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Review of Revised 2017 Colorado Employment Data

Colorado-based Business and Economic Research
Prepared
March 12, 2018

Overview of Analysis

This chartbook provides a series of graphs, charts, discussions, and data that tell the story about the benchmark changes in the 2017 Colorado employment data. Every March, BLS releases their benchmark data, or revisions of the monthly data, for the previous two years. This analysis looks at employment changes in key sectors and 2017 trends that may impact employment changes in the months ahead. This information is divided into the two sections listed below.

U.S. Economy

- The United States Economy
 - Real Gross Domestic Product and Employment
 - (Additional U.S. Data in Colorado Section)

The Colorado Economy

- Colorado Employment
- Employment in Six Industries – Strong, Solid, Volatile Growth
- Trends from 2017 to Watch in 2018
- Summary



The U.S. Economy

Real Gross Domestic Product and U.S. Employment

U.S. Real GDP Growth

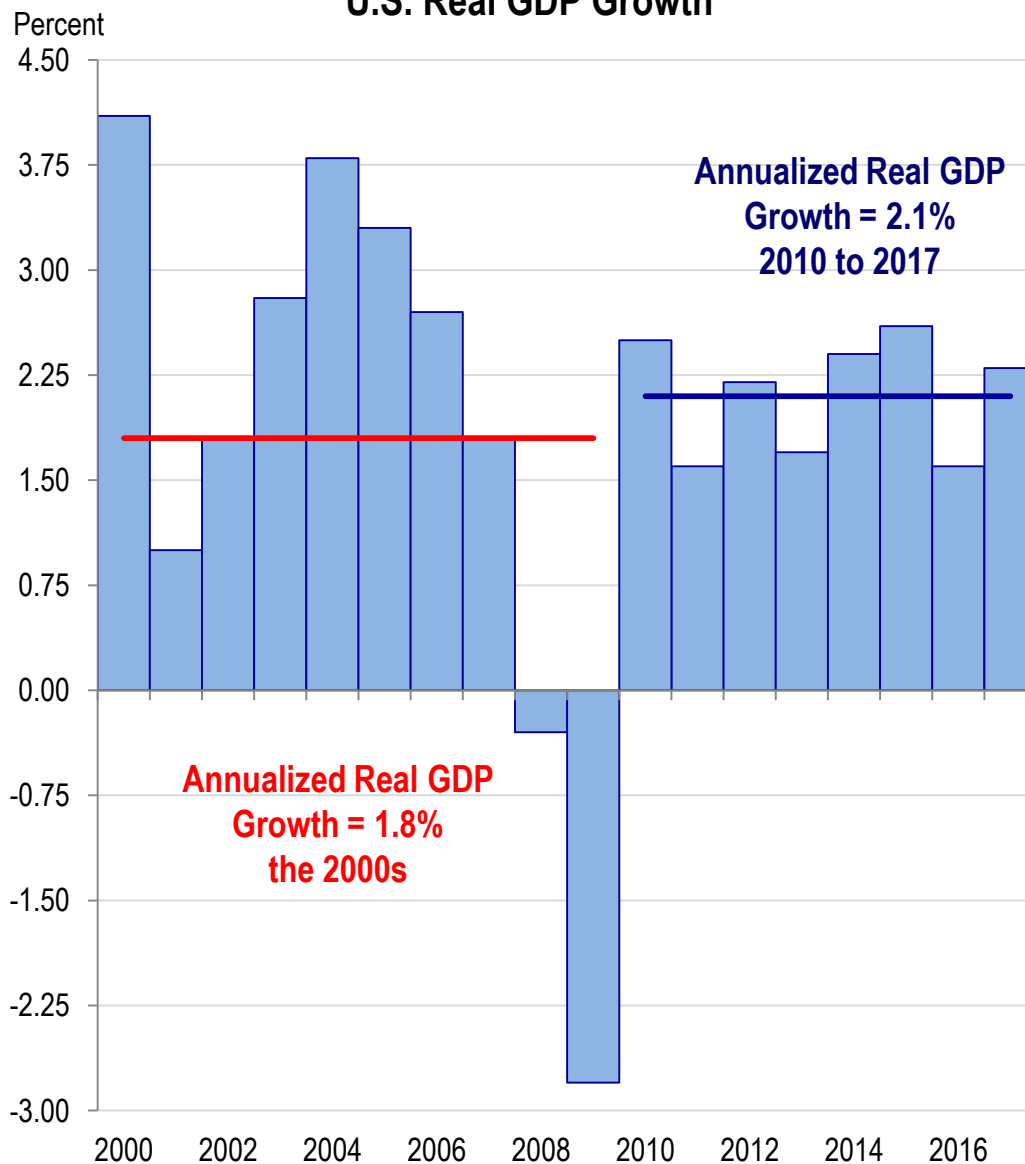
C+I+G+X

Real GDP increased at a rate of 2.3% in 2017.

- As is usually the case, personal consumption drove real GDP growth with an increase of 2.7%.
- Gross private investment increased by only 3.2%.
- Government spending increased by 0.6% to 0.8%.

GDP = Consumption + Private Investment + Government Spending + Net Exports

U.S. Real GDP Growth

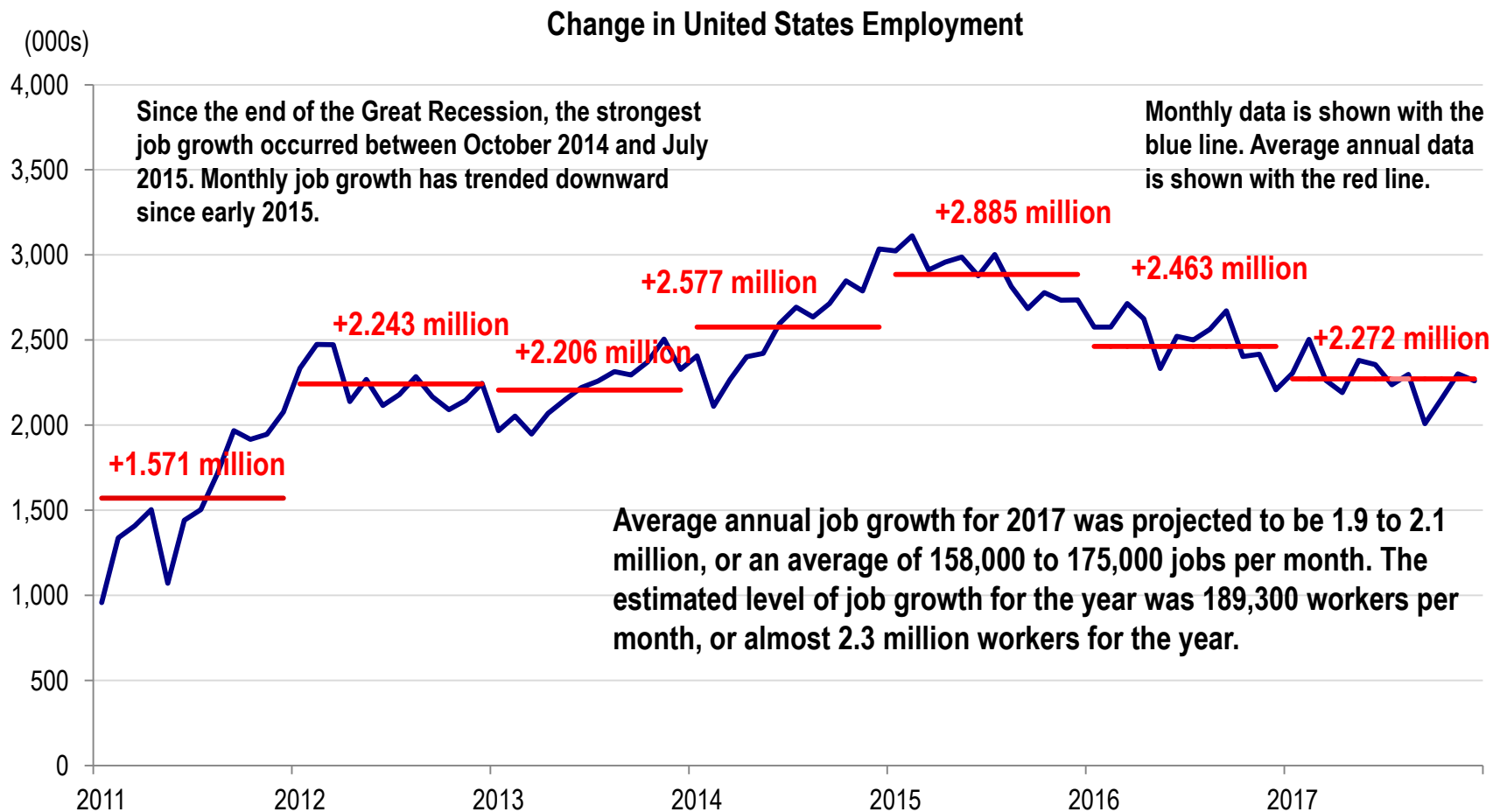


Source: Bureau of Economic Analysis, cber.co, chained in 2009 dollars.

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Change in United States Employment

Year-Over-Year



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



The Colorado Economy

Employment

● Colorado Economic Analysis of Benchmark Data

● Sector Portfolio Analysis

● **Background of the cber.co Process for Forecast and Employment Analysis**

For a number of years, cber.co has evaluated the accuracy of other state employment forecasts to find a way to more accurately forecast total employment.

It analyzed BLS data from 1990 to 2012 based on a number of factors that measured change. From that analysis, 23 sectors and subsectors were grouped into three categories (strong growth, solid growth, and volatile growth).

This portfolio approach has made it easy to see that some sectors consistently have a higher rate of growth and some sectors have a consistent, but lower rate of growth. Others are more volatile.

The following slides look at the performance of the strong growth, solid growth, and volatile growth categories.

Change in Employment Summary of Strong, Solid, and Volatile Growth Categories Benchmark 2017

This section looks more closely at the
**Solid, Strong, and Volatile Growth
Categories**

**Strong Growth Category – 19,300, 2.3%
growth rate.**

Health care; professional and scientific
services; and higher education are the top
sectors for job growth.

