appendix of the original forecast. In the short period this process has been used, it has produced a high level of accuracy in the final forecast. More importantly, it has produced a better understanding of what is driving the economy.

Measuring Change in Employment

Methods of Measuring Change in Employment

- Month-over-prior-month – This method can be used only with seasonally adjusted data.
- Year-over-prior-year – This method can be used with seasonally adjusted or non-seasonally adjusted data. The results are usually similar.
- Rolling average – Average employment for a period, such as 12-months, compared to average employment to the average for the prior period of “rolled” data.

Measurement Used by cber.co

- cber.co typically uses a derivative of a rolling average. For example, the average of the first quarter of 2015 will be compared to the average for the first quarter of 2014. It is also important to look for trends.
- This methodology is preferred to seasonally adjusted month-over-prior month data, particularly with employment data. Advances in technology and the past two recessions have made it difficult to accurately adjust for seasonality.



BLS/LMI Data Revision Process

BLS and LMI Data Projections

In recent years, data-producing federal agencies have been asked to deliver more accurate data, in a shorter time frame, using fewer staff, with lower research budgets. The data used for most short-term forecasts is the Current Employment Survey, also called Nonfarm or Wage and Salary data. It is possible for the CES data to be revised up to four times.

BLS and LMI Data Revision Process

The CES projection process is outlined below:

1. Around the 20th of a month, preliminary data for the prior month will be published and the month prior to that will be updated (For example, around June 20th preliminary data for May will be produced and April will be updated.) These revisions are usually minor. Most short-term forecasts use this data.
2. In March of the following year, the previous two years will be revised. (For example, the 2014 employment data will be revised in March 2015 and finalized in March 2016).
3. The initial March update is usually the most significant revision, and the two-year update is often minor (In the case of 2014, some of the monthly totals will see significant upward revisions when revised in March 2015.)
4. Periodically, BLS updates the entire data series back to 1990. This usually occurs when they recalibrate their projection models or redefine NAICS codes.



Review of Colorado Economy Analysis of First Six Months of 2015

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 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 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, which is part of OEDIT’s early stage and proof of concept programs.