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Final Review of Colorado 2018 and Outlook for 2019

Colorado-based Business and Economic Research
Prepared
March 20, 2019

Overview and Highlights

Colorado

This chartbook provides a series of graphs, tables, and discussions that tell the story about what caused changes in the Colorado economy in 2018 and what will drive changes in 2019. It focuses on the topics listed in the left hand column, with special attention given to the benchmark revisions for employment, unemployment, wage data, and GDP. A similar review of the U.S. economy can be found by going to <https://cber.co/economic-updates/>.

The Colorado Economy

- Outlook Highlights
- Gross Domestic Product
- Federal Reserve Indicators
- Population - Components of Change
- Employment, Unemployment Rate, and the Unemployment Gap
- Revised Employment Outlook, Employment by Sector, Employment by Strong Growth, Solid Growth, Volatile Categories
- Colorado and U.S. Wages
- Denver International Airport
- Building Permits, Housing Prices, and Inflation
- Oil Production and Prices
- Retail Trade and Auto Registrations
- State Government Revenue
- Summary of the Colorado Economy

This chartbook gives special attention to the following data sets:

- **Unemployment** - the unemployment rate for Q4 2018 was 0.8 percentage points greater than the prior year. Is there reason to be concerned?
- **Employment** - employment data for Q4 2018 came in below expectations. How much momentum will the economy have moving in to mid-2019?
- **Wages** – Colorado wages increased by 5.4% in 2018. What is the story behind this level of wage growth?

Outlook Highlights

Key statistics for the Colorado economic forecast are listed below. There is greater downside risk than upside potential to the 2019 Colorado forecast.

GDP, Leading Indicators, Population, Unemployment, and Employment

- 2019 Colorado real GDP, +3.1%.
- 2018 GDP drivers – real estate, government, PST, manufacturing, healthcare.
- Fed leading indicators – continued growth in Colorado.
- 2019 Population – 1.3% growth, 76,200 people.
- Unemployment – 2018 revised upward to 3.3%.
- Unemployment – 2019 forecast revised upward to 3.6%.
- Initial and continuing claims – trending downward.
- Employment – 2018 revised downward to 64,600.
- Employment – 2019 forecast revised downward to 58,600.

Wages, DIA, Construction, Housing, Inflation, Oil, State General Fund

- Colorado AAWW increased by 5.4% in 2018.
- Colorado AAWW increased by 2.0% CAGR since 2009 to 2018.
- DIA – 64.5 million passengers in 2018, another record will be set in 2019.
- Construction – 42,500 residential permits in 2019.
- Housing prices – increasing at a decreasing rate.
- Inflation (CPI)– 2.6% in Colorado vs. 2.3% for U.S.
- New vehicle registrations – flat in 2018 and 2019, pickup sales dominate car sales.
- Retail trade sales, will increase by 3.6% in 2019.
- Oil production, up almost 16% in 2019 – new record.
- State General Fund, slower rate of growth in 2019.

A number of data series are released in February and March that close out 2018. The following are release dates of cber.co reports in Q1 2019.

- | | |
|-----------------------------------|--|
| • January 15th | 2019 cber.co Economic Forecast |
| • February 25th | In-depth year-end review of 2018 U.S. economy |
| • March 20th | Benchmark data and in-depth review for Colorado 2018 and 2019 outlook |
| • March 29th | Review of first two months of 2019. |



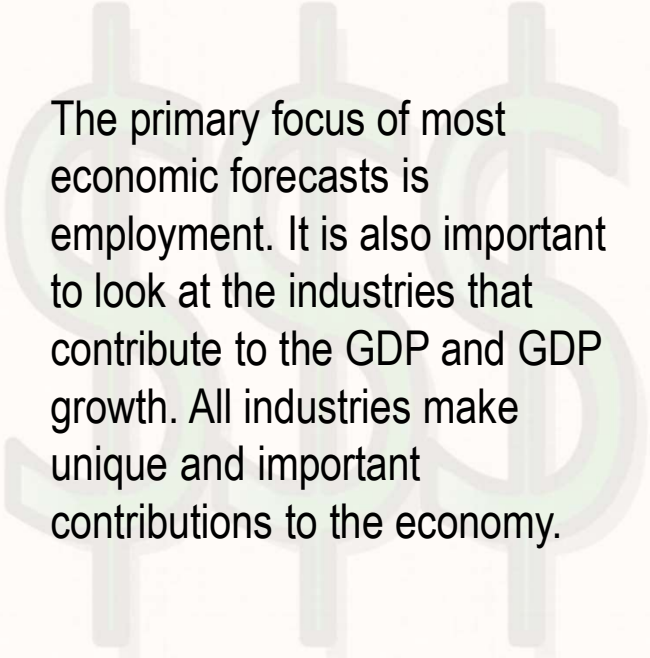
The Colorado Economy

Gross Domestic Product

Things to Look For

Gross Domestic Product - Colorado

- About half the state's GDP is derived from the real estate, government, PST, manufacturing, and health care sectors.
- Colorado has a competitive advantage (GDP) in the extractive industries, AER, construction, and PST.
- Colorado's GDP growth rate is usually greater than the U.S. growth rate. That will be the case in 2019.
- In 2017, the major contributors to GDP growth were PST, MCE, real estate, retail trade and wholesale trade.
- Almost 80% of the total Colorado MSA GDP is in Denver and Colorado Springs.
- The top MSAs for GDP growth, from 2009 to 2017, were Boulder, Fort Collins, and Pueblo.
- The top areas for real per capita GDP are Boulder and Fort Collins.



The primary focus of most economic forecasts is employment. It is also important to look at the industries that contribute to the GDP and GDP growth. All industries make unique and important contributions to the economy.

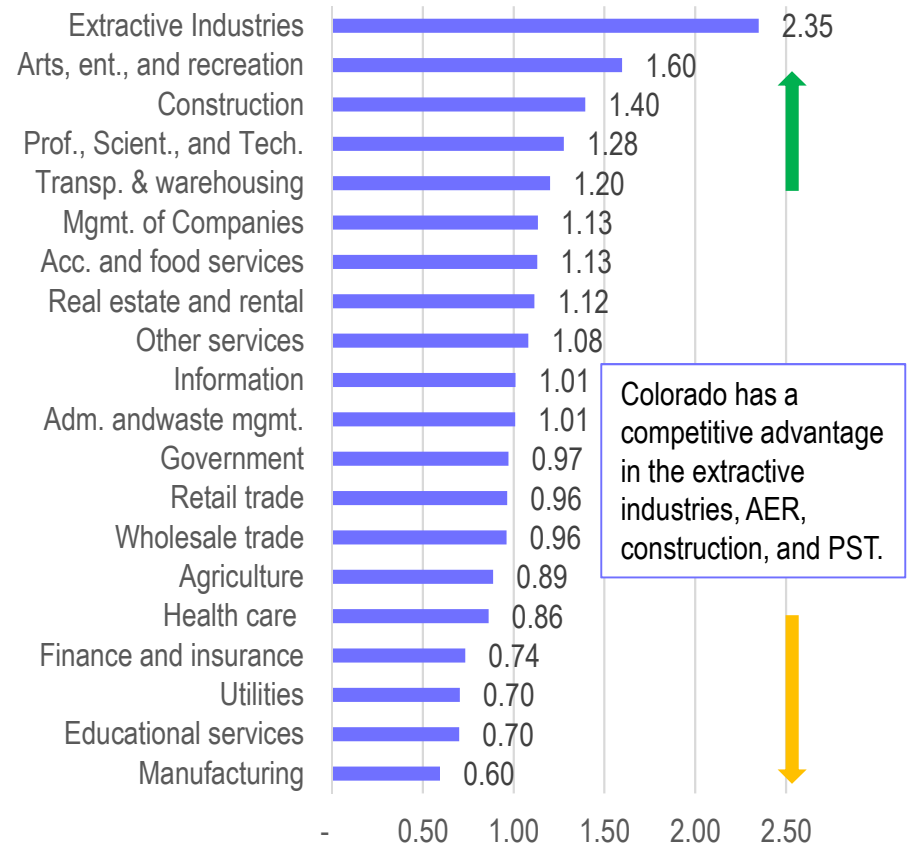
2017 Current Gross Domestic Product

| 2017 Gross Domestic Product (Current Dollars) | | | | |
|---|----------------------|---------------|-------------------|---------------|
| Sector | United States | Percent | Colorado | Percent |
| Real estate and rental | \$ 2,591,221 | 13.30% | \$ 51,200 | 14.83% |
| Government | \$ 2,453,704 | 12.59% | \$ 42,298 | 12.25% |
| Prof., Scient., and Tech. | \$ 1,449,993 | 7.44% | \$ 32,796 | 9.50% |
| Manufacturing | \$ 2,179,633 | 11.19% | \$ 23,015 | 6.67% |
| Health care | \$ 1,454,719 | 7.47% | \$ 22,266 | 6.45% |
| Wholesale trade | \$ 1,174,123 | 6.03% | \$ 20,024 | 5.80% |
| Construction | \$ 781,413 | 4.01% | \$ 19,317 | 5.60% |
| Finance and insurance | \$ 1,465,909 | 7.52% | \$ 19,092 | 5.53% |
| Information | \$ 1,050,767 | 5.39% | \$ 18,823 | 5.45% |
| Retail trade | \$ 1,087,107 | 5.58% | \$ 18,578 | 5.38% |
| Transp. & warehousing | \$ 608,735 | 3.12% | \$ 12,953 | 3.75% |
| Acc. and food services | \$ 590,589 | 3.03% | \$ 11,830 | 3.43% |
| Extractive Industries | \$ 268,619 | 1.38% | \$ 11,187 | 3.24% |
| Adm. and waste mgmt. | \$ 606,974 | 3.12% | \$ 10,846 | 3.14% |
| Other services | \$ 416,083 | 2.14% | \$ 7,975 | 2.31% |
| Mgmt. of Companies | \$ 369,380 | 1.90% | \$ 7,427 | 2.15% |
| Arts, ent., and recreation | \$ 214,148 | 1.10% | \$ 6,061 | 1.76% |
| Utilities | \$ 307,496 | 1.58% | \$ 3,838 | 1.11% |
| Educational services | \$ 245,556 | 1.26% | \$ 3,047 | 0.88% |
| Agriculture | \$ 169,225 | 0.87% | \$ 2,660 | 0.77% |
| Total | \$ 19,485,394 | 100.0% | \$ 345,233 | 100.0% |

The concentration is the Colorado percentage divided by the United States percentage. Colorado has a greater concentration for sectors greater than 1.0 and a smaller concentration for sectors less than 1.0

Source: Bureau of Economic Analysis, cber.co.

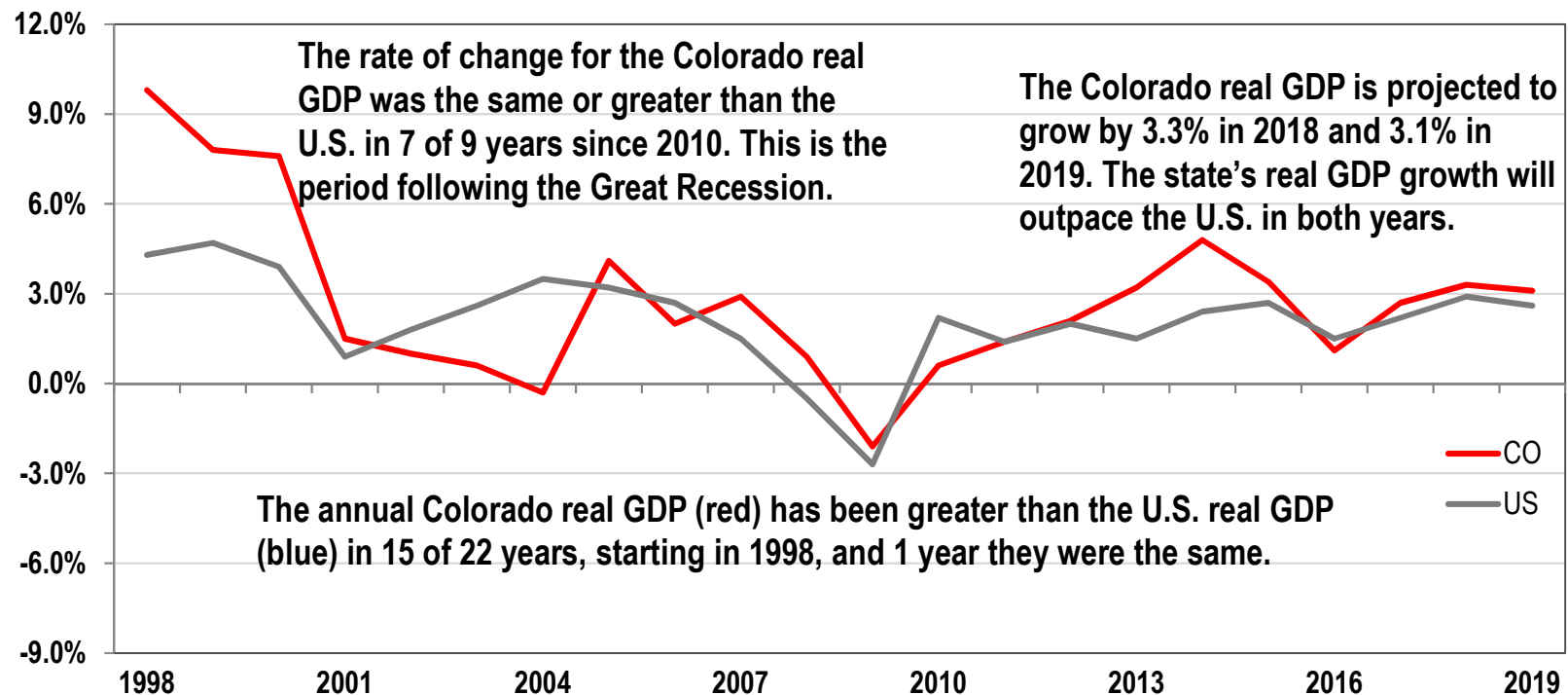
Concentration of Colorado GDP by Industry Sectors



Real Gross Domestic Product

Colorado vs. U.S. (Annual)

The Annual Rate of Change for the Real Gross Domestic Product



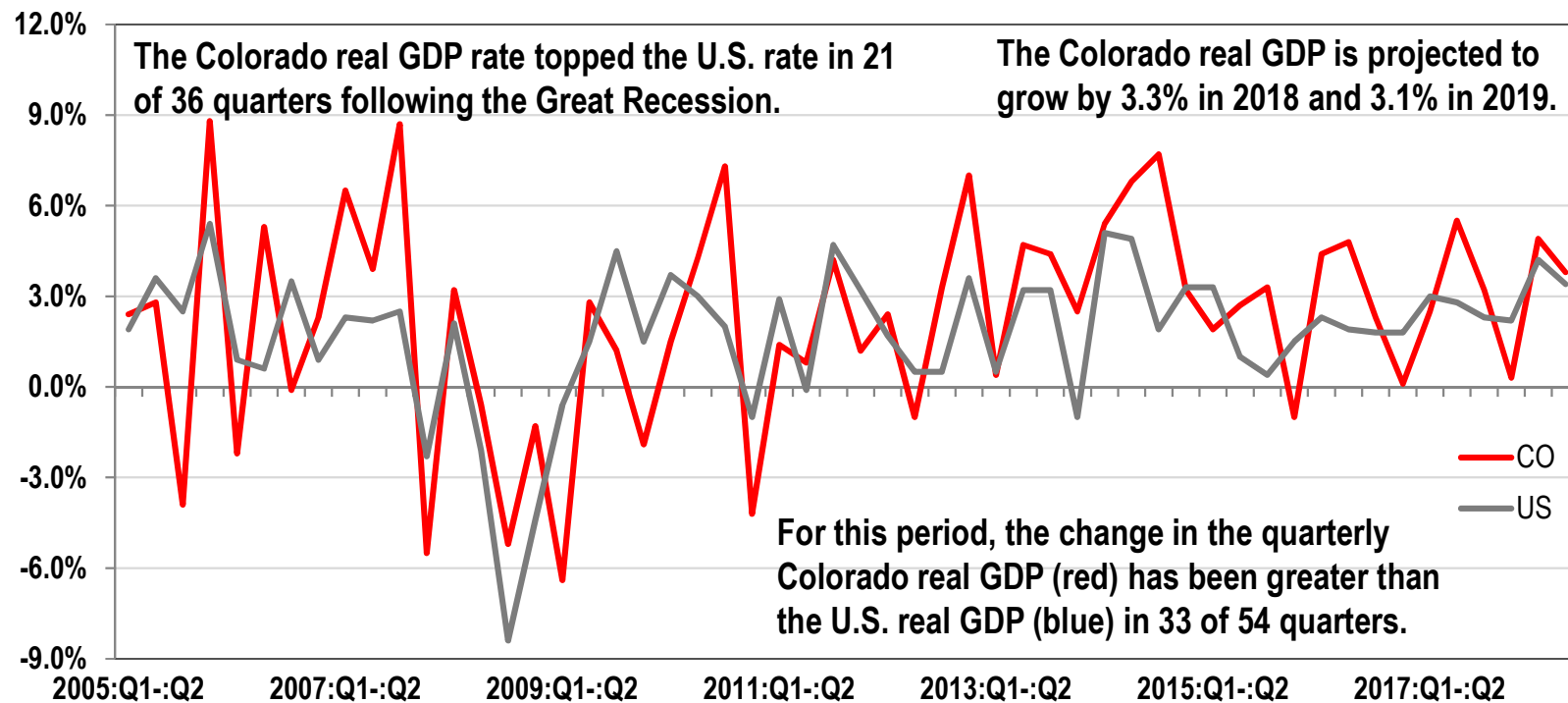
Source: Bureau of Economic Analysis. Note: U.S. real GDP is summary of states GDP.

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Real Gross Domestic Product

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

Change in the Quarterly Rate of Change for Real Gross Domestic Product



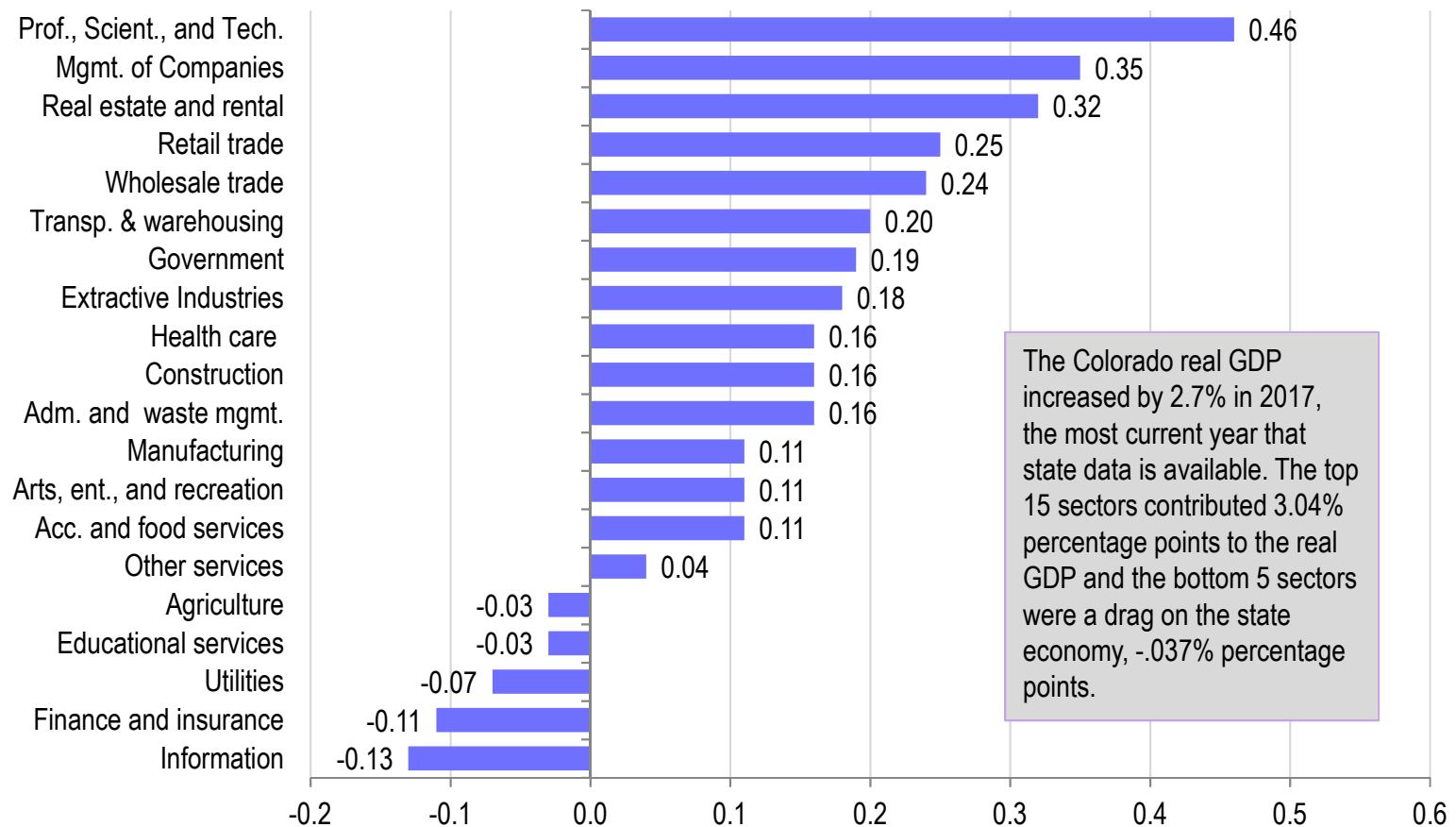
Source: Bureau of Economic Analysis. Note: U.S. real GDP is summary of states GDP.

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2017 Contribution to Real GDP by Sector

Colorado

Percentage Points of Contribution to Colorado Real GDP



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

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Industry Contribution to Colorado Real GDP

Industry Contribution to Real GDP

The table on the next page looks at the contribution of six industries to Colorado real GDP between 2010 and 2017. (Extractive industries, construction, real estate, health care, PST, and AER). The values in the table illustrate how the contribution of these industries can be volatile from year-to-year. In addition, a sector or group of sectors may dominate GDP growth one year, but not the next year.

Volatility of Industry Contribution

The following are examples of the fluctuation in the contribution of various industries:

- Volatility in the extractive industries is caused by changes in the price of related commodities and public policy. In turn, these price changes affect demand. The data in the table shows the extractive industries were a drag on real GDP growth in 2010 and 2016. In 2014 they were responsible for about 25% of the state's real GDP growth (1.1 percentage points out of 4.4 points).
- In another example, real estate was responsible for about 33% of the state's growth in 2016 or .76 of 2.33 percentage points.
- In a final example, the top six industries accounted for about 91% of real GDP growth in 2011.

● Contribution of Key Industries to Colorado Real GDP - 2017

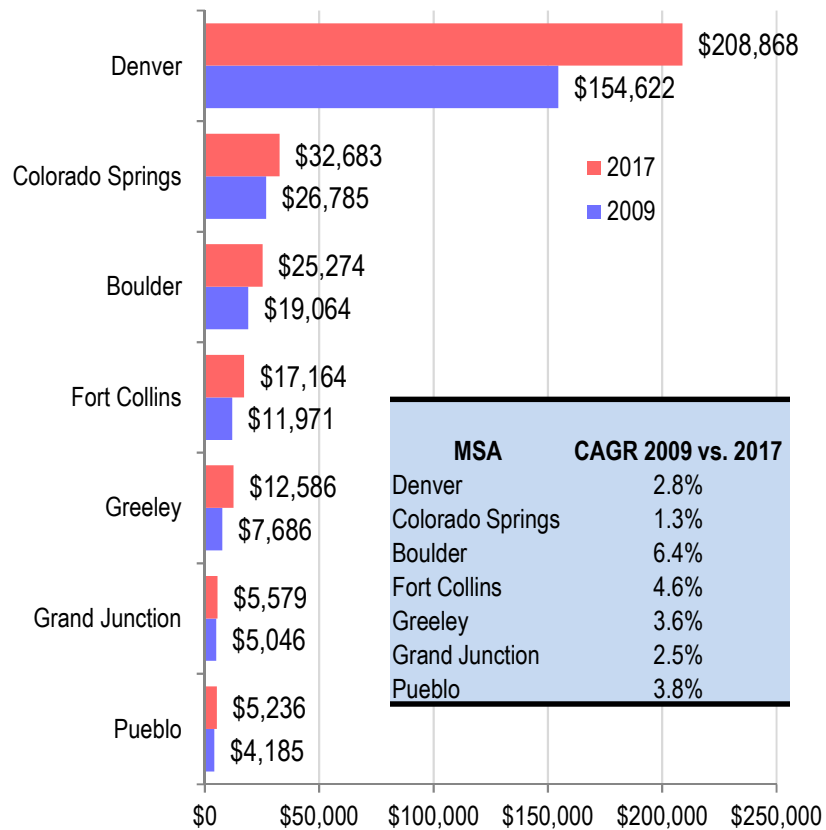
● Measured in Percentage Points

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Extractive Industries | -0.65 | 0.07 | 0.15 | 0.28 | 1.10 | 0.65 | -0.21 | 0.18 |
| Construction | -0.76 | 0.00 | 0.13 | 0.68 | 0.50 | 0.32 | 0.31 | 0.16 |
| Real Estate | 0.69 | 0.70 | 0.09 | 0.22 | 0.21 | 0.77 | 0.76 | 0.32 |
| Health Care | 0.08 | 0.14 | 0.16 | 0.10 | 0.26 | 0.33 | 0.28 | 0.16 |
| Professional, Scientific, Tech. | 0.31 | 0.27 | 0.37 | 0.38 | 0.42 | 0.27 | 0.35 | 0.46 |
| Leisure and Hospitality | 0.13 | 0.18 | 0.06 | 0.42 | 0.20 | 0.30 | 0.03 | 0.22 |
| *Other Industries | <u>1.10</u> | <u>0.14</u> | <u>0.84</u> | <u>1.22</u> | <u>1.71</u> | <u>1.66</u> | <u>0.78</u> | <u>1.20</u> |
| Total of Six Industries | -0.20 | 1.36 | 0.96 | 2.08 | 2.69 | 2.64 | 1.52 | 1.50 |
| Total Real GDP Growth (%) | 0.9 | 1.5 | 1.8 | 3.3 | 4.4 | 4.3 | 2.3 | 2.7 |
| Six Industries as a % of Total GDP | -22.2% | 90.7% | 53.3% | 63.0% | 61.1% | 61.4% | 66.1% | 55.6% |

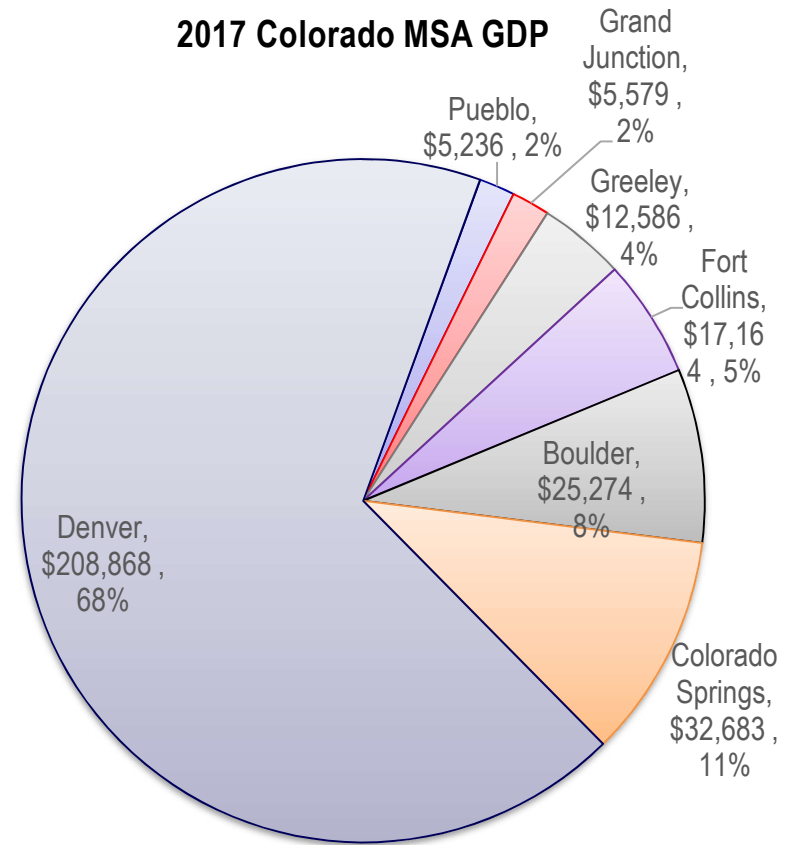
Source: Bureau of Economic Analysis, cber.co. Note: *Other Industries includes Agriculture, Utilities, Manufacturing, Wholesale Trade, Retail Trade, Information, Management of Companies and Enterprises, Administrative Services, Finance and Insurance, Educational Services, Other Services, and Government.