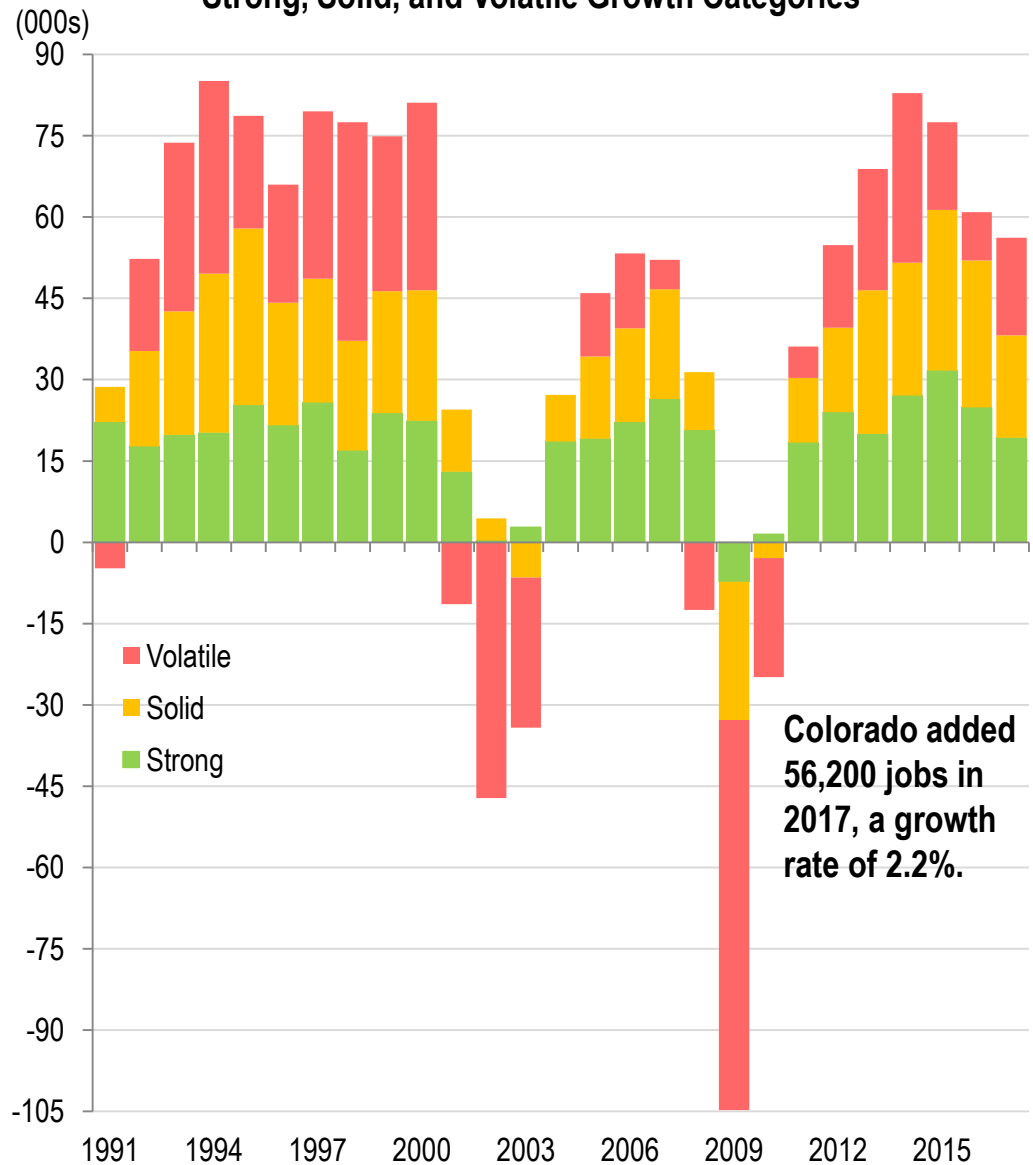
**Solid Growth Category – 18,900, 1.9%
growth rate.**

Accommodations and food services, trade,
and state and local government are the
leading sectors for job growth.

**Volatile Category – 18,000 jobs added 2.4%
growth rate.**

Boom or bust industries – such as the
extractive industries, manufacturing,
information.

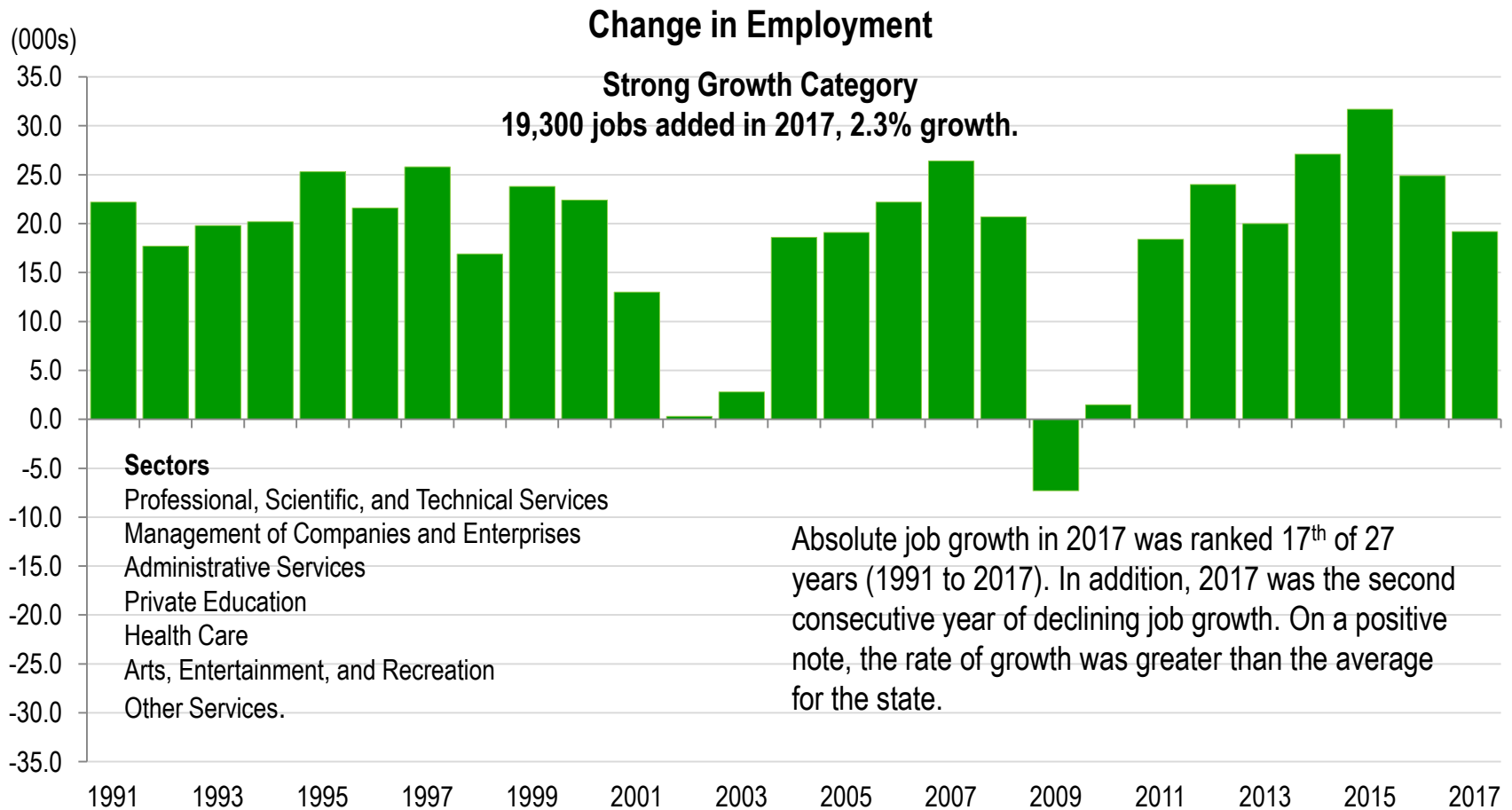
Strong, Solid, and Volatile Growth Categories



Source: Bureau of Labor Statistics, cber.co.

Strong Growth Category

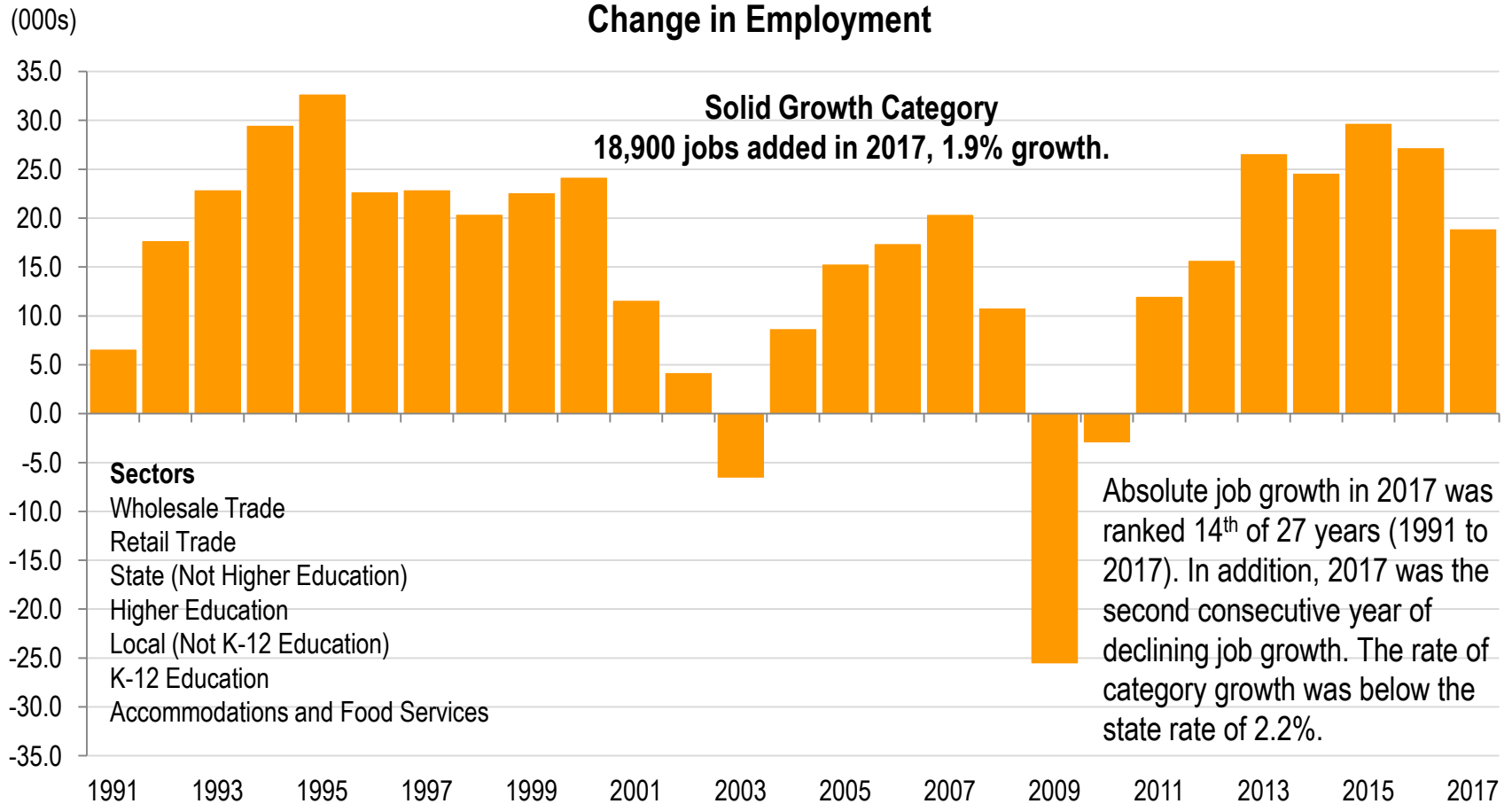
Jobs Added in 2017



Source: Bureau of Labor Statistics, cber.co.

Solid Growth Category

Jobs Added in 2017



Source: Bureau of Labor Statistics, cber.co.

● Volatile Growth Category

● Jobs Added in 2017



Source: Bureau of Labor Statistics, cber.co.



Colorado Economy

Employment in Six Industries in the Strong Growth, Solid Growth,
Volatile Categories

Six Industries That Are Important to Employment Growth for Different Reasons

The charts on the following six pages look at two sectors from each of the strong growth, solid growth, and volatile job categories. Combined, these sectors were responsible for about 60% of the jobs added in 2017.

Strong Growth Category

- Health care
- Professional, Scientific, and Technical Services

Total 23% of jobs added, or 12,800 jobs.

Solid Growth Category

- Accommodations and Food Services
- Retail

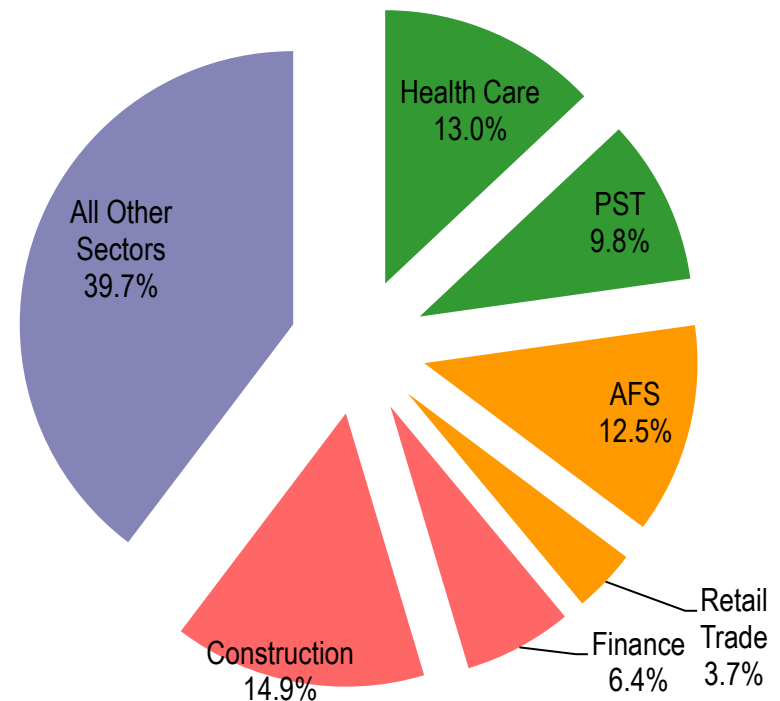
Total 16% of jobs added, or 9,100 jobs.

