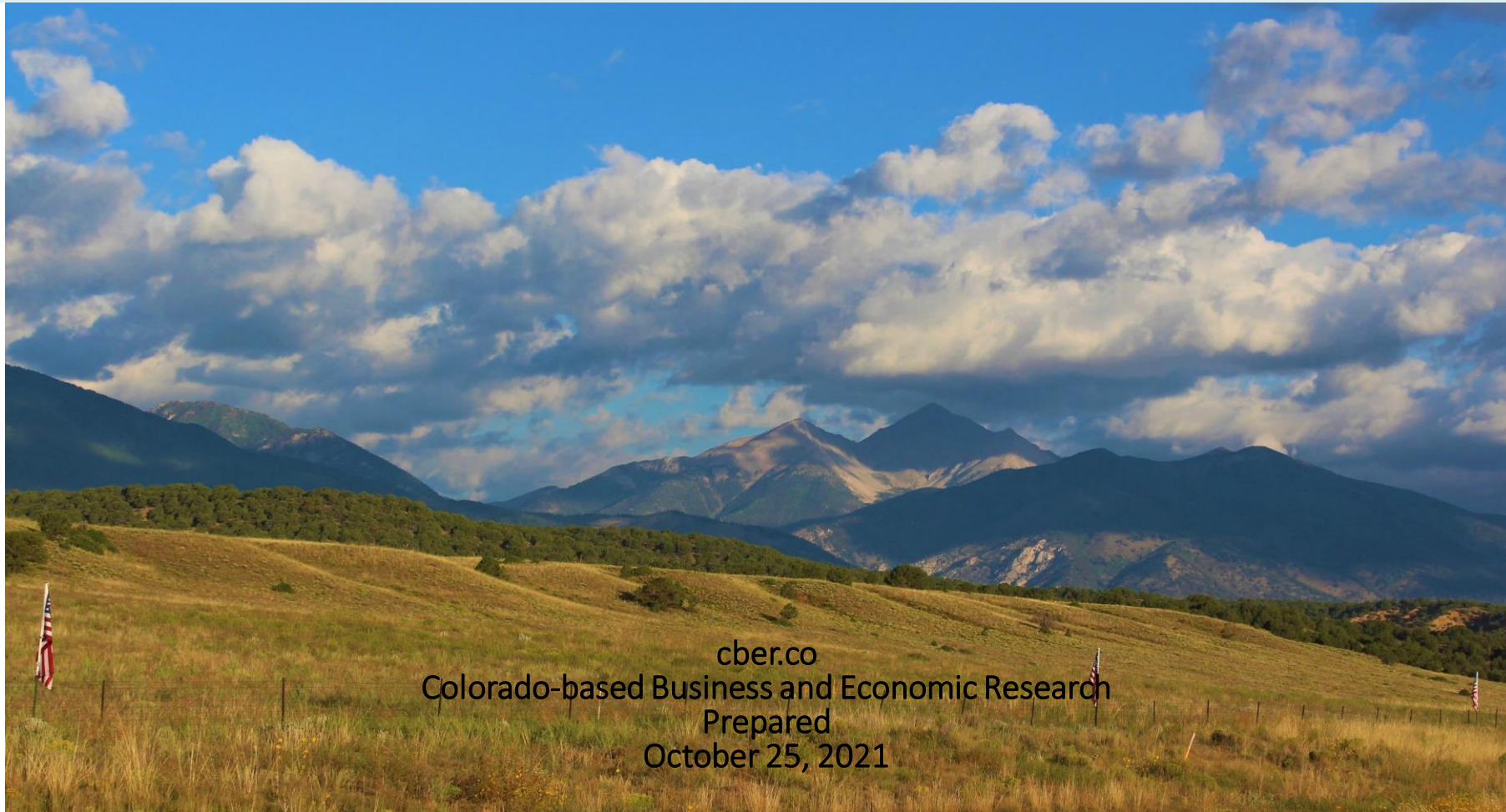


Review of Colorado Economy Through September 2021



Overview

The purpose of this chartbook is to review U.S. and Colorado data that show how both economies are recovering from COVID-19 policies.

In August and September, U.S. employment growth was well below the level needed to return to the pre-pandemic level in the short term.

The U.S. economy is facing multiple headwinds, such as vaccine policy and the number of cases of the Delta variant. There are also concerns about debt, the federal budget, and inflation caused by the excessive stimulus programs and supply chain disruptions. Business and consumer confidence indices have declined for these reasons, as well as concerns about leadership and the economy.

Economic growth slowed during Q3, but it may improve with holiday spending in Q4. Colorado seasonally adjusted employment data increased by 5,100 in September and 5,000 in August, slightly above the average monthly growth rate for 2019.

Chartbook Highlights

United States

- Real GDP
- U.S. and Colorado Employment
- Major Indices
- Other Key Metrics

Colorado

- Colorado Employment
- Select Industry Data
- Summary Colorado

Highlights

Key Points – United States

- Through the first nine months of 2021, the U.S. added about 5.1 million jobs, or a monthly average of about 561,000 workers. Current employment is 5.0 million jobs less than February 2020. Growth continues to be uneven across geographies, industries, and occupations.
- The recovery is masking problems that are preventing faster growth. Some industries are currently adding jobs at a rate below pre-pandemic levels.
- Consumer spending slowed in Q3. It will improve slightly in Q4.
- The price of oil is much higher than anticipated. It has been above \$60 per barrel since April 2021 and recently topped \$80 per barrel.
- Consumer and small business confidence has slipped. This lack of confidence foretells a slower rate of growth in the months ahead.

Key Points - Colorado

- Through the first nine months of 2021, Colorado added 109,900 jobs. Job growth was slowest in August and September, about 5,000 per month. The monthly average gain for nine months was 12,100 jobs.
- During the first half of the year, the Colorado inflation rate was 1.9% compared to 3.5% for the U.S. In September, it was 5.4% for the U.S. and 4.5% for Colorado.
- Colorado retail spending has been brisk in 2021.
- Oil production has slipped to 2017 levels.
- The number of passengers at DIA continues to increase. During the first half of 2021, DIA was the third busiest airport in the world. It was behind Atlanta and Dallas-Fort Worth.
- Through Q2, the number of housing permits is significantly above the level for the same period in 2020 – despite rising input costs and supply chain disruptions.

The United States Economy



Real Gross Domestic Product

United States

Key Points

As expected, the economy is expanding at a slower rate in the second half of 2021.

Real GDP will grow by 5.7% in 2021, with consumer spending of 7.9%.

U.S. Real GDP Growth

The Conference Board Forecast (October 13, 2021)

Real GDP and Economic Growth in 2021

The latest Conference Board forecast calls for real GDP growth of 3.5% in Q3 2021, followed by 5.2% in Q4. Real GDP growth for 2021 will be 5.7%, and a growth rate of 7.9% for personal consumption. Consumer spending will increase at a slower rate in the second half of 2021. Pent-up demand has been satisfied, and the Delta variant has slowed growth.

Other Economic Factors

The combination of disruptions in the supply chain and the level of stimulus spending led to increased inflation. The disruptions in the supply chain will continue into 2022. Inflation will fall back in 2022, but it will remain above the Federal Reserve's target rate. Continued government spending will support economic growth in 2022 and beyond.

Conference Board US Real GDP Growth Forecast

	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	2020	2021	2022
Real GDP	- 5.1%	- 31.2%	33.8%	4.5%	6.3%	6.7%	3.5%	5.2%	- 3.4%	5.7%	3.8 %
Personal Consumption	- 6.9%	- 33.4%	41.4%	3.4%	11.4%	12.0%	1.0%	4.1%	- 3.8%	7.9%	3.9%
Residential Investment	20.3%	- 30.8%	60.0%	34.4%	13.3%	-11.5%	-1.0%	3.0%	6.8%	10.3%	1.0%
Nonresidential Investment	-8.3%	-30.8	18.7%	12.5%	12.9%	9.2%	-2.3%	5.1%	-5.3%	7.0%	4.3%
Total Gov't. Spending	3.7%	3.9%	-2.1%	-0.5%	4.2%	-2.0%	2.0%	2.0%	2.5%	0.9%	2.5%
Exports	-16.3%	- 59.9%	54.5%	22.5%	-2.9%	7.6%	3.0%	5.1%	- 13.6%	4.6%	5.7%
Unemployment Rate	3.8%	13.1%	8.8%	6.8%	6.2%	5.9%	5.2%	4.8%	8.1%	5.5%	4.1%
PCE Inflation (%Y/Y)	1.7%	0.6%	1.2%	1.2%	1.6%	3.9%	4.2%	4.5%	1.2%	3.6%	3.0%
Core PCE Inflation (%Y/Y)	1.8%	1.0%	1.5%	1.4%	1.7%	3.4%	3.6%	3.9%	1.4%	3.1%	1.8%

Source: The Conference Board and cber.co.

