Review of Colorado Economy Through May 2021





cber.co Colorado-based Business and Economic Research Prepared May 24, 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 May, the U.S. saw "lackluster" job growth, while the expansion in Colorado exceeded expectations. The federal stimulus programs have been a mixed blessing – they have helped and hindered the recovery from COVID-19 policies.

There are different rates of recovery by industry sectors, occupations, states, and MSA areas.

The value for the real U.S. GDP will return to the pre-pandemic level during Q2 2021. Total employment will return to pre-pandemic levels in 2022.

Highlights

United States

- Real GDP
- Employment and Unemployment
- Business Applications
- Major Indices
- S&P 500 and WTI Oil Prices

Colorado

- Colorado Employment
- Business Applications
- Major Indices
- Select Industry Data
- Summary Colorado

Highlights

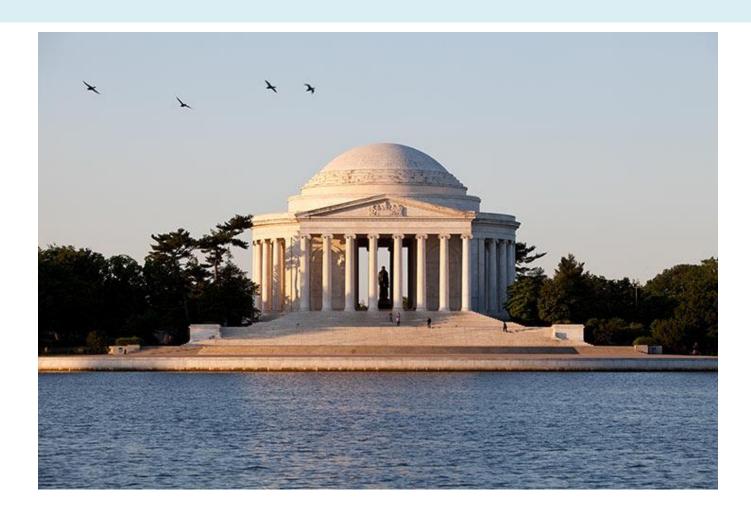
Key Points – United States

- During April and May, the increase in employment was lackluster. Growth is uneven across geographies, industries, and occupations.
- Many businesses are having problems finding qualified workers.
- Some people will not find a job!
- The fast-paced recovery is masking problems that will prevent faster growth.
- Pent-up demand and increased savings point to stronger than usual consumer spending.
- The equity markets remain strong but for how long?
- The price of oil topped \$70 per barrel.
- Inflation has entered the picture. The Federal Reserve says it will only be a factor for a short time.
- Indices for the manufacturing and services sector point to continued growth.

Key Points - Colorado

- During April and May, Colorado added 34,500 jobs. Almost 76% were in the leisure and hospitality supersector. Sectors with higher average wages have recovered more quickly.
- The Colorado Springs and Fort Collins MSAs have experienced the fastest recovery.
- In Colorado, the May inflation rate was 3.5%. The U.S. rate was 4.9%. Over time, Colorado has often had a higher rate.
- Colorado business applications continue to increase at an accelerated rate.
- Affordable housing continues to be an issue in Colorado.
- Oil production has slipped to 2017 levels.
- The number of passengers at DIA is continuing to increase.
- Through Q1, the number of housing permits is above the level for the same period in 2020 despite rising input costs.

The United States Economy



Real Gross Domestic Product United States

Key Points

The near-term forecasts for economic activity continues to improve. Real GDP will grow by 6.6% in 2021 with increased consumer spending of 8.1%. A more modest rate of growth will occur in 2022.

The value of real GDP will return to pre-COVID levels in Q2 2021.

It will take U.S. employment much longer to return to pre-COVID levels, most likely in 2022 or 2023.

U.S. Real GDP Growth

The Conference Board Forecast (June 9, 2021)

Real GDP and Economic Growth in 2021

The Conference Board June 9 forecast calls for real GDP growth of 9.0% in Q2 2021, followed by 7.8% in Q3. Real GDP growth for 2021 will be 6.6%, with an increase in personal consumption of 8.1%. In 2021, there will be strong growth in the housing market and modest nonresidential investment. The unemployment rate will decline slowly in 2021.