Current Dollar GDP Colorado MSA

Current Dollars GDP by MSA (Millions)



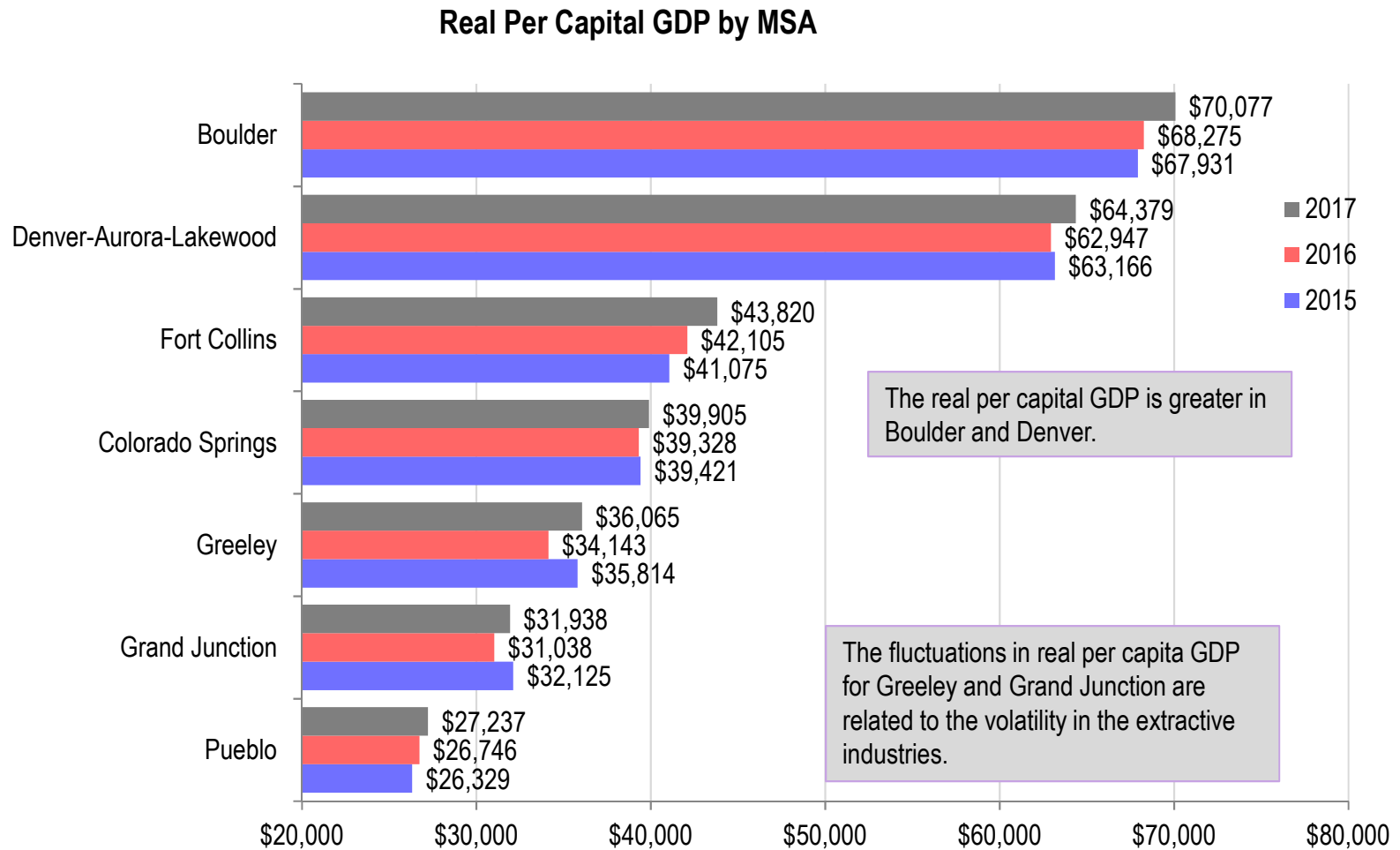
2017 Colorado MSA GDP



Source: Bureau of Economic Analysis, current dollars, cber.co. Note: The percentage is based on MSA total GDP, does not include non-MSA area.

Real Per Capita GDP MSA

2015 to 2017



Source: Bureau of Economic Analysis, chained on 2009, cber.co. Note: The most available data is 2017. Population data reflect mid-year values (2017).



The Colorado Economy

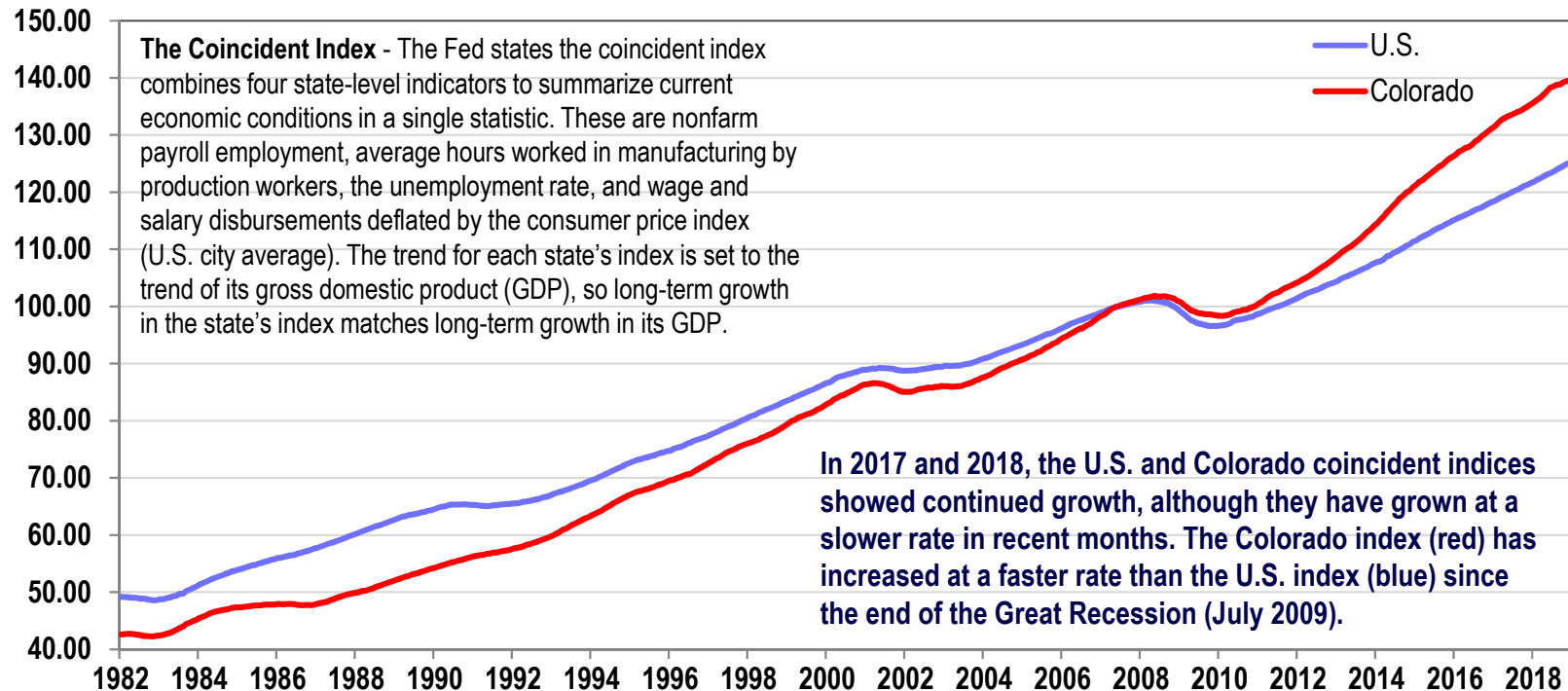
Federal Reserve Leading and Coincident Indicators

Philadelphia Fed Coincident Index

Colorado vs. U.S.

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

Index Value



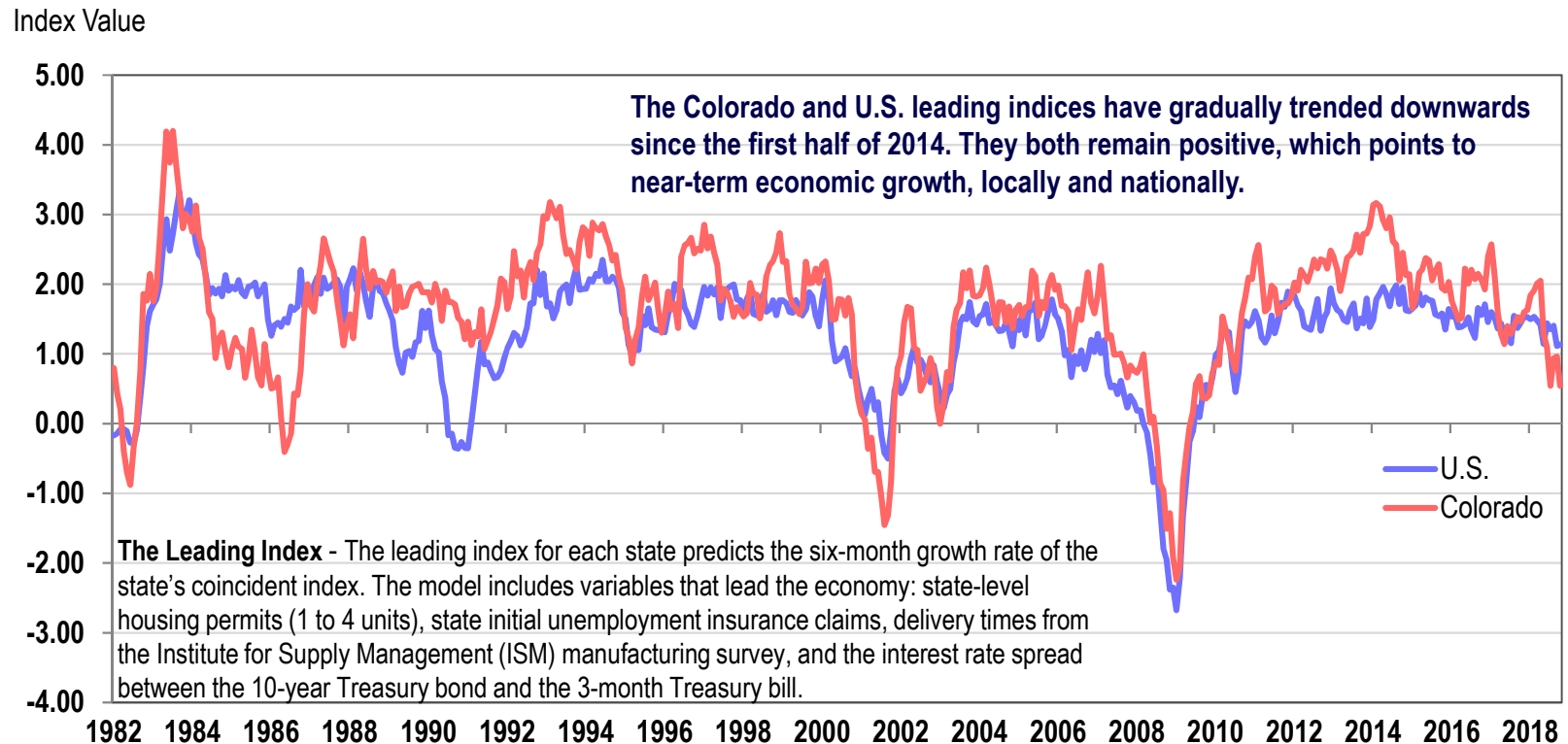
Source: Philadelphia Federal Reserve, cber.co. Note: The leading index predicts the six-month growth rate of the U.S. and state's coincident index.

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 Federal Reserve Indices

No Signs of a Recession

The leading and coincident indices produced by the Philadelphia Federal Reserve are two of many indicators that show the U.S. and Colorado economies are on solid footing, at least for the first half of 2019.

There are headwinds, but not clear signs of a recession. There may be a slowdown, but that is not the same as a recession.



The Colorado Economy

Population Components of Change

Colorado Population

Components of Change

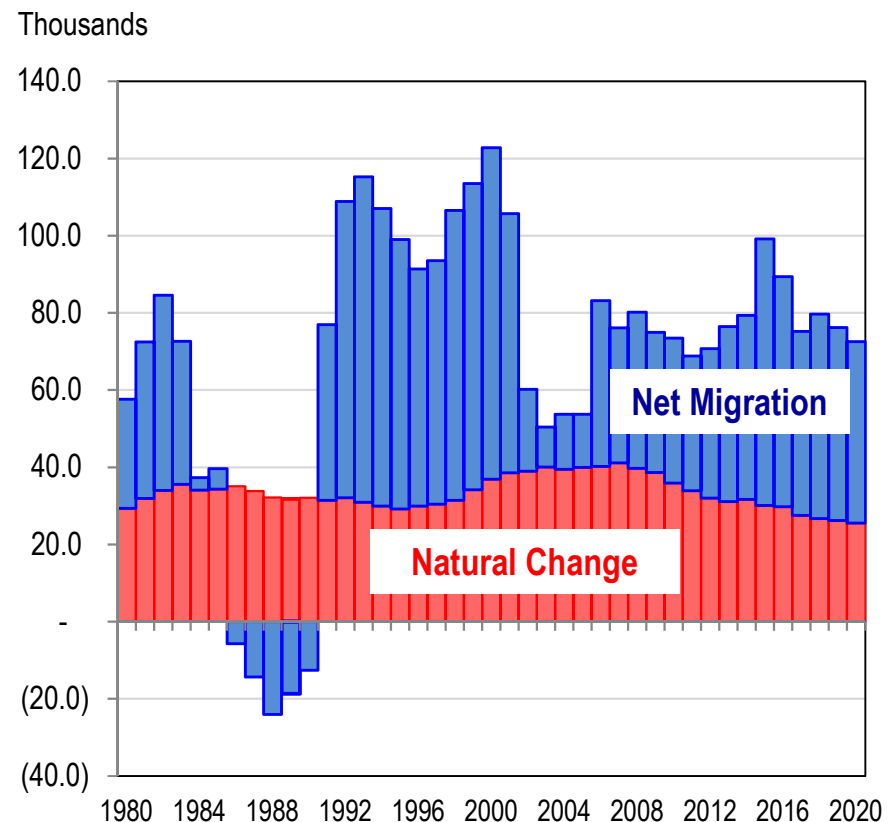
Population increases and decreases are a result of the natural rate of change (births minus deaths) and the change in net migration (people moving into the state minus people moving out of the state).

Over the past 3½ decades the natural rate of change (red bars) varied from a low of 26,700 in 2018 to a peak of 41,124 in 2007. Fertility rates have declined. As a result, the natural rate for 2019 will be 26,200.

Changes resulting from net migration (blue bars) are closely tied to the strength of the economy and the change in state employment. For example, there were five years, from 1986 to 1990, when net migration was negative. More people moved out of state than moved into the state to escape the regional recession. During the past two recessions (2001 and 2007), net migration declined, but did not turn negative. It was difficult for people to move anywhere to escape the bad economy.

The Colorado population will increase by about 75,000 for the years 2016 to 2020. In 2019 the state's population will increase by 1.3%, or 76,200 to 5,765,527.

Change in Colorado Population 1980 - 2020





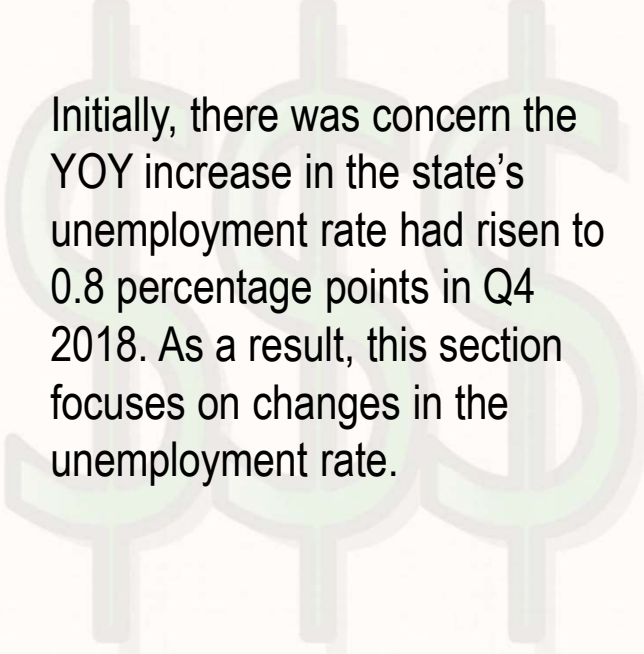
The Colorado Economy

Unemployment Rate and the Unemployment Gap

Things to Look For

Unemployment - Colorado

- The downward trend in the number of initial and continuing claims suggests the unemployment rate will not rise abruptly in the near term, particularly given the growth of the labor force.
- The unemployment rate for 2018 was 3.3%. This was higher than expected.
- As a result, the projected unemployment rate for 2019 was increased to 3.6%.
- In Q4 2018, the YOY increase in the state's unemployment rate was 0.8 percentage points. After closer investigation, this difference does not appear to be a problem.
- Lower U.S. unemployment rates may eventually cause a decline in Colorado's net migration. At some point, this may affect the number of jobs added and the unemployment rate for Colorado.



Initially, there was concern the YOY increase in the state's unemployment rate had risen to 0.8 percentage points in Q4 2018. As a result, this section focuses on changes in the unemployment rate.

Unemployment Rate vs. Colorado

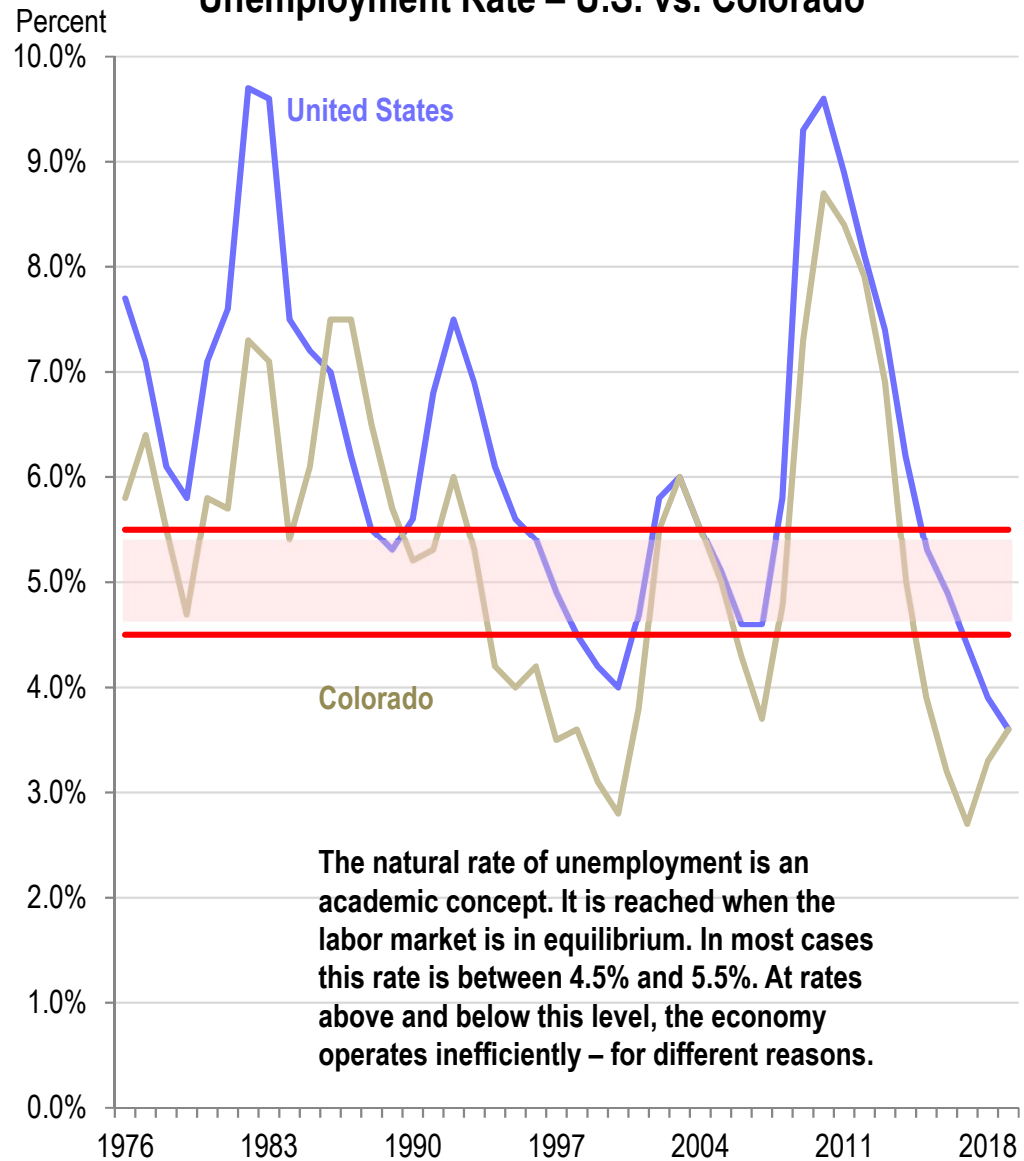
In 2019, the annual unemployment rate for the U.S. will decline to 3.6%. In the past 50 years only 1969 was lower at 3.5%. The Colorado rate will increase for the second consecutive year from 3.3% in 2018 to 3.6% in 2019.

The annual U.S. unemployment rate has declined since 2010 when it was 9.6%. The rate has been below 4.5% since 2017.

The annual Colorado unemployment rate peaked at 8.7% in 2010. It bottomed out in 2017 at 2.7%. The rate has been below 4.5% since 2015.

By comparison, there was an 8-year period, 1994 to 2001, when Colorado's annual rate of unemployment was less than 4.5%.

Unemployment Rate – U.S. vs. Colorado

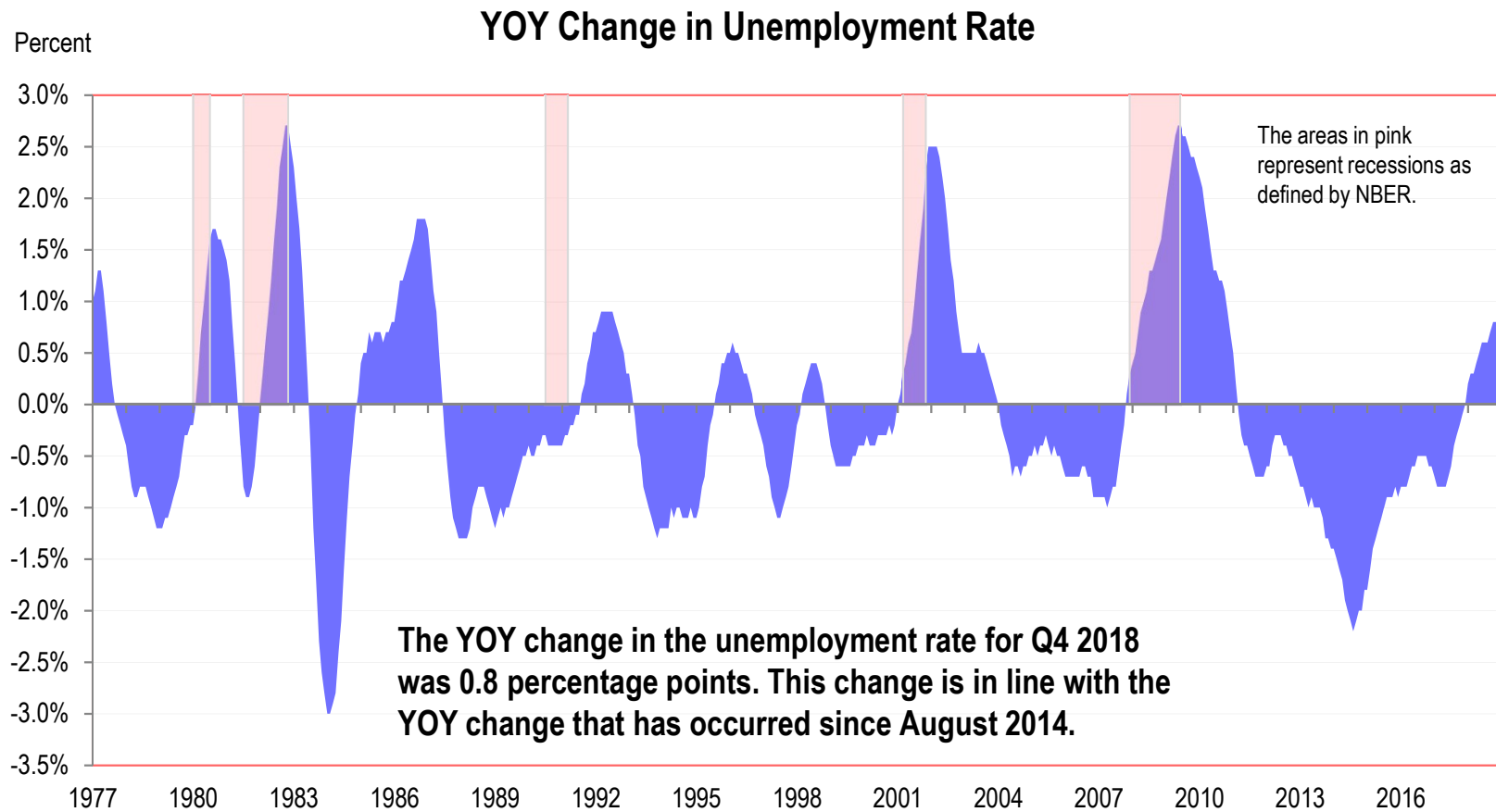


Source: Bureau of Labor Statistics, SA; cber.co.

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YOY Change in the Unemployment Rate

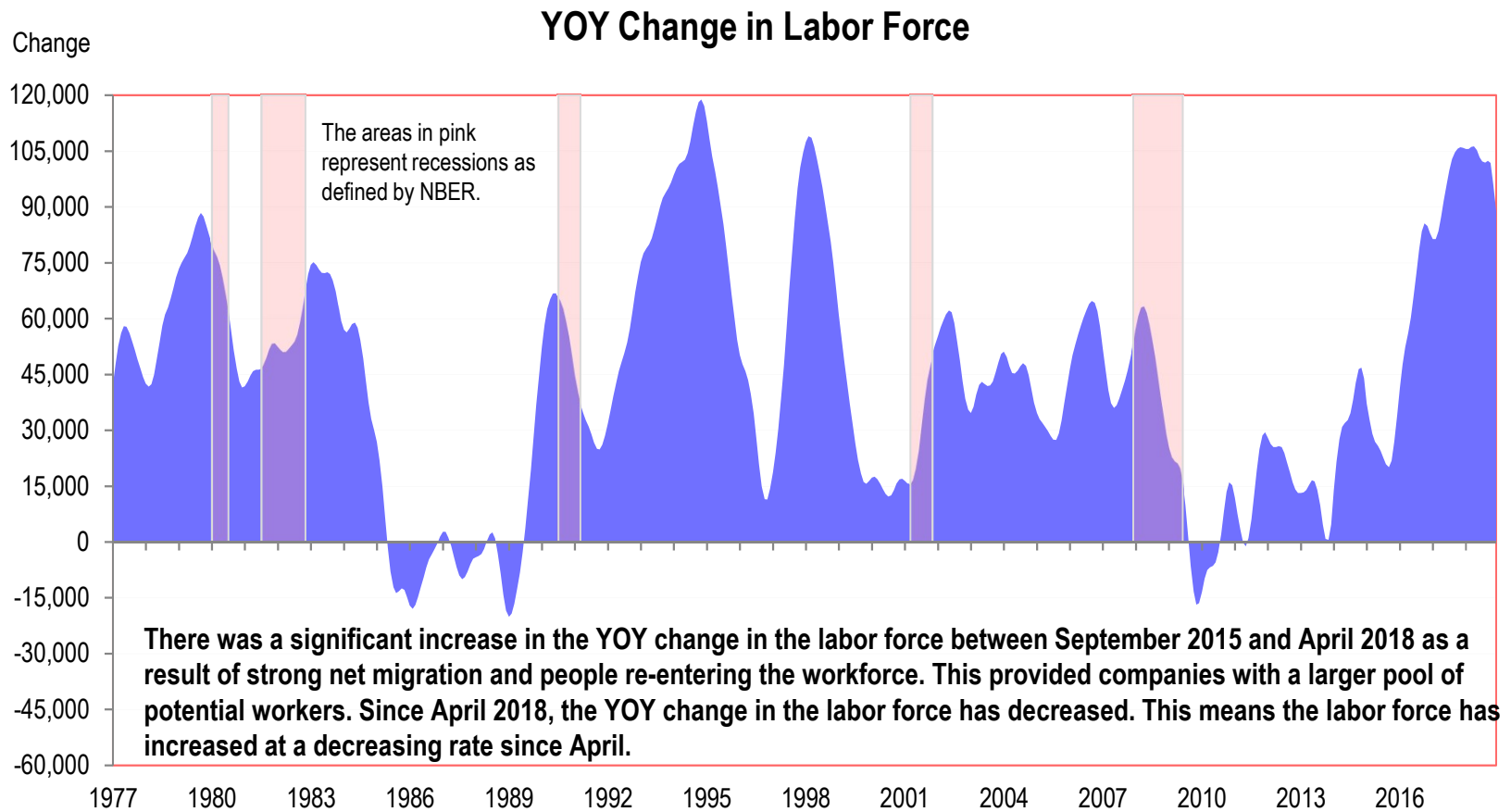
Colorado



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

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- YOY Change in the Labor Force
- Colorado
-

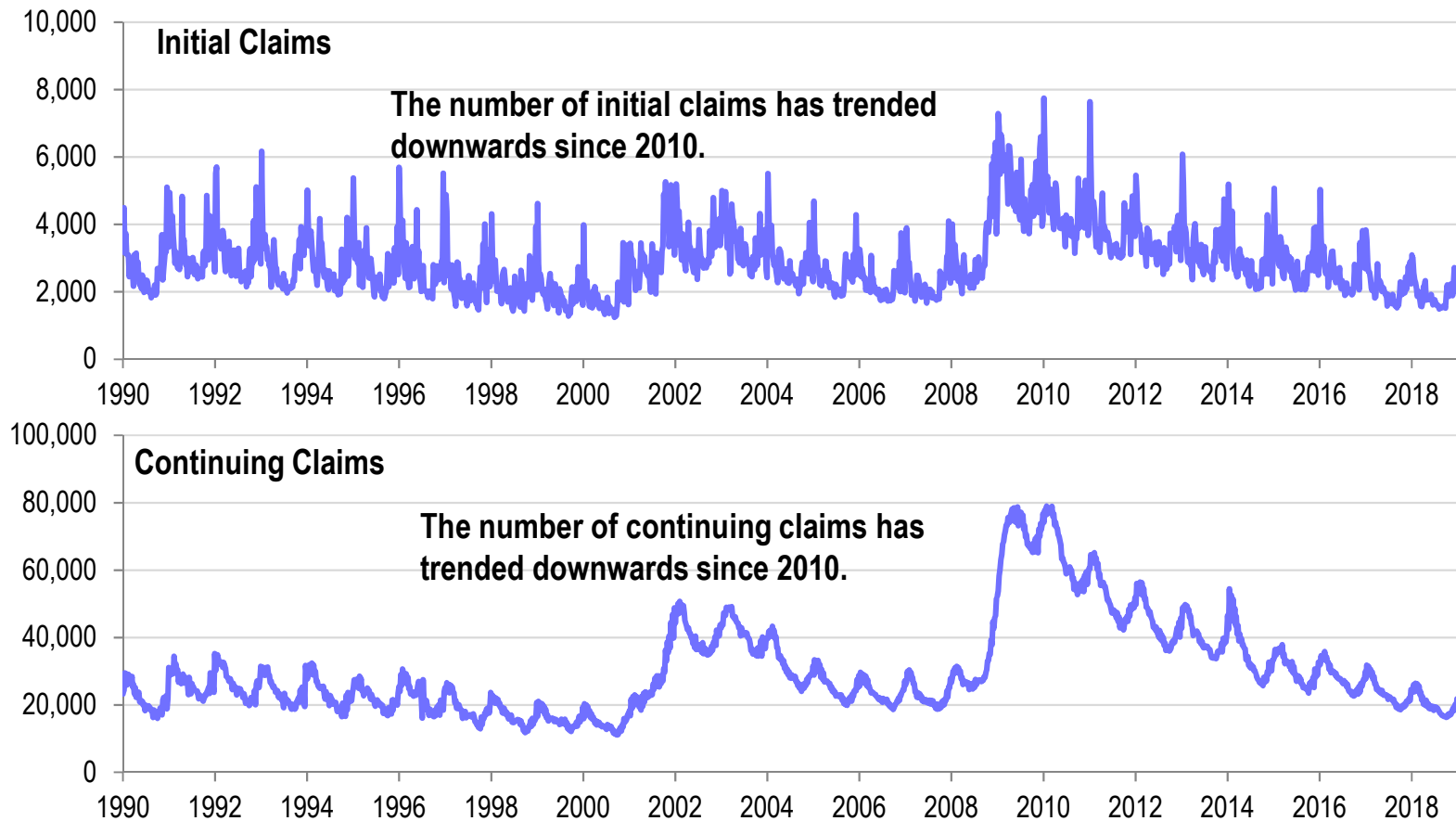


Source: Bureau of Labor Statistics, LAUS, NSA, NBER, cber.co.