Source: The Conference Board, <https://www.conference-board.org/publications/Economic-Forecast-US>, cber.co.

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

U.S. and Colorado Employment

Employment, Employment to Population, Unemployment, JOLTS

Key Points

U.S. employment has increased by 5.1 million through the first nine months of 2021.

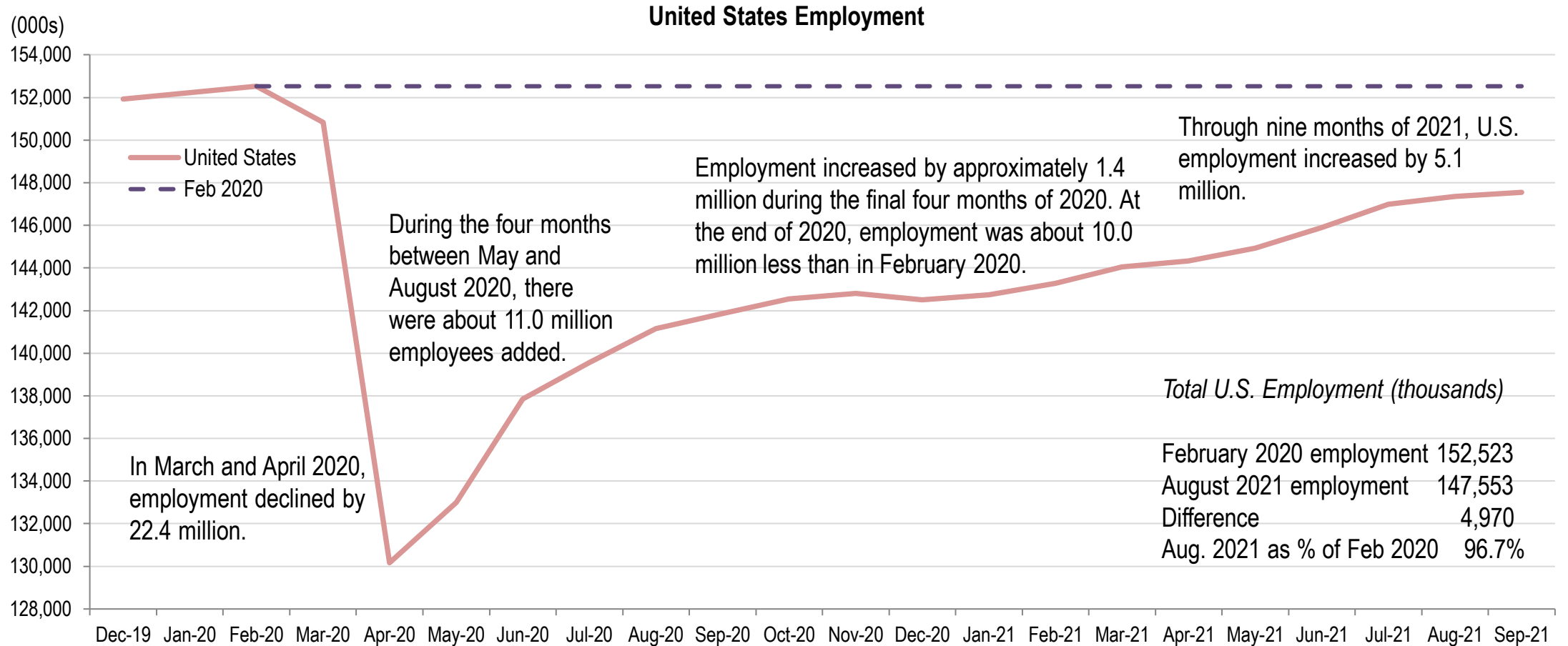
The Colorado unemployment rate continues to be greater than the U.S. rate.

The employment to population rate for Colorado is flat, while the U.S. rate is increasing.

The number of job terminations is at a pre-pandemic record level.

Employment

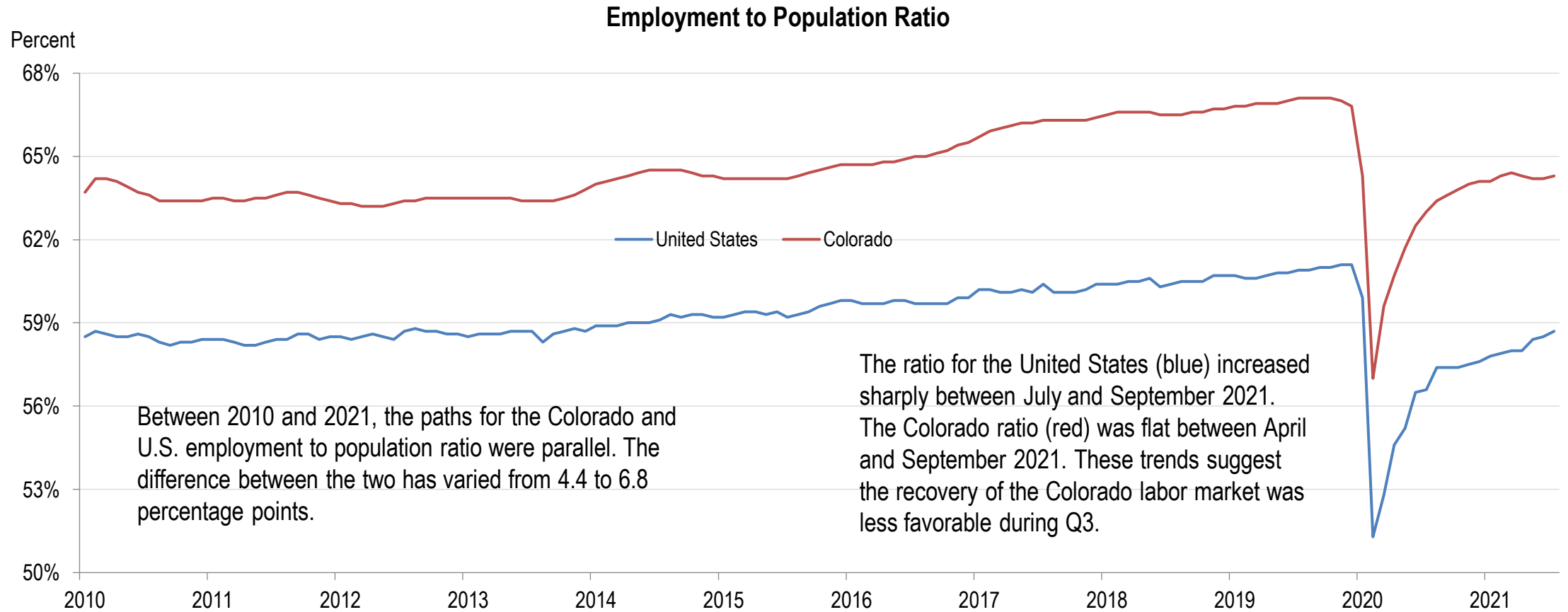
United States



Source: Bureau of Labor Statistics, cber.co.