Other Economic Factors

The rapid rate of growth in the first half of 2021 has led to increased inflation. The Federal Reserve will raise interest rates if it remains at an elevated rate for longer than expected. The result will be a slower rate of economic growth. The \$2 trillion infrastructure proposal is under discussion. If passed, it will impact the economy in 2022 or later

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	- 5.0%	- 31.4%	33.4%	4.3%	6.4%	9.0%	7.8%	4.2%	- 3.5%	6.6%	3.8 %
Personal Consumption	- 6.9%	- 33.2%	41.0%	2.3%	11.3%	9.3%	8.0%	5.1%	- 3.9%	8.1%	
Residential Investment	19.0%	- 35.5%	63.0%	36.6%	12.7%	9.0%	9.0%	7.0%	6.1%	16.3%	
Nonresidential Investment	-6.7%	-27.2%	22.9%	13.1%	10.8%	9.7%	7.4%	6.2%	-4.0%	8.8%	
Total Gov't. Spending	1.3%	2.5%	-4.8%	-0.8%	5.7%	3.5%	0.3%	1.0%	1.1%	1.5%	
Exports	- 9.5%	- 64.4%	59.6%	22.3%	-2.9%	8.1%	3.0%	4.1%	- 12.9%	4.2%	
Unemployment Rate	3.8%	13.1%	8.8%	6.8%	6.2%	5.8%	5.2%	4.6%	8.1%	5.4%	
PCE Inflation (%Y/Y)	1.7%	0.6%	1.2%	1.2%	1.8%	3.5%	2.9%	3.0%	1.2%	2.8%	
Core PCE Inflation (%Y/Y)	1.8%	1.0%	1.4%	1.4%	1.6%	2.9%	2.2%	2.4%	1.4%	2.3%	

Source: The Conference Board and cber.co.

Source: The Conference Board, https://www.conference-board.org/publications/Economic-Forecast-US, ht

Employment and Unemployment United States and Colorado

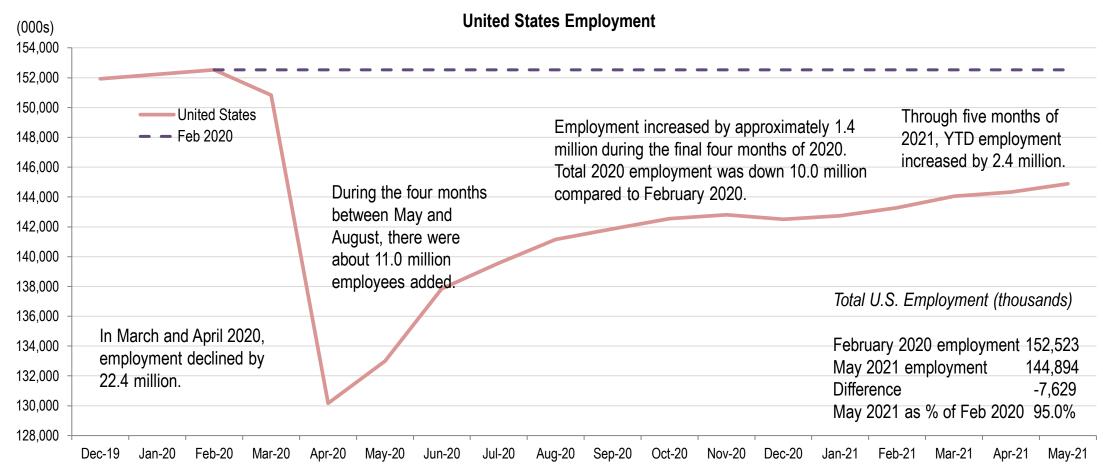
Key Points

U.S. employment in May 2021 was 95.0% of the total for February 2020.

Both the LFPR and the unemployment rate for Colorado and the U.S. improved during the first four months of 2021. The Colorado unemployment rate is greater than the U.S.