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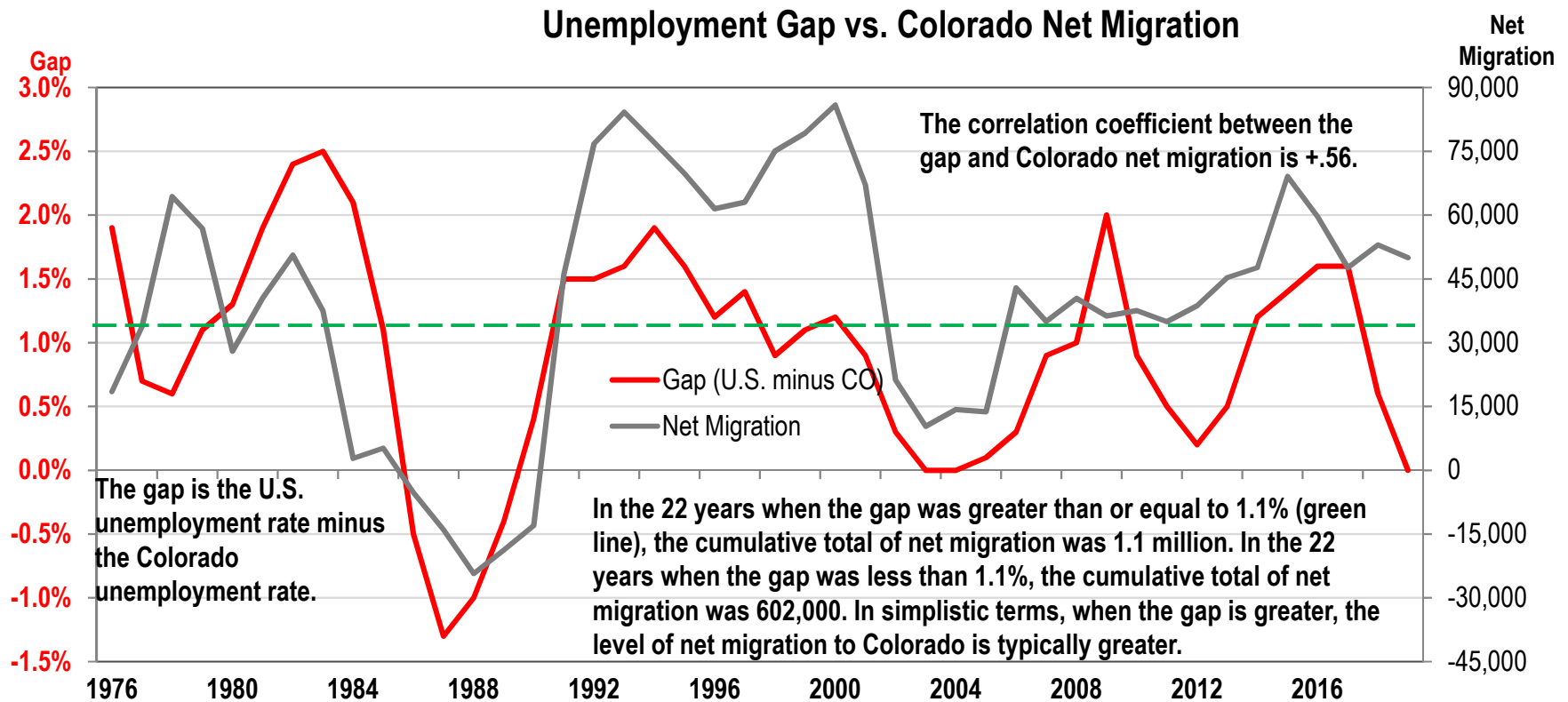


Initial and Continuing Unemployment Claims 1990 to 2018 (Colorado)



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

- The Unemployment Gap (U.S. Rate Minus CO Rate)
- The Gap vs. Net Migration
-



Source: Bureau of Labor Statistics, State Demographers Office, cber.co.

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Colorado Unemployment Rate

The unemployment rate will remain below the natural rate of unemployment through 2019. As a result, the state economy will continue to perform in an inefficient manner.

There are companies in all sectors that are not adequately staffed. Unfortunately, their customers often have to deal with poor service and long wait times – in some cases there is even no service.

Given the low U.S. unemployment rate, most states are facing similar challenges as Colorado. There are low unemployment rates in key occupations, key industries, and in most geographic areas of the state and U.S.

Just as there was no place to hide from the high unemployment rates of the Great Recession, there is no place to hide from the ill effects of an unemployment rate that is too low. Having said that, it is much better to deal with an unemployment rate that is too low than to deal with one that is too high.



The Colorado Economy

Revised Employment Outlook, Employment by Sector,
Employment by Strong Growth, Solid Growth, Volatile
Categories

Things to Look For

Employment - Colorado

- The benchmark data for 2018 showed the state added 64,600 workers, less than expected.
- As a result, the 2019 cber.co forecast for employment was lowered to 58,600 jobs, or a 2.2% rate of growth.
- Job growth for the period 2012 to 2019 is almost as strong as the eight year period 1993 to 2000.
- There will continue to be consistent job growth in the strong and solid categories of industries. There will be a decline in the volatile categories, particularly as the year progresses.

A slowdown in job growth was expected for Q4; however, the magnitude of the slowdown was greater than anticipated. As a result, this section tries to understand the level of momentum that will carry forward into 2019 and how that momentum will affect the performance of the Colorado economy.

Annual Employment Change in Colorado Employment

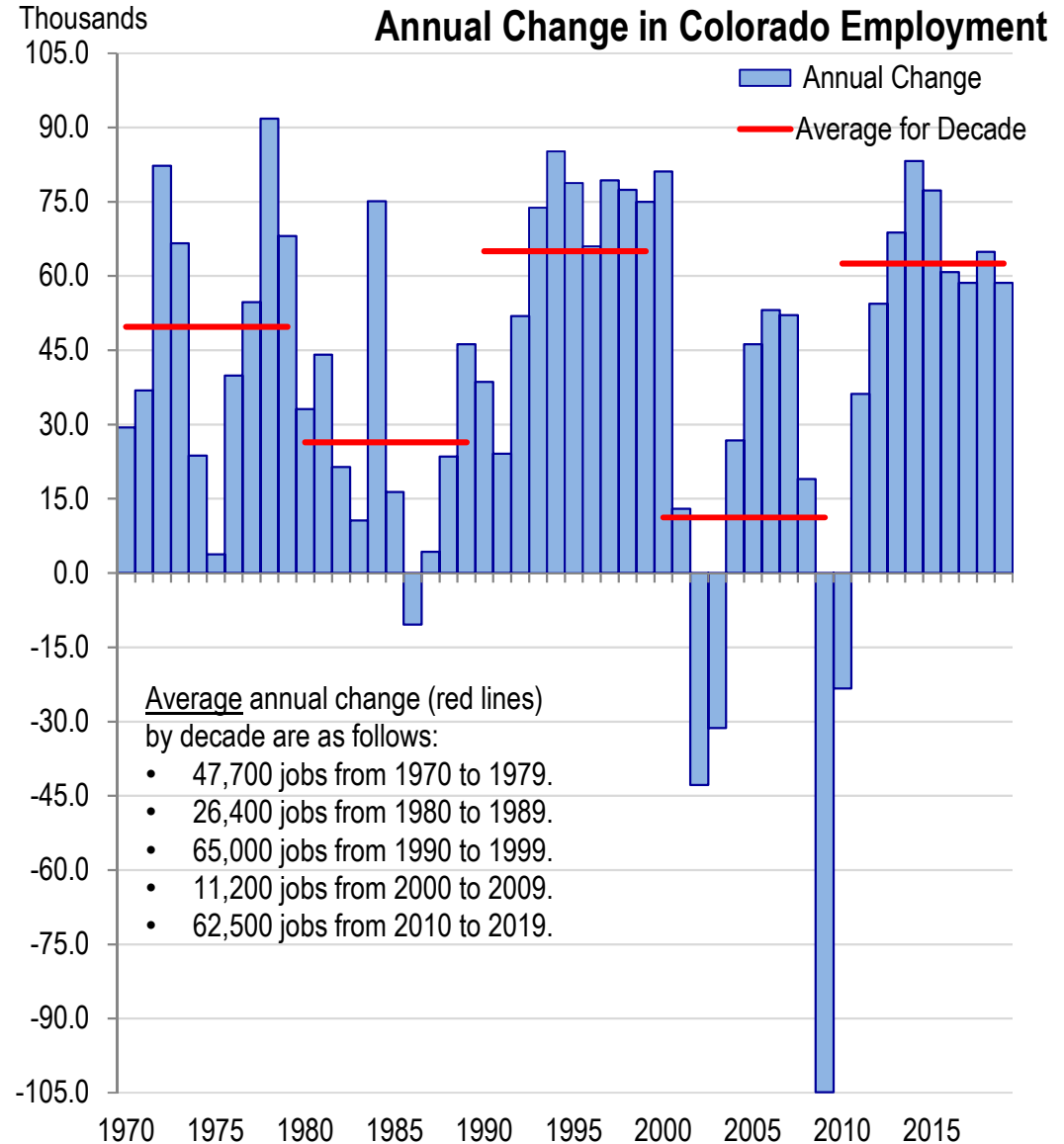
All economists were fooled by the strength of the economy in 2018. It appears their forecasts for a slowdown were a year too early. The recent benchmark data shows that Colorado added 64,900 jobs in 2018, or growth of 2.4%.

This level of job growth is 10,000 to 20,000 jobs greater than most forecasts, but less than the end of the year expectations for 2018.

Job growth for 2018 peaked in the summer, but it tapered off in the second half of the year.

The momentum from 2018 will carry forward into the first half of 2019; however, this momentum is projected to taper off as the year progresses.

Employment growth for 2019 will be 58,600 workers, an increase of 2.2%. On average this is about 4,900 workers per month.



Source: Bureau of Labor Statistics, cber.co.

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58,600 Jobs to be Added

What Adjective Would You Use to Describe 58,600?

Economists are masters at using adjectives and phrases to describe economic growth. Some examples are listed below:

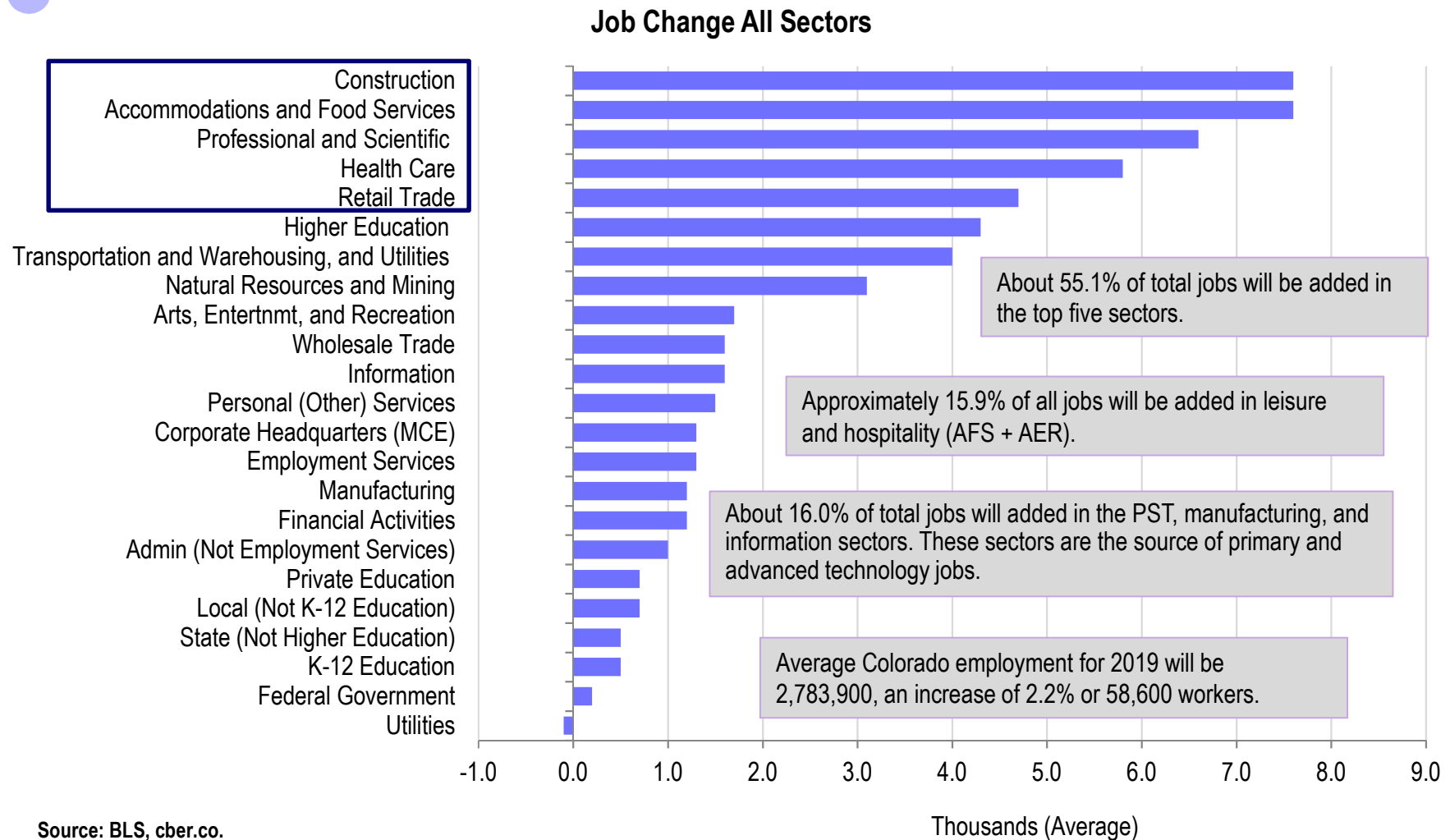
- Above expectations
- Average
- Below par
- Below potential
- Booming
- Cautiously optimistic
- Consistent
- Disappointing
- Dismal
- Moderate
- Modest
- Solid
- Stable
- Stellar
- Strong
- Trending upwards
- Weak
- Worse than expected
- Worst case scenario

The list goes on ad nauseam.

Later this year, the U.S. economy will set a record for the longest economic recovery in history. Does that mean the current level of job growth is strong, weak, or somewhere in between? What words or phrases would you use to describe Colorado's forecast for the addition of 58,600 jobs in 2019?

Change in Employment by Sector

2019 Forecast



Annual Employment Situation for the Strong Growth Category

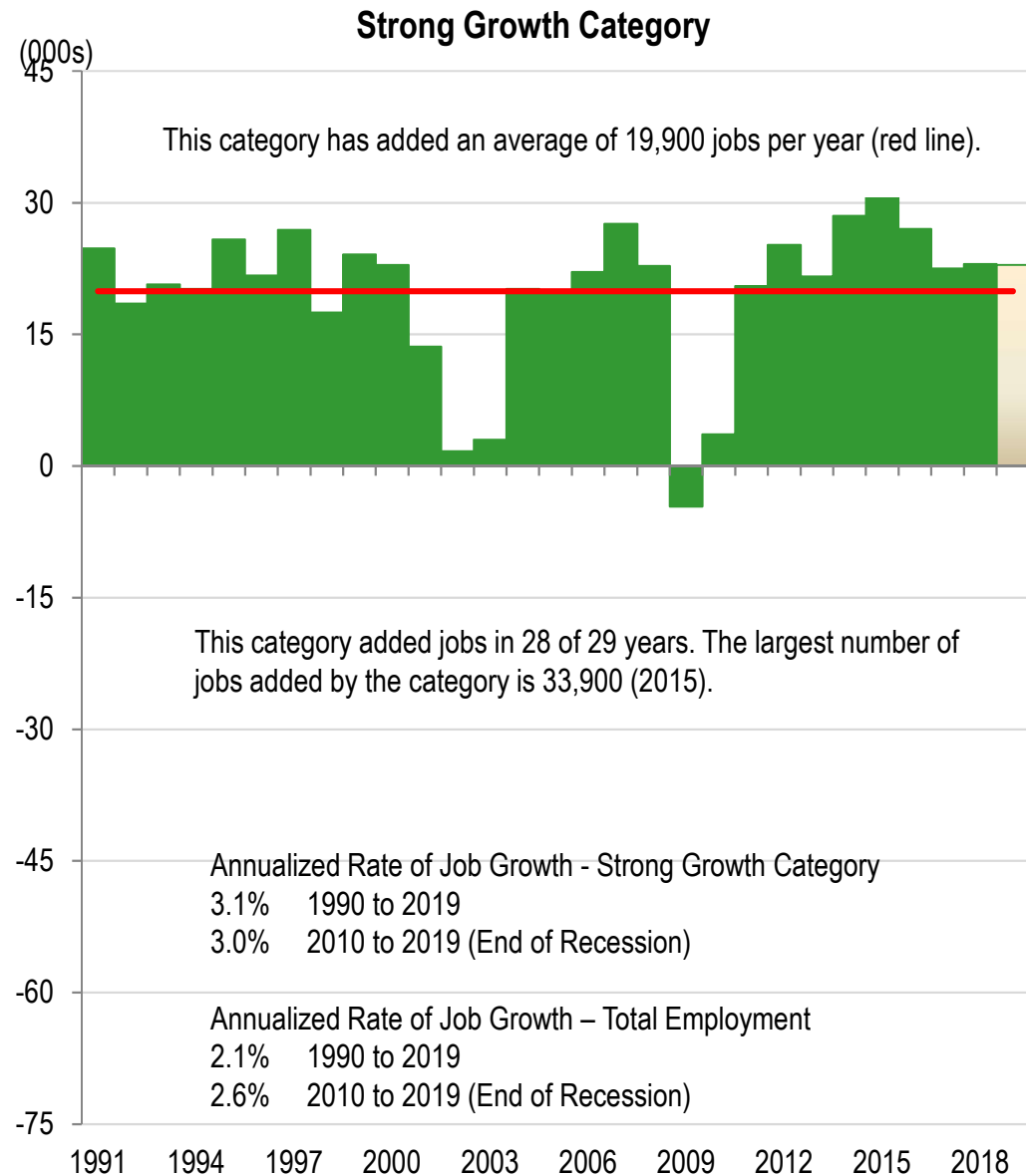
For almost three decades the following sectors have been the foundation for consistent growth in Colorado employment.

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

Total employment for this category was:

1998 581,900 workers, 28.3% of total employment
 2008 759,400 workers, 32.3% of total employment
 2018 960,900 workers, 35.2% of total employment

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



Source: Bureau of Labor Statistics, cber.co.

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Annual Employment Situation for the Solid Growth Category

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

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

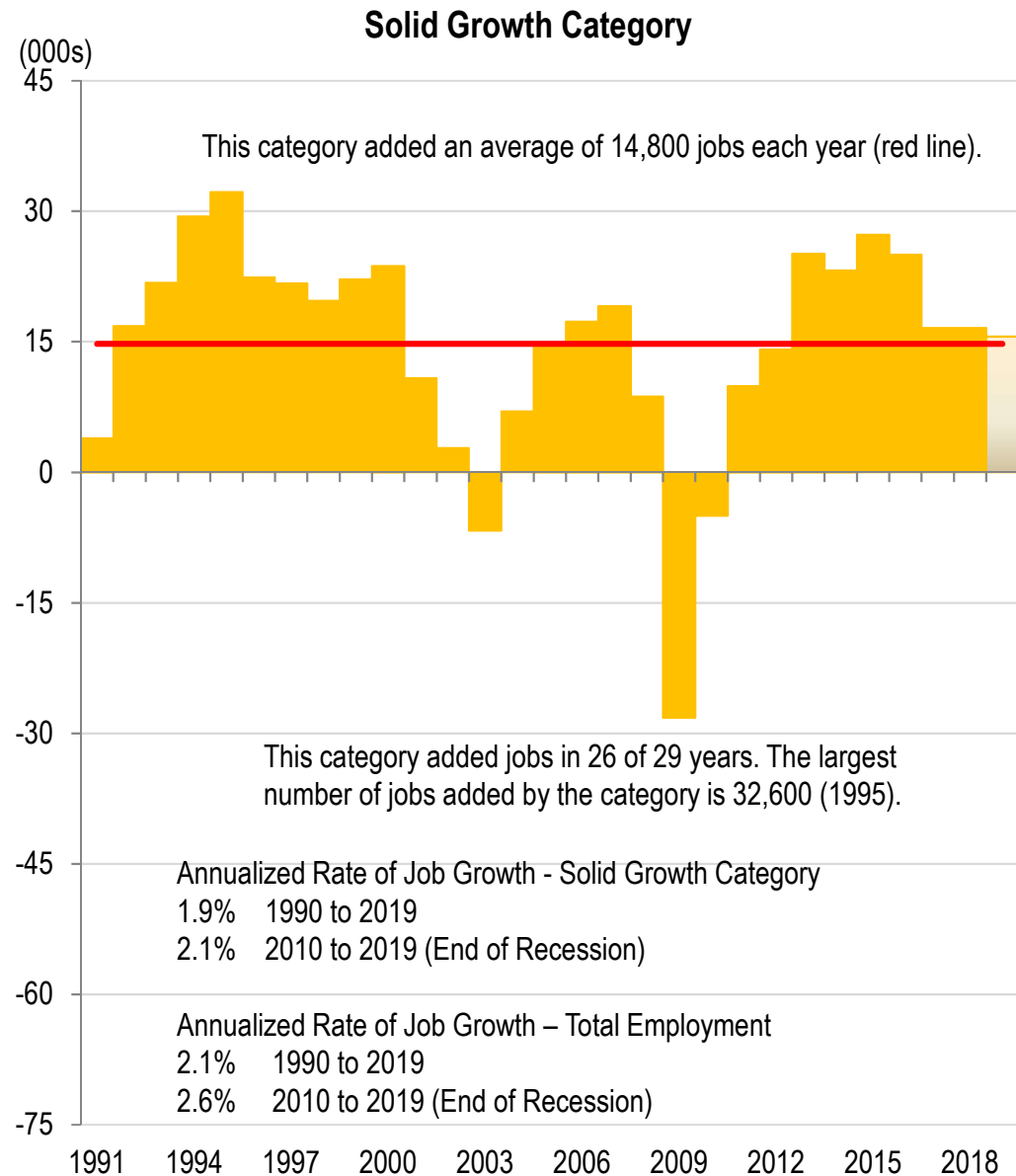
Total employment for this category was:

1998 763,300 workers, 35.8% of total employment

2008 856,000 workers, 36.4% of total employment

2018 996,200 workers, 36.0% of total employment

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



Source: Bureau of Labor Statistics, cber.co.

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Annual Employment Situation for the Volatile Category

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

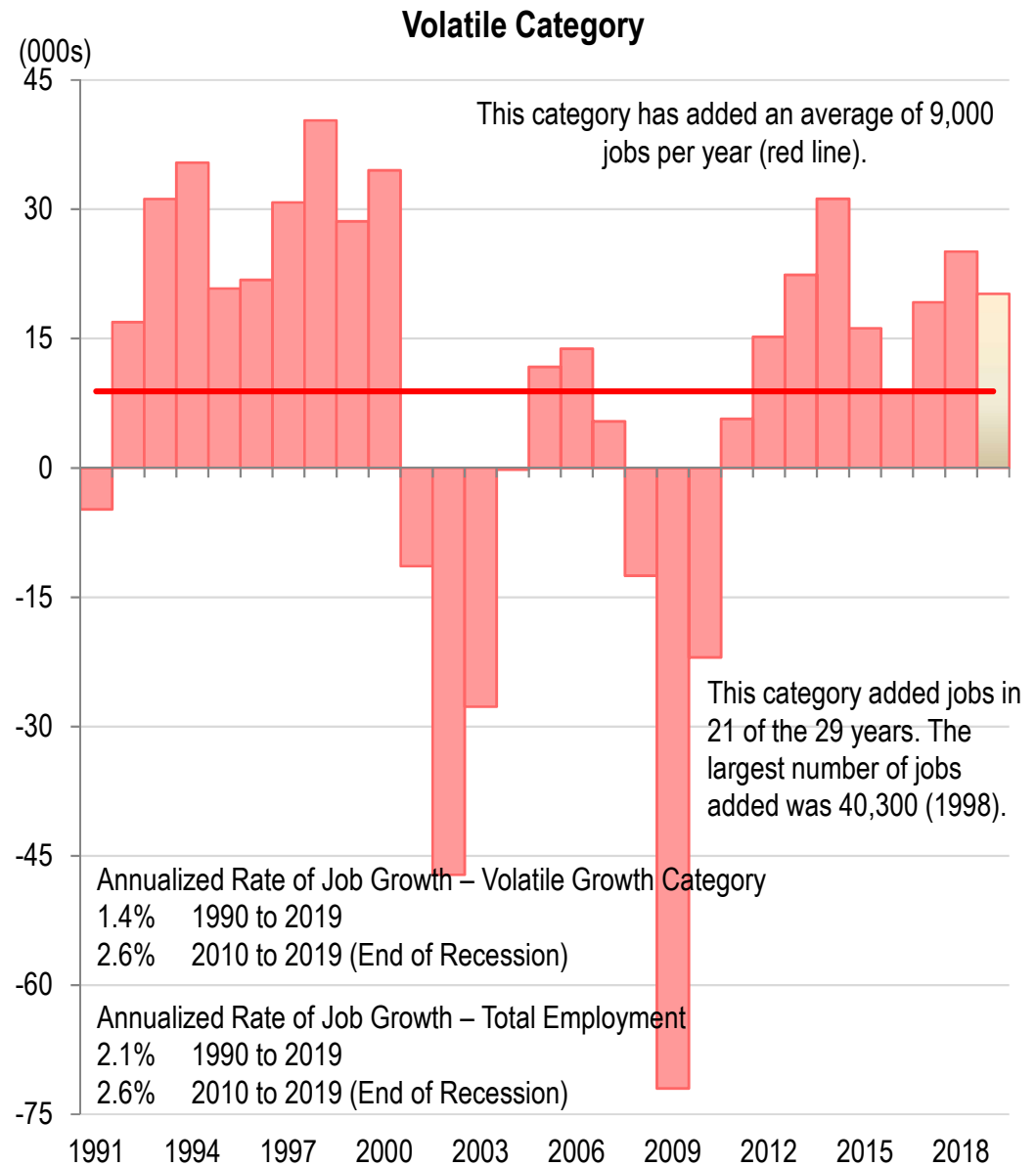
The sectors are:

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

Total employment for this category was:

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

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



Source: Bureau of Labor Statistics, cber.co.



Key Sectors

Strong Growth, Solid Growth, and Volatile Categories

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

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

The state is projected to add 58,600 jobs in 2019.