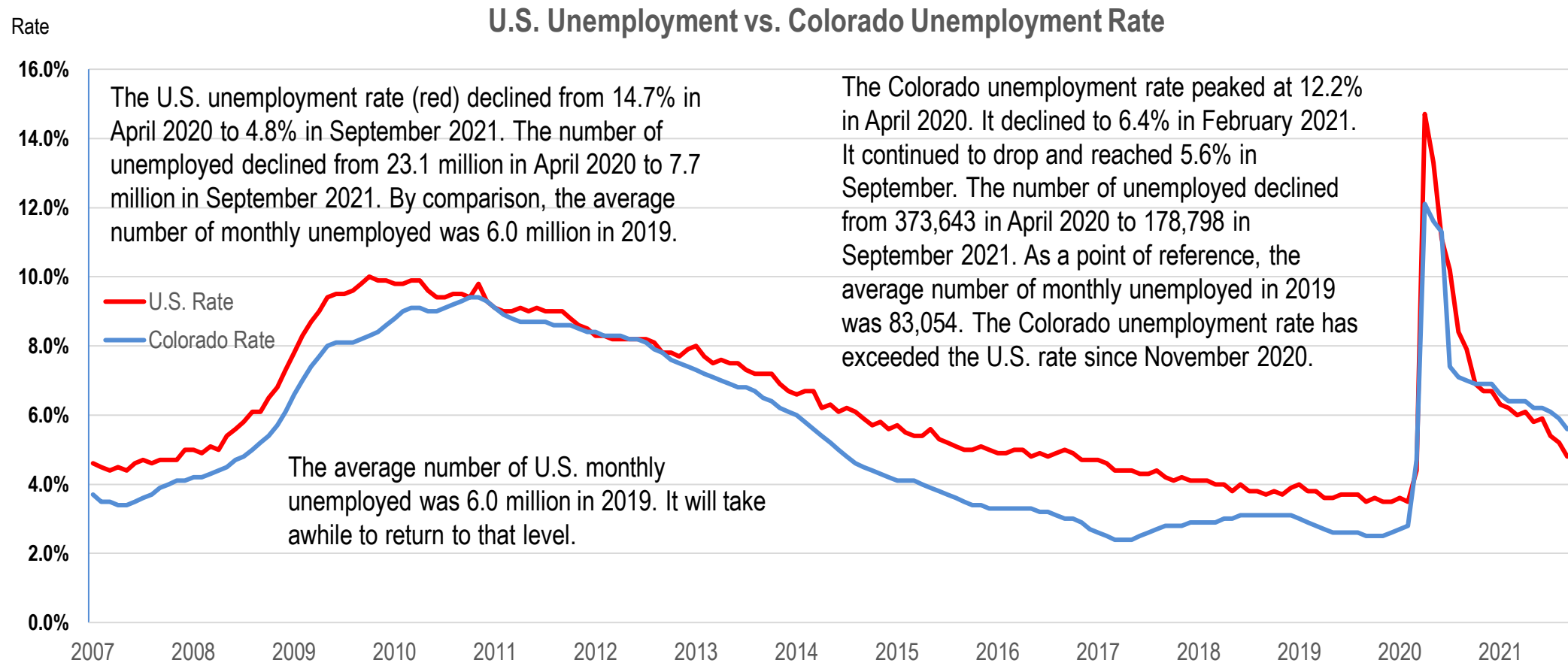
Employment to Population Ratio

United States to Colorado



Source: FRED, BLS, cber.co.

U.S. and Colorado Unemployment Rate

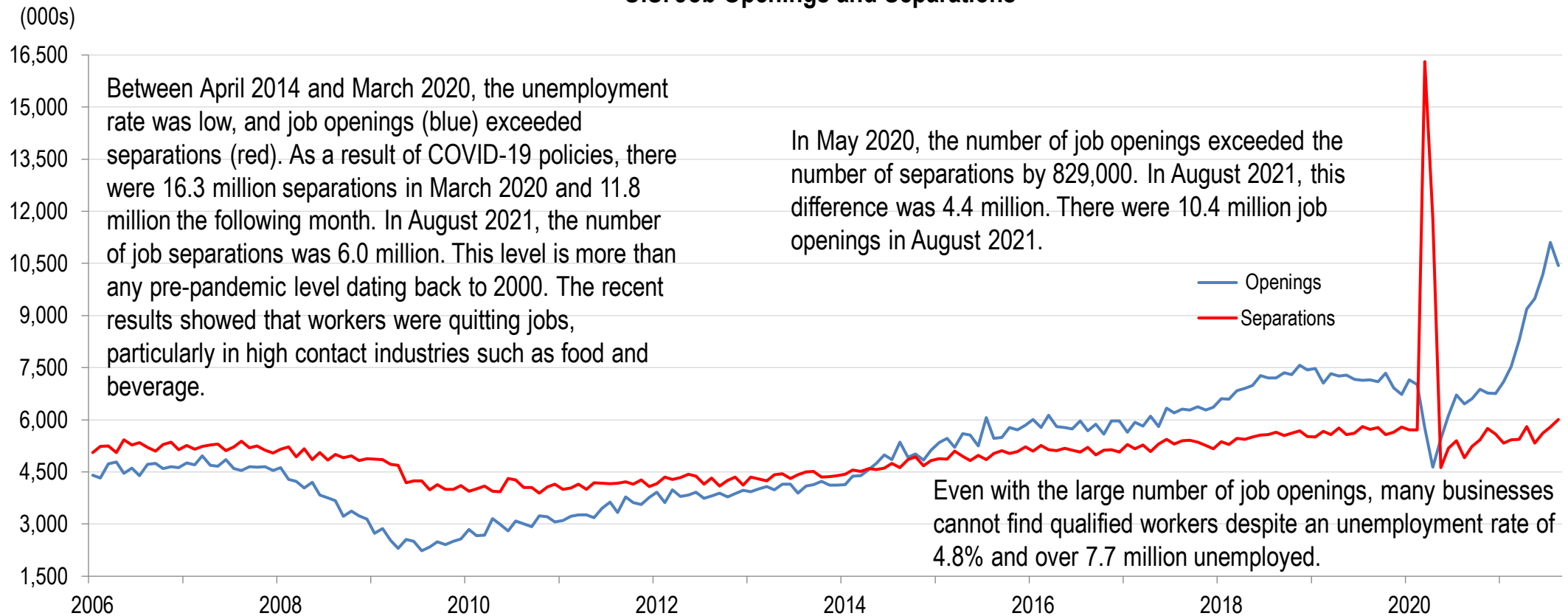


Source: Bureau of Labor Statistics and cber.co.

Job Openings and Separations

United States

U.S. Job Openings and Separations



Source: JOLTS, BLS, cber.co.

Major Indices

NAHB, Consumer Sentiment Index, NFIB Small Business Optimism Index, and Manufacturing and Services PMI Indices

Key Points

The HMI has declined as the year has progressed. Housing starts are strong.

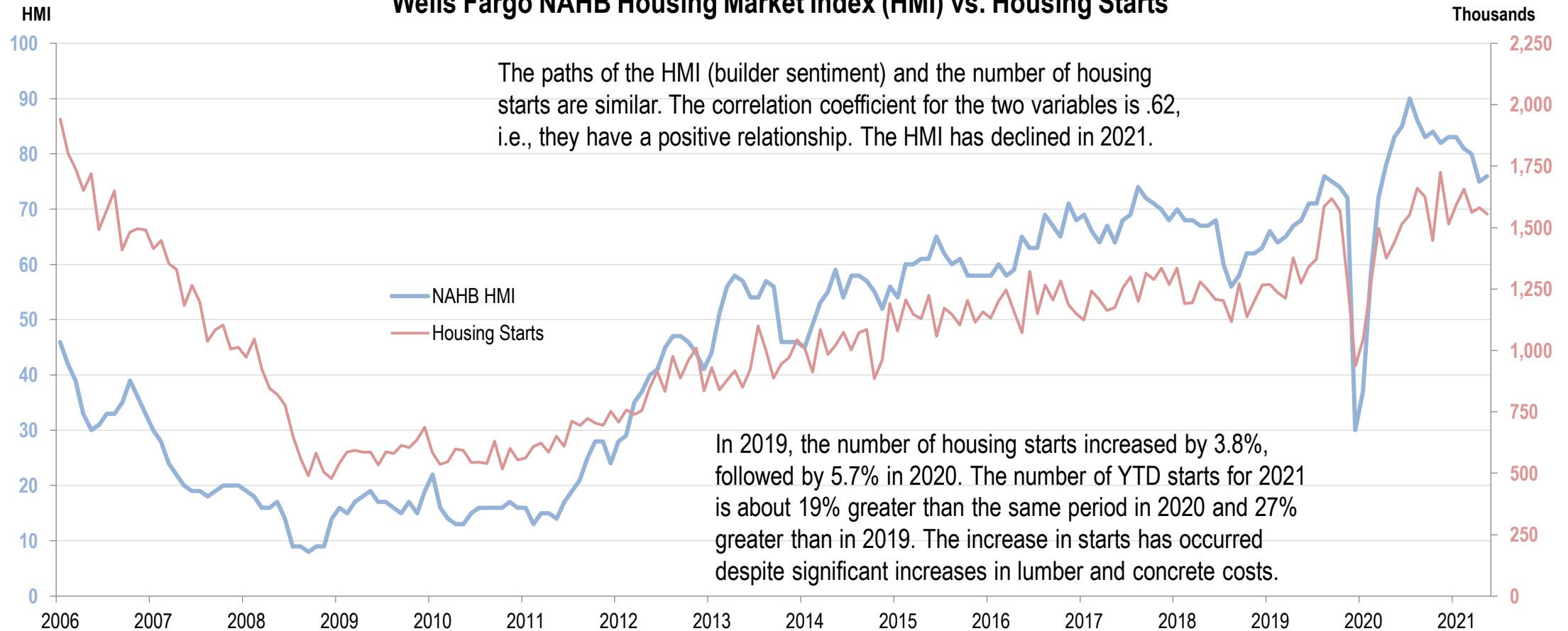
The Michigan Consumer Sentiment Index plummeted in August, dropping to its lowest level in over a decade. It has remained at that level through October.

The NFIB Small Business Optimism Index declined in September. There are concerns about the availability and cost of labor and the impact of inflation.

The indices for manufacturing and services have been in expansionary territory for 16 consecutive months; however, both industries face labor shortages and supply chain issues.