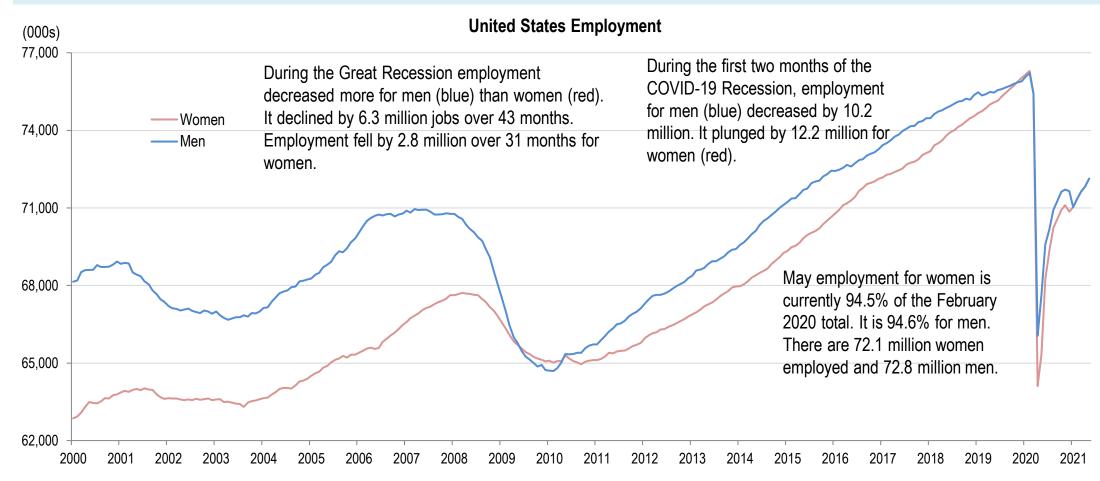
The number of job openings in the U.S. exceeds the number of separations by 3.5 million.

Change in Employment United States



Source: Bureau of Labor Statistics, cber.co.

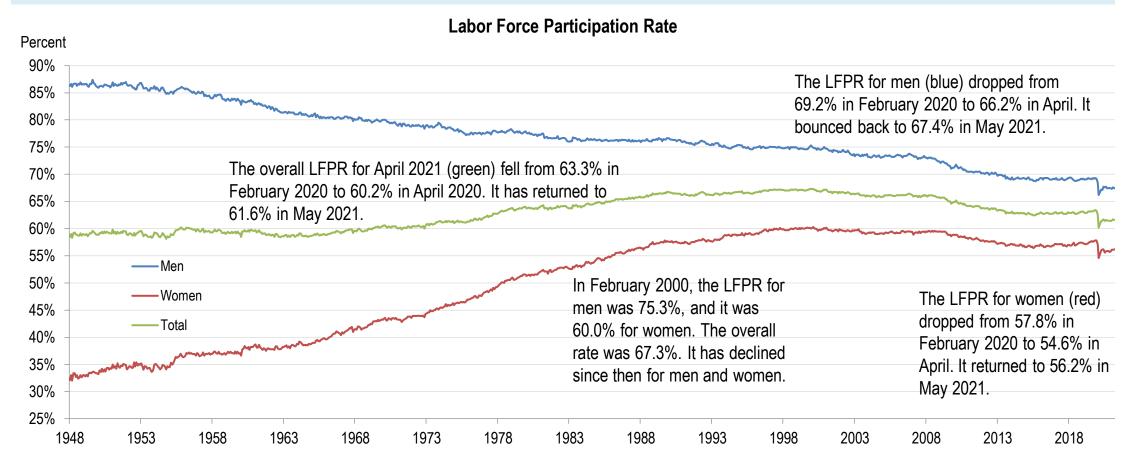
Change in Employment (Men and Women) United States



Source: Bureau of Labor Statistics, cber.co.