Volatile Category

- Financial Activities
- Construction

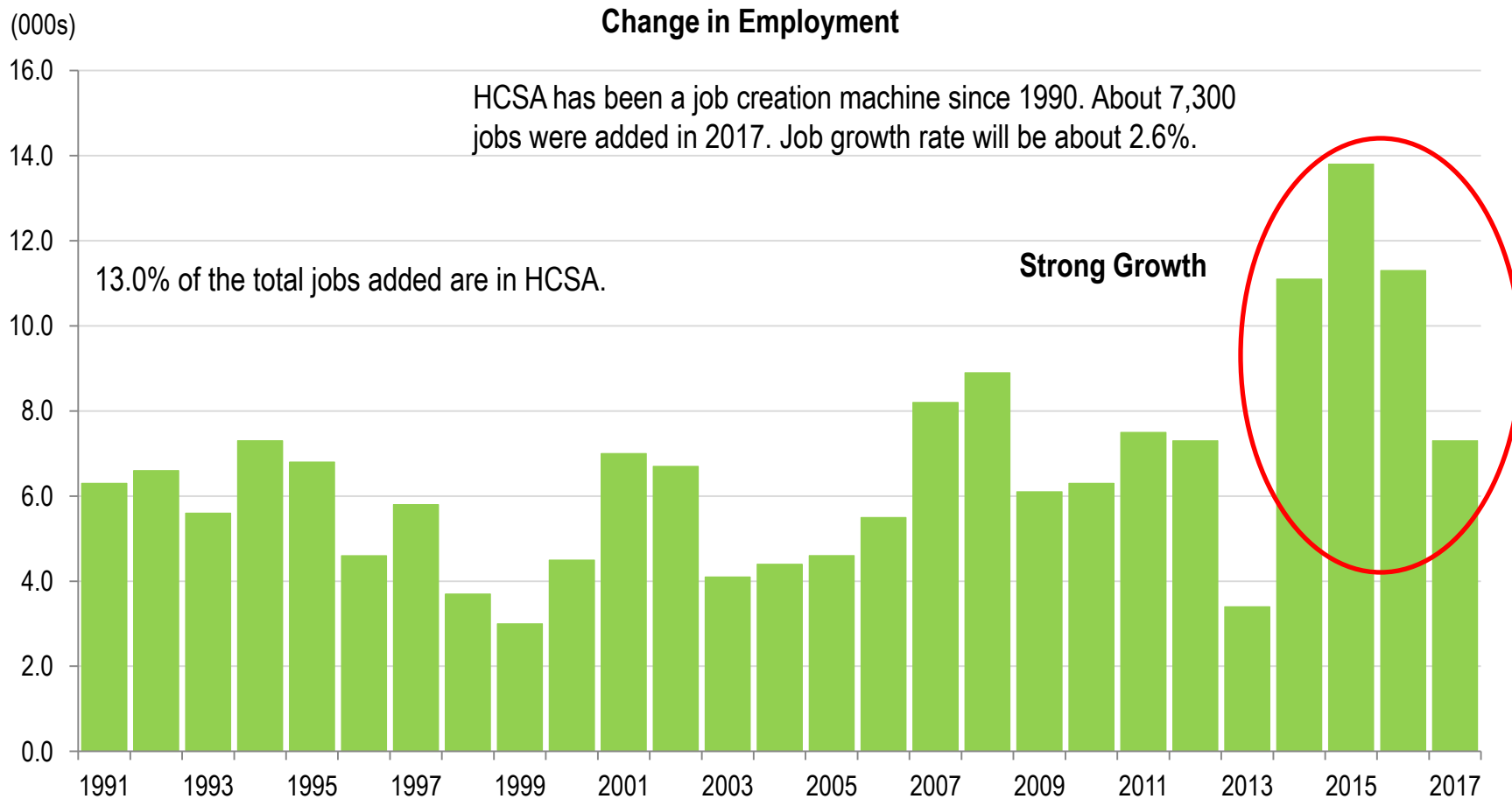
Total 21% of jobs added, or 11,400 jobs added.

Top Sectors by Category



Change in Employment

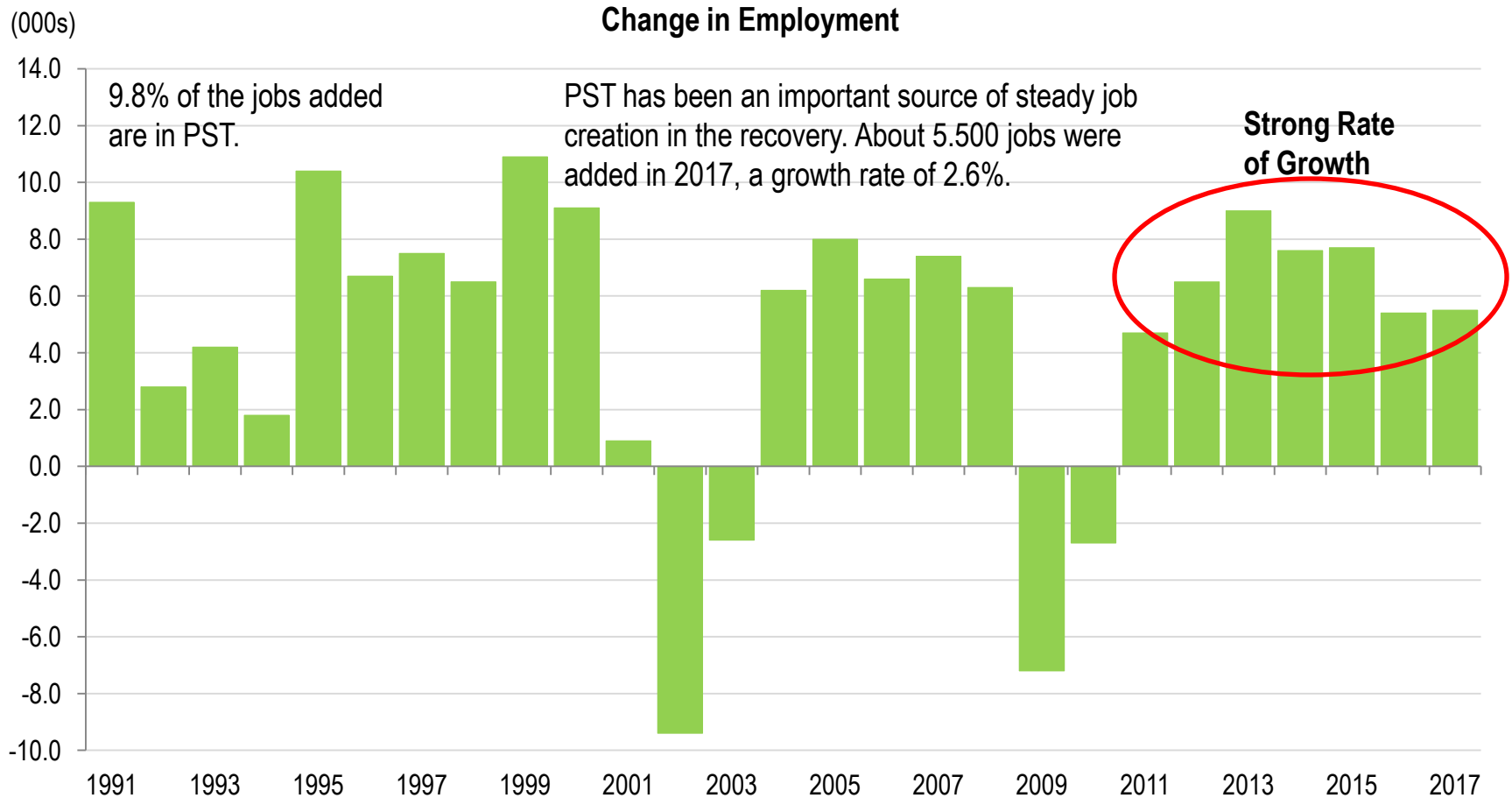
Health Care and Social Assistance



Source: Bureau of Labor Statistics, cber.co.

Change in Employment

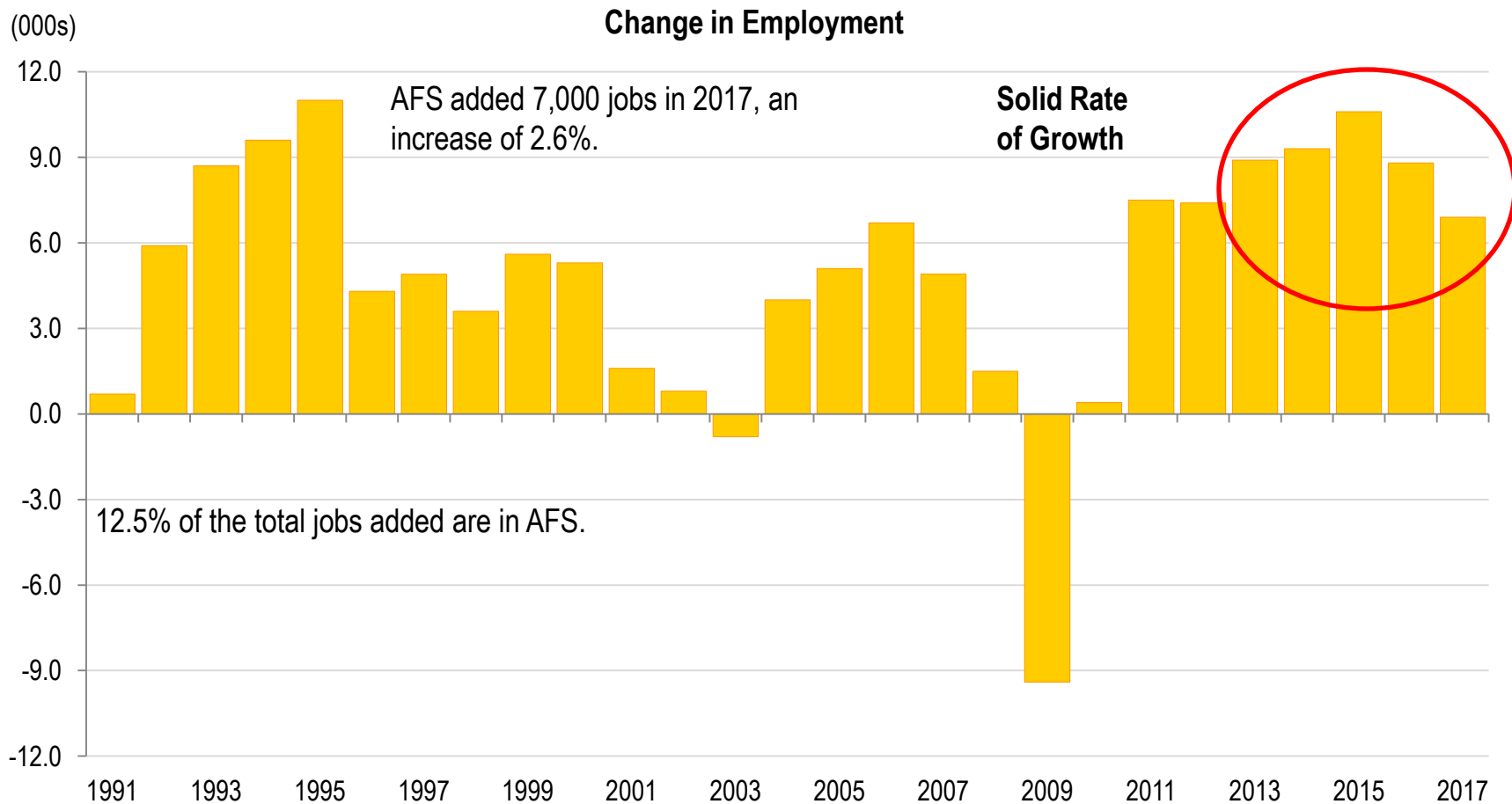
Professional, Scientific, and Technical Services



Source: Bureau of Labor Statistics, cber.co.