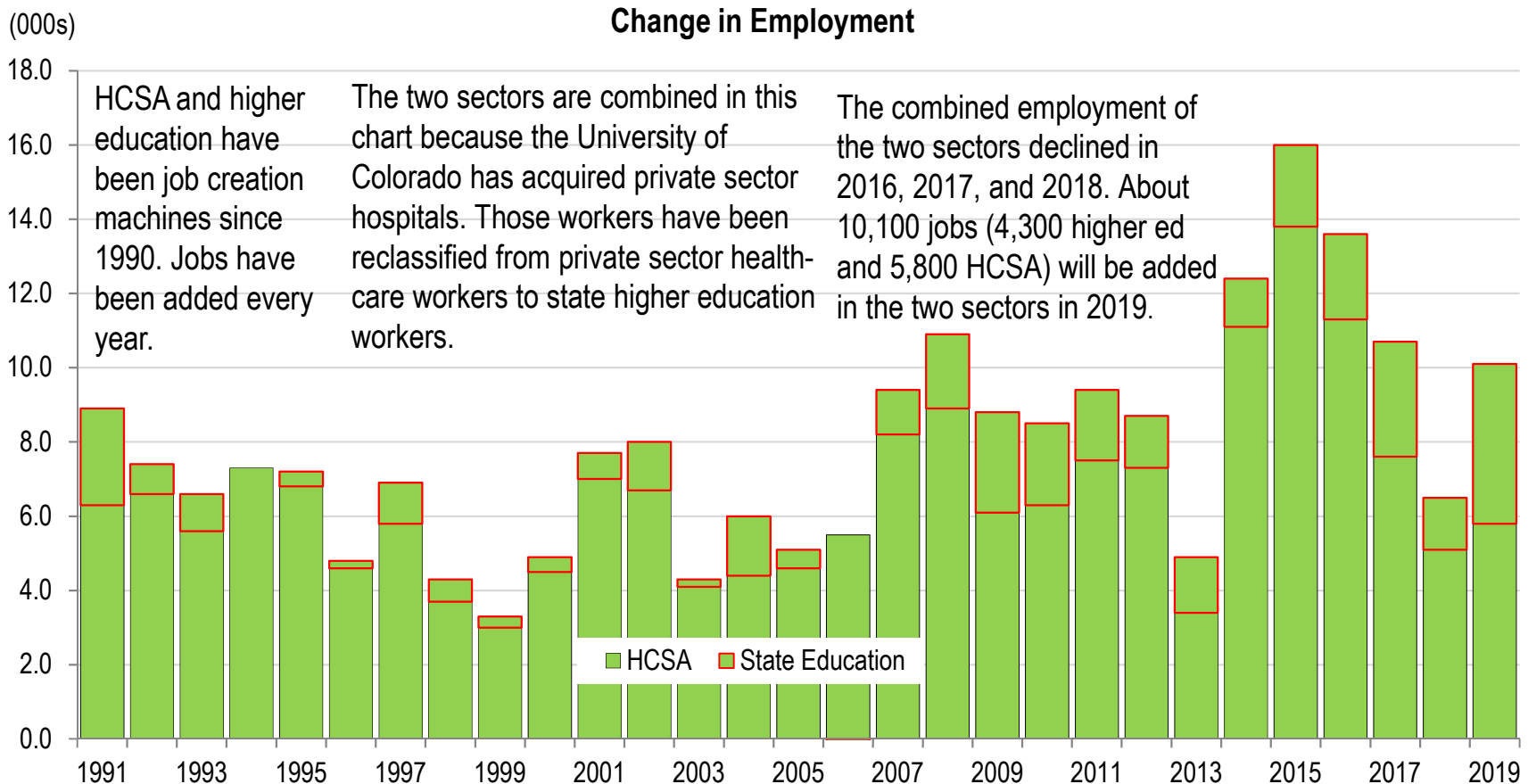
The total jobs added by category follows:

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

Change in Employment

Health Care and Social Assistance and Higher Education

Strong Growth Category

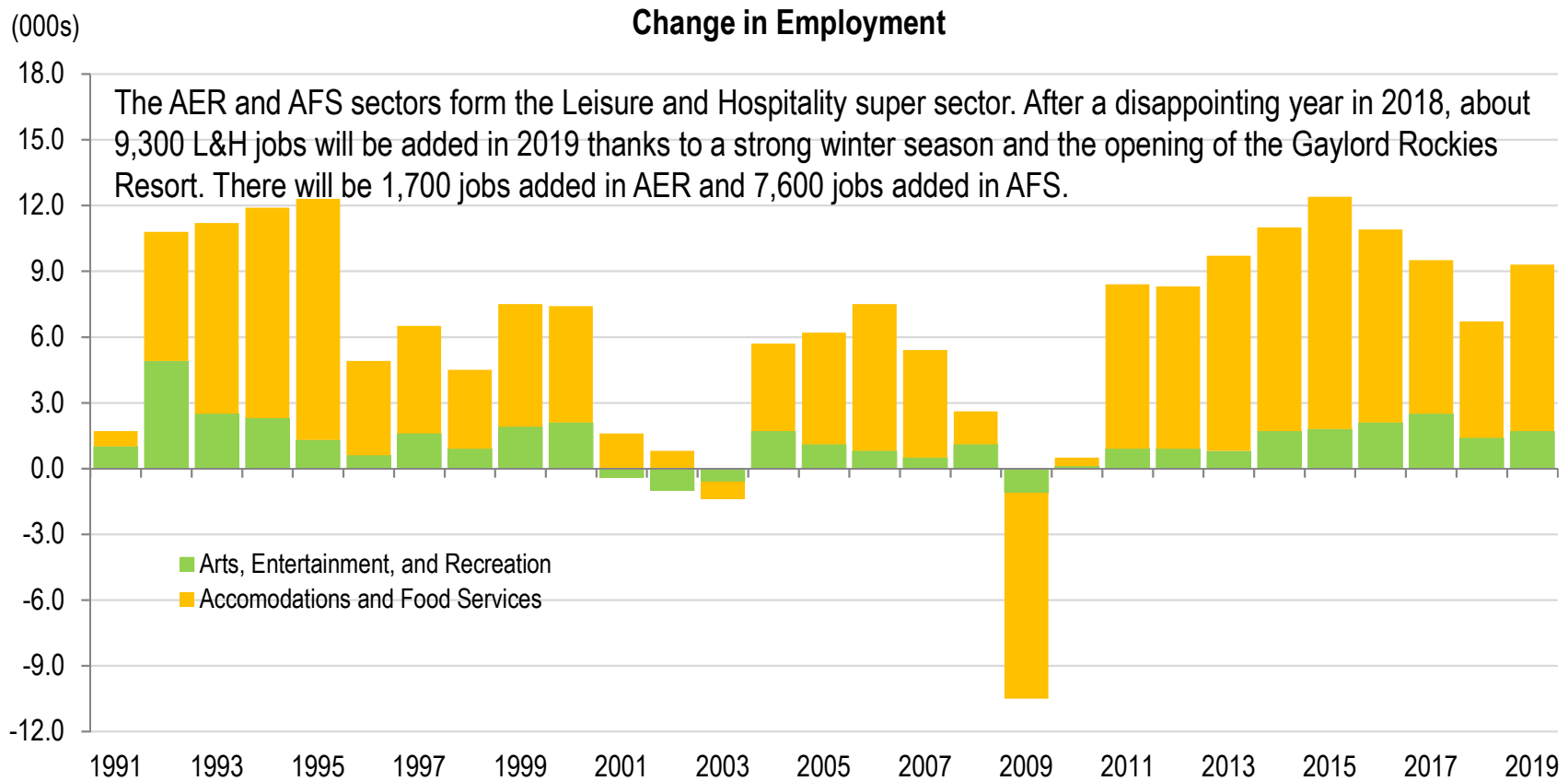


Source: Bureau of Labor Statistics, cber.co.

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Change in Employment

- Leisure and Hospitality - Arts, Entertainment, and Recreation and Accommodations and Food Services – Strong and Solid Growth Categories



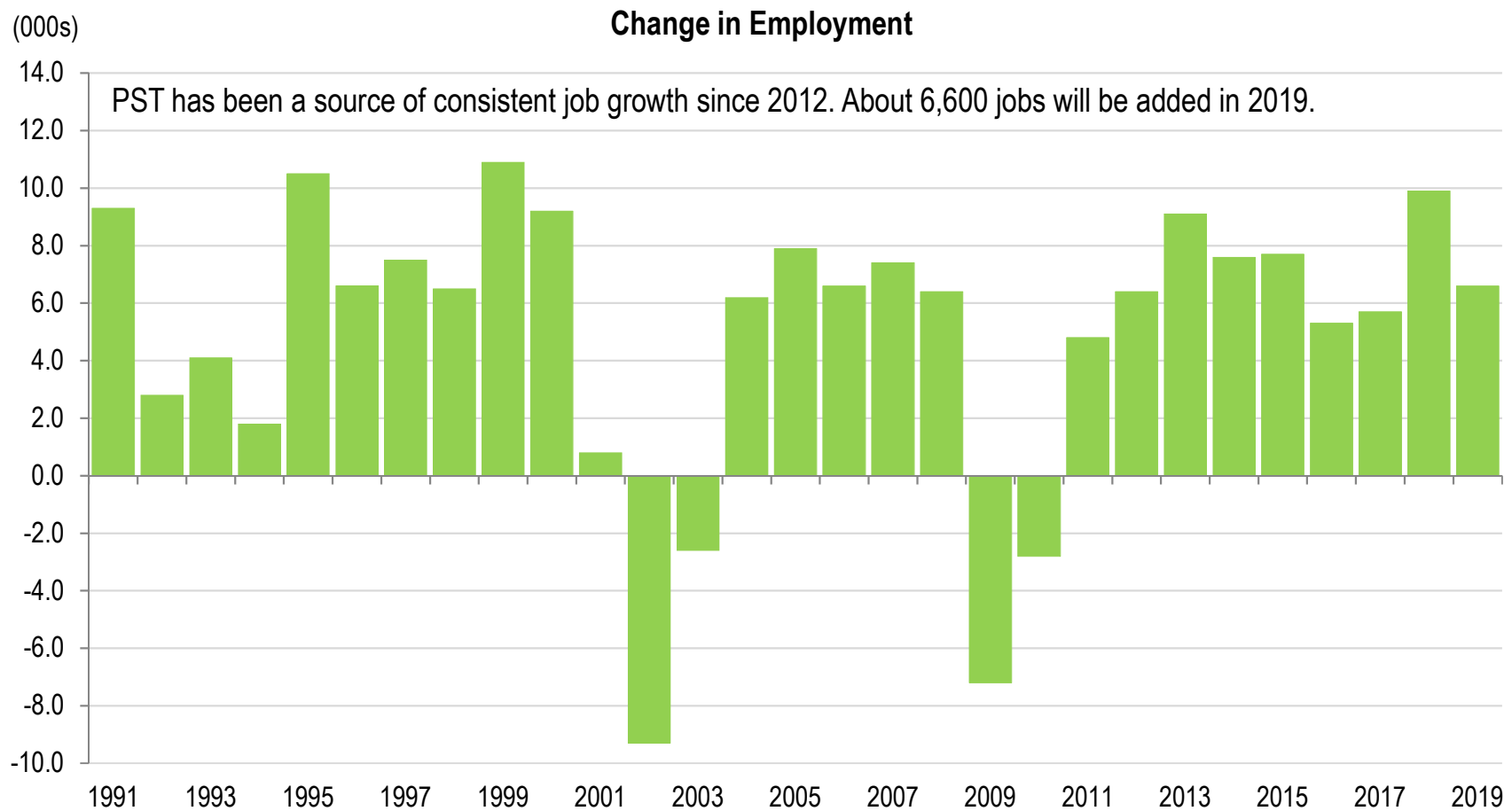
Source: Bureau of Labor Statistics, cber.co.

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Change in Employment

Professional, Scientific, and Technical Services

Strong Growth Category

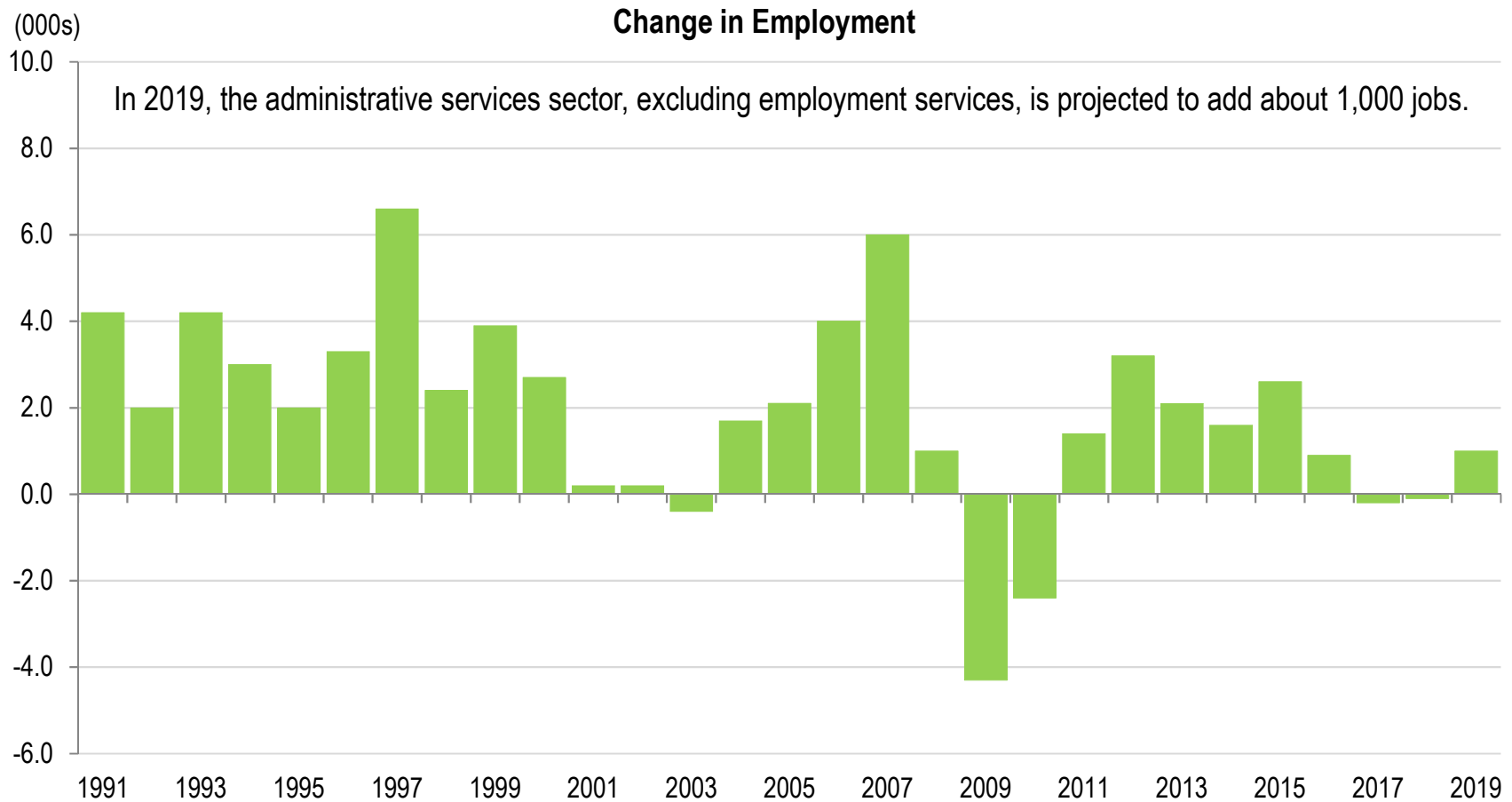


Source: Bureau of Labor Statistics, cber.co.

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Change in Employment

- Administrative Services, Excluding Employment Services
- Strong Growth Category

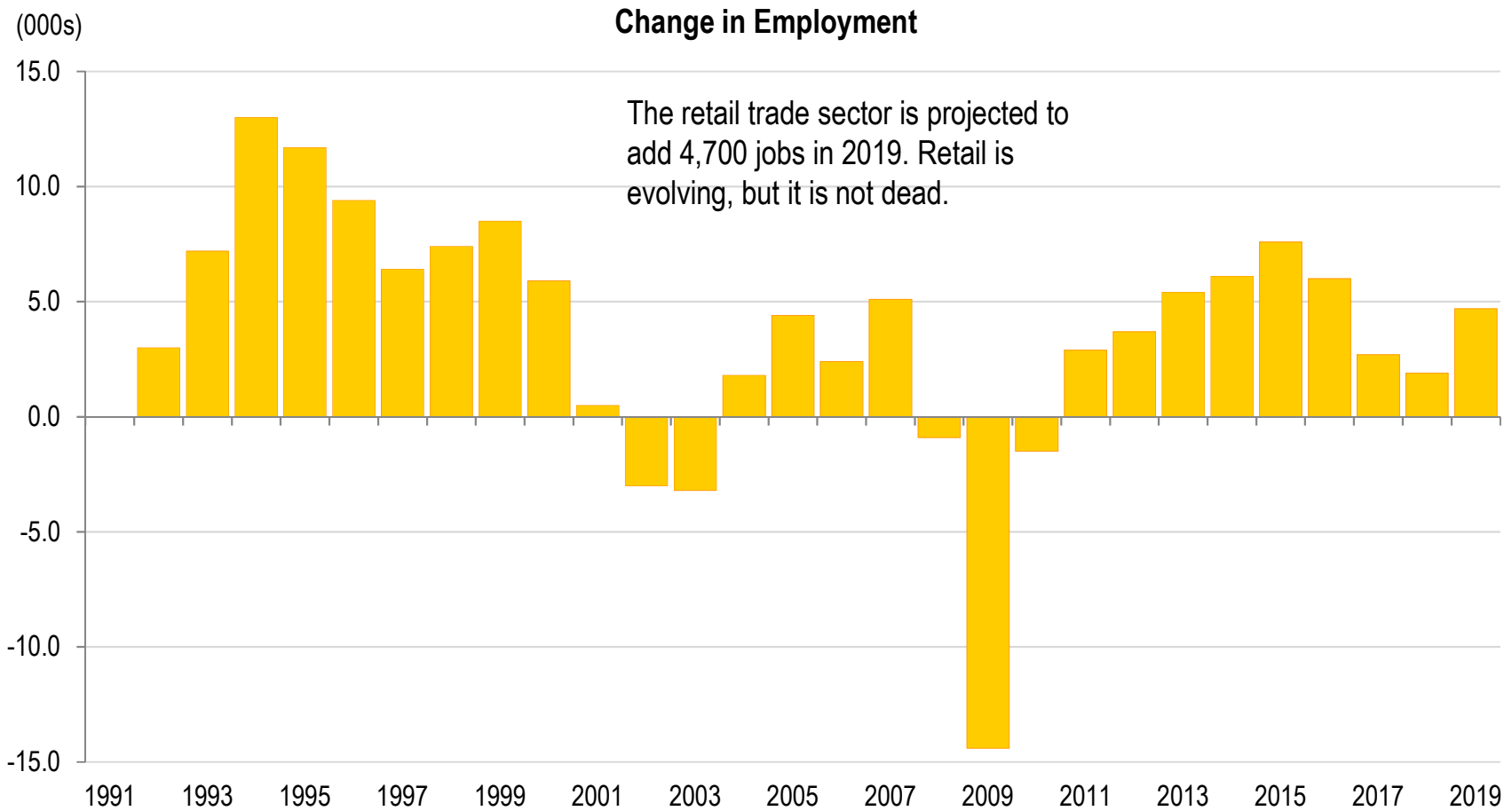


Source: Bureau of Labor Statistics, cber.co.

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

Change in Employment

- Retail Trade
- Solid Growth Category



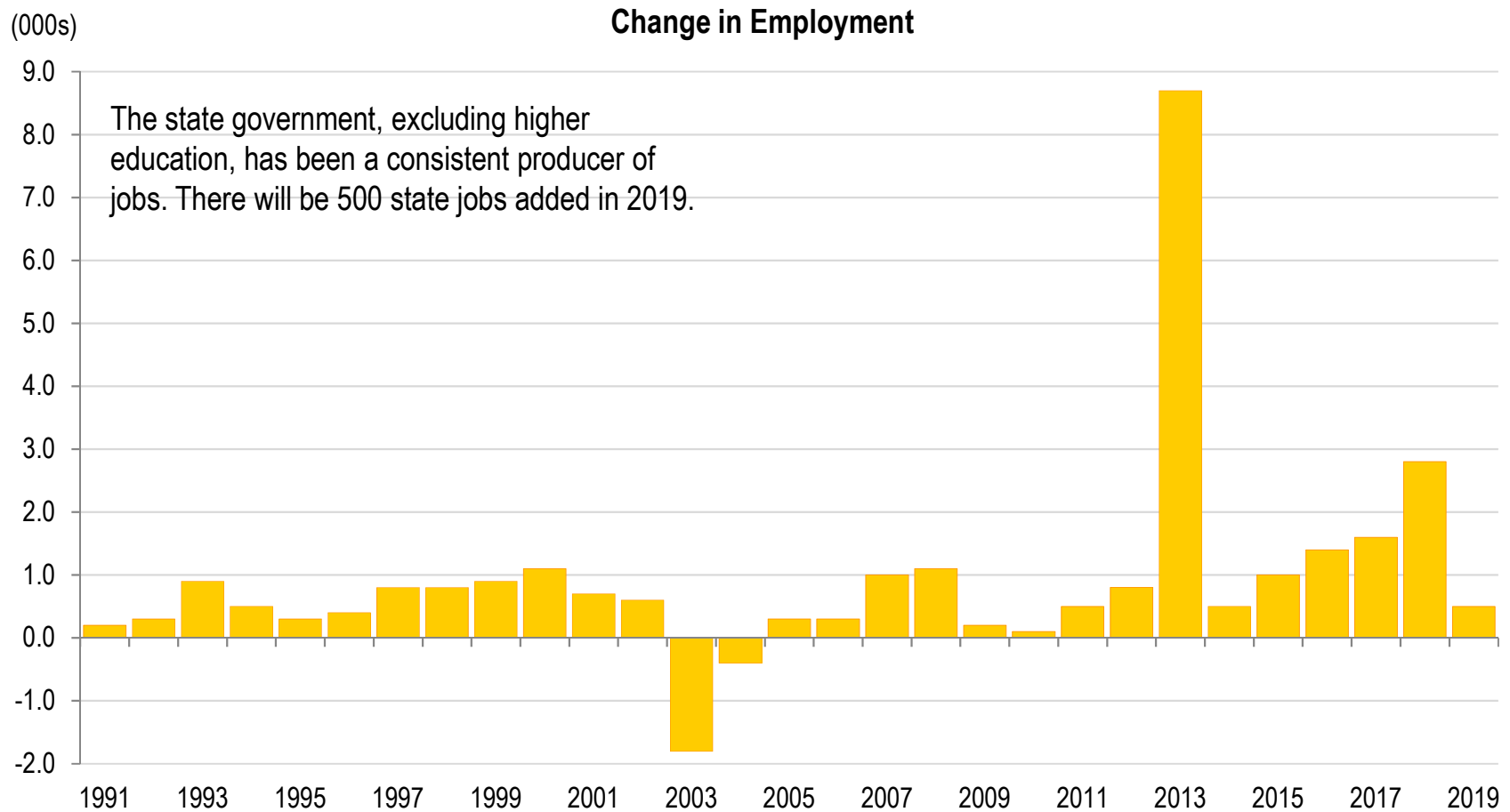
Source: Bureau of Labor Statistics, cber.co.

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

Change in Employment

State Government (Not Higher education)

Solid Growth Category

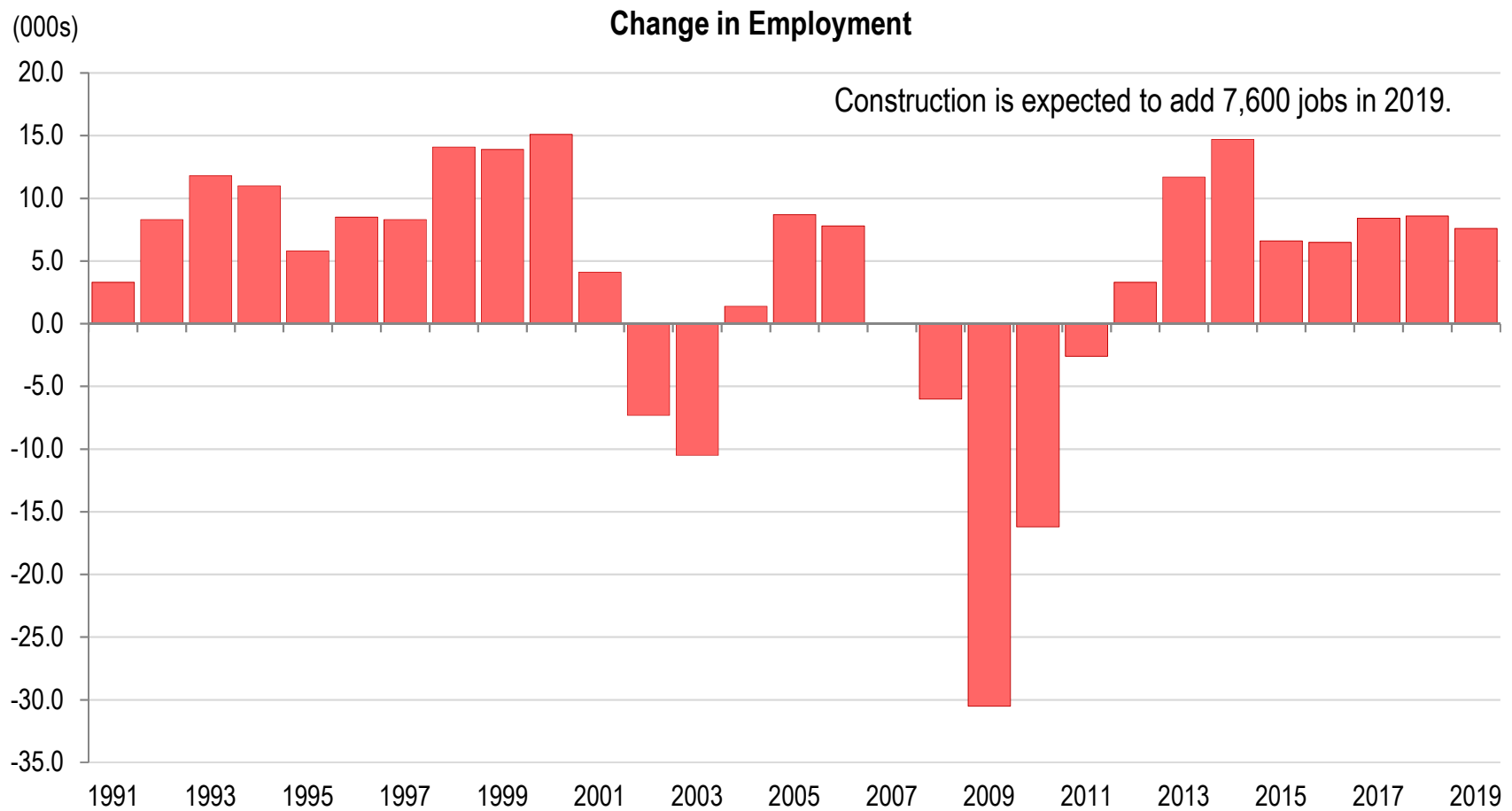


Source: Bureau of Labor Statistics, cber.co.

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

Change in Employment

- Construction
- Volatile Growth Category

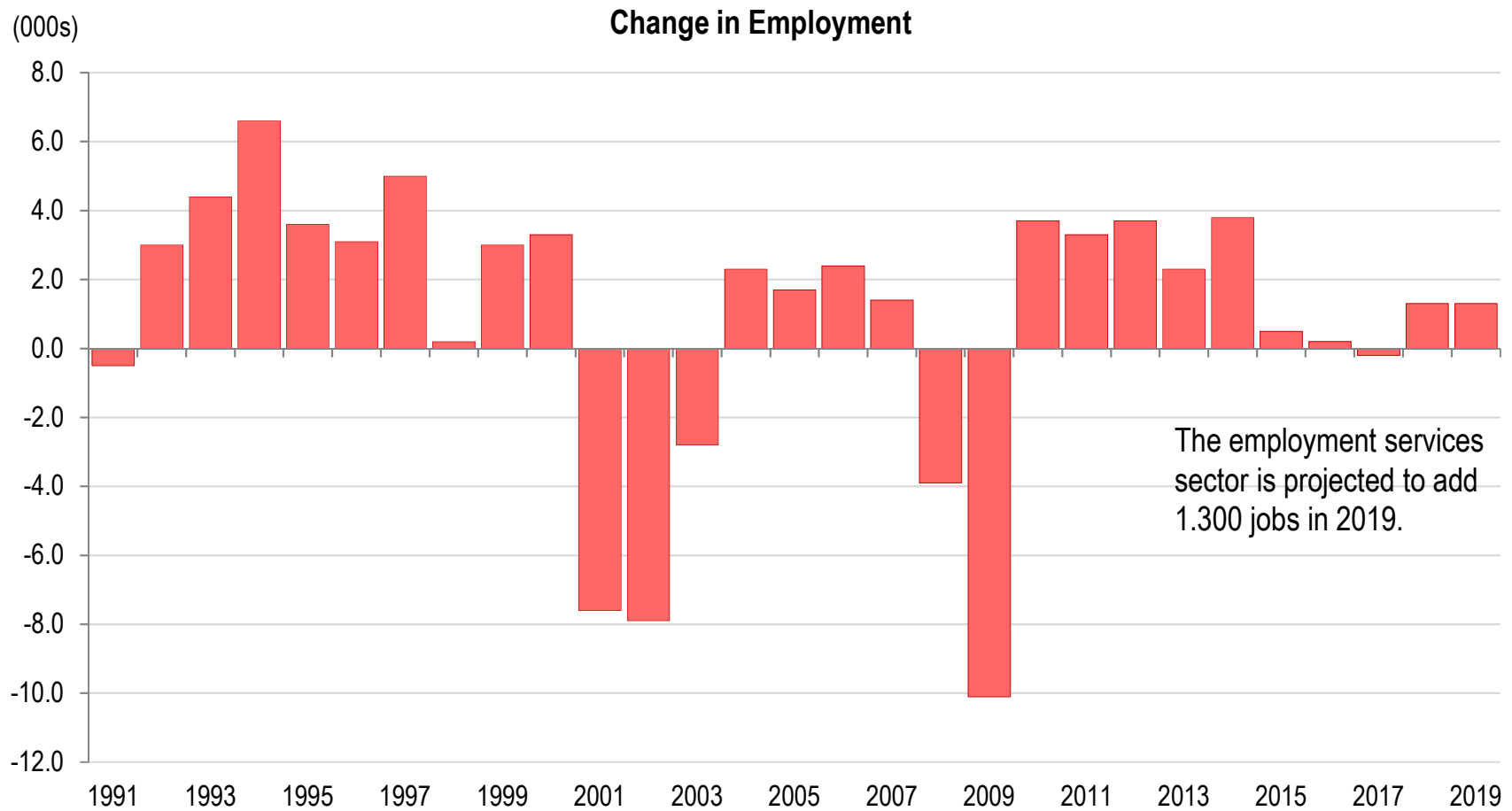


Source: Bureau of Labor Statistics, cber.co.