Wells Fargo NAHB HMI vs. Housing Starts

Wells Fargo NAHB Housing Market Index (HMI) vs. Housing Starts

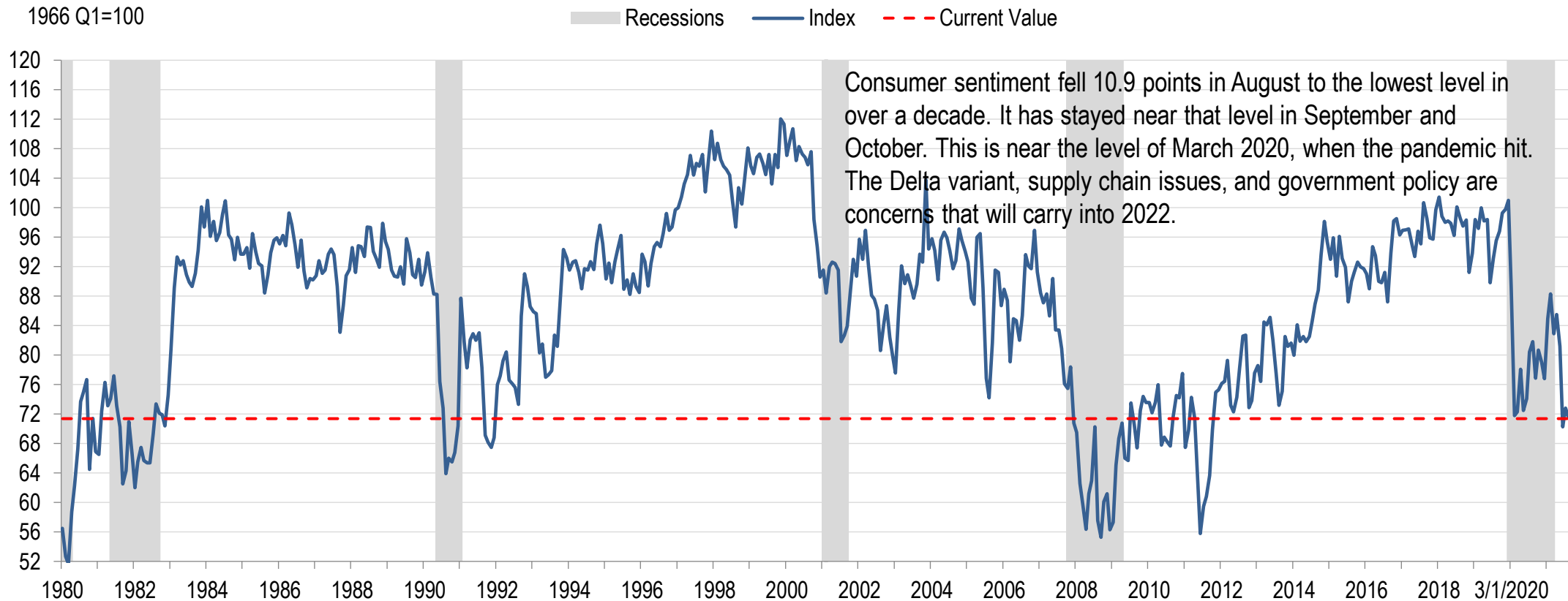


Source: NAHB, cber.co.

Consumer Sentiment Index

University of Michigan

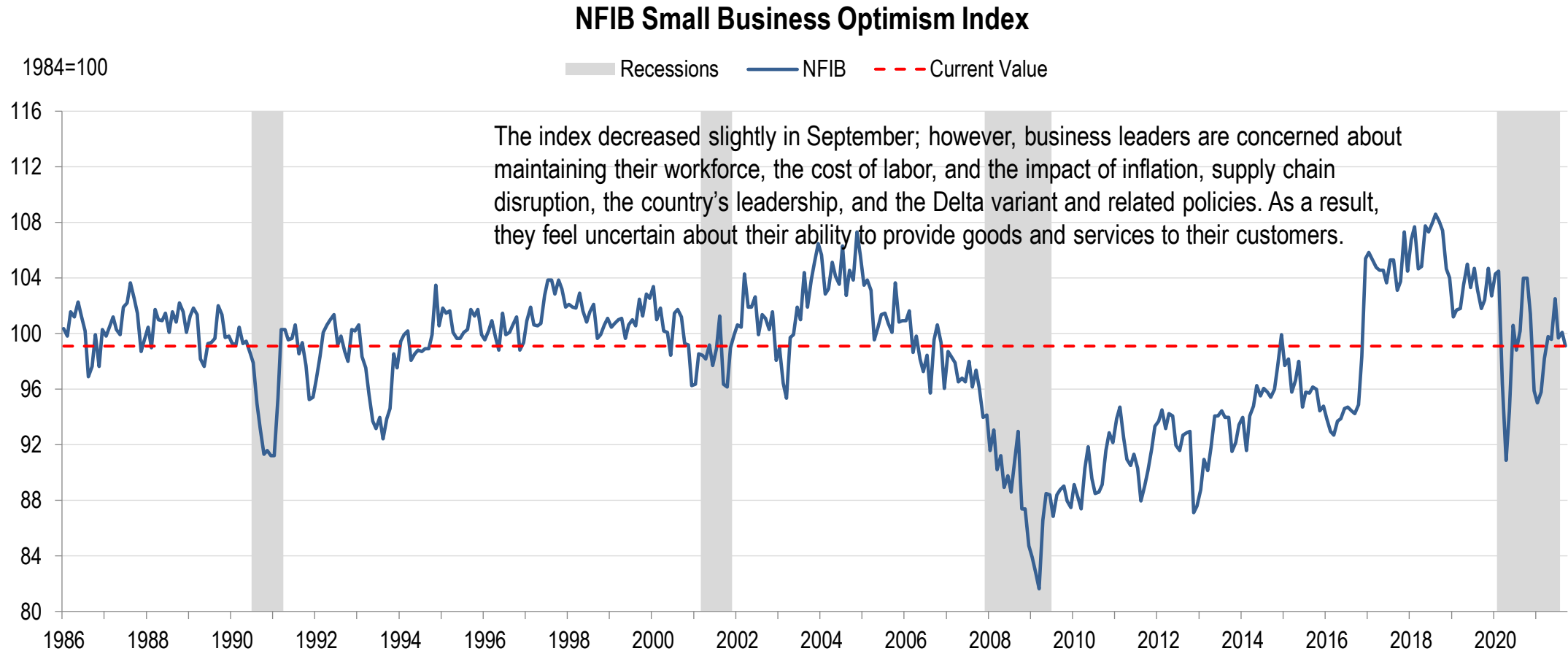
Michigan Consumer Sentiment Index



Source: University of Michigan, cber.co.

NFIB Small Business Optimism Index

United States

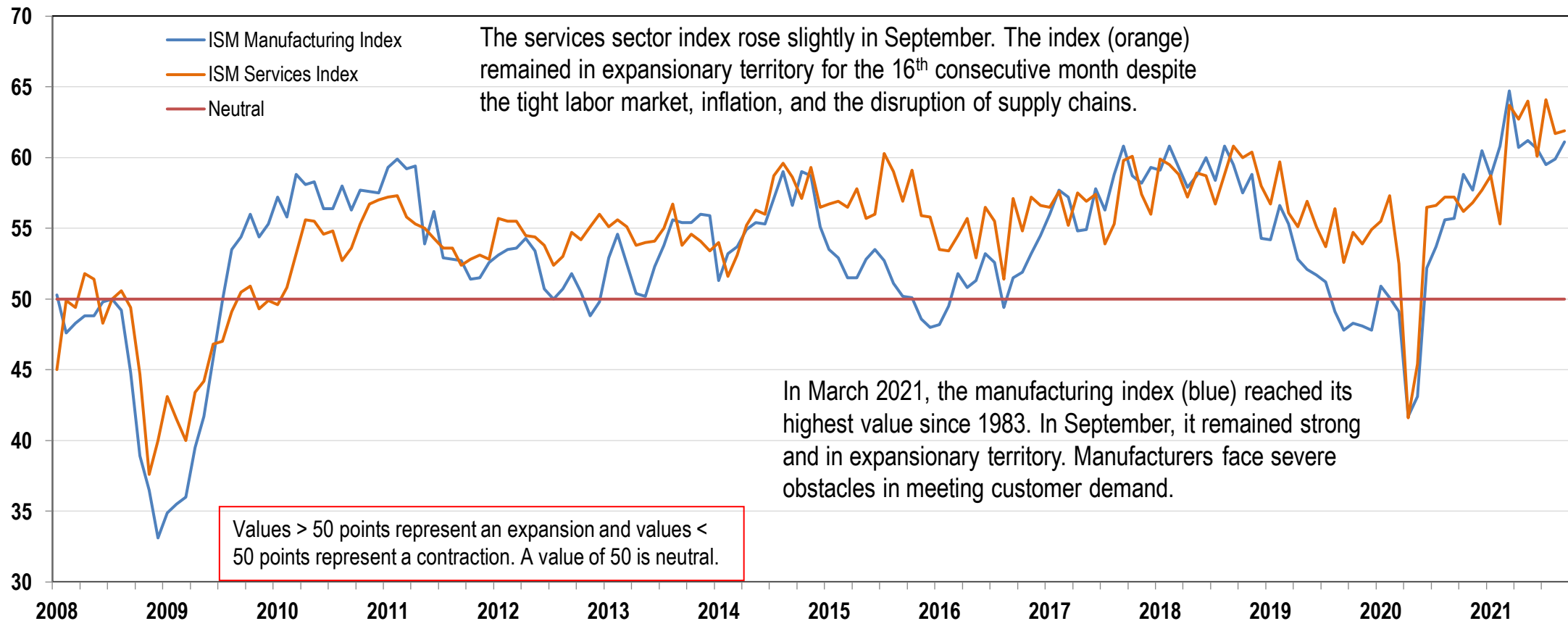


Source: NFIB, cber.co.