Change in Employment

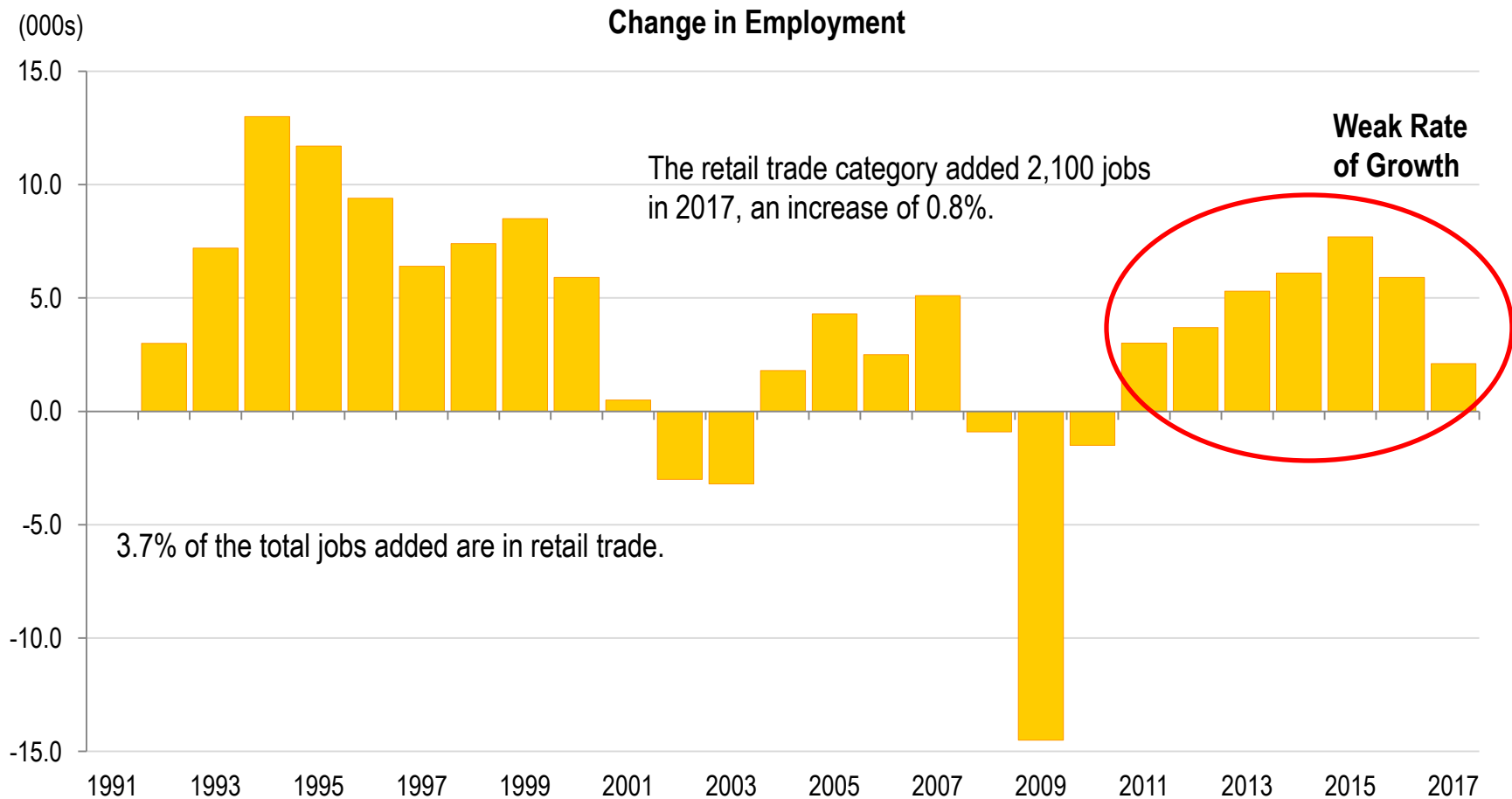
Accommodations and Food Services



Source: Bureau of Labor Statistics, cber.co.

Change in Employment

Retail Trade

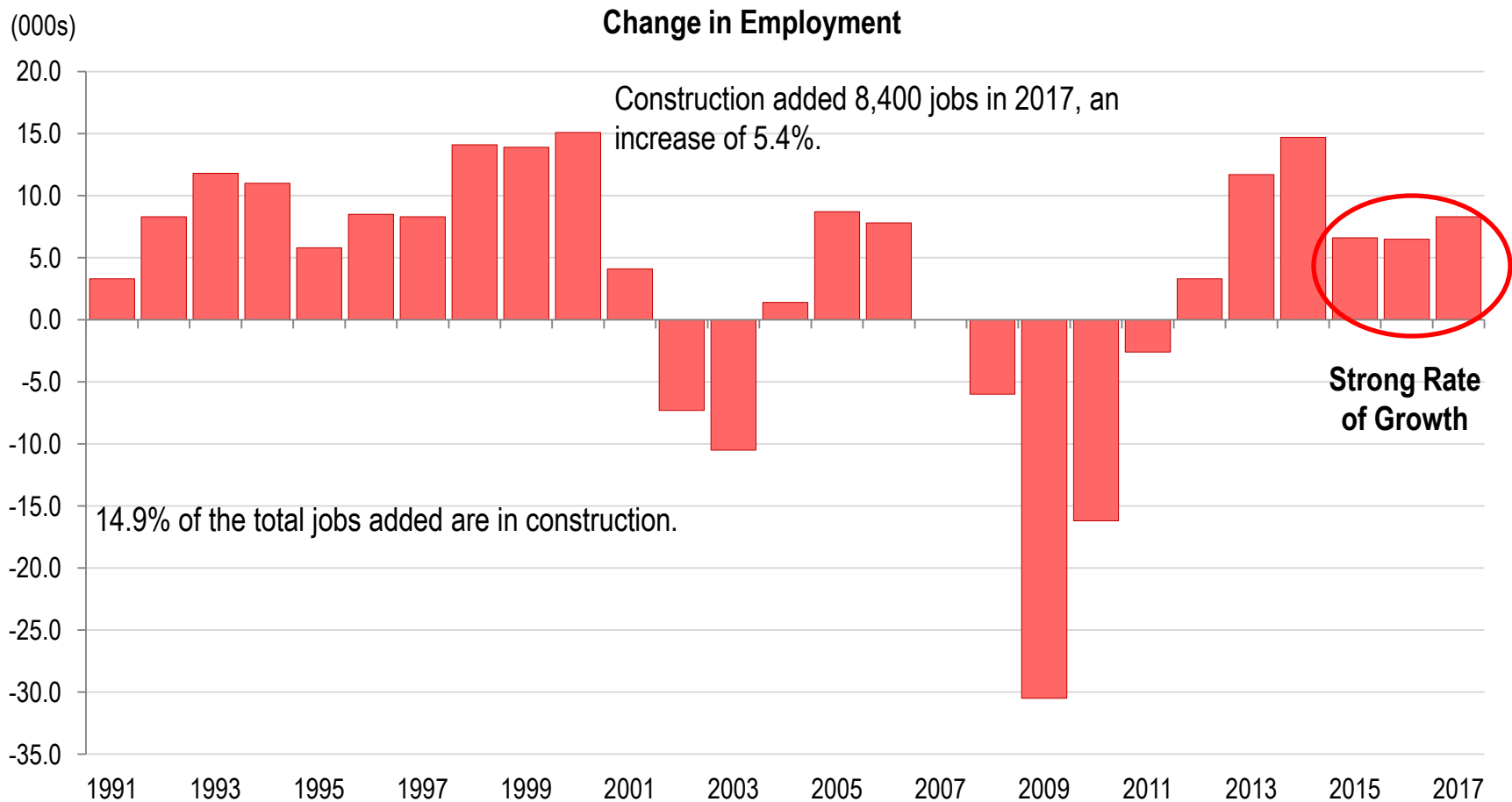


Source: Bureau of Labor Statistics, cber.co.

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Change in Employment

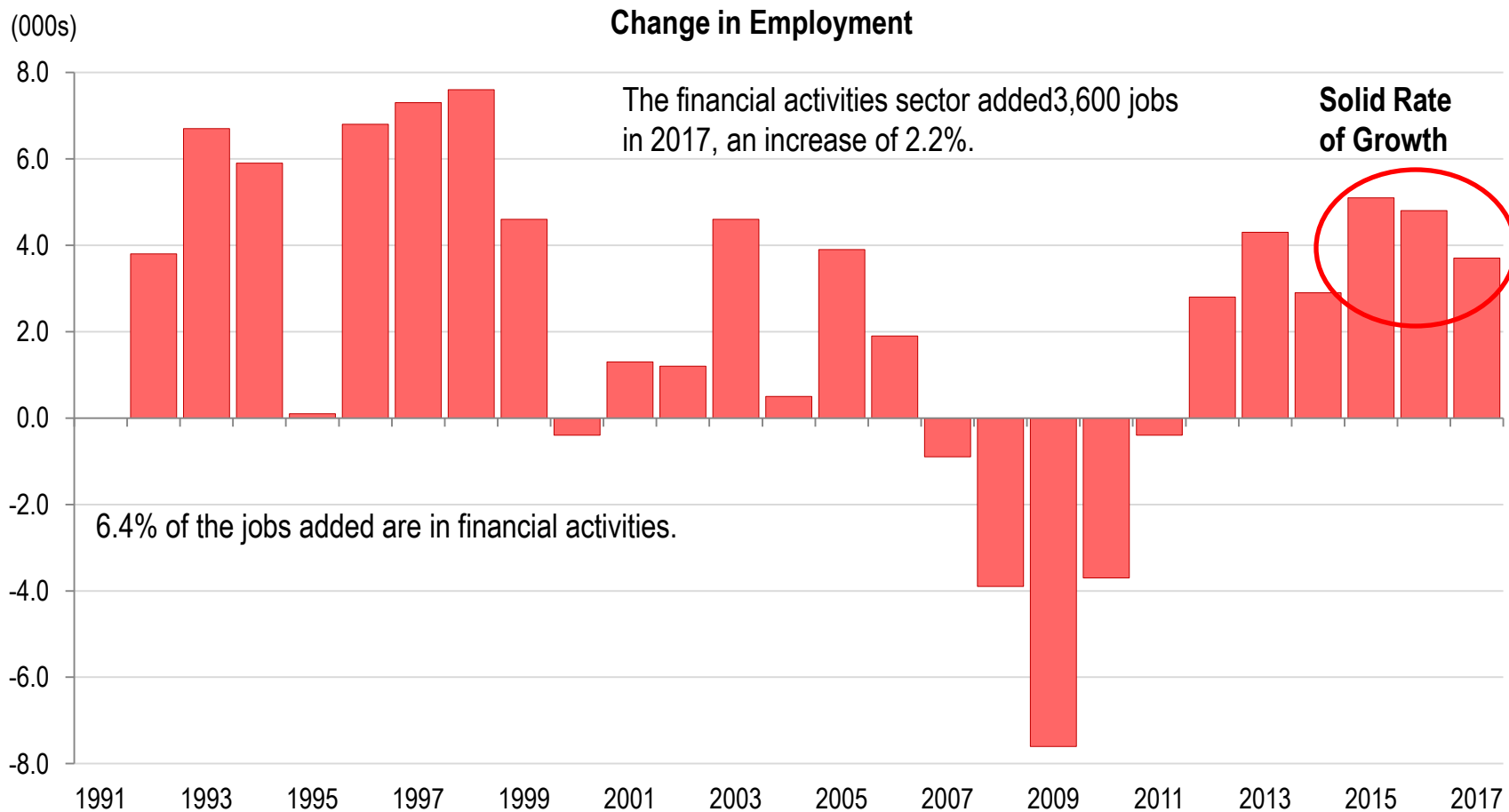
Construction



Source: Bureau of Labor Statistics, cber.co.