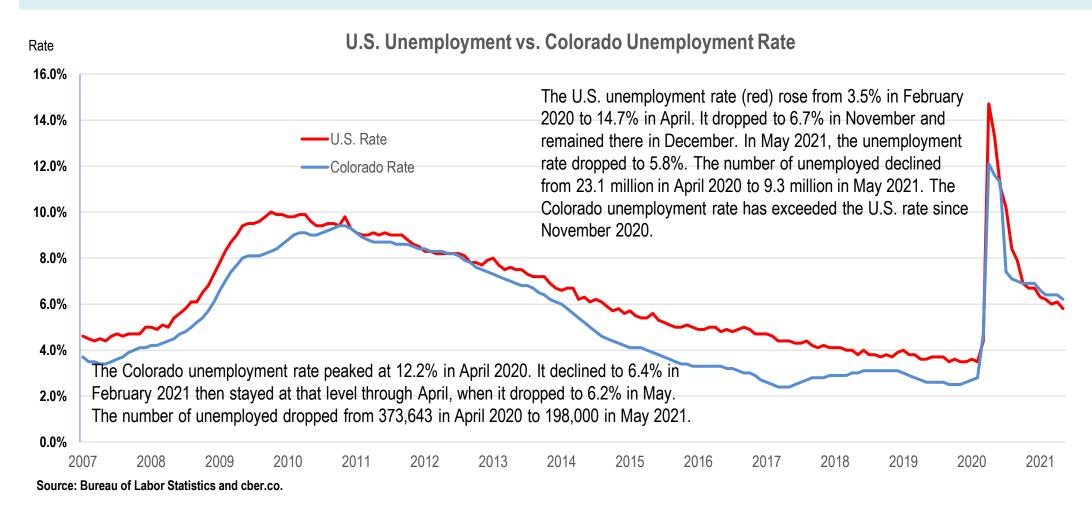
Labor Force Participation Rate (LFPR)

United States Total, Men, and Women



Source: FRED, BLS, cber.co.

U.S. and Colorado Unemployment Rate



Job Openings and Separations United States

2010

U.S. Job Openings and Separations (000s)16,500 In May 2020, the number of job openings exceeded 15,000 the number of separations by 829,000. By April 2021, the number of job openings was 3.5 million greater 13,500 Between April 2014 and March 2020, the unemployment than the separations. By comparison, it was about 2.0 rate was low, and openings (blue) exceeded separations million in January 2019. 12,000 (red). In March and April, there were 28.1 million separations (total). 10,500 Many businesses cannot find qualified workers 9,000 despite an unemployment rate of 5.8% and over 9 million unemployed workers. 7,500 6,000 Openings 4,500 Separations 3,000 1,500

2014

2016

2018

2012

Source: JOLTS, BLS, cber.co.

2006

2020

2008

Business Applications

United States

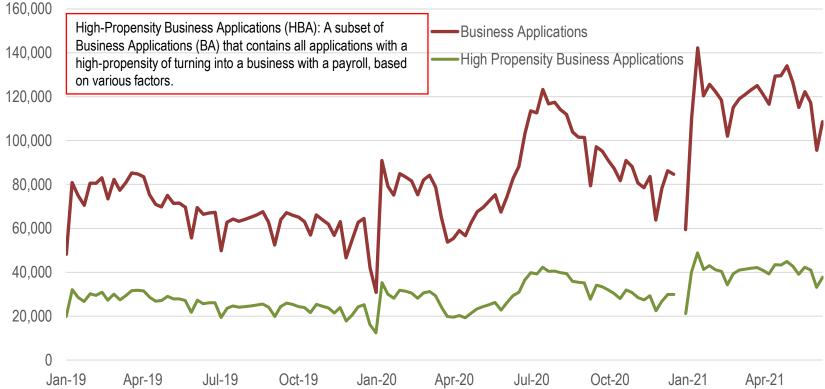
Key Points

U.S. business and high propensity applications for 2020 increased at a faster rate than in 2019. Both U.S. applications and high propensity applications increased at a greater rate during the first 24 weeks of 2021 than the same period in 2020.

U.S. Weekly Business Applications

Total and High Propensity 2019 through 2021

Weekly Business Applications



Source: FRED, U.S. Census Bureau, NSA, cber.co.

Business Applications

There were 4.3 million business applications (burgundy) in 2020, a 22.4% increase over 2019. The number of applications through the first 24 weeks of 2021 is 65.1% greater than the same period in 2020.

High Propensity Business Applications

There were 1.3 million high propensity applications (green) in 2020, a 14.9% increase over 2019. The number of high propensity applications through the first 24 weeks of 2021 is 55.2% greater than the same period in 2020.