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

Change in Employment

- Employment Services
- Volatile Growth Category

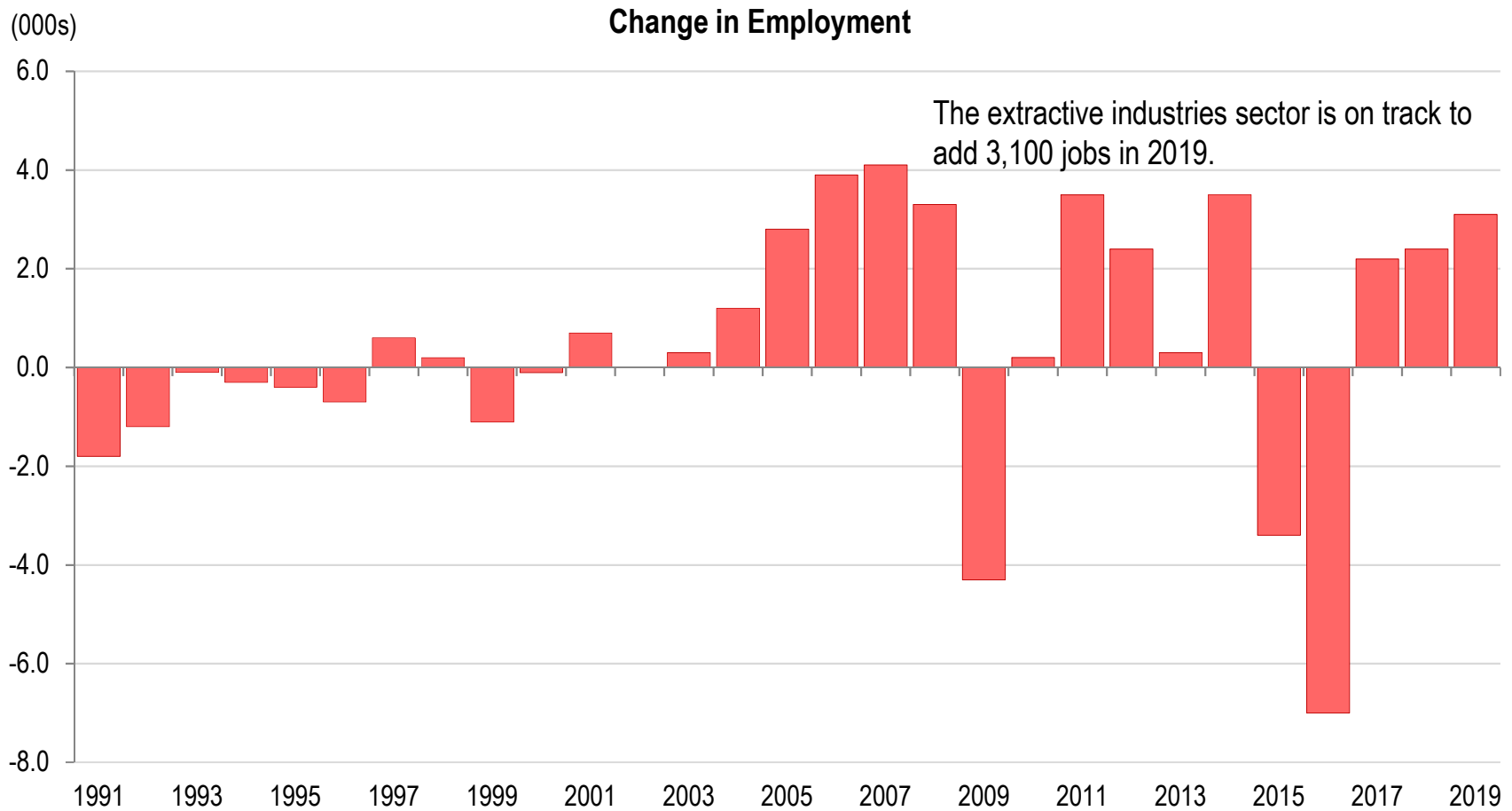


Source: Bureau of Labor Statistics, cber.co.

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

Change in Employment

- Extractive Industries
- Volatile Growth Category



Source: Bureau of Labor Statistics, cber.co.

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



The Colorado Economy

Colorado Wages (Average Annual Weekly Wages – AAWW)

Average Annual Weekly Wages

Colorado vs. United States

The following is a summary of key findings in the analysis of AAWW for Colorado and the U.S.

Colorado

- Between 2009 and 2018, Colorado private wages increased at a CAGR of 2.0%.
- Between 2009 and 2018, the Denver-Aurora-Lakewood CPI increased at a CAGR of 2.6%.
- In 2018, AAWW for private sector wages increased by 5.4% in Colorado.
- The CAGR wage growth in the construction, financial activities, leisure and hospitality, and other services sectors was greater than private sector CAGR wage growth for the period 2009 to 2018.
- The Colorado sectors with the highest AAWW were financial activities, PBS, manufacturing, and construction. There is little difference in the AAWW for the top 3 sectors.
- There is much greater volatility in the Colorado AAWW on a year-to-year basis than the U.S. wages.

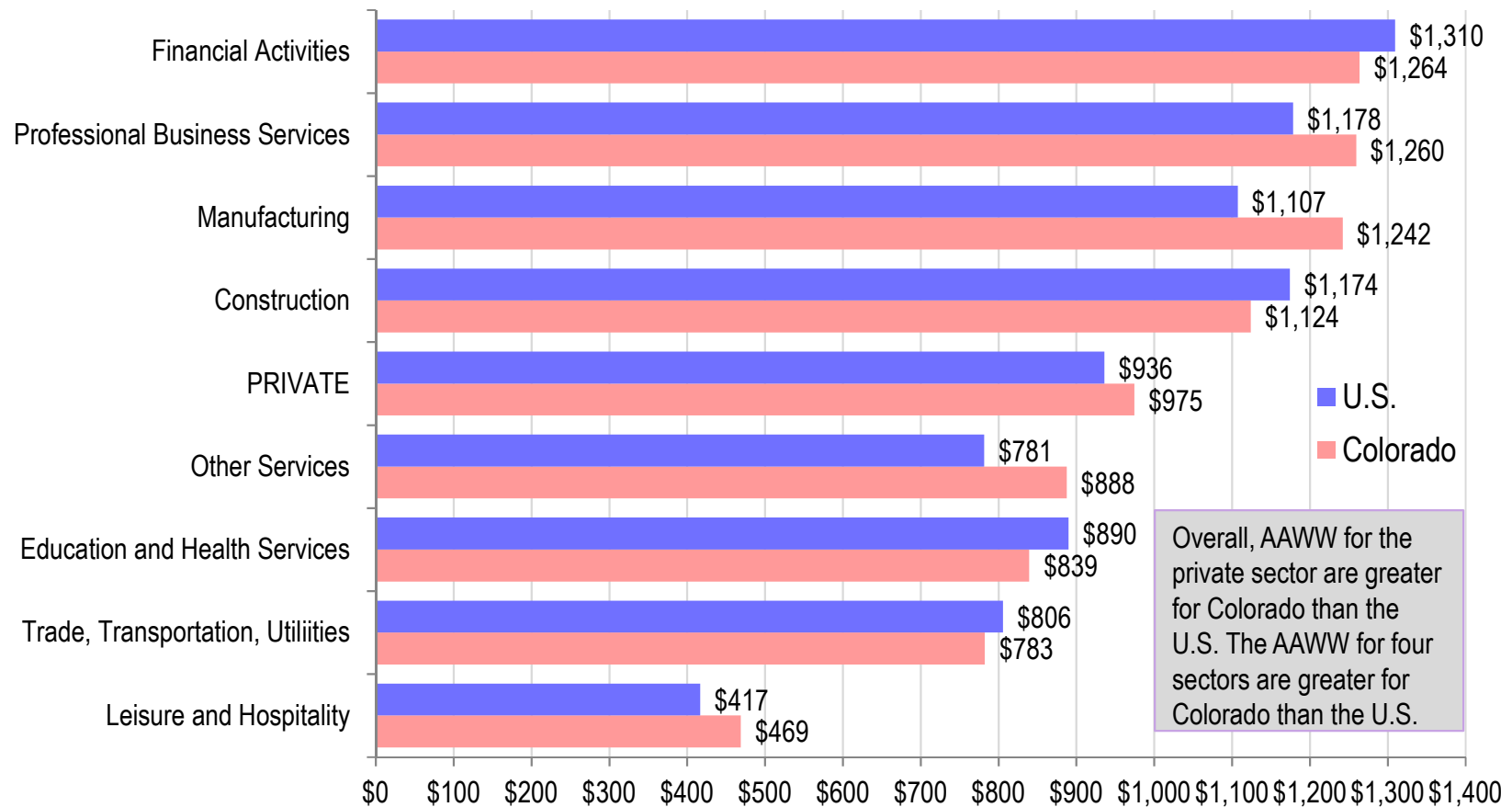
United States

- Between 2009 and 2018, United States private wages increased at a CAGR of 2.5%.
- Between 2009 and 2018, the United States CPI increased at a CAGR of 1.8%.
- In 2018, AAWW for private sector wages increased by 3.3% in the United States.
- The CAGR wage growth in the construction, financial activities, leisure and hospitality, and other services sectors was greater than private sector CAGR wage growth for the period 2009 to 2018.
- The U.S. sectors with the highest AAWW were financial activities, PBS, construction, and manufacturing. The financial activities AAWW are significantly greater than the wages for the other sectors.

2018 AAWW by Sector

Colorado vs. U.S.

AAWW by Sector (Sorted by Colorado)

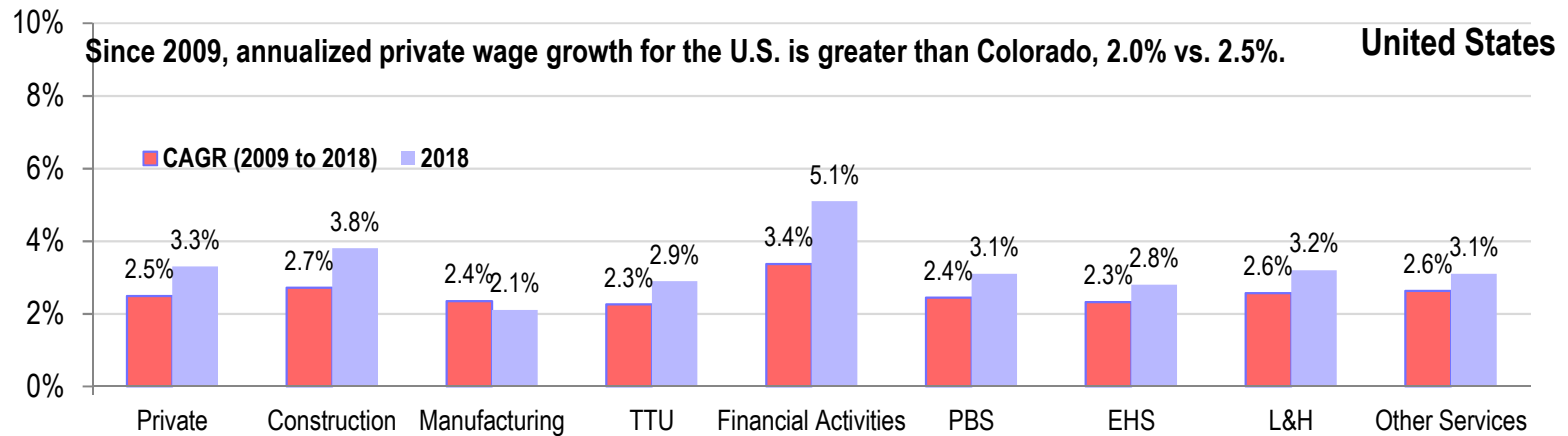
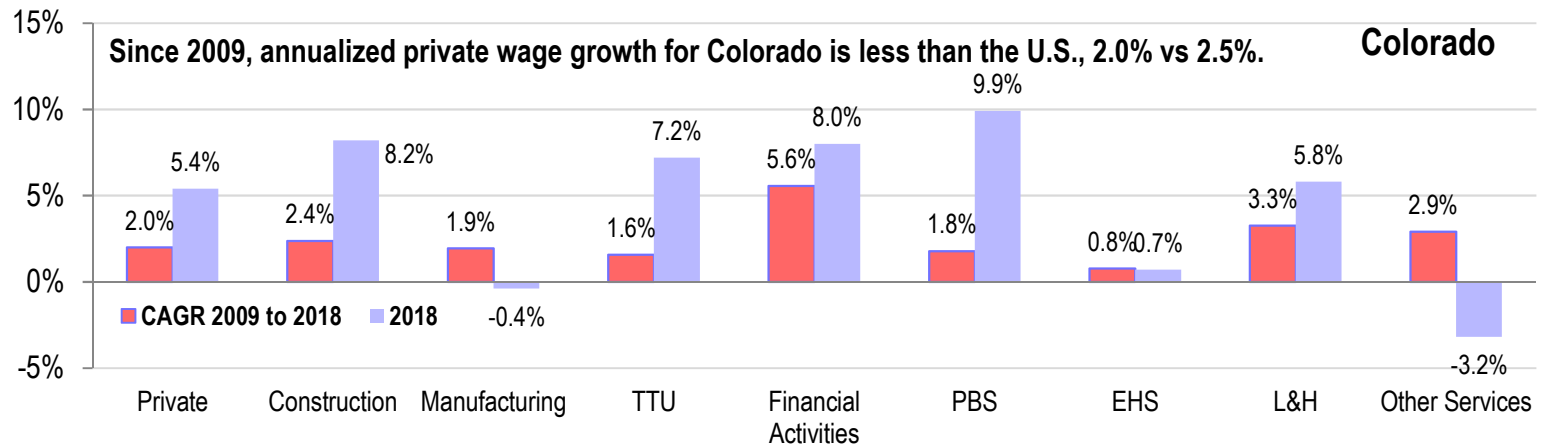


Source: BLS, cber.co.

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



Change in AAWW- Colorado vs. U.S. 2018 vs. Compound Annualized Growth Rate 2009-2018

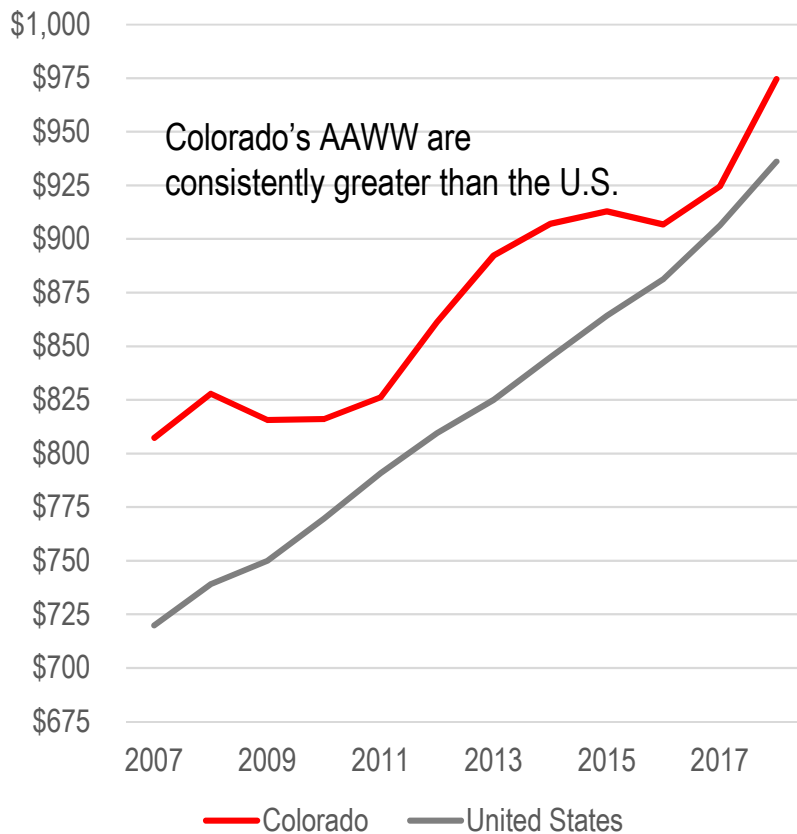


Source: Bureau of Labor Statistics, cber.co.

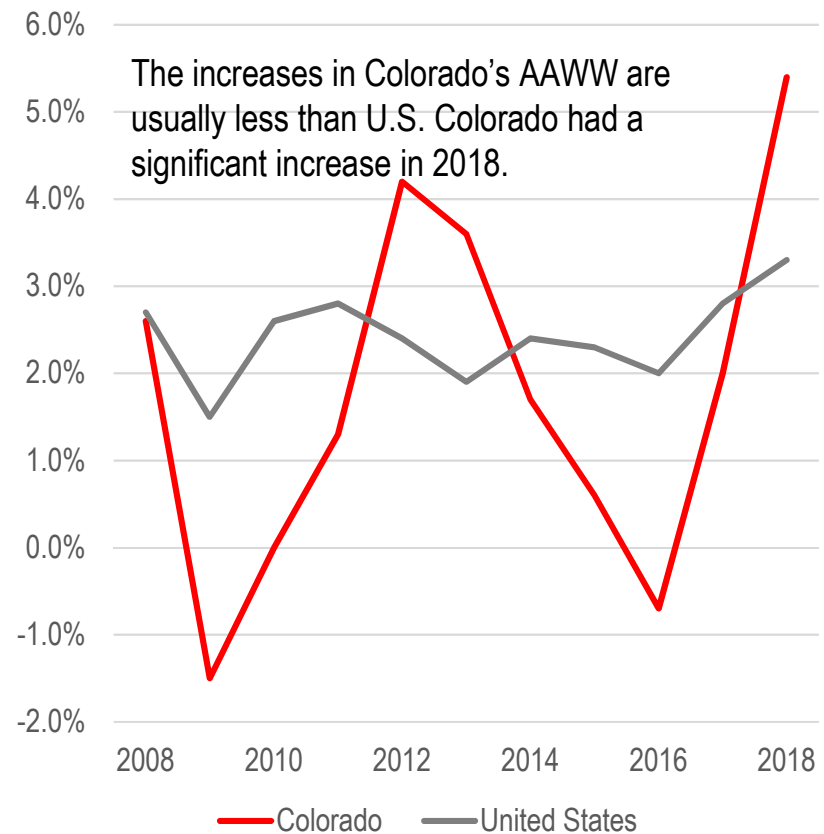
Average Annual Weekly Wages

Private Sector

Average Annual Weekly Wages



Annual Percent Change in AAWW



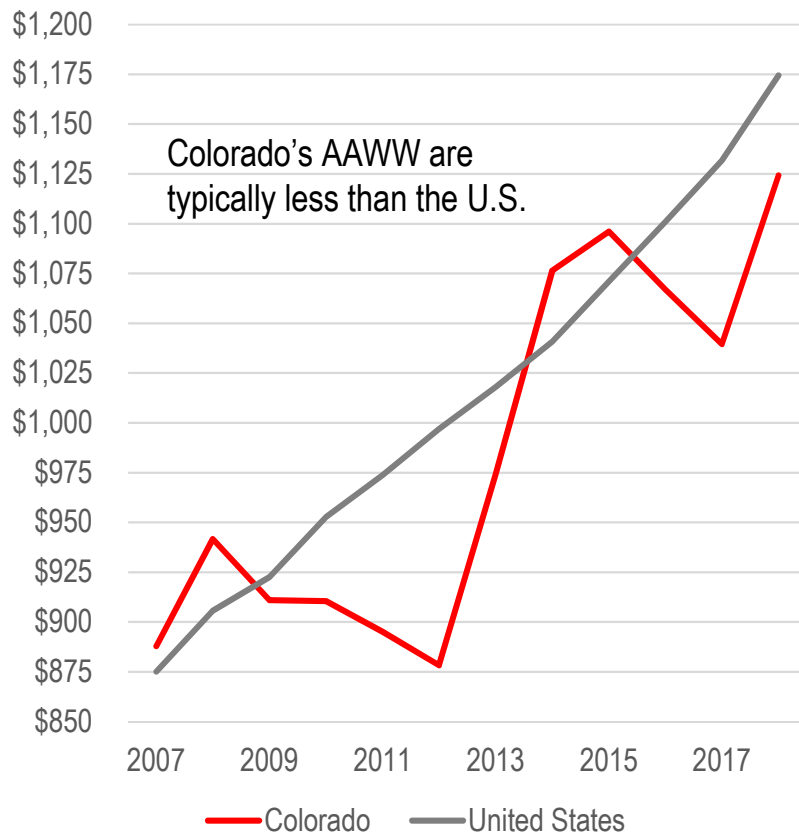
Source: BLS, cber.co.

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

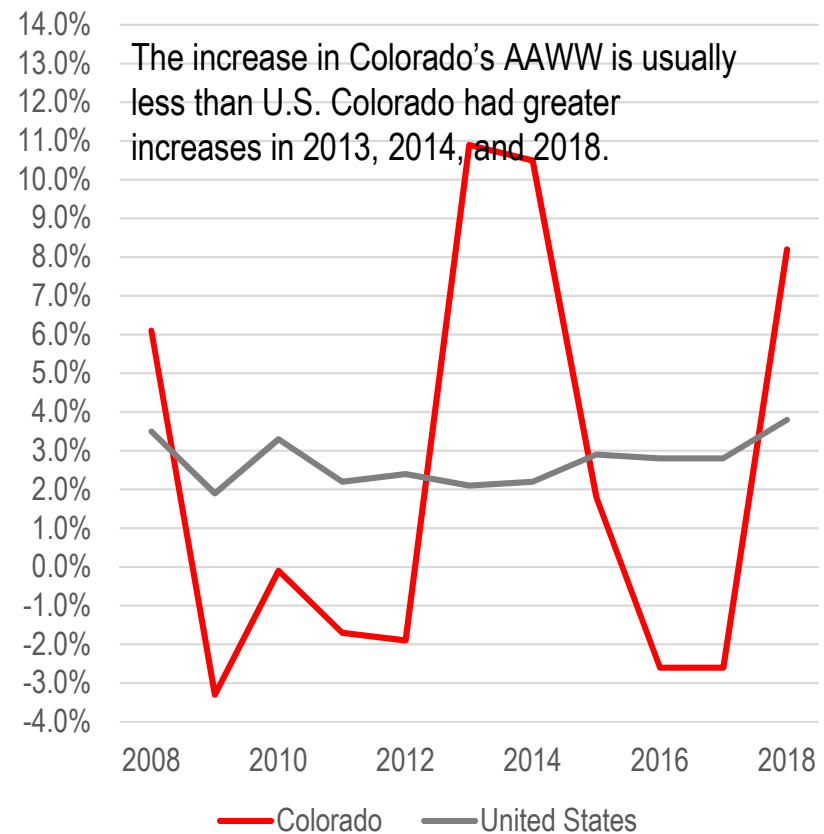
Average Annual Weekly Wages

Construction

Average Annual Weekly Wages



Annual Percent Change in AAWW



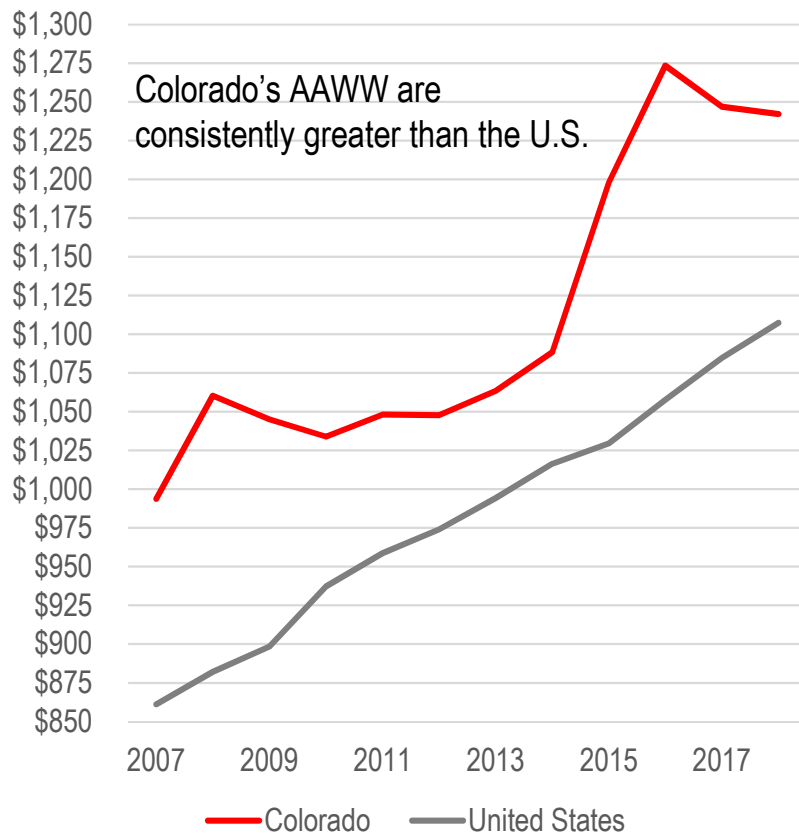
Source: BLS, cber.co.

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

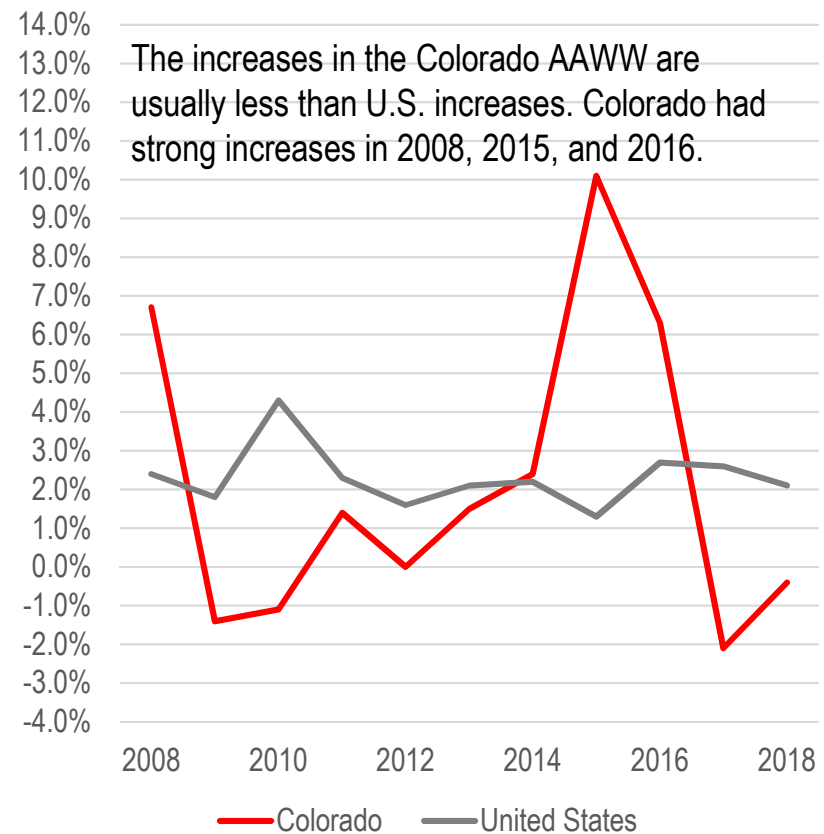
Average Annual Weekly Wages

Manufacturing

Average Annual Weekly Wages



Annual Percent Change in AAWW

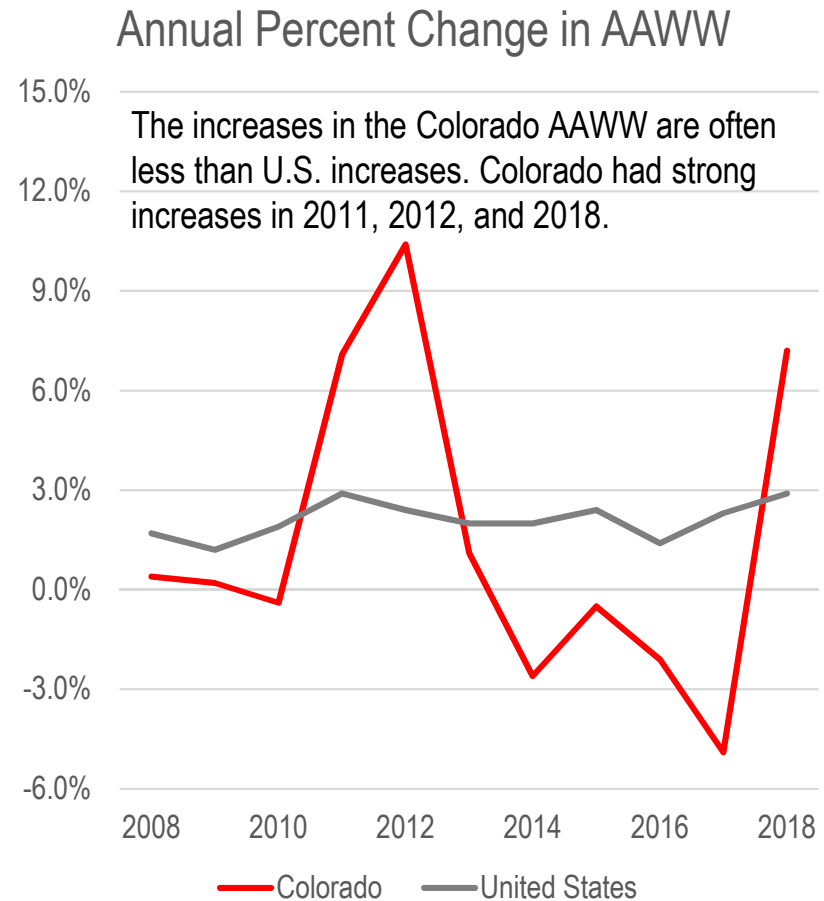
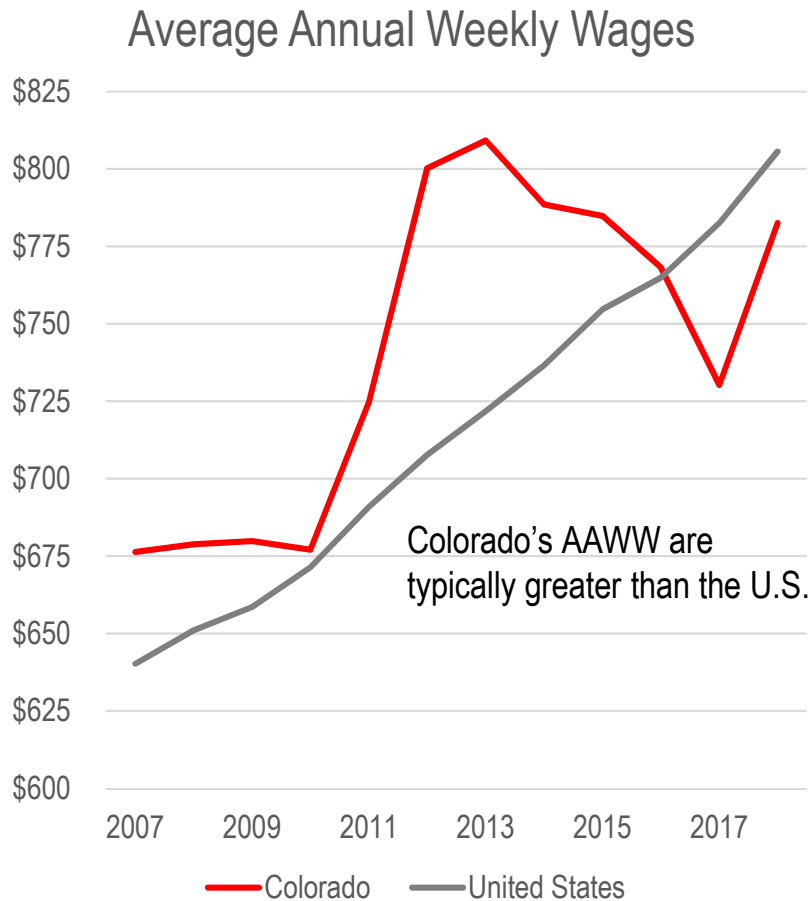


Source: BLS, cber.co.