Change in Employment

Financial Activities



Source: Bureau of Labor Statistics, cber.co.

Putting the Benchmarked Data in Perspective

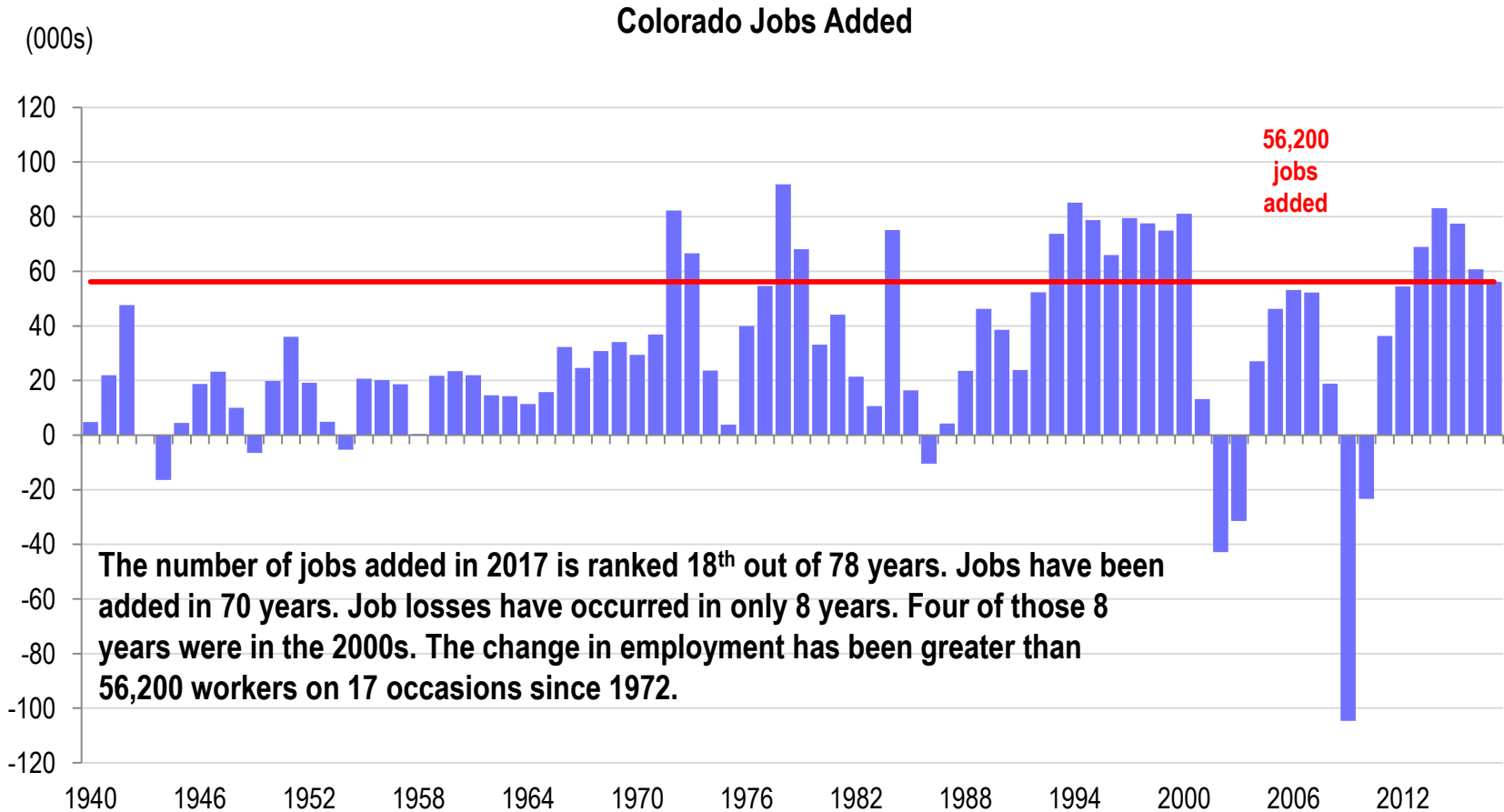
In 1954, Darrell Huff wrote the classic book, *How to Lie with Statistics*.

The following two charts look at the 2017 benchmarked data using concepts mentioned in Huff's book. Both charts accurately represent the facts, but they tell different stories.

This is the story – Colorado added 56,200 jobs in 2017, an increase of 2.2%.

- The first chart indicates there was comparatively solid job growth in 2017 (56,200 jobs were added) – ranked 18th of 78 years.
- On the other hand, the 2nd chart indicates the job growth in 2017 was below average (2.2% growth rate) – ranked 52nd of 78 years.
- Which is correct? They are both correct, but one tells a story of solid growth and the other tells a story of below average growth!

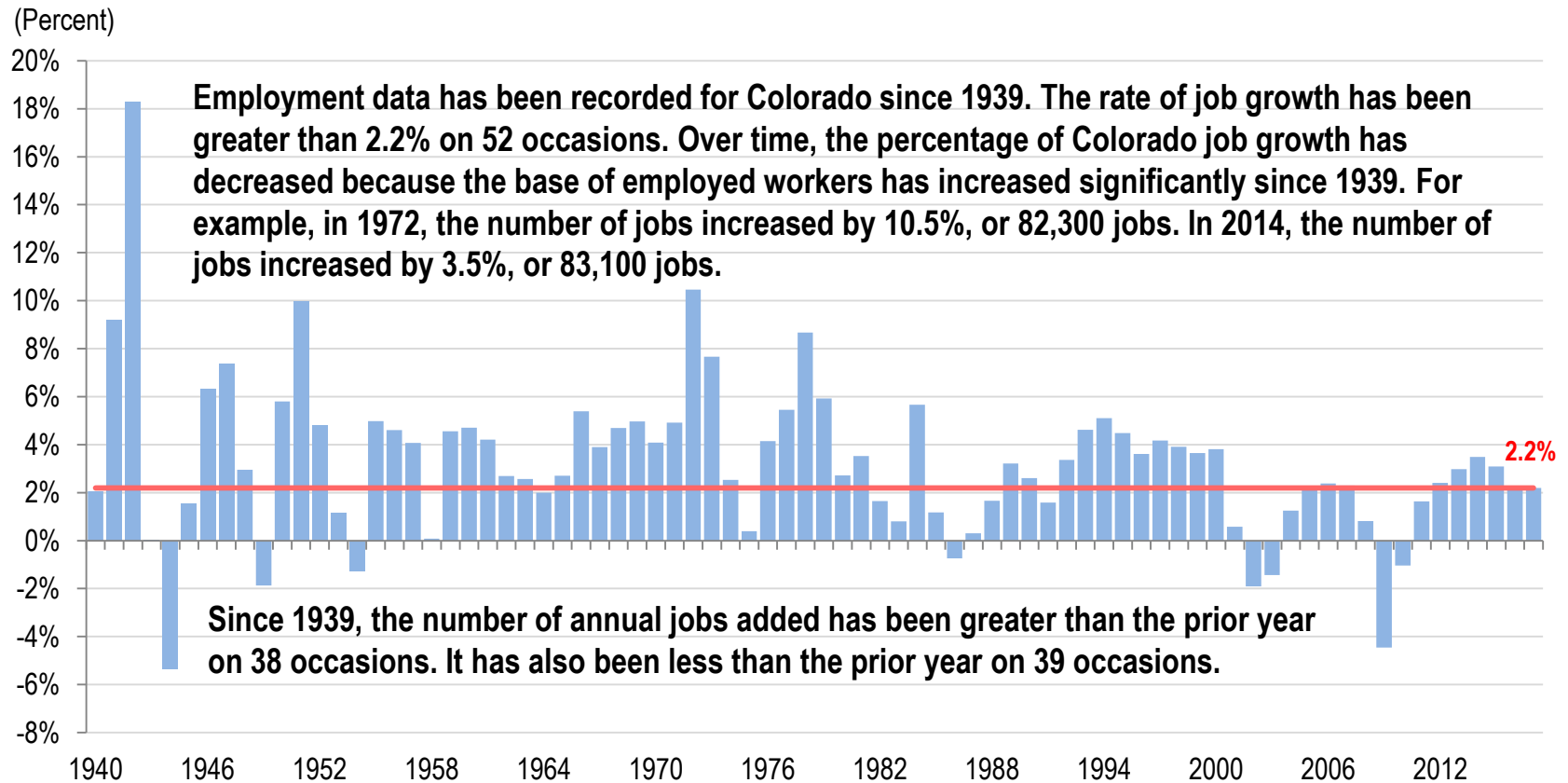
- The Projected Absolute Job Growth for 2017 (Total Jobs Added)
- will be the 18th Strongest Since 1939.
-



Source: Bureau of Labor Statistics, cber.co.

- The Projected Rate of Colorado Job Growth for
- 2017 will be the 52nd Strongest in 78 Years
-

Percentage of Jobs Added



Source: Bureau of Labor Statistics, cber.co.

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Colorado - Top Ranked Economy

In February, *U.S. News and World Report* ranked Colorado the number one economy in the U.S.

The benchmark 2017 Colorado data shows that:

- Absolute job growth was ranked 52nd of 78 years.
- Relative job growth was ranked 18th of 78 years.

Based on the *U.S. News* study, Colorado has the best economy in the country, and our job growth in 2017 was just “so-so” compared to previous years. What does this say about the state of the U.S. economy?

Take-Aways from the Analysis of Employment Growth

The following are 2017 employment trends that will carry over to 2018.

Good News!

- All three goods producing sectors added jobs – the extractive industries are back in positive territory and construction posted strong gains.
- Despite a slow start to the ski season, the leisure and hospitality industry showed strong growth.
- Healthcare continues to post strong job growth. A slight slowdown in 2017 occurred because of an anomaly.
- The volatile growth category had a better than average year.

Areas to Watch

- Despite solid retail trade sales, retail employment increased at a slower than usual rate.
- The professional business services supersector posted weaker than expected job growth in 2016 and 2017.
- Job growth in the strong and solid growth categories did not meet expectations for 2016 and 2017.