ISM PMI Composite Indices

Manufacturing vs. Services

ISM Manufacturing PMI vs. Services PMI Composite Indices



Source: Institute of Supply Management, cber.co

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Other Key Metrics

Light Truck and Auto Sales, S&P 500 Index, and WTI
Crude Oil Prices

Key Points

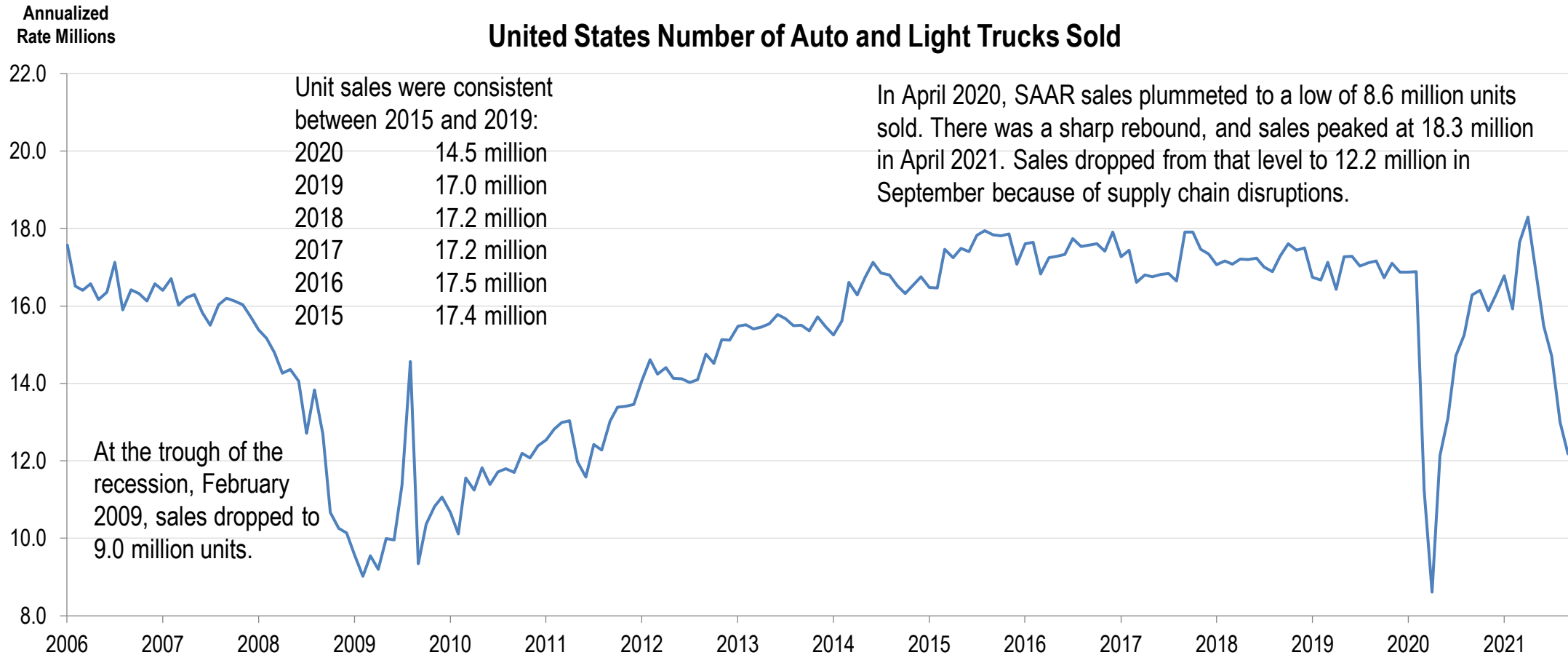
Light truck and auto sales fell sharply in April 2021 because of supply chain shortages.

The S&P Index posted double-digit gains in 2020. Strong growth has continued in 2021, although the market stalled in mid-September.

In 2020 the price for a barrel of oil declined because of lower demand. As the economy opened, demand increased. The price has been above \$60 per barrel since mid-April 2021. It topped \$80 in early October.

U.S. Auto and Light Truck (ALT) Sales

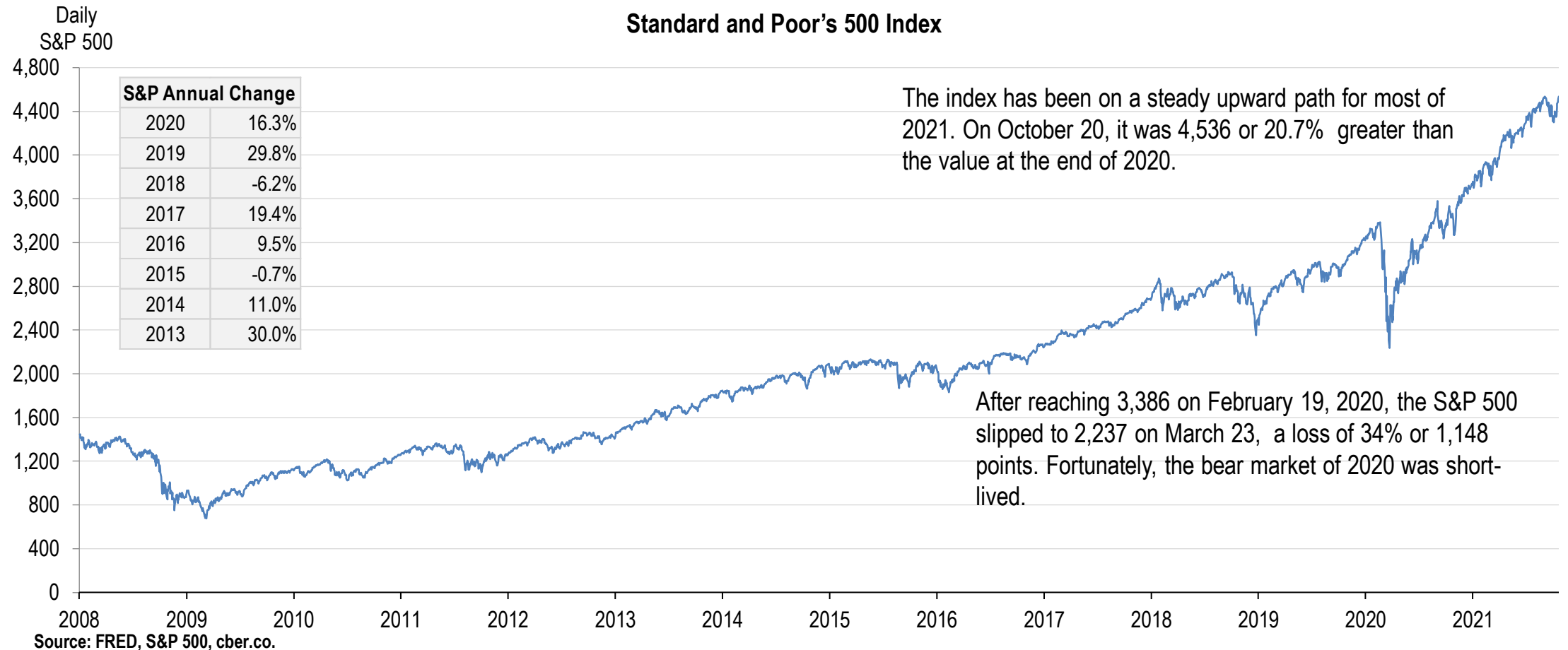
Monthly (Seasonally Adjusted Annualized Rate in Millions)



Source: FRED, Federal Reserve Bank of St. Louis, Seasonally Adjusted Annualized Rates (SAAR), cber.co.