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

Average Annual Weekly Wages

Trade, Transportation, and Utilities



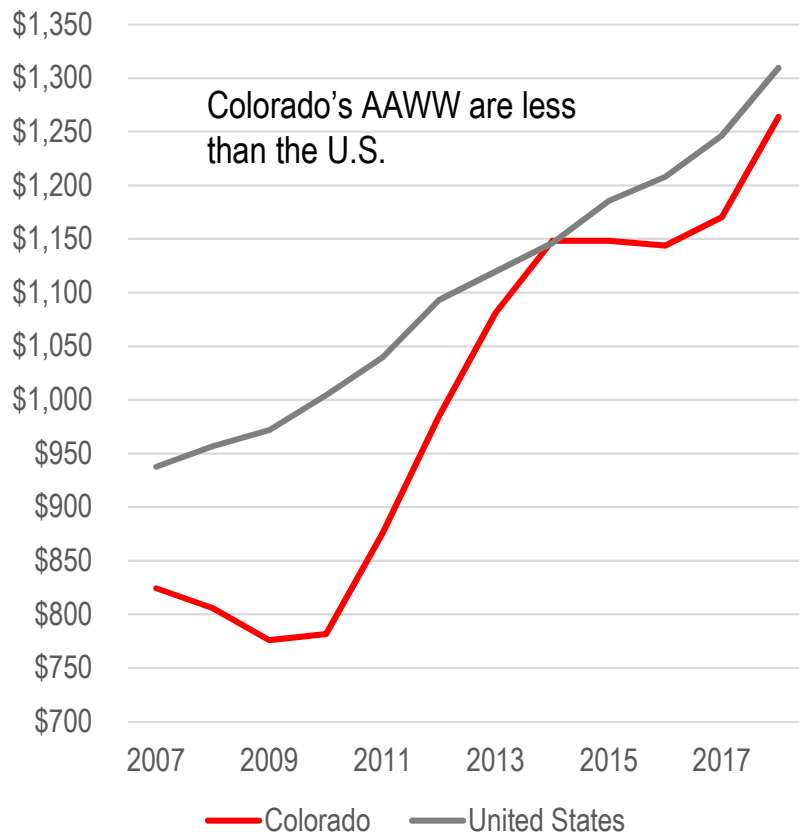
Source: BLS, cber.co.

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

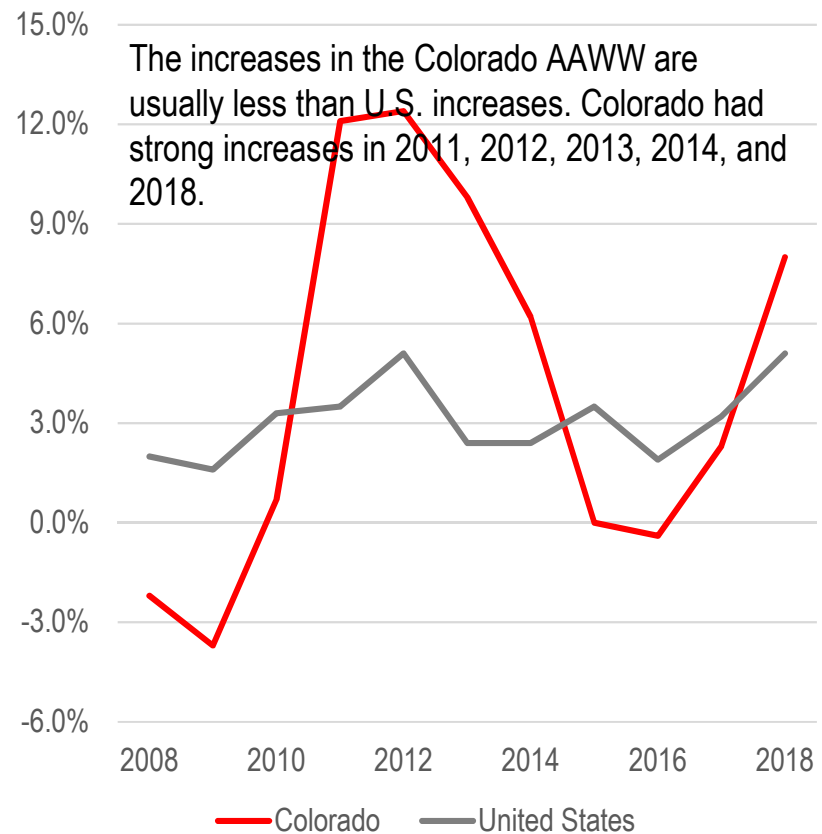
Average Annual Weekly Wages

Financial Activities

Average Annual Weekly Wages



Annual Percent Change in AAWW



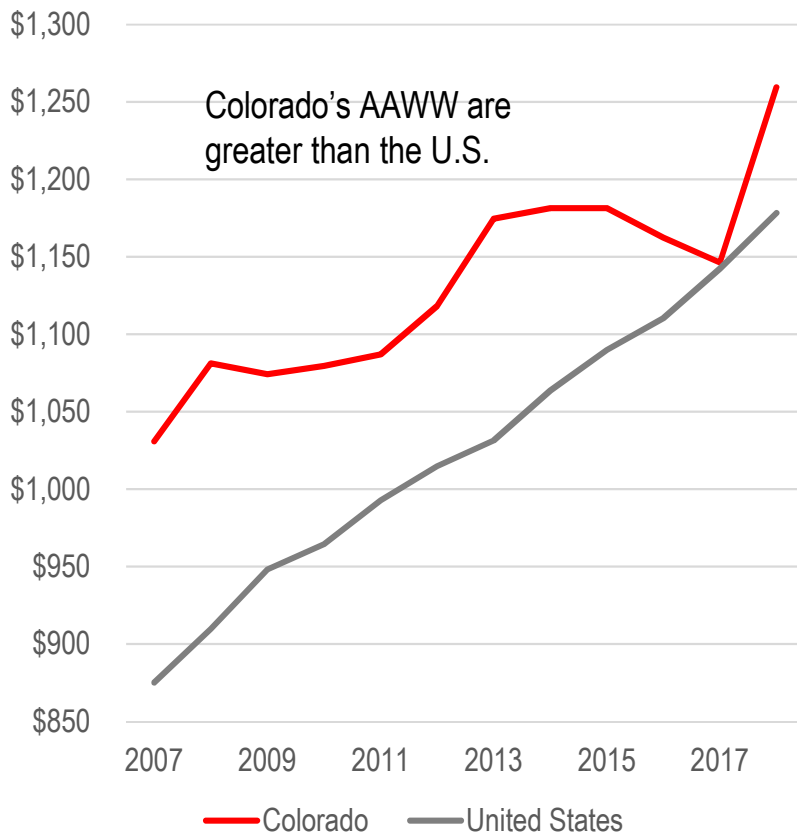
Source: BLS, cber.co.

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

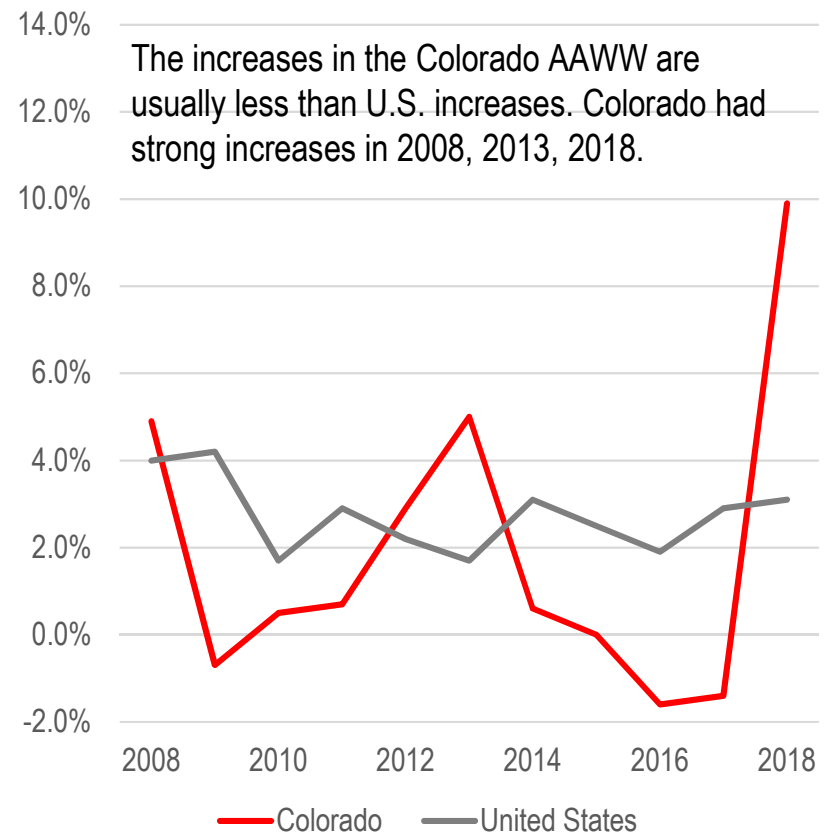
Average Annual Weekly Wages

Professional Business Services

Average Annual Weekly Wages



Annual Percent Change in AAWW

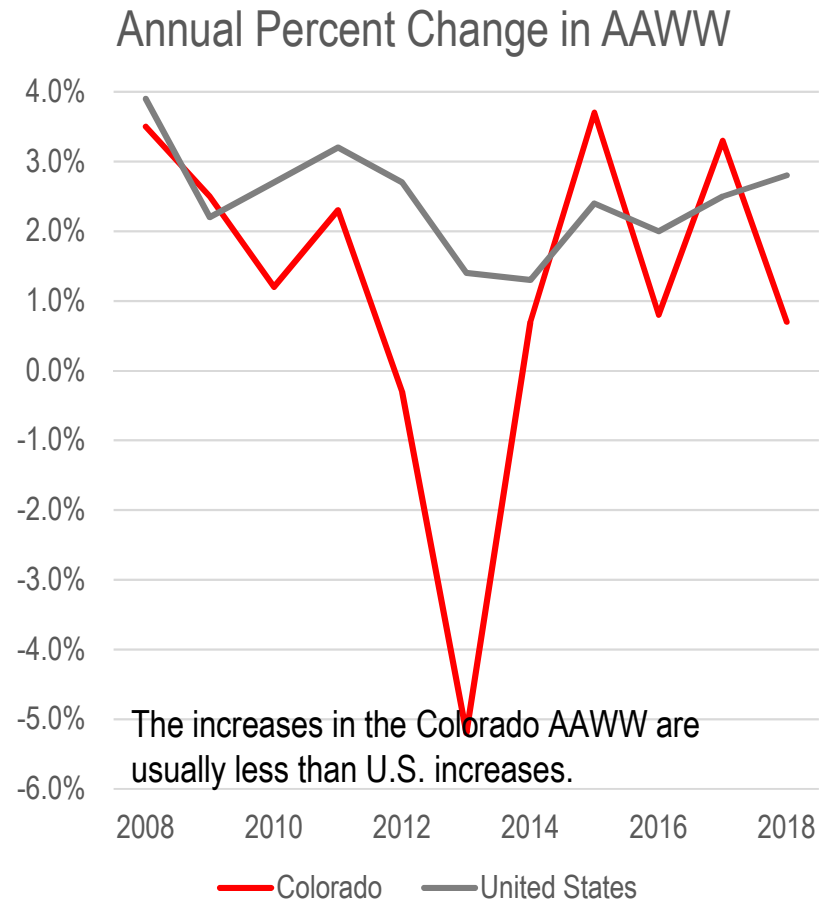
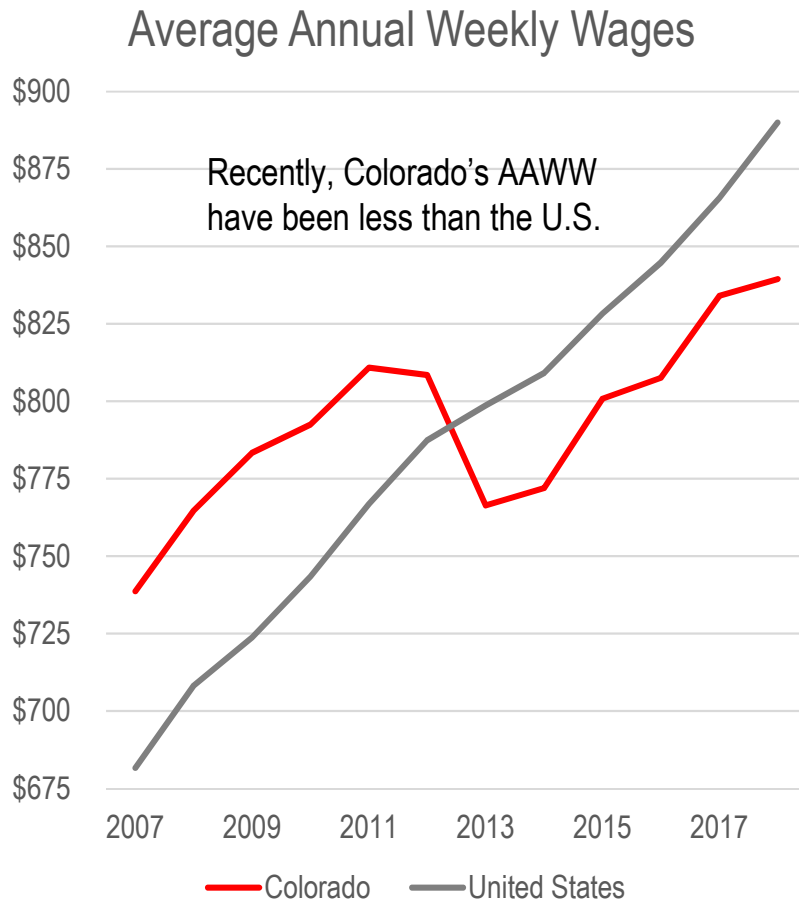


Source: BLS, cber.co.

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

Average Annual Weekly Wages

Education and Health Services

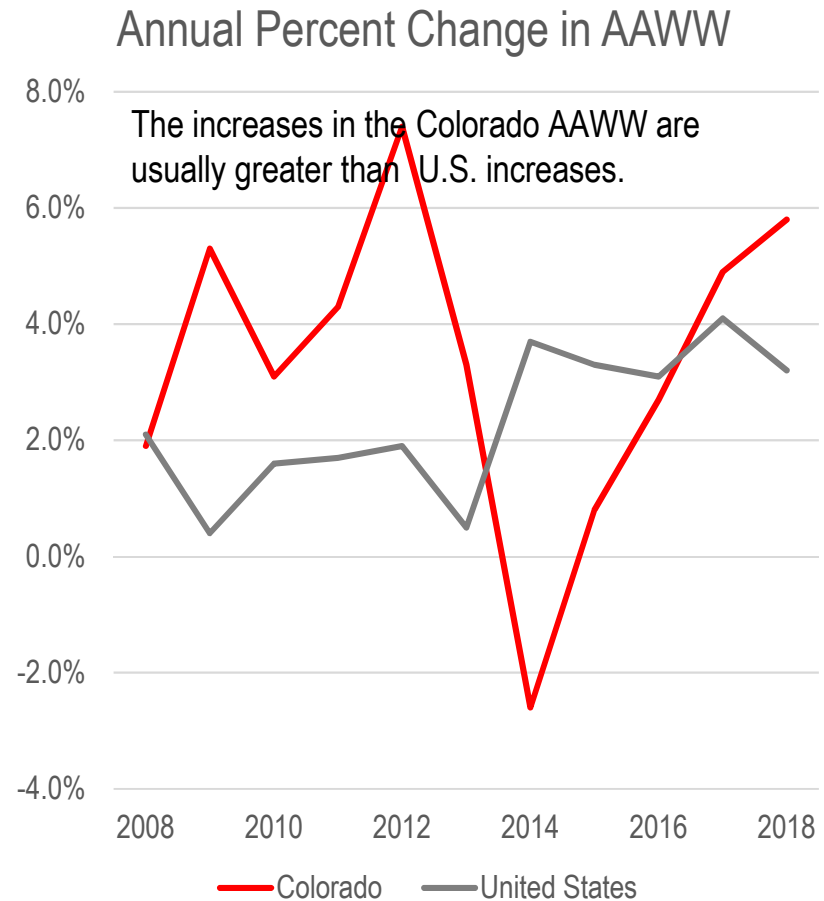
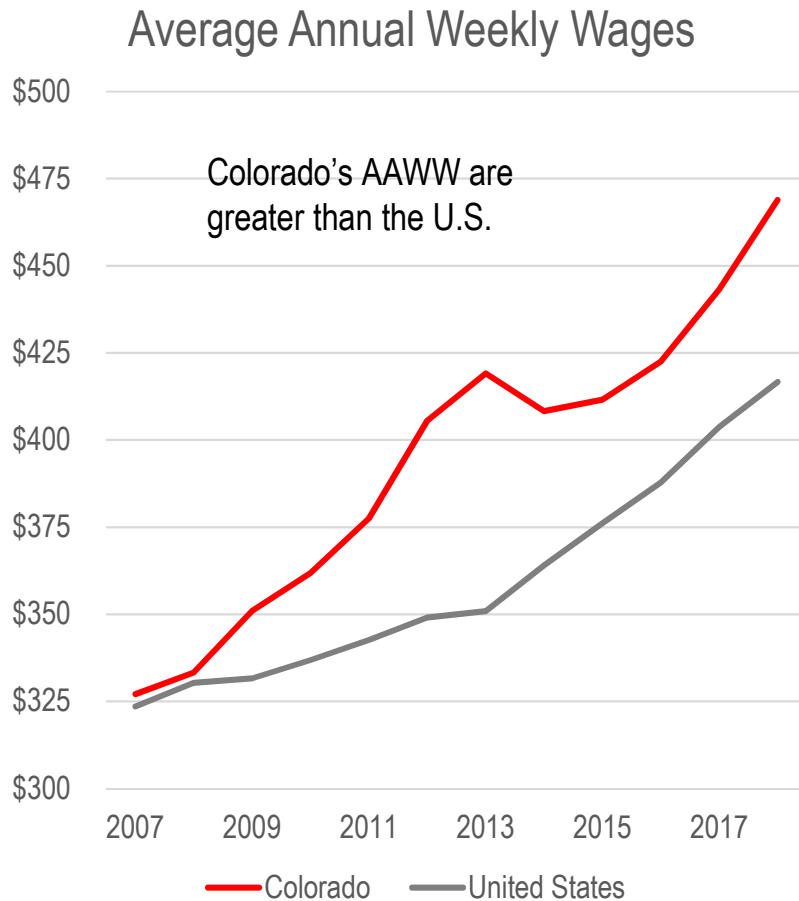


Source: BLS, cber.co.

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

Average Annual Weekly Wages

Leisure and Hospitality



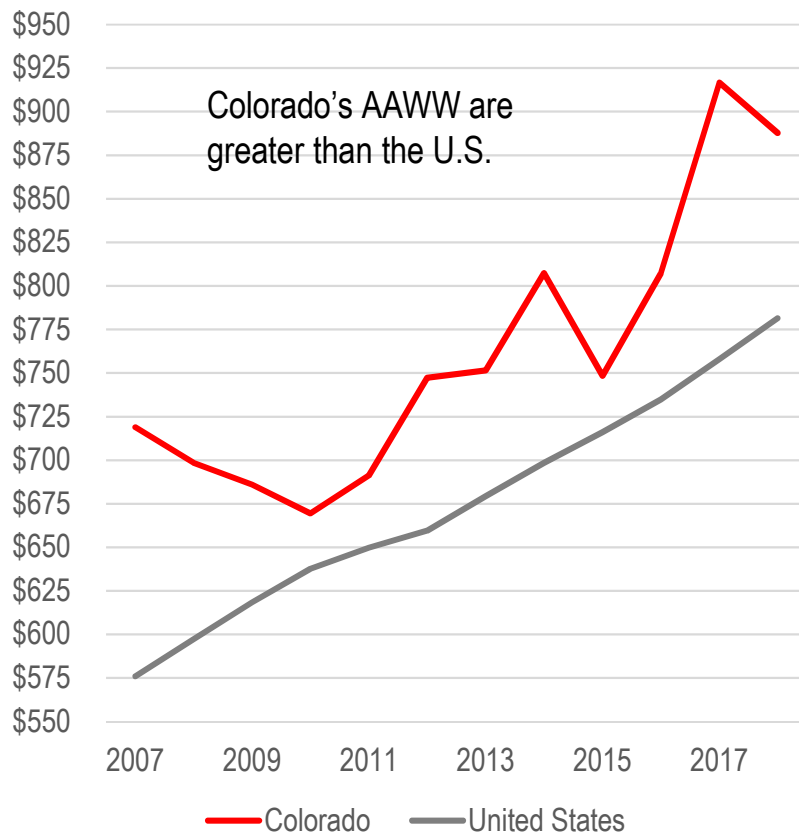
Source: BLS, cber.co.

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

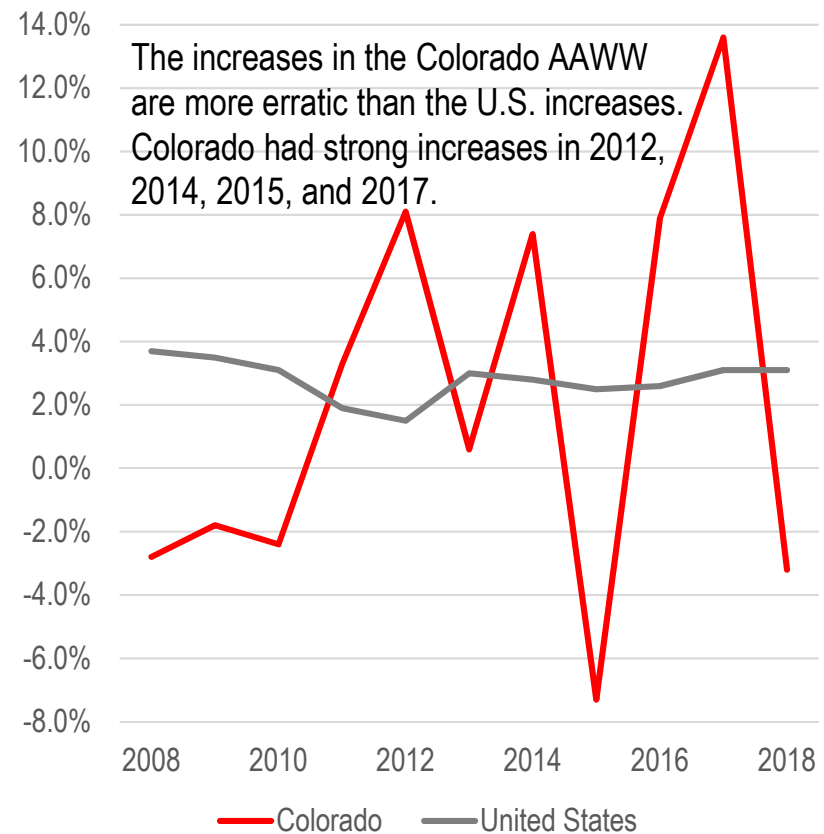
Average Annual Weekly Wages

Other Services

Average Annual Weekly Wages



Annual Percent Change in AAWW



Source: BLS, cber.co.

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

Average Annual Weekly Wages

Reasons for Varying Wage Growth

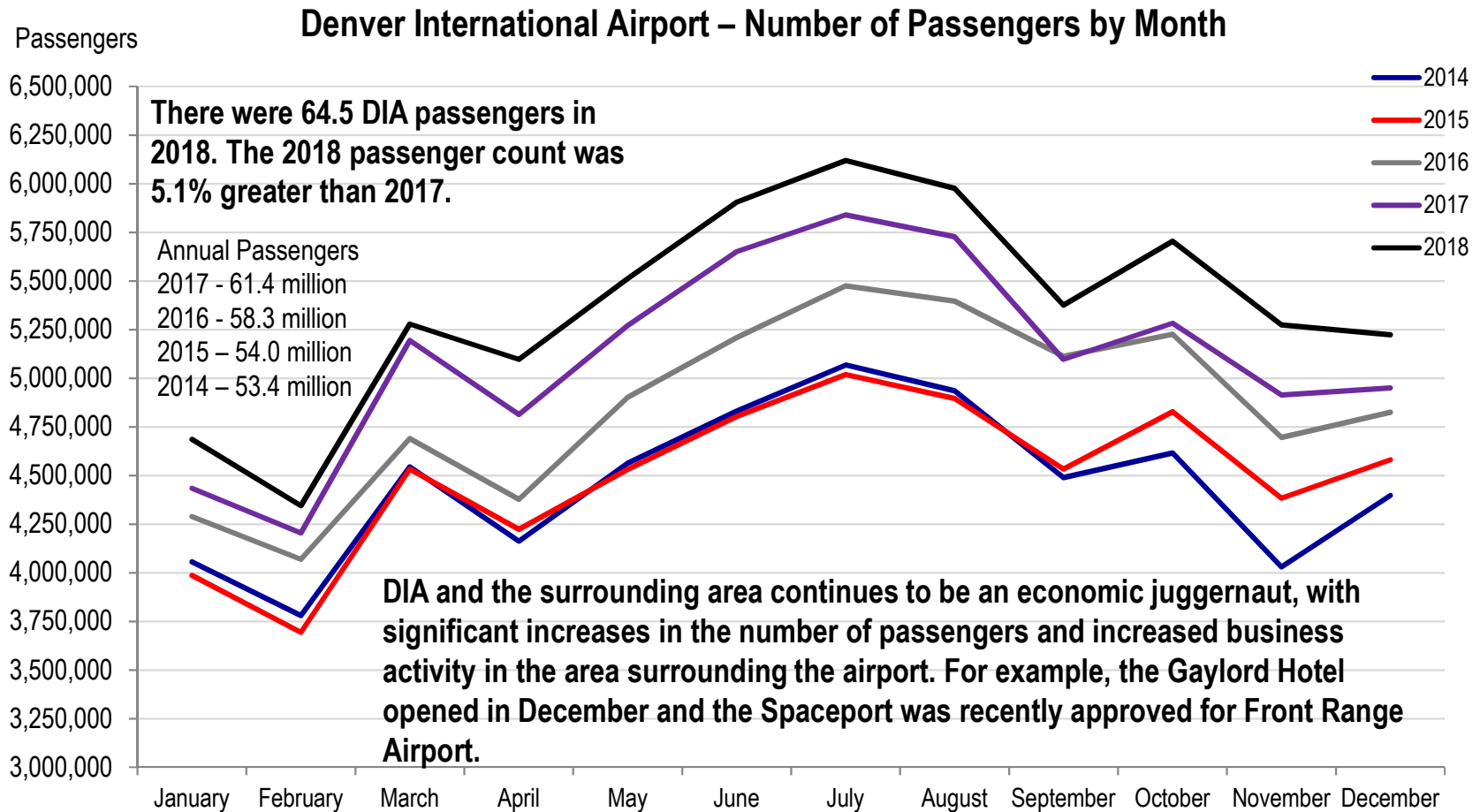
Given the low unemployment rate in Colorado, it is surprising to see that the annualized rate of wage growth in Colorado has been less than the rate for the U.S. This difference may be a result of factors such as the mix of companies and occupations in various industries, public and private policy, investment in technology rather than employees, the lack of technology adoption, financial strength of companies within the industries, perceived demand for workers, and the strength of unions in the state.



The Colorado Economy

Denver International Airport

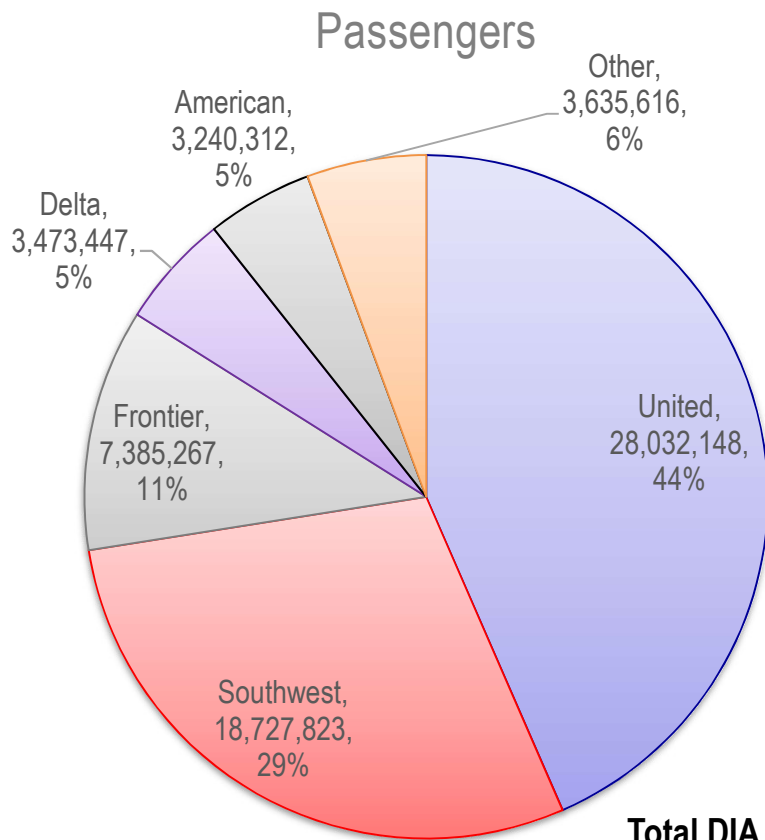
Denver International Airport Passenger Count



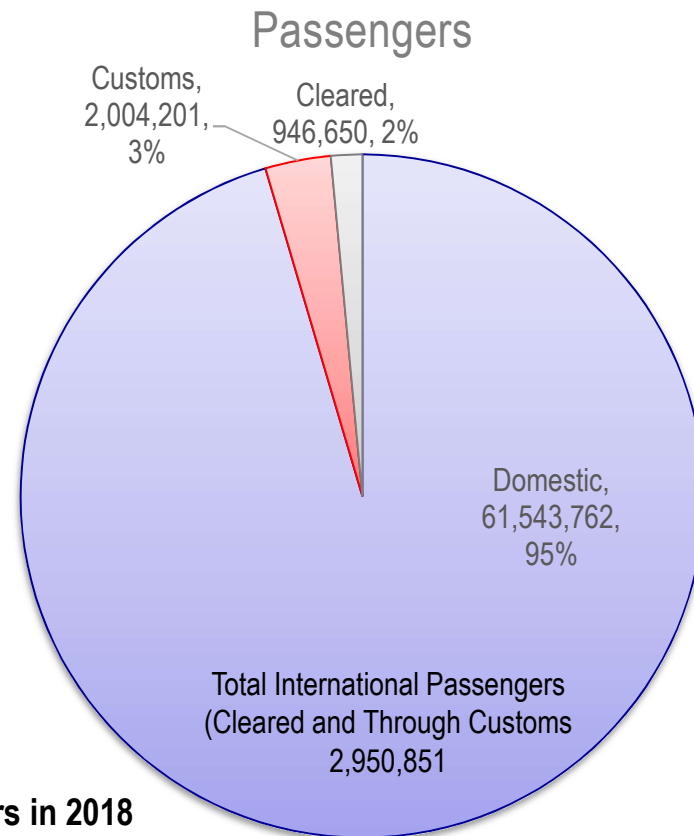
Source: FlyDenver.com, cber.co.