The Colorado Economy

Trends from 2017 to Watch in 2018

Trends from 2017 to Watch in 2018

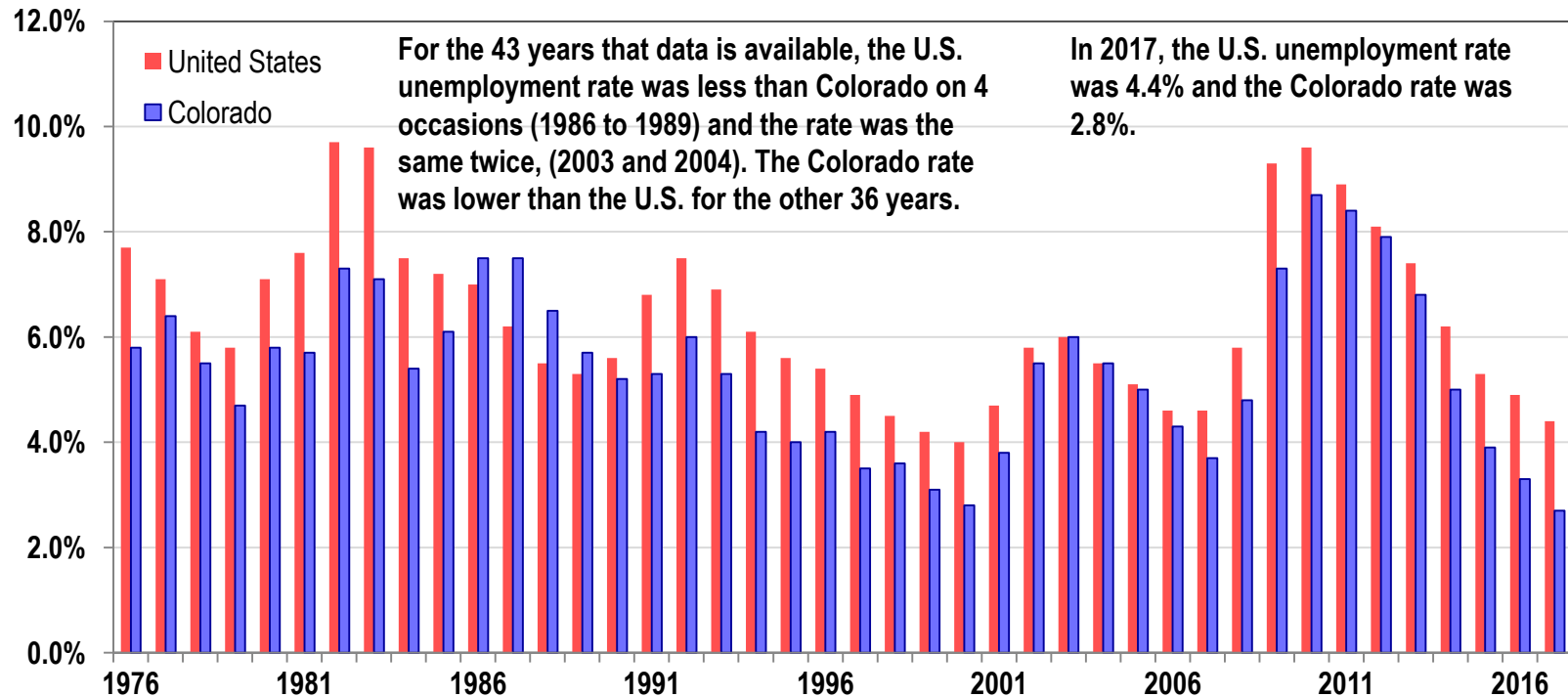
The following are trends that took place in 2017 that will continue in 2018. Data for these trends are provided on the following pages.

- Colorado's unemployment rate is less than the U.S. rate. People will continue to move to the state because they see opportunity here, but Colorado companies will struggle to find qualified workers. As a result, some companies will be unable to meet the needs of their customers. How long will unemployment remain below 4.5%?
- Typically, in times of low unemployment, wage growth is stronger than usual. That has not been the case in Colorado for the past ten years. When will wages increase at a higher rate?
- Population is expected to grow at a slower rate than in recent years. Fertility rates will continue to decline and net migration will be lower. Will the level of net migration meet the workforce needs of Colorado's businesses?
- In 2016 and 2017 the state's labor force and employment (household survey) increased significantly. There was strong net migration and current residents re-entered the labor force. Will this trend continue in 2018?
- Home prices in Denver will continue to rise. It will become even more difficult for newcomers and residents to find attainable and affordable housing. Will the lack of affordable housing cause the economy to slow or will it cause workers to leave the state?
- Colorado's inflation is increasing at a rate greater than the U.S., in part because of the sharp increase in housing prices. Will inflation be a deterrent to consumer spending and future growth in the state?

Annual Unemployment Rate

Colorado vs. U.S.

Unemployment Rate – Colorado vs. U.S.



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

Colorado Population

Components of Change

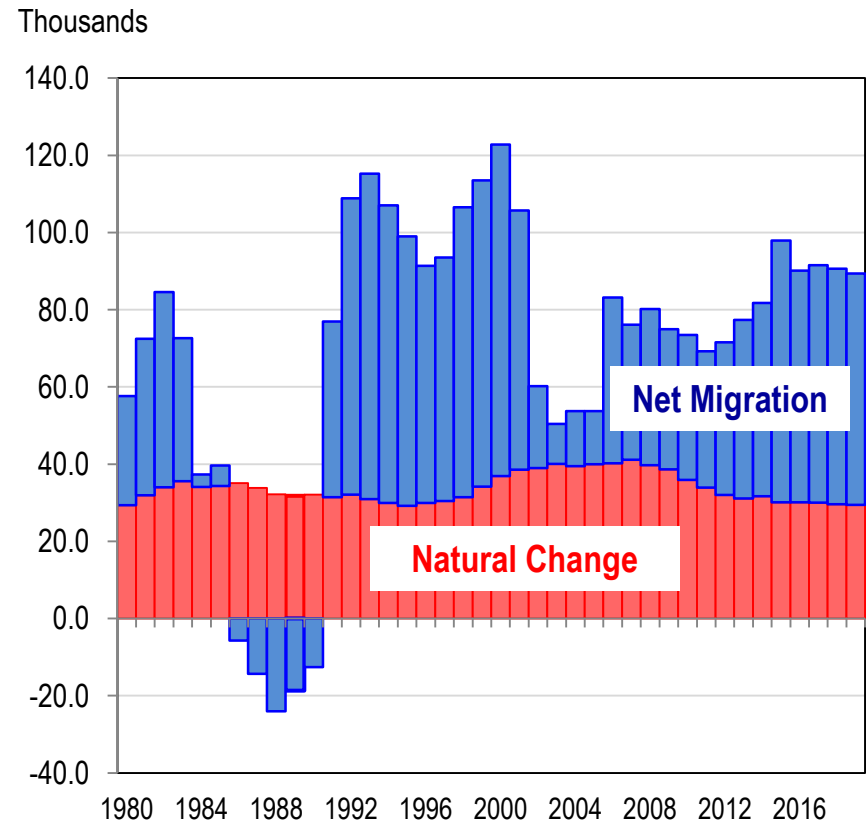
Population increases and decreases are a result of the natural rate of change (births minus deaths) and the change in net migration (people moving into the state minus people moving out of the state).

Over the past 3½ decades the natural rate of change (red bars) varied from a low of 29,145 in 1995 to a peak of 41,124 in 2007. In 2018 it is projected to drop to 29,400. Fertility rates in Colorado have declined.

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

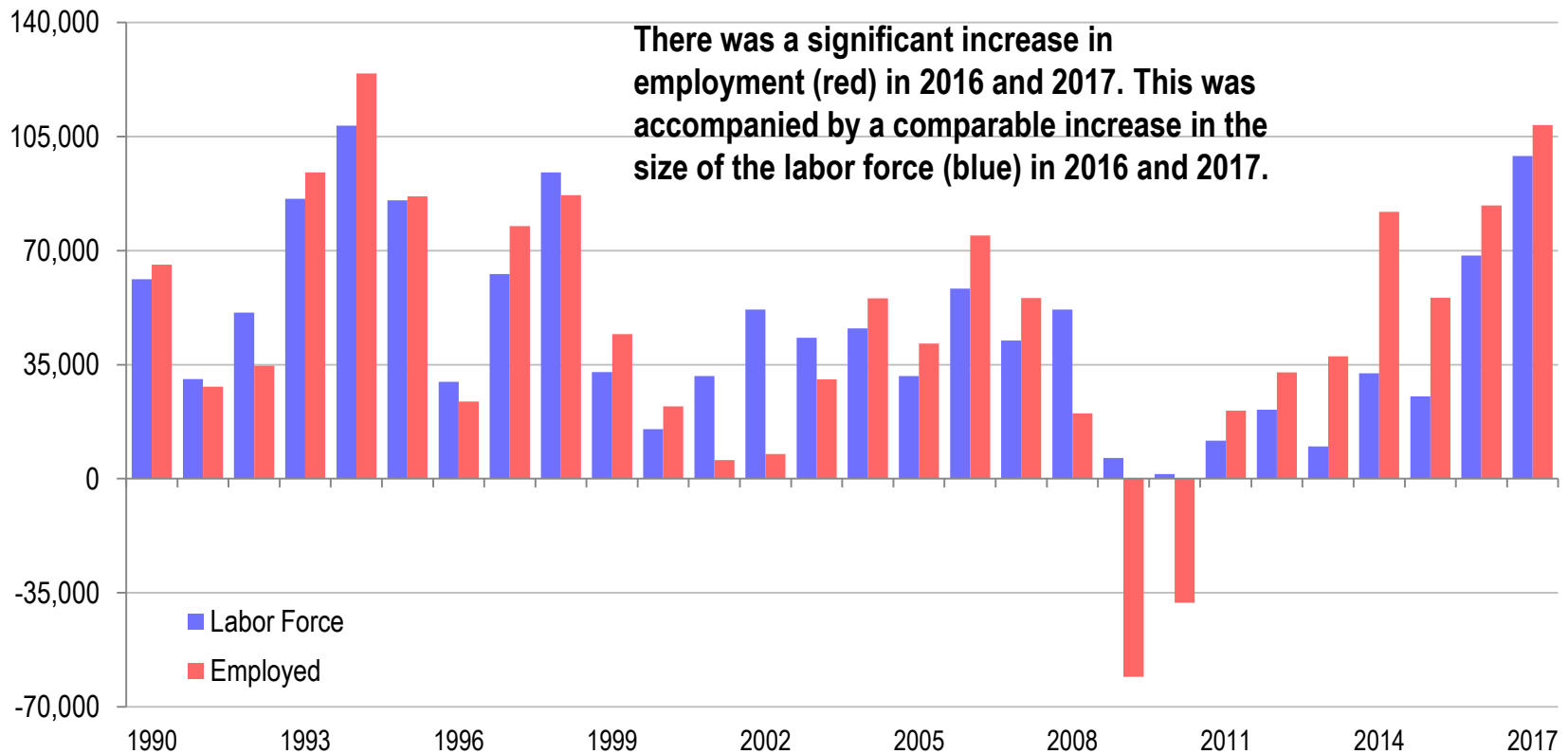
The Colorado population will increase by about 90,000 for the years 2015 to 2018. In 2018 the state's population will increase by 1.6% to 5,720,280.