Major Indices

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

Key Points

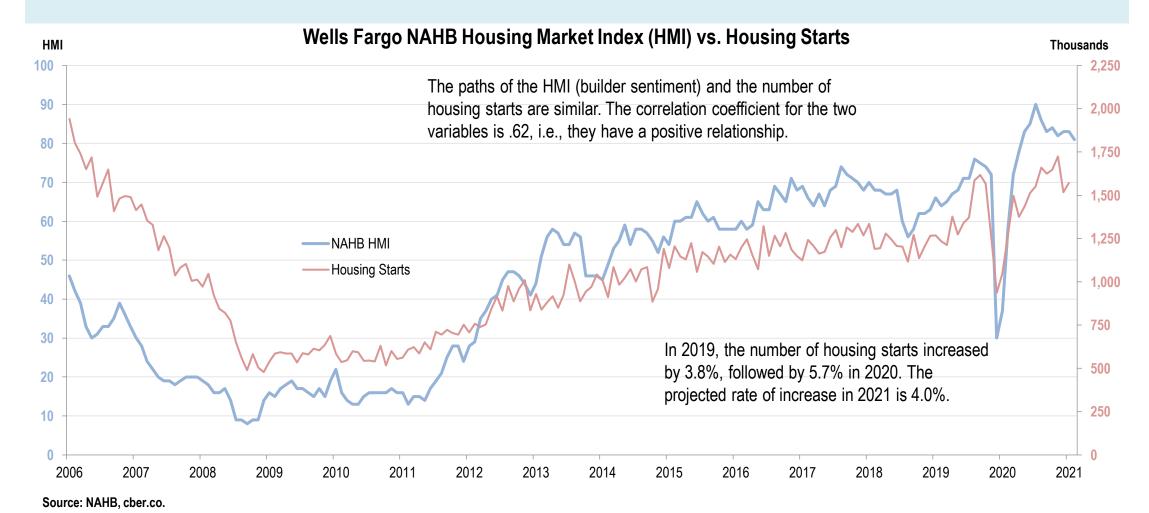
The housing market was strong in 2020. Growth has continued in 2021. Input prices have risen sharply in 2021.

The Michigan Consumer Sentiment Index rose in June. Consumers are concerned about inflation.

The NFIB Small Business Optimism Index slipped slightly in May.

The indices for manufacturing and services have increased for 12 consecutive months. They are in expansionary territory.