Denver International Airport

Passengers - 2018



Total DIA Passengers in 2018
64,494,613



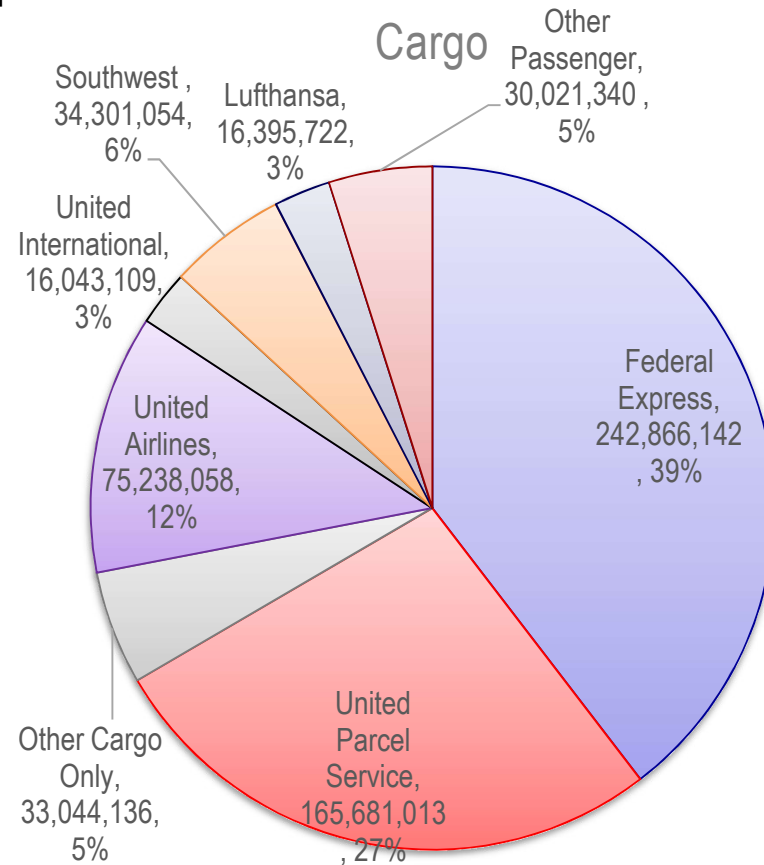
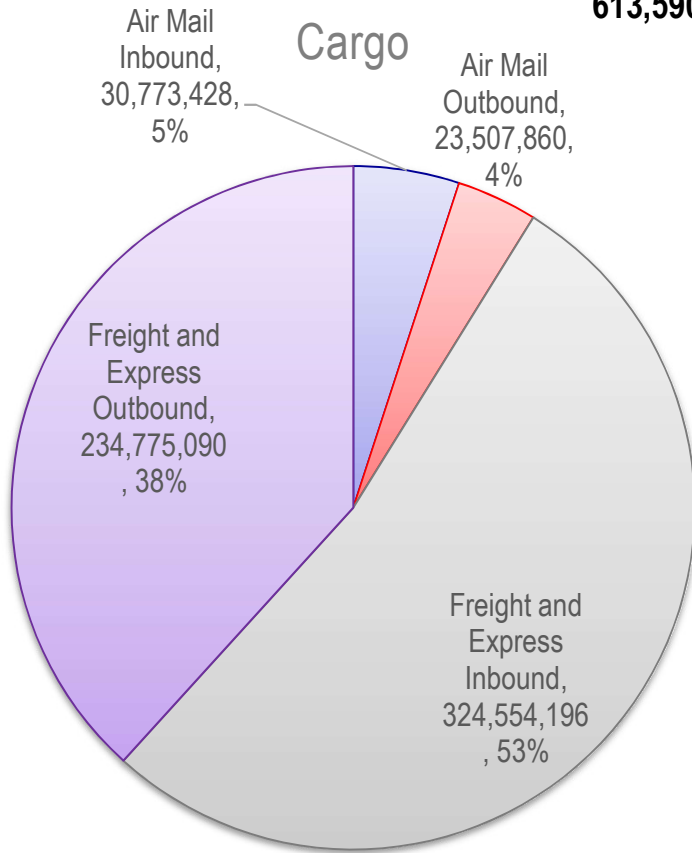
Source: FlyDenver.com, cber.co.

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

Denver International Airport

Cargo – Pounds

Total DIA Cargo in 2018
613,590,574 pounds



Source: FlyDenver.com, cber.co.

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

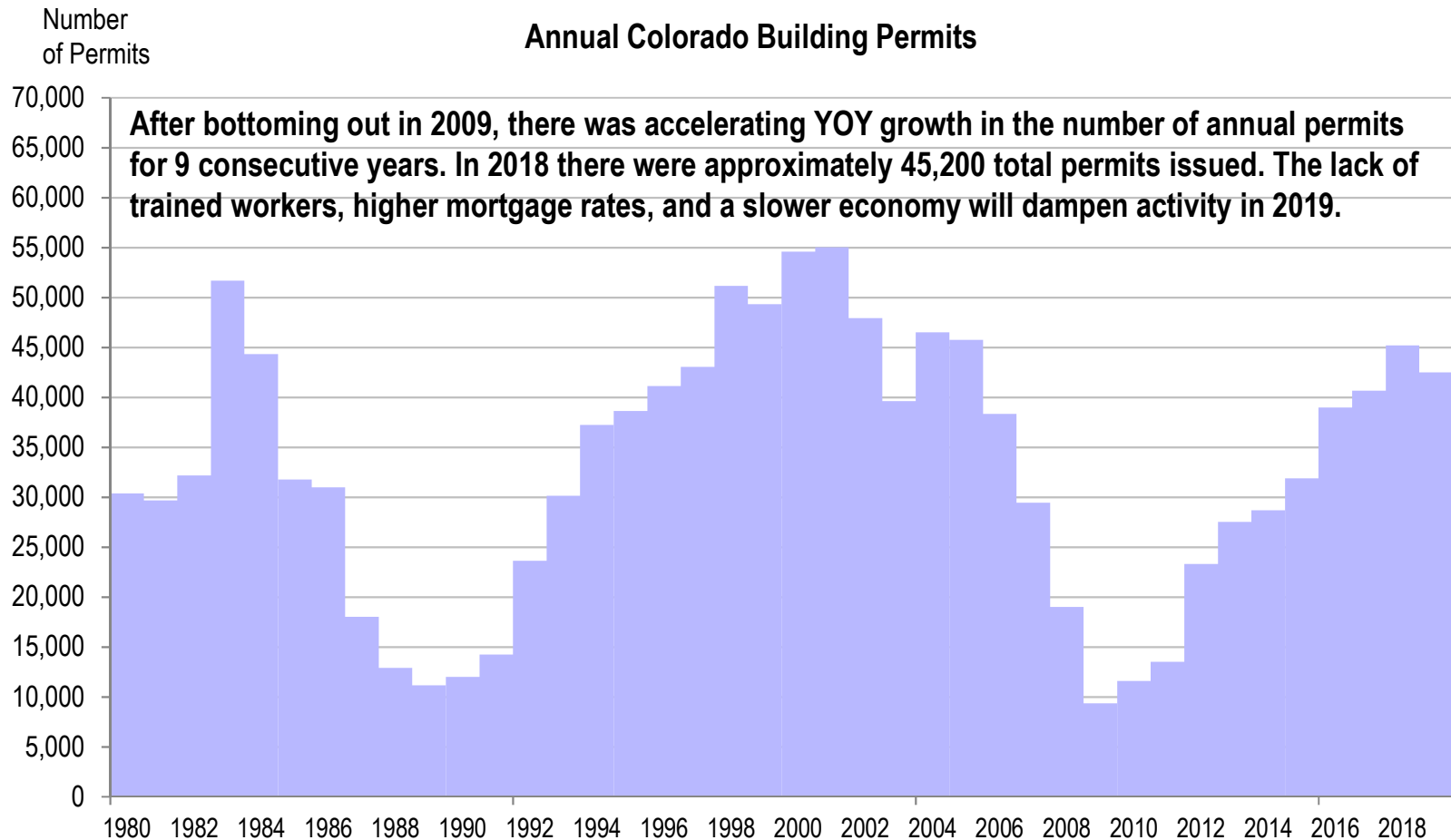


The Colorado Economy

Building Permits, Housing Prices, and Inflation

Colorado Residential Building Permits

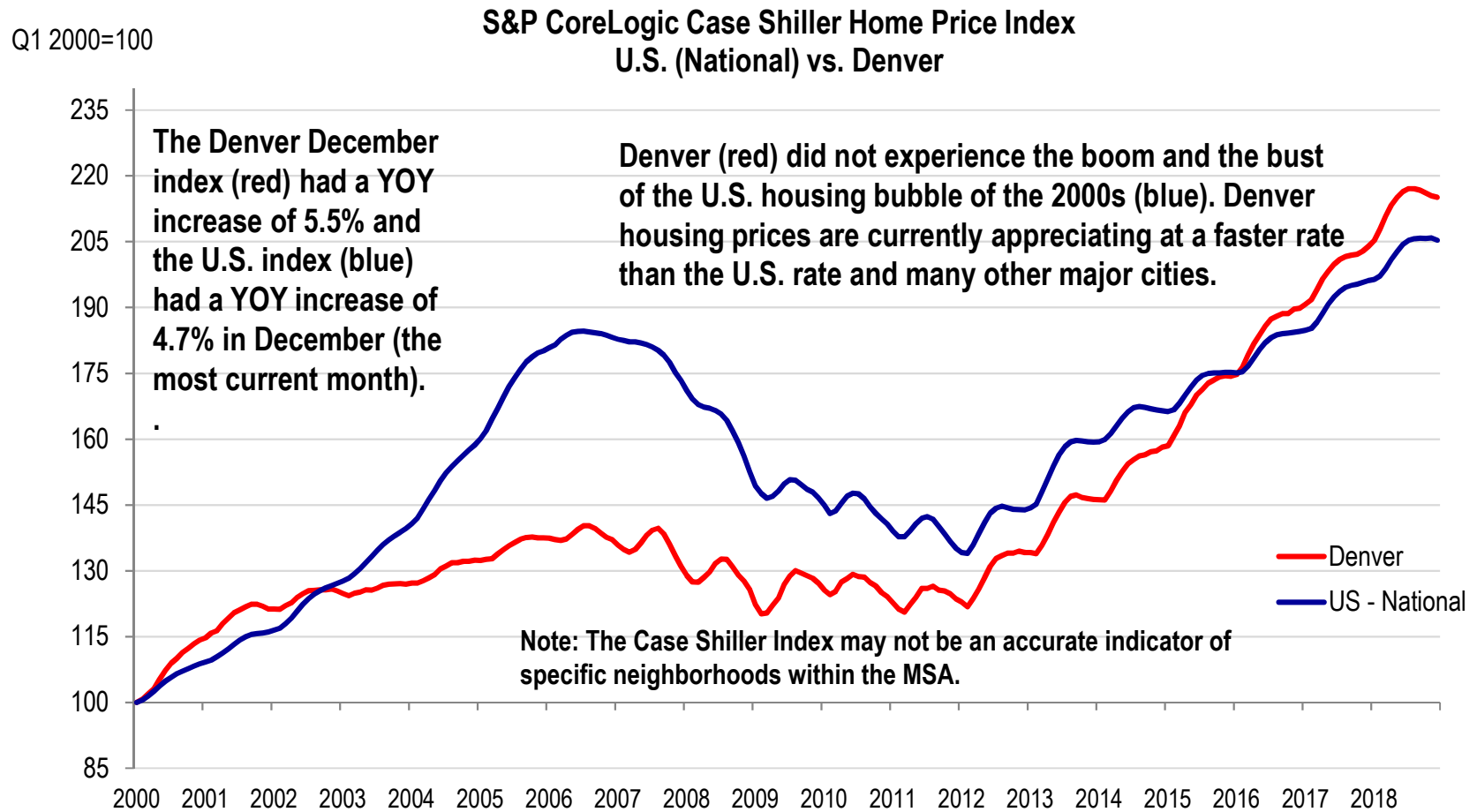
Annual Number of Units



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

Case Shiller Home Price Index

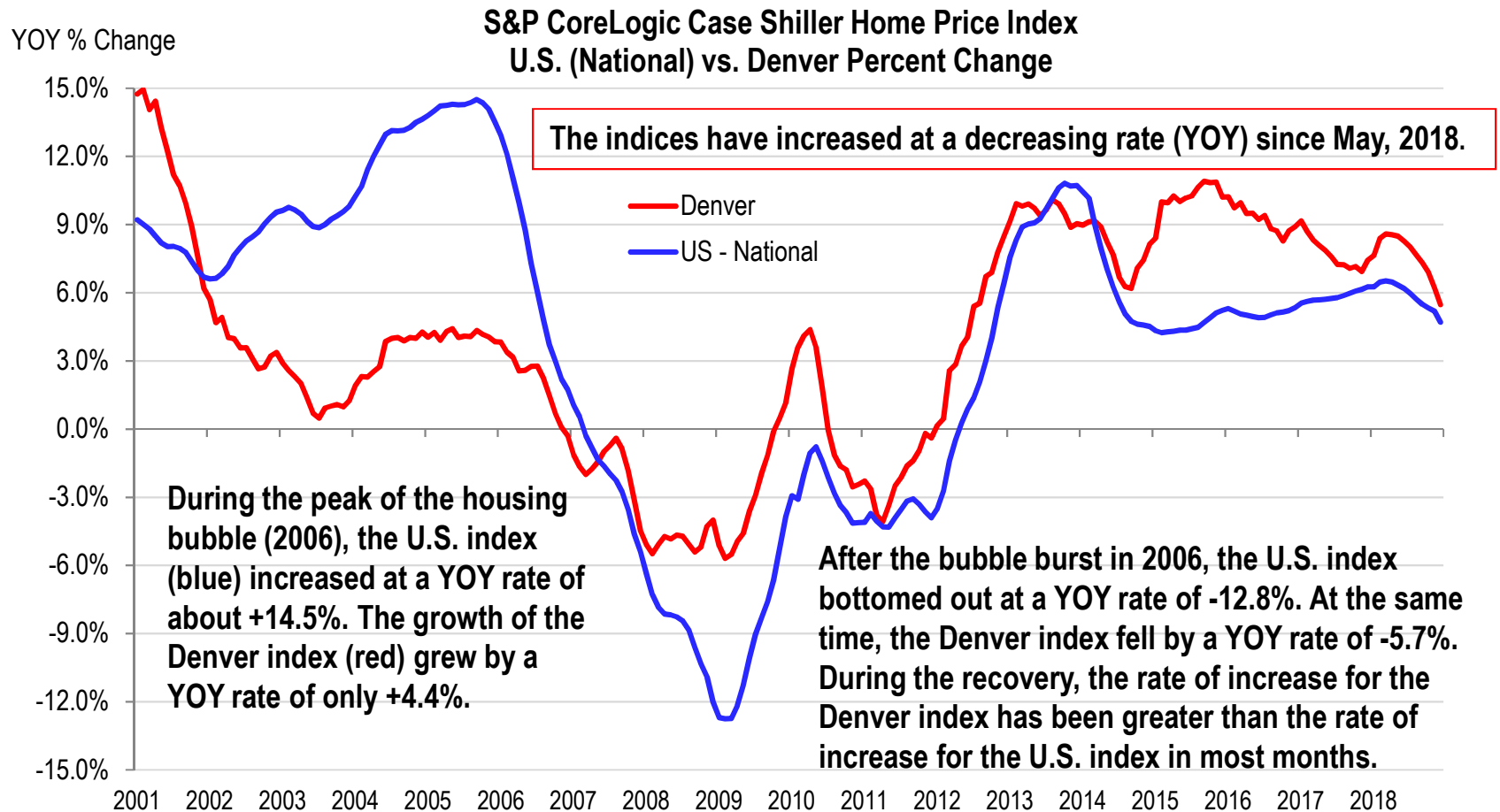
National vs. Denver Index Value



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

Case Shiller Home Price Index

National vs. Denver Rate of Change



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

Housing Prices

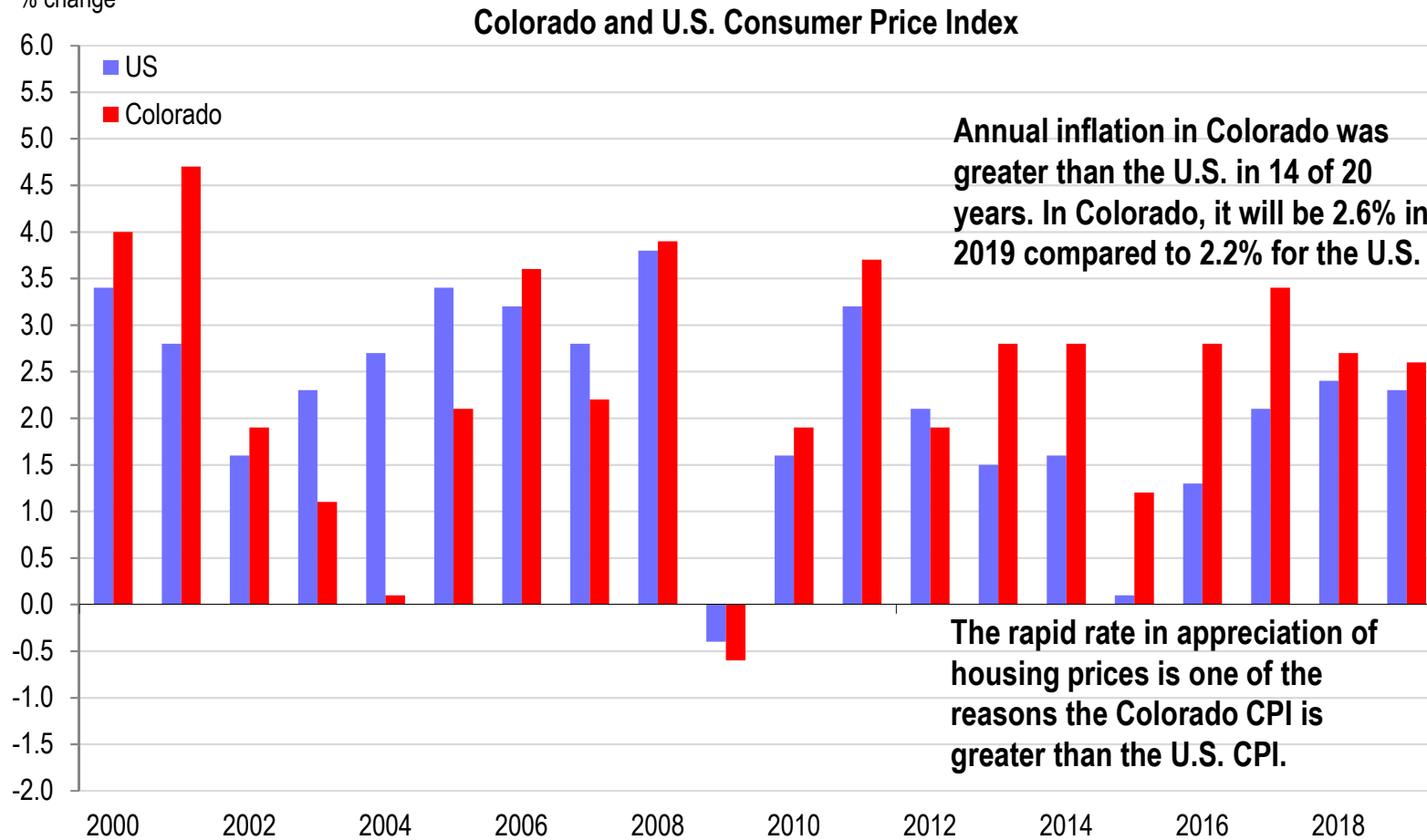
Given the strength of net migration in Colorado, there will continue to be strong demand for housing. The rate of price appreciation may slow, but it is unlikely there will be a strong downturn in housing prices in the near term.

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

Consumer Price Index (CPI)

Colorado vs. U.S.

1982-84=100,
% change



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

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

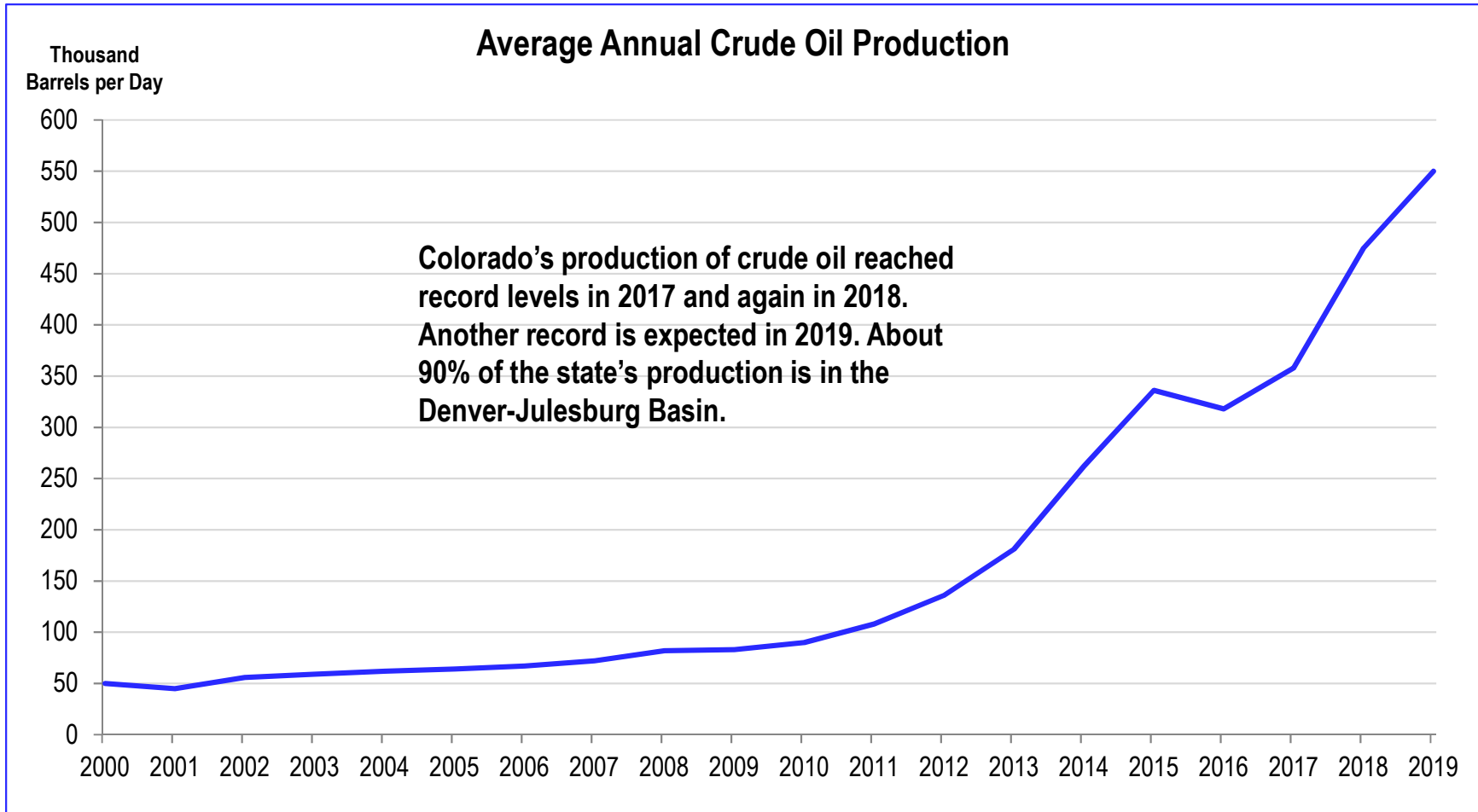


The Colorado Economy

Oil Production and Prices

Average Annual Field Production of Crude Oil

2011 to 2019 (Thousand Barrels per day)



Source: EIA, cber.co.

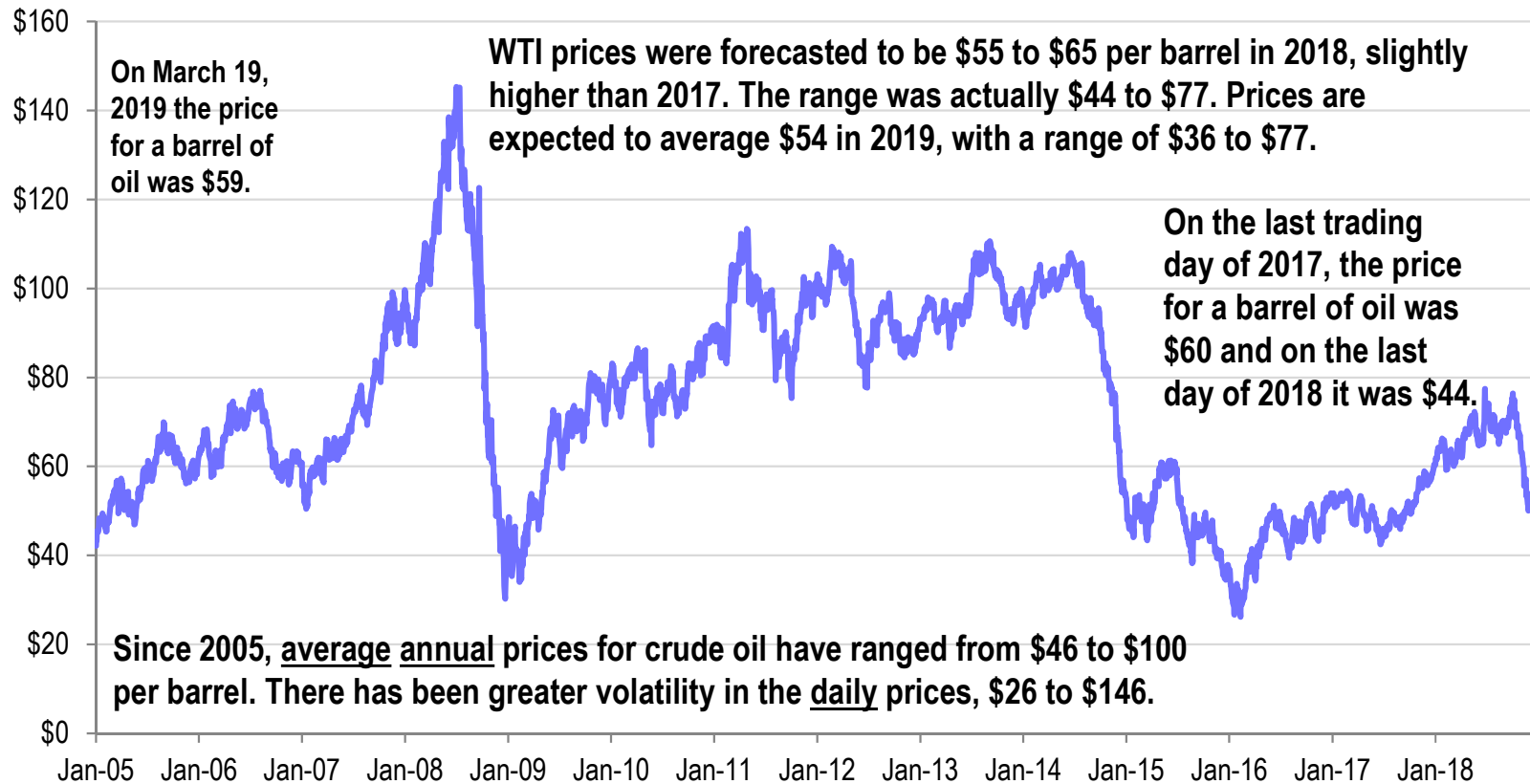
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Crude Oil Prices

West Texas Intermediate

Dollars
per Barrel

Crude Oil Prices: West Texas Intermediate, Cushing, Oklahoma



Source: FRED, EIA, cber.co.