Change in Colorado Population 1980 - 2019



Annual Change in Colorado Labor Force and Employment

Annual Change in Labor Force

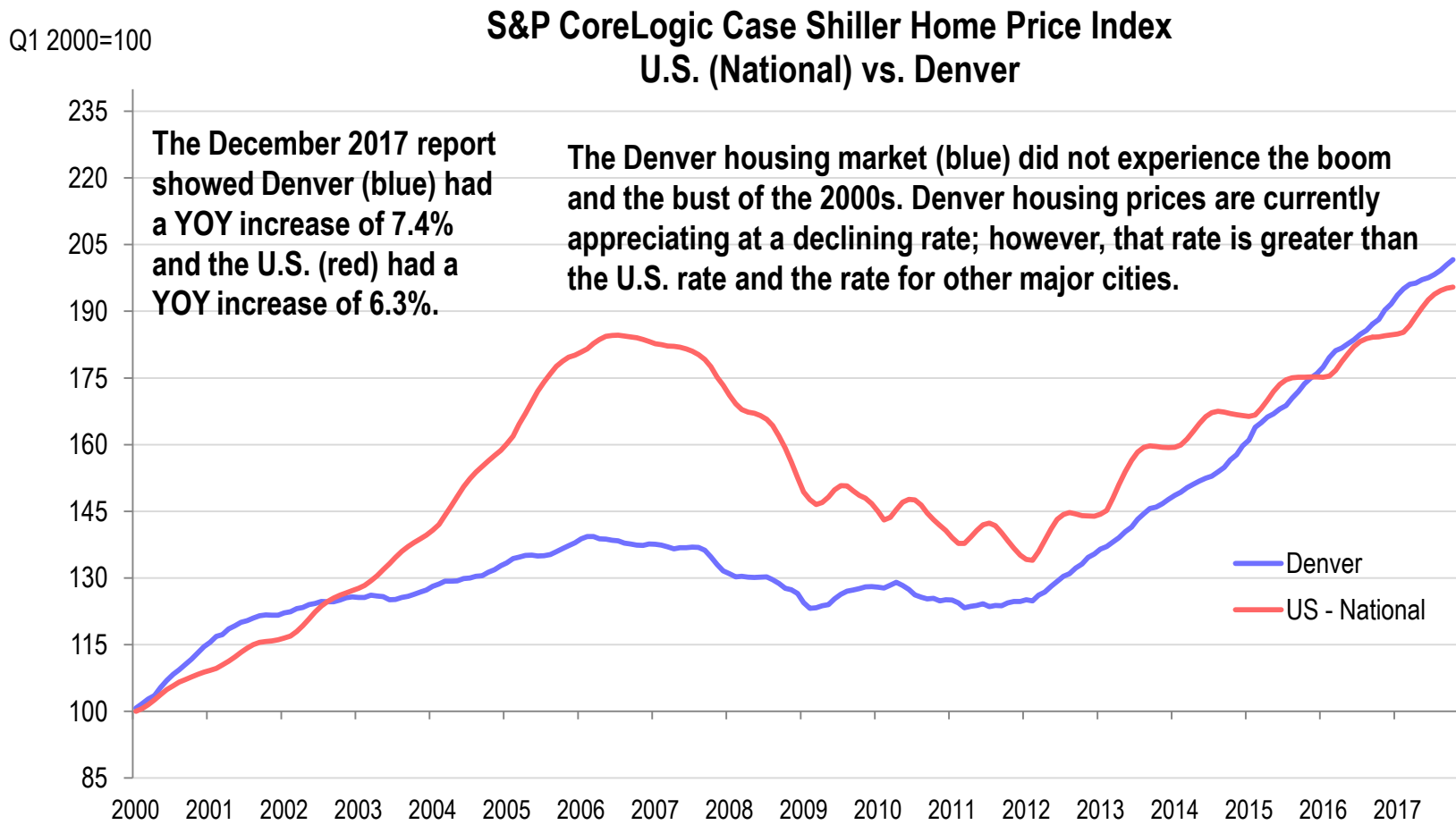


Source: Bureau of Labor Statistics, LAUS, cber.co.

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Case Shiller Home Price Index

National vs. Denver Index Value

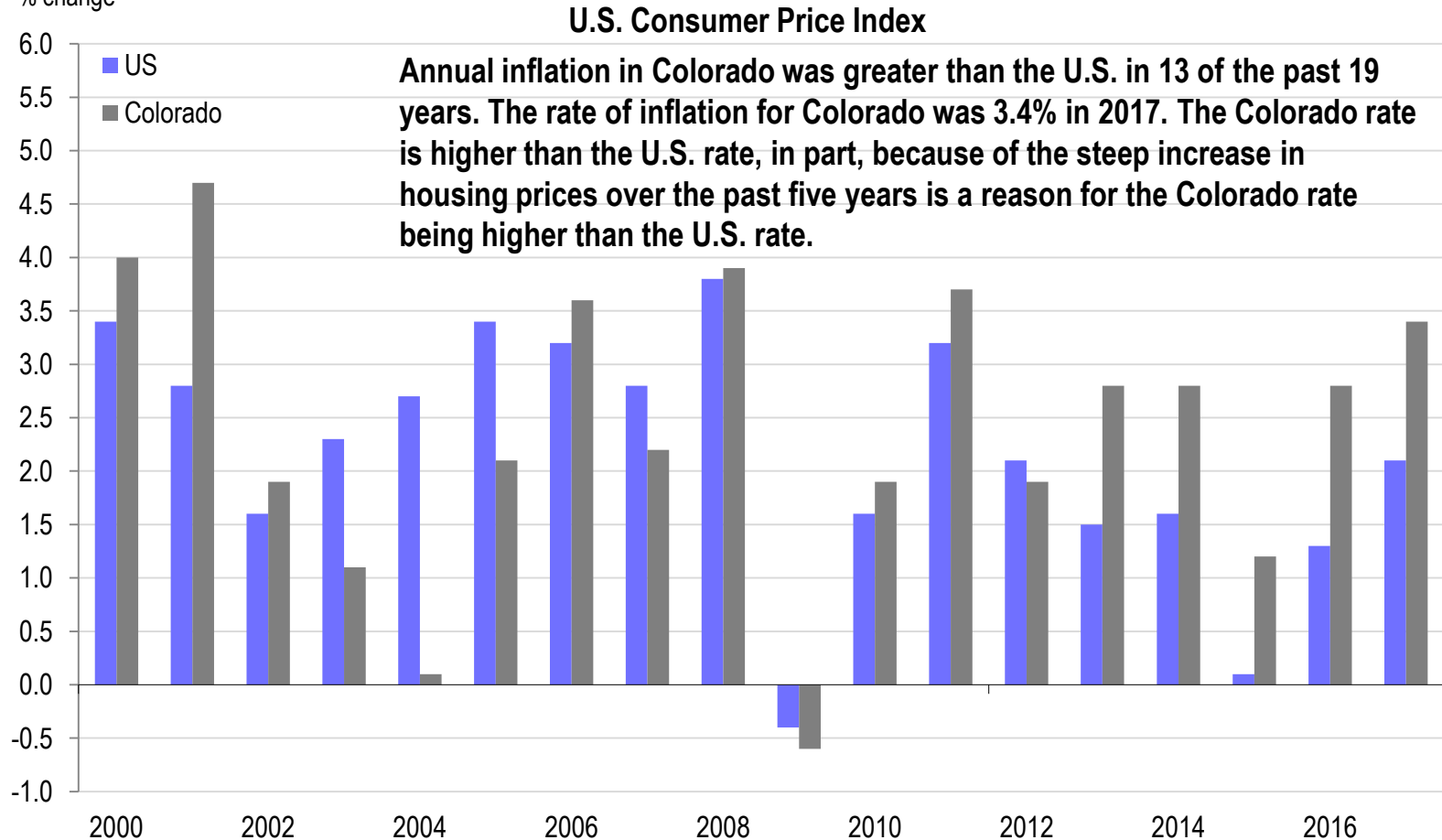


Source: S&P Core-Logic Case-Shiller, cber.co.

Consumer Price Index (CPI)

Colorado vs. U.S.

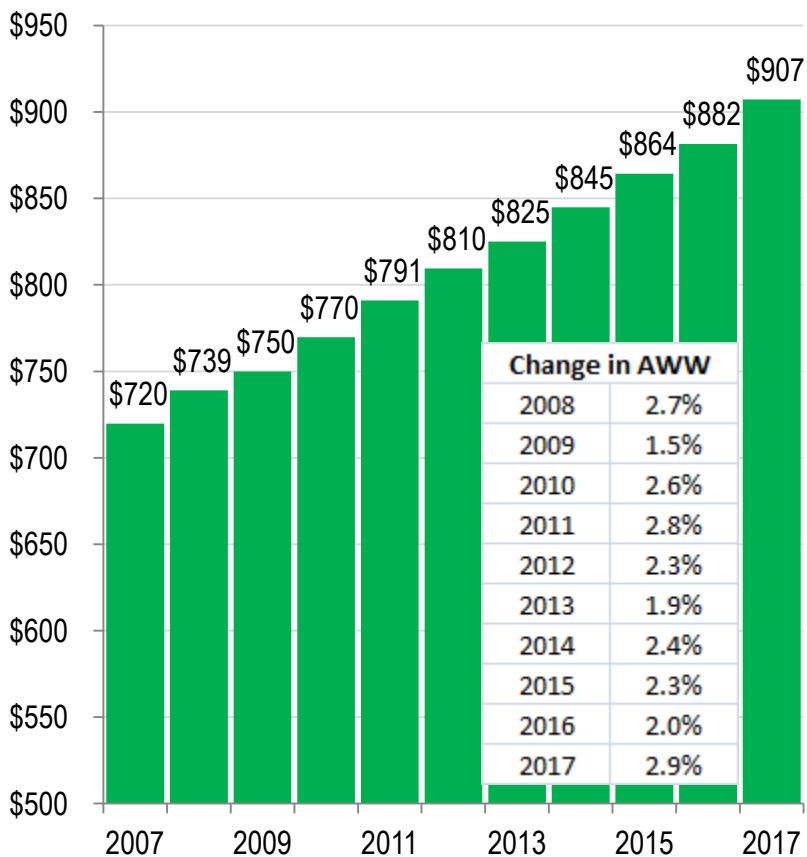
1982-84=100,
% change



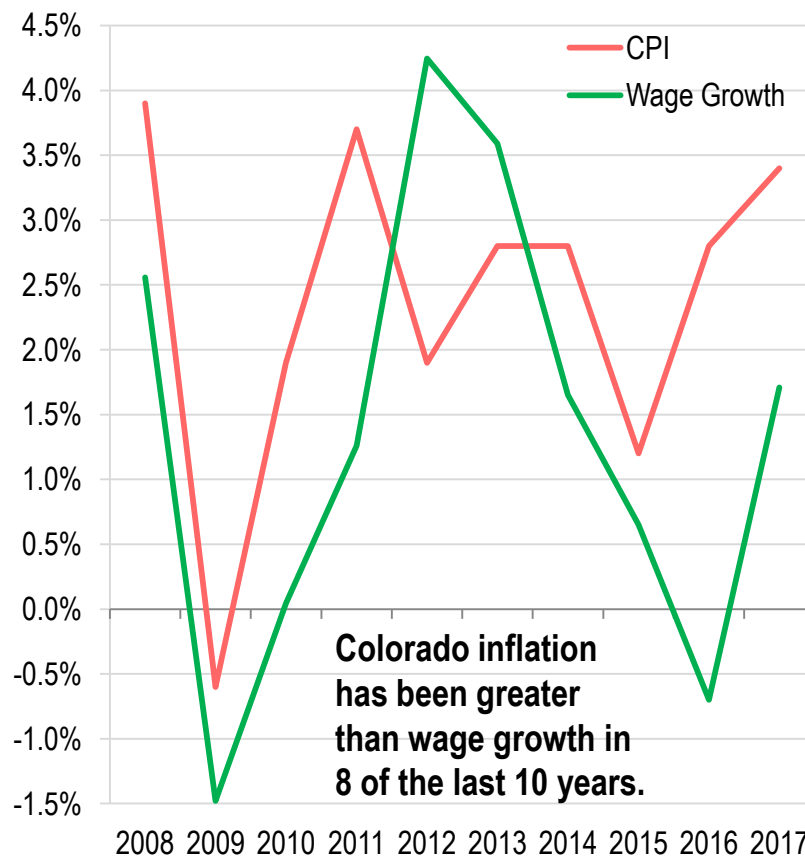
Source: Bureau of Labor Statistics, SA, cber.co.

Colorado Average Weekly Wage Growth

Average Weekly Wages



CPI vs. Wage Growth



Source: Bureau of Labor Statistics, SA, cber.co. Note: Wages do not include benefits.