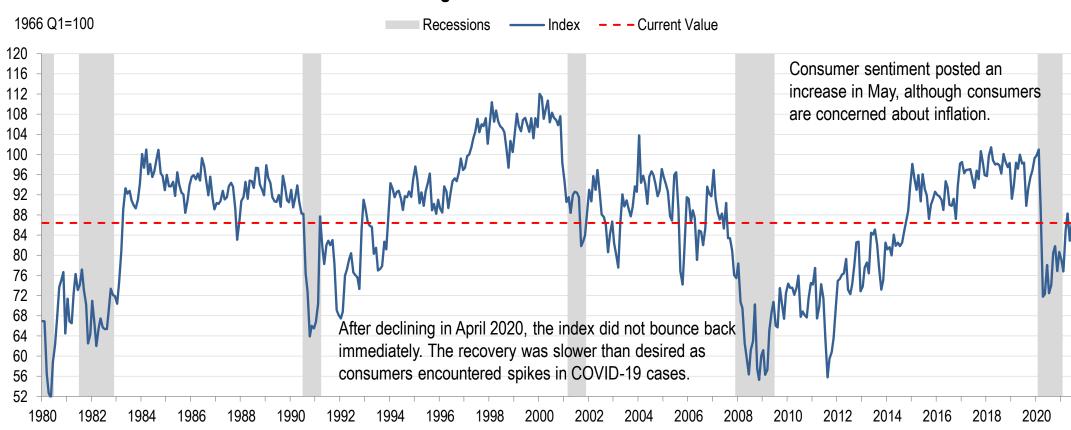
Wells Fargo NAHB HMI vs. Housing Starts



Consumer Sentiment Index

University of Michigan

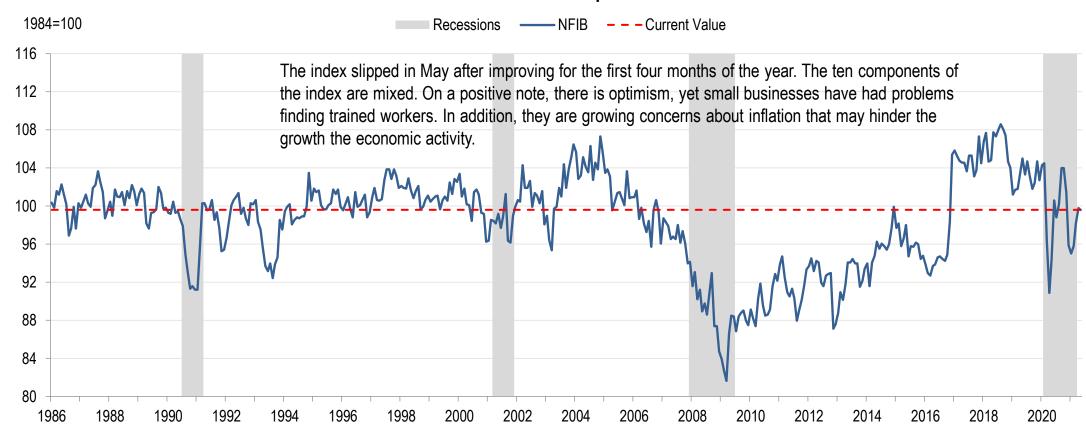
Michigan Consumer Sentiment Index



Source: University of Michigan, cber.co.

NFIB Small Business Optimism Index United States

NFIB Small Business Optimism Index

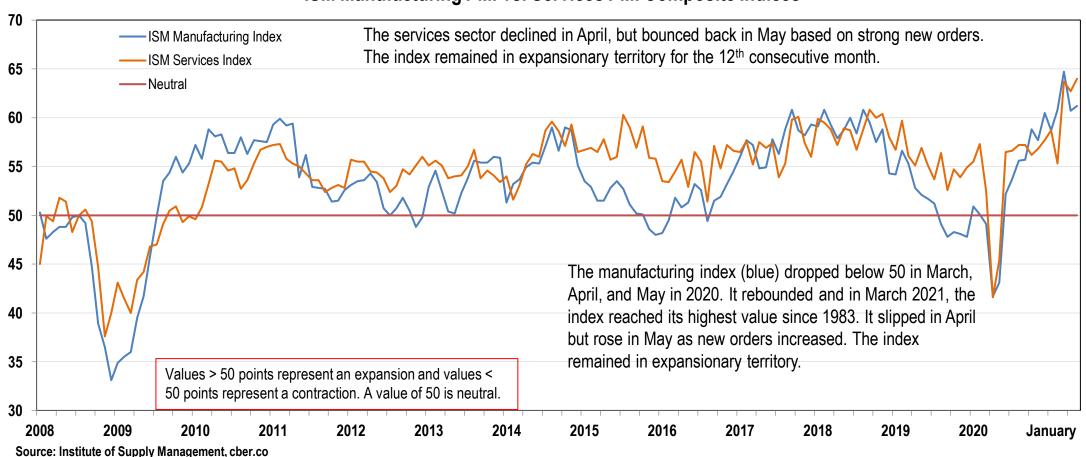


Source: NFIB, cber.co.