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Standard and Poor's 500 Index

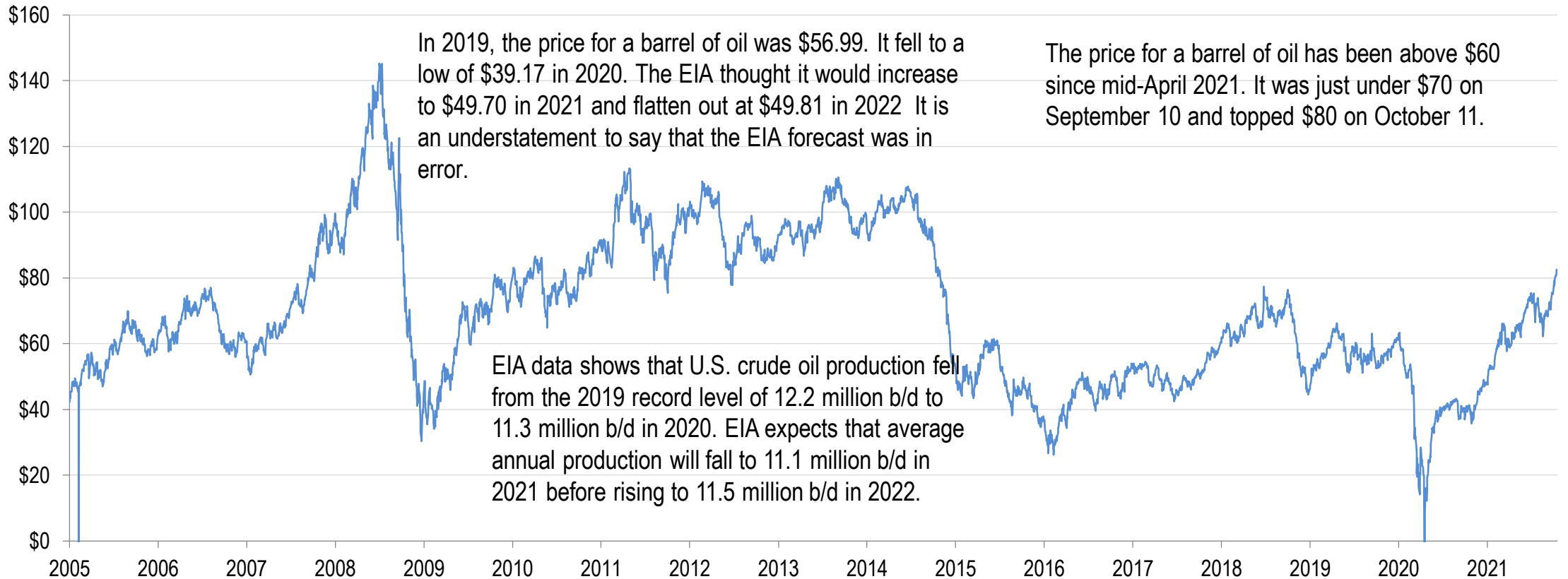


Crude Oil Prices

West Texas Intermediate

Dollars per
Barrel

Crude Oil Prices: West Texas Intermediate, Cushing, Oklahoma



Source: FRED, EIA, cber.co.

Colorado



Colorado Employment

Colorado Employment, Employment by MSA, and Summary of Employment

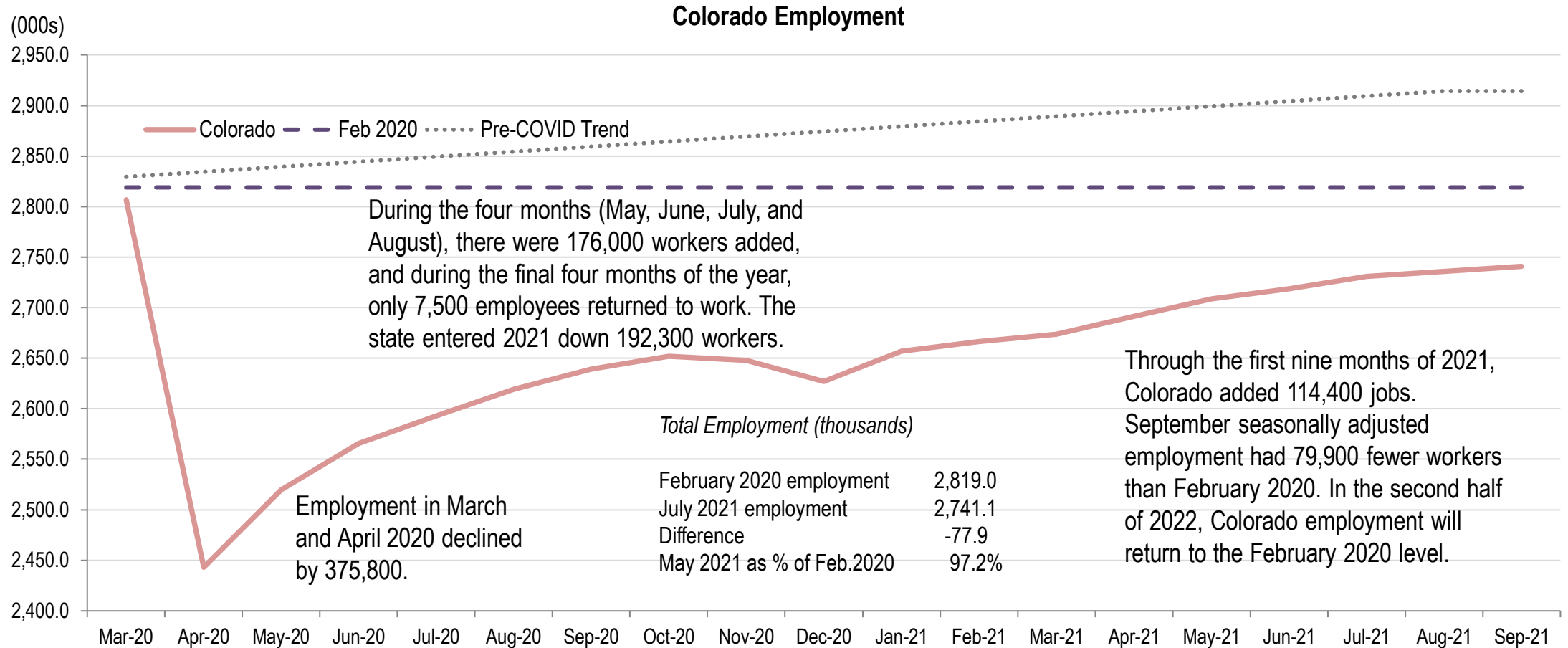
Key Points

The September seasonally adjusted wage and salary employment for Colorado was 79,900 less than February 2020.

The Colorado and Denver MSAs have recovered at a faster rate than other state MSAs.

Most of the Colorado employment shortfall is in the leisure and hospitality, healthcare, and state and local government sectors.

Employment Colorado



Source: Bureau of Labor Statistics, cber.co.

Change in Employment by Area

MSAs and non-MSA

Change in Employment by MSA/Non – MSA			
September 2021 vs. February 2020			
Area	Employment (000s) February 2020	September 2021 vs. February 2020 (000s)	September 2021 vs. February 2020 %
Colorado	2,741.1	-77.9	97.2%
Colorado Springs	304.3	-0.3	99.9%
Denver	1,519.8	-37.7	97.6%
Grand Junction	62.8	-2.2	96.6%
Pueblo	62.8	-2.3	96.5%
Boulder	193.9	-7.2	96.4%
Fort Collins	168.8	-7.6	95.7%
Non-MSA	320.7	-15.1	95.5%
Greeley	108.0	-5.5	95.2%

Source: BLS, cber.co
Note: The table is sorted in descending order by the far-right column/

Over the past year, the Colorado economy has had an uneven recovery across regions, industries, and occupations.

As of September, the Colorado Springs and Denver MSAs have recovered faster than other areas. Both are above the state average.

Grand Junction, Pueblo, Boulder, and Fort Collins are recovering at similar rates. Northern Colorado and the Non-MSA areas had the lowest rates of recovery.

Overall, Colorado employment for September 2021 is 97.2% of the employment for February 2020.

Summary of Employment Recovery

United States and Colorado

Colorado employment through September 2021 was 77,900 below the value for February 2020 and the U.S. was 4.97 million below the February 2020 value. Most of the employment shortfall is in the leisure and hospitality, healthcare, and state and local government sectors.

Recovered or Least Losses

- Wholesale trade
- Management of companies
- Transportation, warehousing, and utilities
- Professional, scientific, and technical services
- Federal government

Colorado +20,400.

These sectors account for about 21% of total employment.

U.S. +83,700.

These sectors account for about 19% of total U.S. employment.

Short-Term Recovery (2022)

- Retail Trade
- Financial Activities
- Other Services
- Information

Colorado -10,100.

These sectors account for about 23% of state employment.

U.S. -545,200.