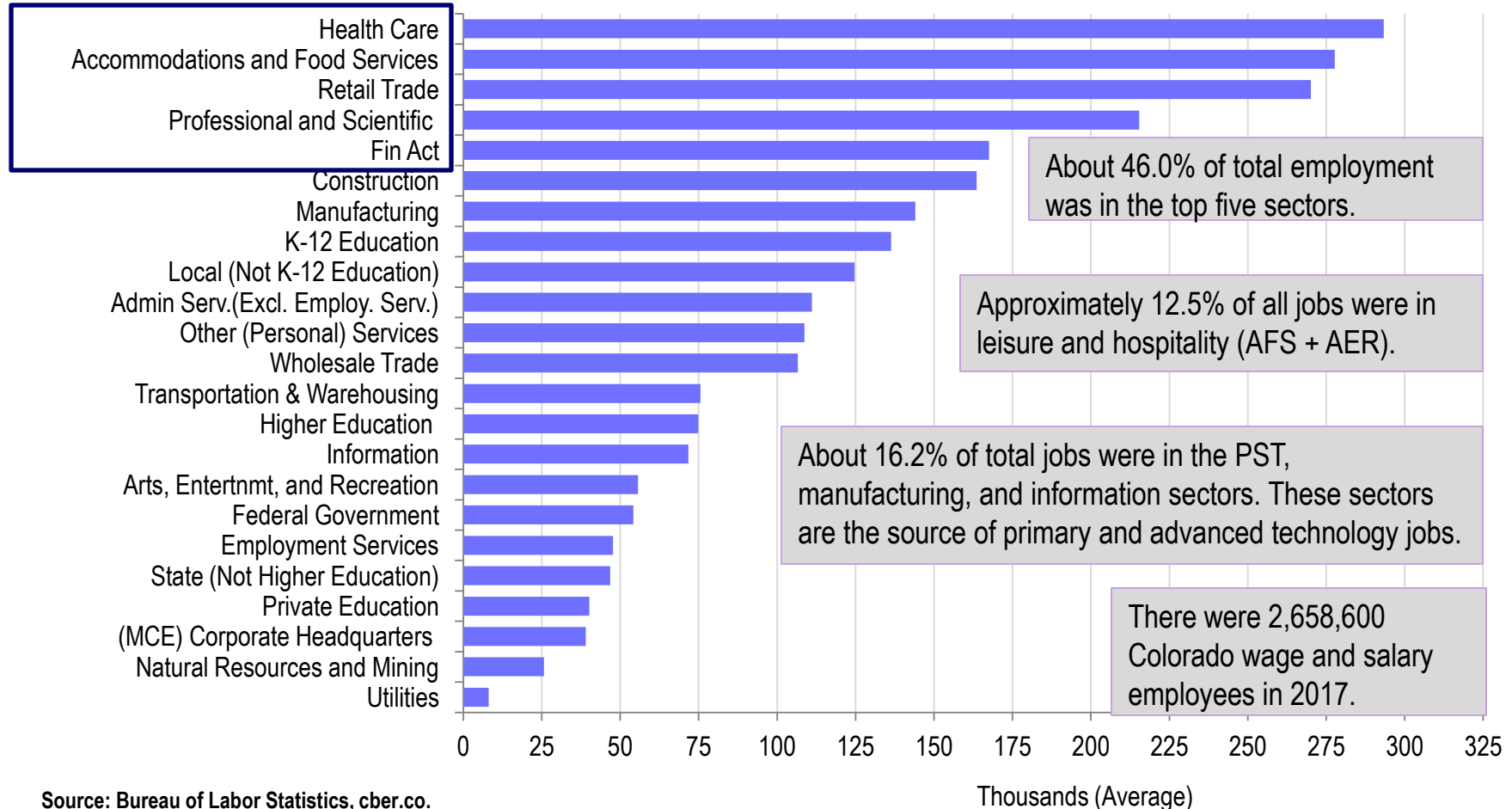
The Colorado and U.S. Economy

Summary

Colorado Wage and Salary Employment

2017 Benchmark Revision

Total Sector Employment



About 46.0% of total employment was in the top five sectors.

Approximately 12.5% of all jobs were in leisure and hospitality (AFS + AER).

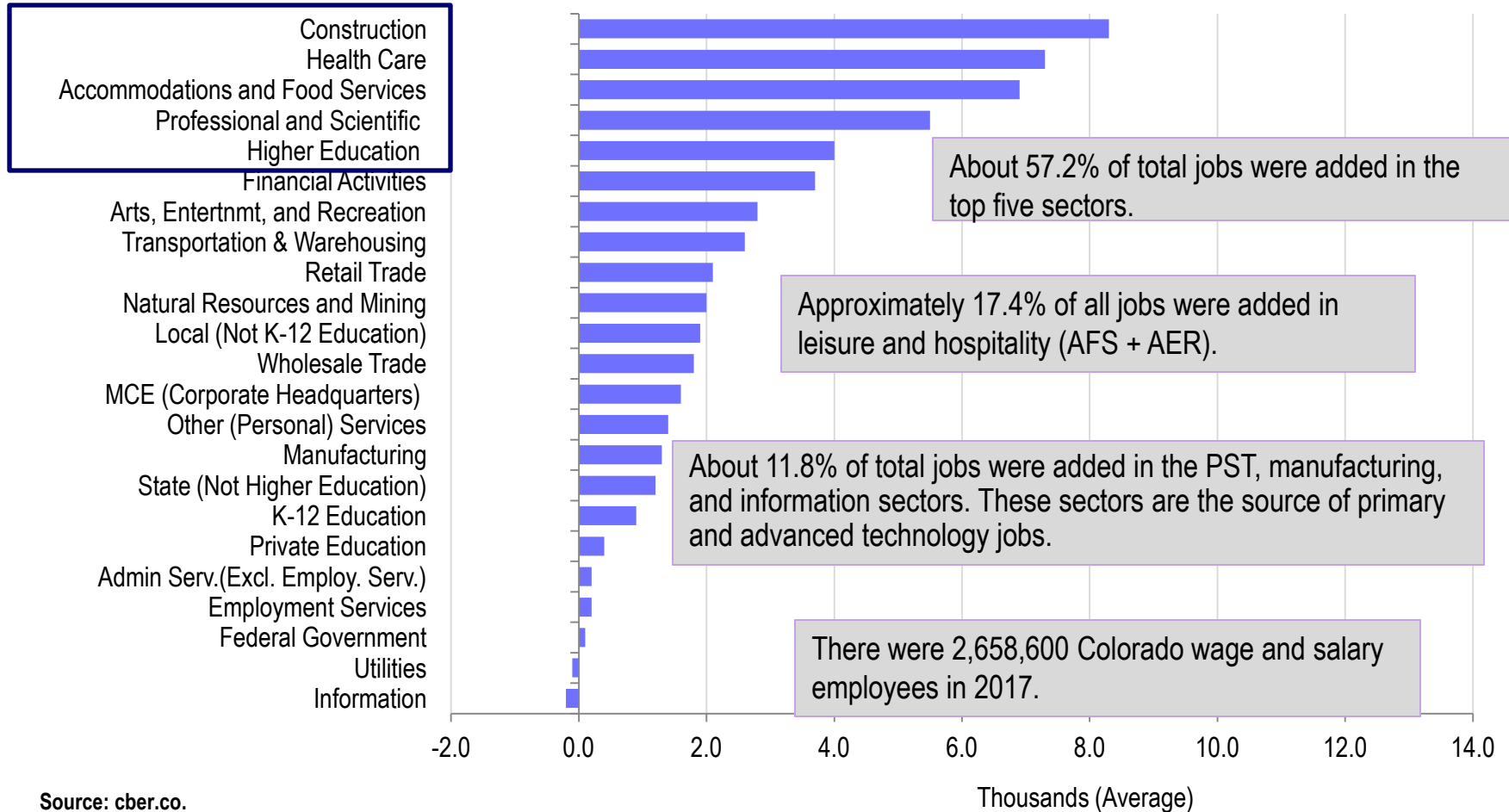
About 16.2% of total jobs were in the PST, manufacturing, and information sectors. These sectors are the source of primary and advanced technology jobs.

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

Projected Job Changes

2017 Benchmarked Changes by Sector

Job Change All Sectors



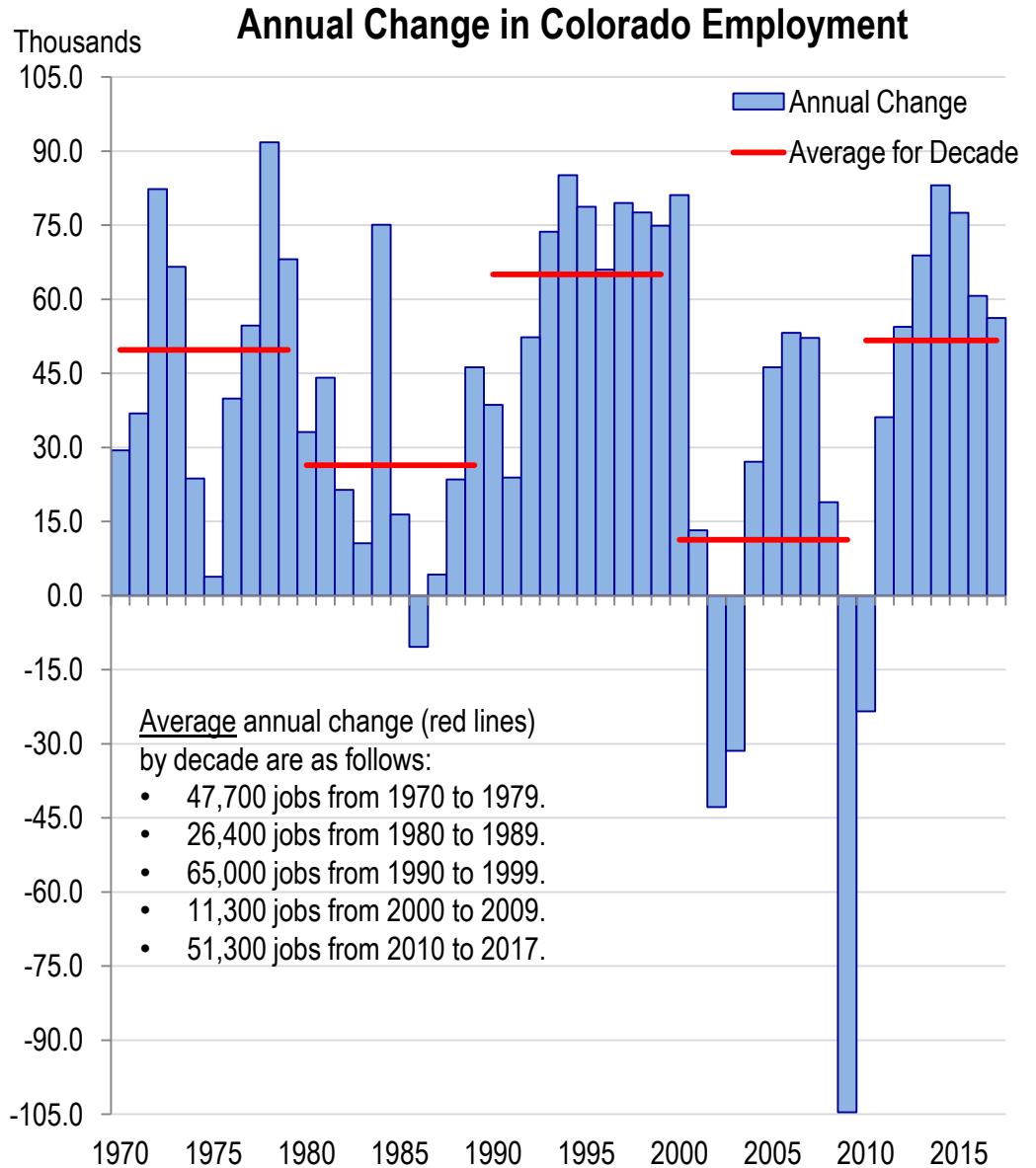
Source: cber.co.

● Annual Employment
● Change in Colorado
● Employment

The state added 56,200 jobs in 2017. Colorado employment increase by 2.2%.

For the first 8 years of this decade, Colorado has added an average of 51,700 jobs.

The forecast for 2018 calls for slightly slower job growth, in the range of 1.9% to 2.1%.



Source: Bureau of Labor Statistics, cber.co.



cber.co Review of Revised 2017 Colorado Employment Data

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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ABOUT THE AUTHOR

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

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

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