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

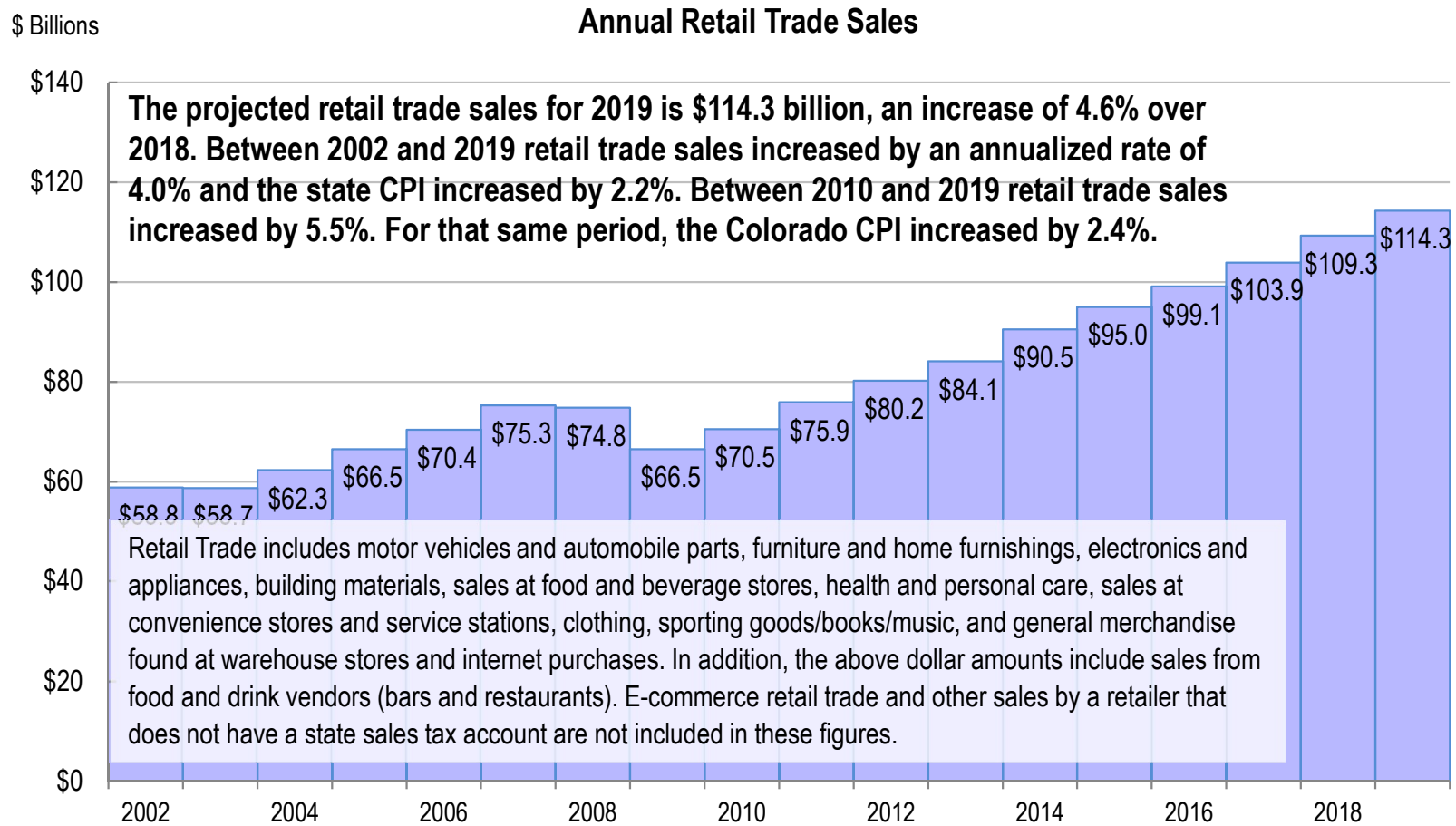


The Colorado Economy

Retail Trade Sales and New Vehicle Registrations

Colorado Retail Trade

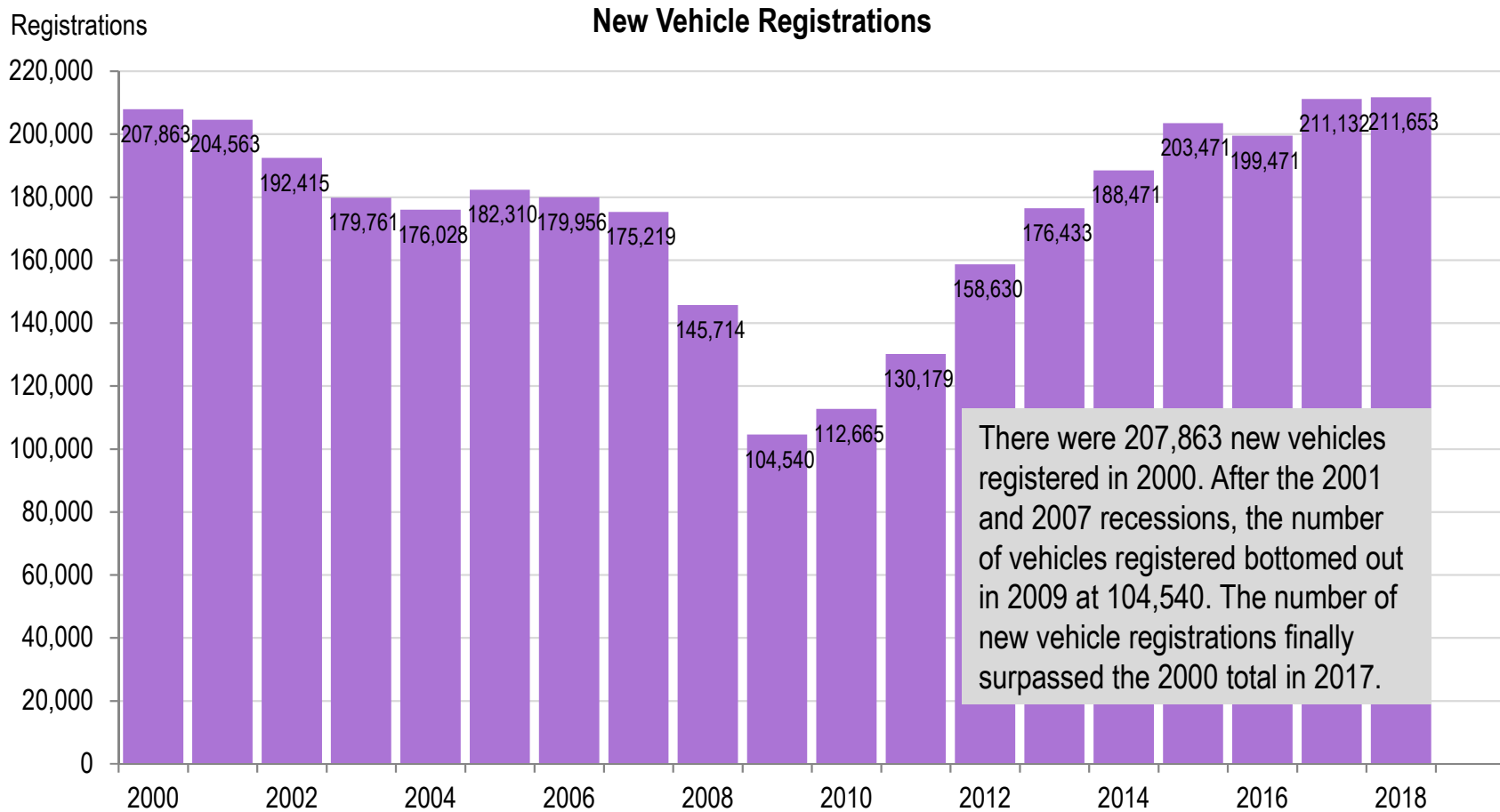
Annual Sales



Source: OSPB, cber.co.

New Vehicle Registrations

Colorado



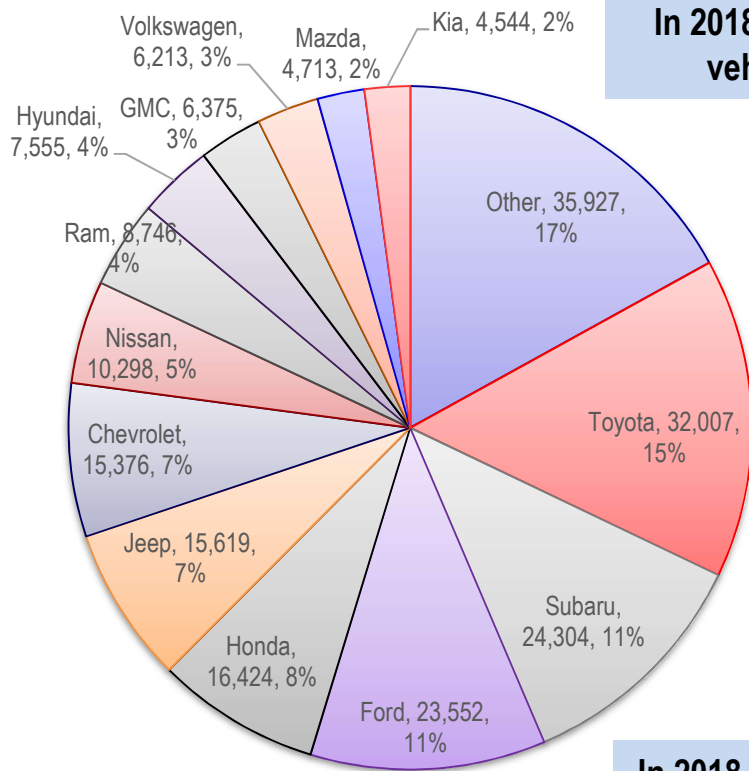
Source: Colorado Auto Dealers Association, cber.co.

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

Auto Registrations

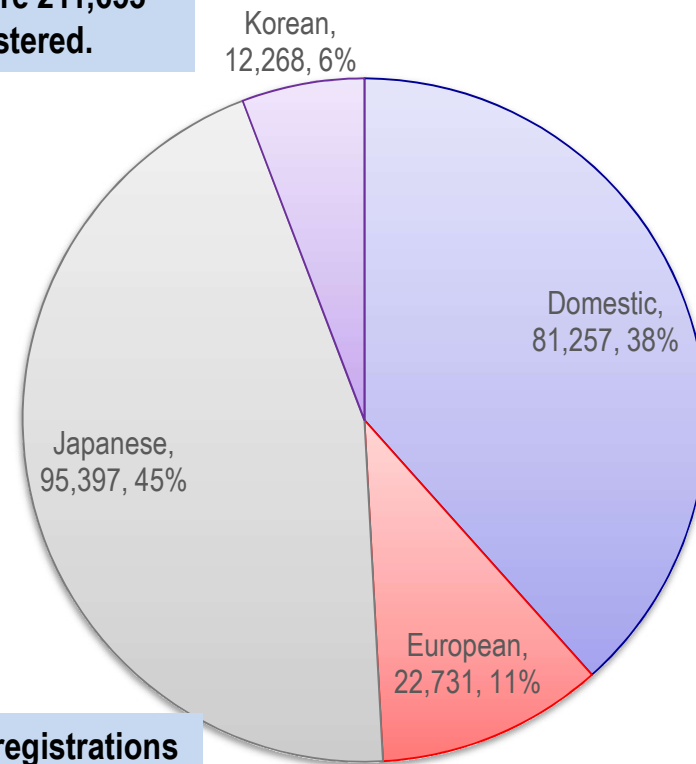
Colorado 2018

Registrations by Brand



In 2018, there were 211,653 vehicles registered.

Registrations



In 2018, 76.1% of registrations were for light trucks and 23.1% were for cars.

Source: Colorado Auto Dealers Association, IHS, cber.co.



The Colorado Economy

State Government

The State of the State

Revenue and Economic Projections

This section shows Gross General Fund revenue projections from FY 2018 to FY 2021 provided by the Colorado Legislative Council (CLC) and the Governor's Office of State Planning and Budgeting (OSPB). The Colorado Fiscal Year is July 1st through June 30th.

Net Income Tax Revenue accounts for about two-thirds of the Gross General Fund Revenue. Income Tax Revenue for FY 2019 is projected to be about \$8.3 billion.

Excise and Sales Tax Revenue accounts for about 30% of the Gross General Fund Revenue. The Sales Tax Revenue for FY 2019 is projected to be slightly less than \$3.8 billion.

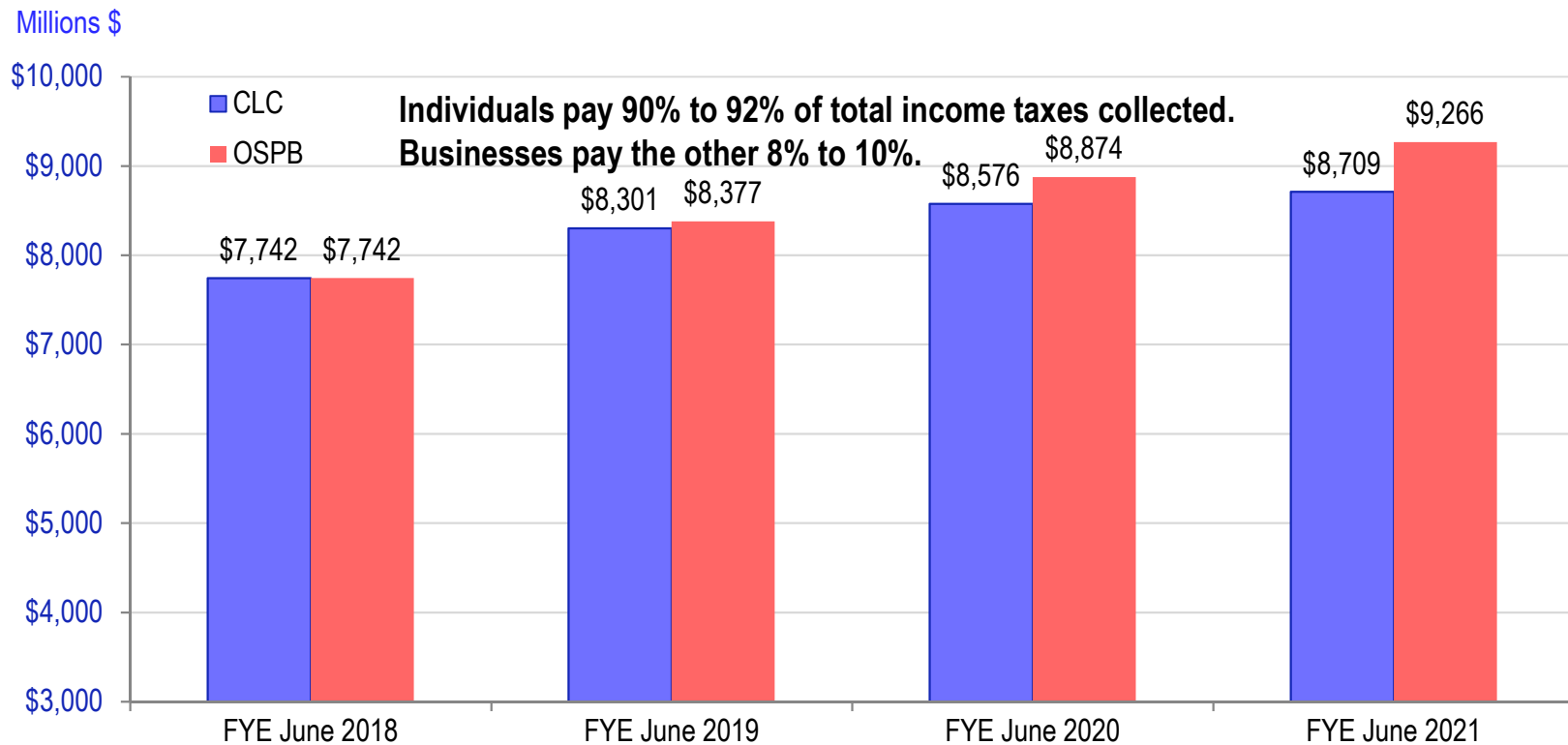
Other Revenue accounts for about 3% of the Gross General Fund Revenue and includes a variety of miscellaneous sources.

Gross General Fund Revenue for FY 2019 is the sum of the above 3 categories. Total revenue for 2019 is projected to be about \$12.4 billion.

The quarterly economic updates published by CLC and OSPB are recommended reading for those anxious to learn more about the Colorado economy and funding of the state government.

Colorado Net Income Tax

Net Income Tax to General Fund

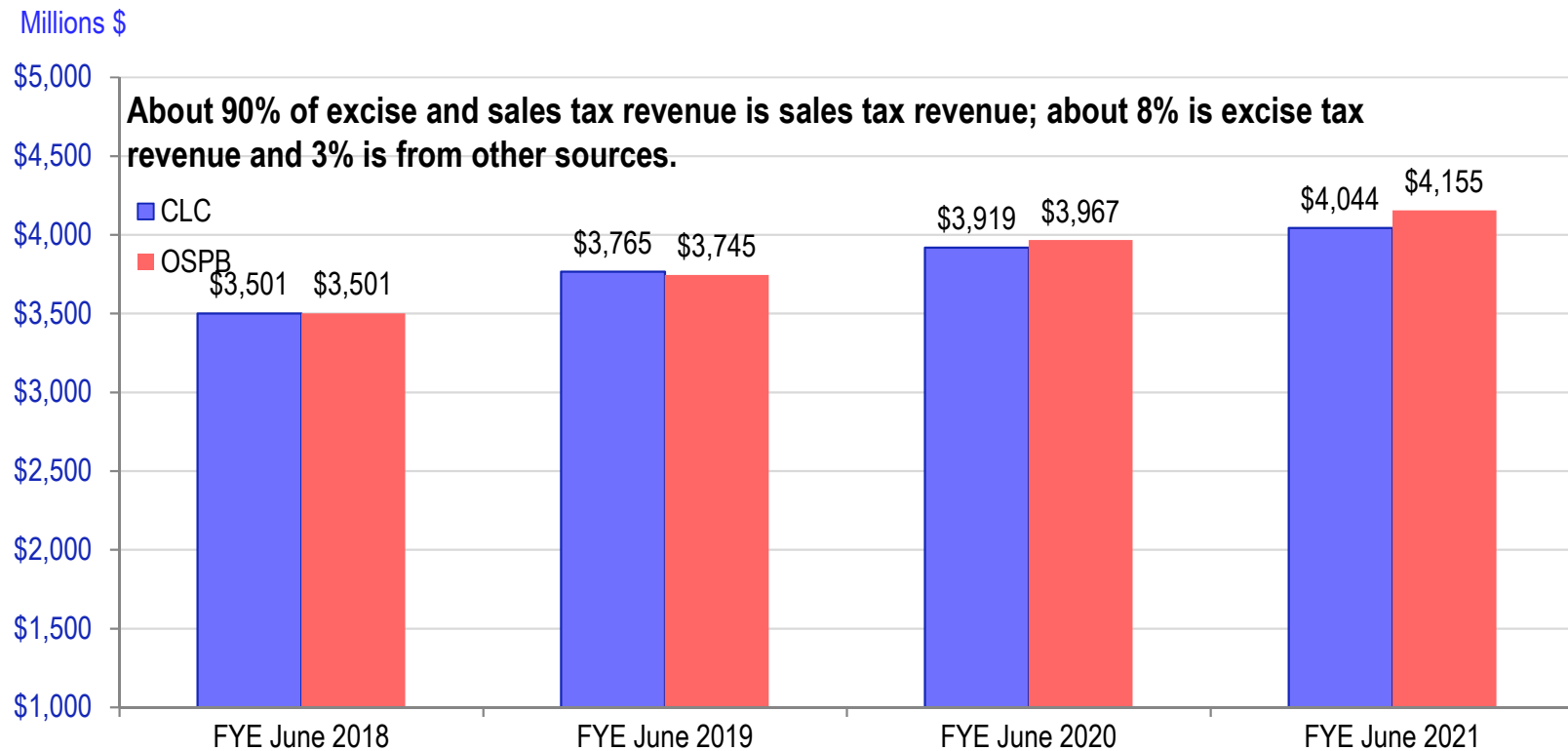


Source: Colorado Legislative Council and OSPB December 2018.

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

Colorado Excise and Sales Tax Revenue

Excise and Sales Tax Revenue

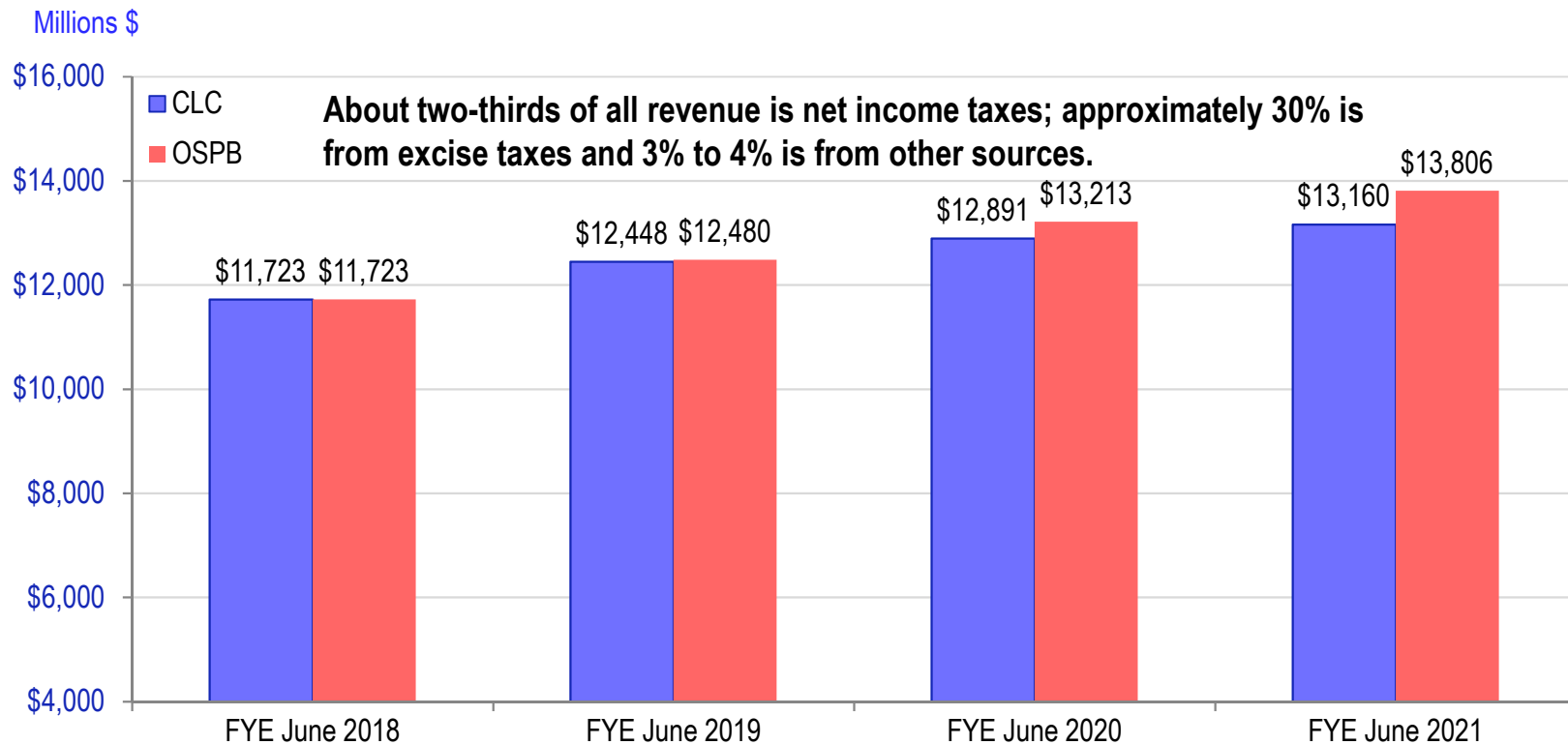


Source: Colorado Legislative Council and OSPB, December 2018.

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Colorado Gross General Fund Revenue

Gross General Fund Revenue



Source: Colorado Legislative Council and OSPB, December 2018.

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

● 72nd Colorado General Assembly

● Proposed Legislation



Legislation has been introduced to the 72nd Colorado General Assembly that has the potential to hinder or help the growth of the state and the economy – depending on your perspective. Stay tuned!



The Colorado Economy

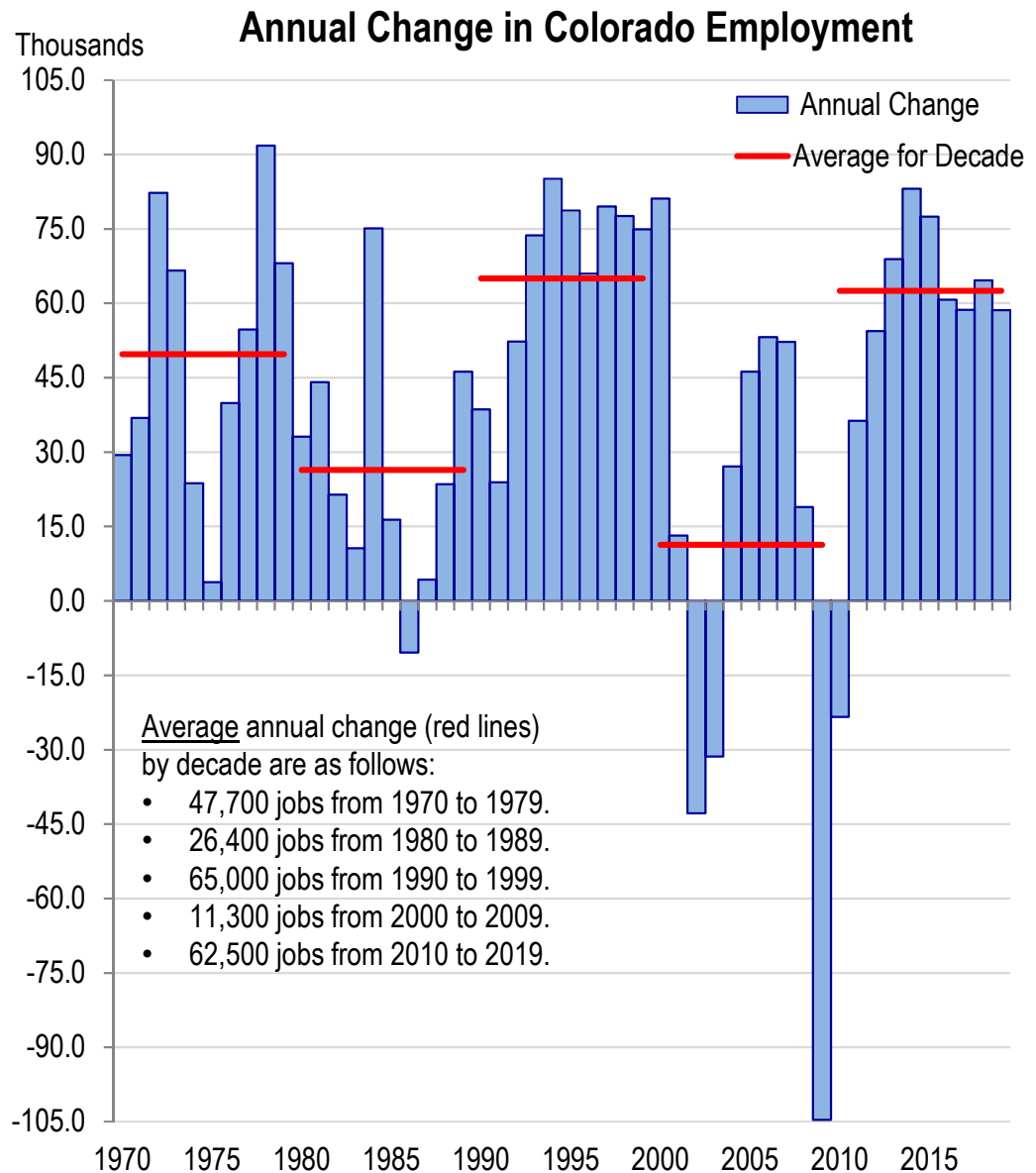
Summary

Annual Employment Change in Colorado

The recent benchmark data produced by the Bureau of Labor Statistics shows that 64,600 jobs were added in 2018. The rate of job growth ended up being slower than anticipated because Q4 growth was disappointing. This raises the question, “How much momentum is there and how long will it last?”

Job growth for 2019 will be 58,600 workers. Colorado employment is projected to increase by 2.2%.

The rate of job growth for Colorado will again be greater than the rate for the U.S. The forecast is in line with the slowing rate of growth in the global and U.S. economies.



Source: Bureau of Labor Statistics, cber.co.

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

The Colorado Economy in 2019

Watch for the Following in 2019

- **Colorado Economy** – In 2019, The slowing in the Colorado economy will mirror the global and U.S. economies.
- **Real GDP** - The Colorado real GDP growth rate will be greater than the U.S. rate and will be driven by health care, real estate, and the extractive industries in 2019.
- **Net Migration** - Net migration has trended downward since 2015. The natural rate of increase in population will remain flat as a result of the decreasing fertility rate.
- **Employment** – Colorado’s rate of job growth, 2.2%, will be less than 2018; 58,600 jobs will be added.
- **Unemployment** - The unemployment rate will increase to 3.6%.
- **Lack of Trained Workers** - The Colorado economy is not operating efficiently because the unemployment rate is too low. There are not enough qualified, trained, and clean workers to fill jobs in many sectors.
- **Colorado’s Three Economies** – There are three economies in Colorado: MSAs, micropolitan areas such as Durango, and rural Colorado. It is an understatement to say that many rural counties are significantly challenged.
- **Job Growth** – Employment growth will be driven by construction, AFS, PST, healthcare, and retail trade. Retail trade and the AFS sectors are evolving, in part because there are too many business establishments. Sales growth will remain solid, but employment growth will be modest. Construction along the Front Range has benefitted from the warm and dry winter, but it has been constrained by the lack of qualified workers. PST growth continues to be the foundation of job and GDP growth for the state.
- **Weather** - The weather will continue to have a significant impact on the tourism, agriculture, and construction industries.
- **Inflation** - The Colorado inflation rate will decline; however, it will continue to be greater than the U.S. rate.
- **Future Economic Drivers** - Welcome to the Spaceport and Gaylord – economic drivers of the future! In addition, companies such as Lockheed, Ball Aerospace, Maxar, and Vestas continue to secure business that make Colorado a leader in technology.
- **Legislature** – Historically, there has been overreach when one party controls the executive and legislative branches of the state government. Critical issues will take a backseat to issues that have a higher priority for the party in control .



cber.co Final Review of Colorado 2018 and Outlook for 2019

This analysis is for informational purposes only. Any opinions or interpretations of data are those of the presenter. As such, they do not represent the viewpoints of any group or particular organization.

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

ABOUT THE AUTHOR

Gary Horvath has produced annual employment forecasts of the state economy for over 25 years. They have been supplemented by monthly economic updates and indices that track economic performance over the short term. In addition, he has directed three statewide analyses that included reviews of all 64 county economies.

Horvath was the principal investigator for a state and federally funded project to prepare a nanotechnology roadmap for Colorado. As well, he was a co-founder of the Colorado Photonics Industry Association, a trade group for Colorado's Photonics cluster. Horvath has been an active board member of the group since its inception.

Horvath has also served on the Board of Directors for the Economic Development Council of Colorado, Northwest Denver Business Partnership, Adams County Economic Development, and Broomfield Economic Development Corporation. Horvath has also been the lead for the photonics/electronics cluster in OEDIT's early stage and proof of concept grant program.