They account for about 22% of total U.S. employment.

Mid-Term Recovery (2022+)

- Educational services (private)
- Manufacturing
- Construction
- Administrative services

Colorado -27,600.

These sectors account for about 19% of state employment.

U.S. -1,269,200.

About 22% of U.S. employment is in these sectors.

Long-Term Recovery (2023+)

- State government
- Local government
- Healthcare
- Arts and entertainment
- Accommodations and food
- Extractive industries

Colorado -60,600.

These sectors account for about 37% of total state employment.

U.S. -3,238,600.

About 37% of U.S. employment is in these sectors.

Source: BLS, cber.co.

Select Industry Data

Inflation, Retail Sales, DIA Passengers, Building Permits,
and Oil Production

Key Points

Inflation has risen rapidly in recent months. It will continue into 2022.

Retail sales have rebounded after a sluggish start in 2021.

The number of passengers at DIA continues to increase.

The total number of permits issued for single-family and multi-family housing through August is significantly greater than the same period in 2020.

The production of oil in Colorado is trending downwards because of state regulations and reduced global demand.

Inflation

Last fall, some of the country's top economists said that pigs would fly before inflation rose significantly. To their chagrin, the inflation rose. At one point, they indicated the flight time of the pigs would be short-lived (transitory). They are now saying inflation will continue into 2022.

The following are examples of the YOY increase in inflation in Colorado for September 2021.

Recreation	8.6%	Household Energy	6.7%
Medical	0.8%	Food and Beverage	3.4%
Housing	1.4%	Household Furnishing	5.4%
Food at home	2.6%	Transportation	17.5%
School fees/childcare	1.2%	Apparel	16.8%
Electricity	2.4%	Used Vehicles	24.8%
Alcoholic Beverages	4.0%	Motor Fuel	54.9%

The YOY U.S. CPI for the first half of 2021 was 3.4% and 1.9% for Colorado. For September, the YOY U.S. rate was 5.4%, and the Colorado rate was 4.5%.

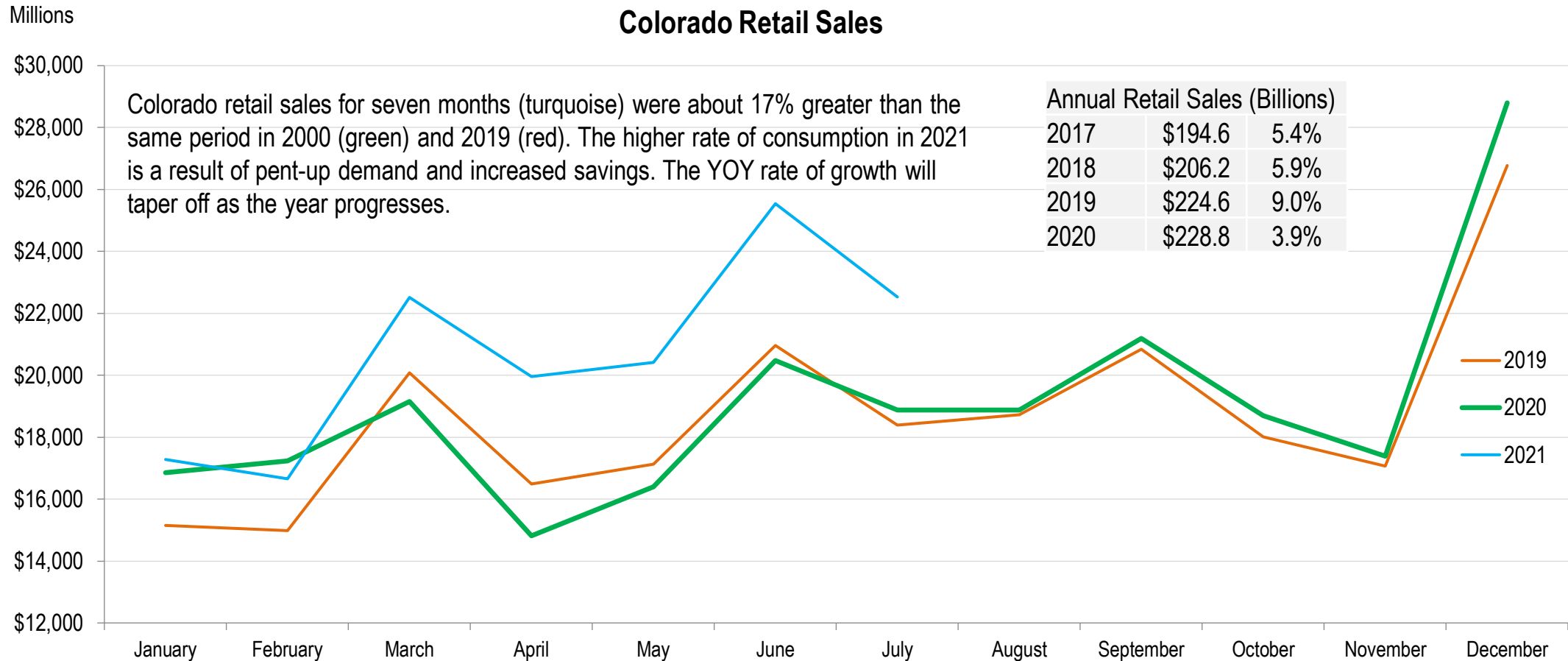
Source: BLS, cber.co.

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Colorado Retail Sales

Monthly



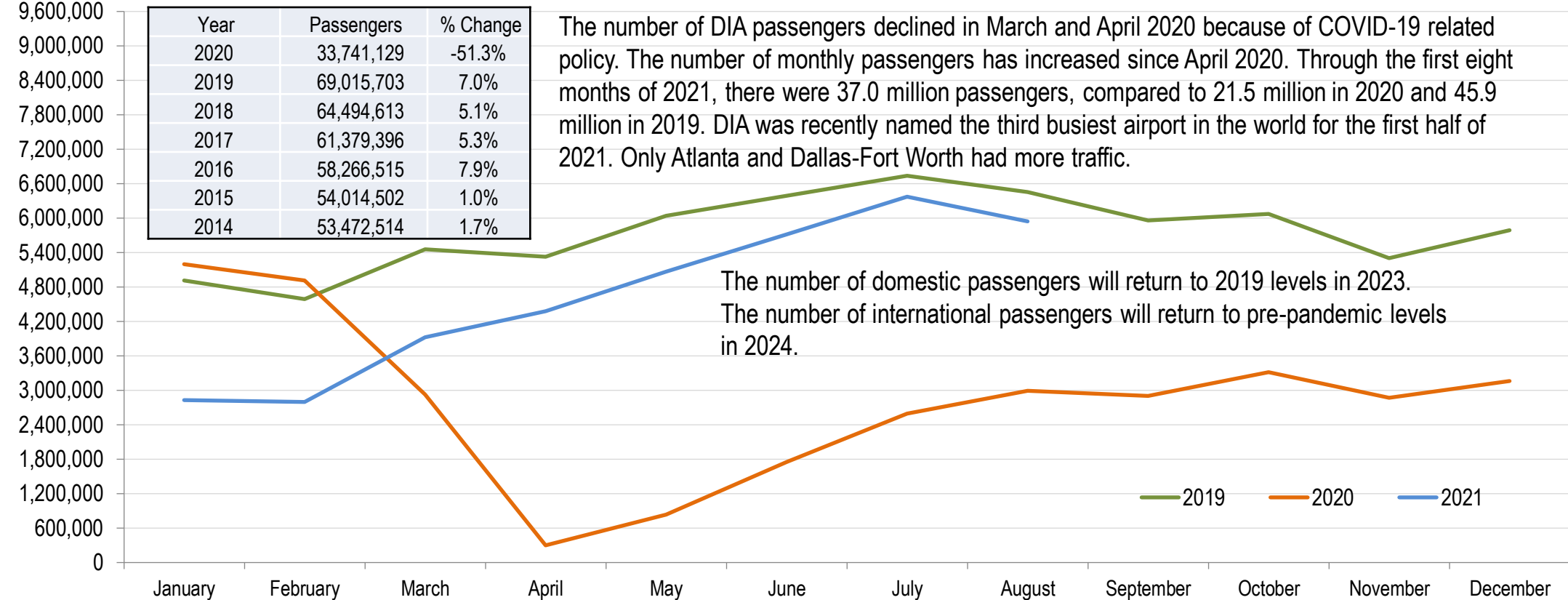
Source: Colorado Department of Revenue, <https://cdor.colorado.gov/retail-sales-reports>, cber.co. Note: Not adjusted for inflation.
 Colorado-based Business and Economic Research <https://cber.co>