ISM PMI Composite Indices

Manufacturing vs. Services

ISM Manufacturing PMI vs. Services PMI Composite Indices



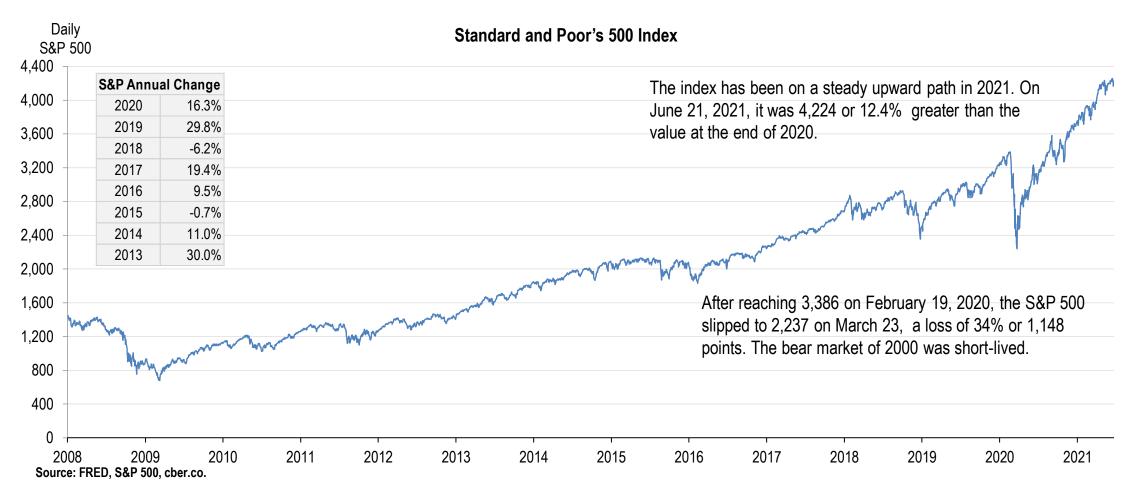
S&P 500 Index and WTI Crude Oil Prices

Key Points

The S&P Index posted double-digit gains in 2020. Strong growth has continued in 2021.

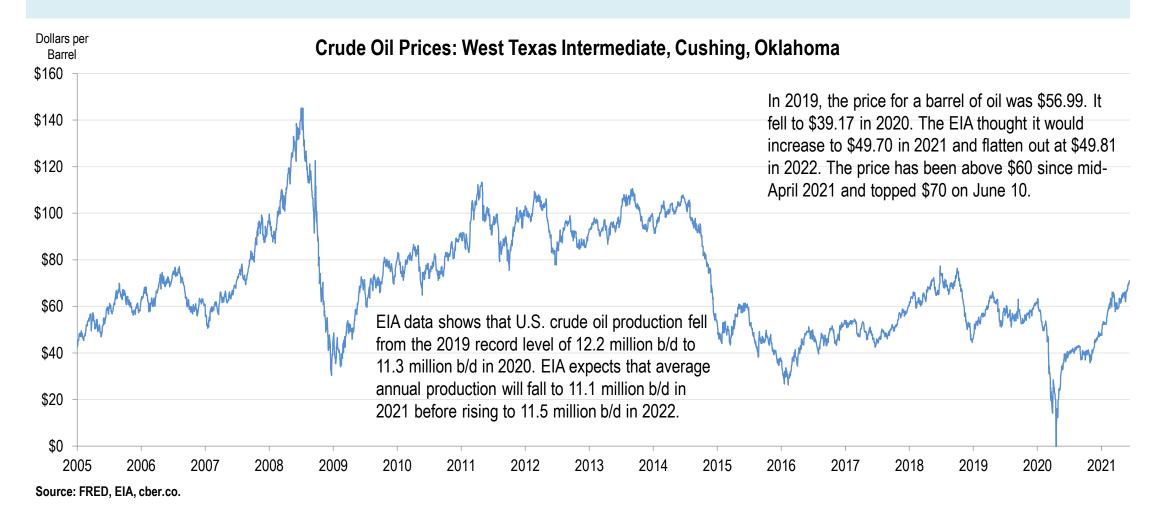
In 2020 the price for a barrel of oil declined because of lower demand. In 2021 demand increased, and the price has been above \$60 per barrel since mid-April.

Standard and Poor's 500 Index



Crude Oil Prices

West Texas Intermediate



Colorado



Colorado Employment

Change in Total Employment, Labor Force Participation Rate (LFPR), MSA Employment, and Summary of Employment

Key Points

The May 2021 seasonally adjusted employment data for Colorado was 110,600 less than February 2020. The May 2021 value was 96.1% of the February 2020 value.