Denver International Airport Passengers

Monthly

DIA Passengers

Passengers

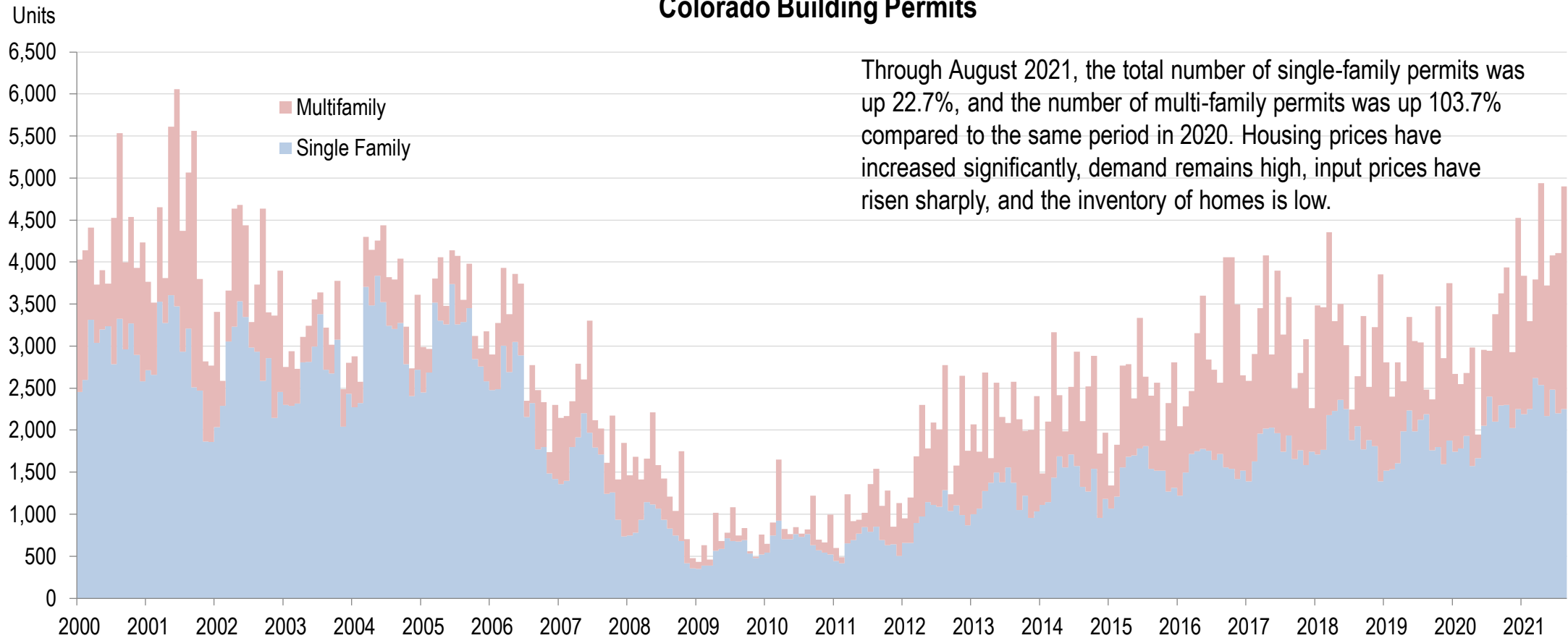


Source: flydenver.com, cber.co.

Colorado Residential Building Permits

Units

Colorado Building Permits

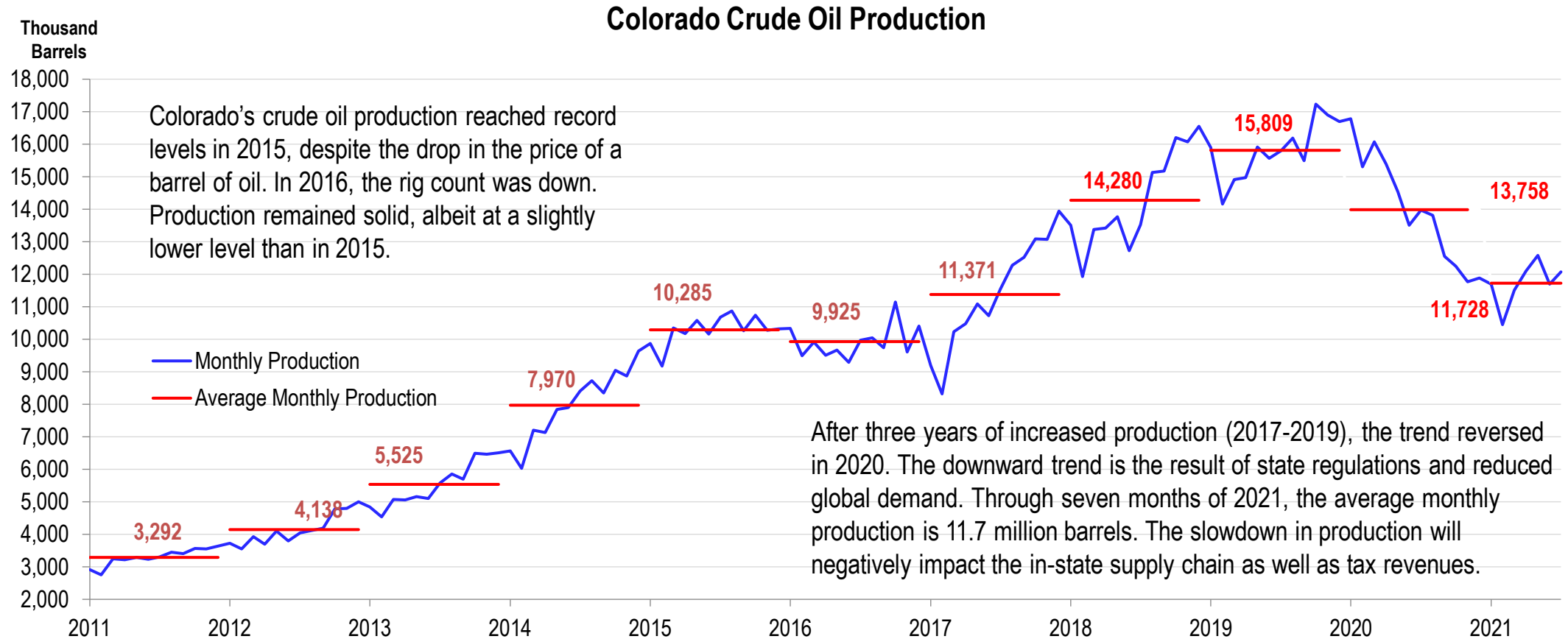


Source: TAMU Real Estate Center, U.S. Census Bureau, cber.co.

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Colorado Field Production of Crude Oil

2011 to 2021 (Thousand Barrels)



Source: EIA, cber.co.

Summary

Summary of Colorado Forecast

Colorado's real GDP growth rate will be greater than the U.S. rate in 2021 and 2022.

Employment will return to its 2019 level in the second half of 2022. It will not maintain the pace of the first half of 2021 in the final quarter of the year.

Retail sales rebounded in 2021 as a result of pent-up demand. Growth will be slower in 2022.

In 2021 and 2022, Colorado inflation will be greater than in recent years. The increased inflation will negatively impact growth in the months ahead.

Colorado Economic Forecast				
	2019	2020	2021	2022
Real GDP Value (billions)	\$356.28	\$351.07	\$375.00	\$393.00
% Change Real GDP	3.9%	-1.5%	6.8%	4.8%
CES Employment (thousands)	2,790.1	2,644.6	2,728.6	2,794.6
Annual Change (thousands)	62.8	(145.5)	134.0	56.0
% Change	2.3%	-5.2%	5.1%	2.0%
Unemployment Rate	2.7%	7.3%	6.1%	5.1%
Retail Sales (billions)	\$224.6	\$228.8	\$264.9	\$277.8
% Change	9.0%	1.9%	15.8%	4.8%
Consumer Price Index	1.9%	2.0%	3.2%	2.9%
DIA Passengers (millions)	69.0	33.0	56.0	64.0
Single Family Permits	24,756	26,489	28,900	27,350
Multi-family Permits	13,877	13,738	18,950	14,200
Oil Production (thousands) barrels	189,707	172,000	142,000	155,000

In 2020, the number of passengers through DIA was about half of the 2019 total. Domestic flights will return to their 2019 level in 2023. International flights will return to their pre-pandemic level in 2024.

There was an increase in the number of building permits issued in 2020. There will be more permits issued in 2021 as demand for new homes remains high. Also, there is a need for affordable housing in many metro and mountain communities.

State regulations and reduced demand caused a decline in oil production in 2020 and 2021. Oil production will increase slightly in 2022.

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Review of Colorado Economy Through September 2021

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 produced annual employment forecasts of the state economy for over 30 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 chair of the photonics/electronics committee in the Governor's Office of Economic Development and International Trade early stage and proof of concept grant program, and he served on the 2021 Colorado Legislative Redistricting Commission.