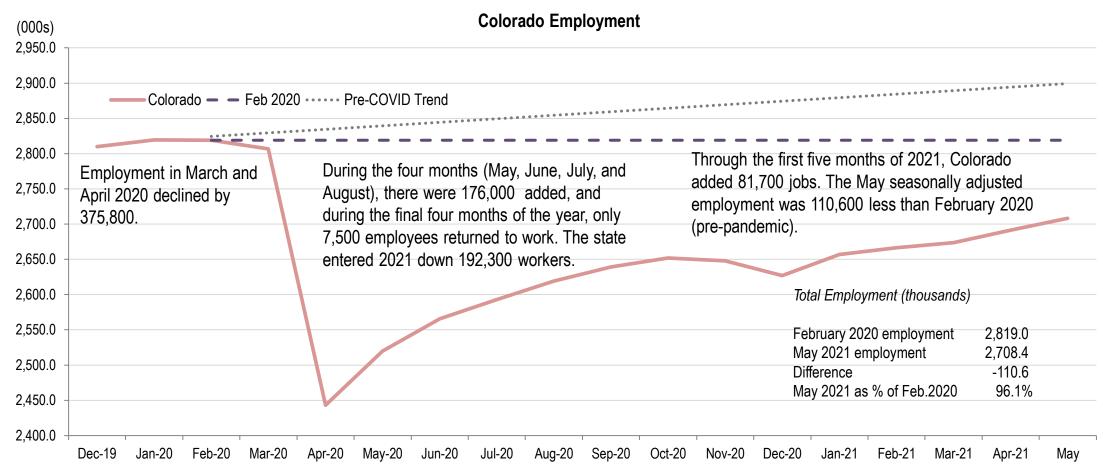
Only a handful of sectors had a greater level of employment in May 2021 than in February 2020.

The most significant shortfalls are in leisure and hospitality and state and local government employment.

The LFPR has returned to its pre-pandemic level.

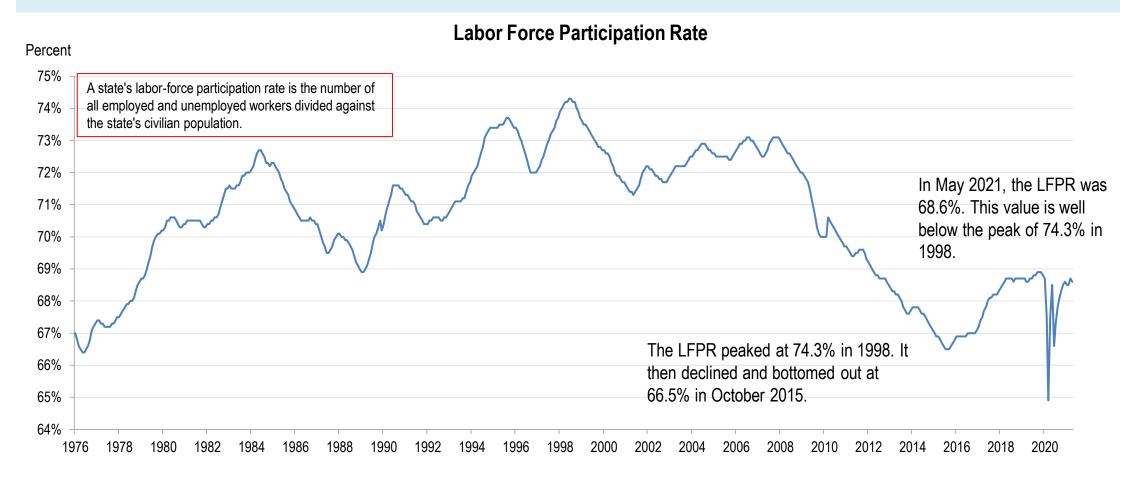
Colorado Springs is recovering faster than other Colorado MSAs.

Change in Employment Colorado



Source: Bureau of Labor Statistics, cber.co.

Labor Force Participation Rate Colorado



Source: BLS, cber.co.

Change in Employment by Area

MSAs and non-MSA

Change in Employment	by MSA/Non – MSA
May 2021 vs. F	ebruary 2020

May 2021 VS. 1 Ebidaly 2020						
	Employment (000s)	May 2021 vs.	May 2021 vs.			
Area	February 2020	February 2020 (000s)	February 2020 %			
Colorado Springs	304.6	-4.4	98.6%			
Non-MSA	335.8	-9.0	97.3%			
Fort Collins	176.4	-6.5	96.3%			
Denver	1,557.5	-64.0	95.9%			
Grand Junction	65.0	-2.9	95.5%			
Pueblo	65.1	-3.0	95.4%			
Boulder	201.1	-12.4	93.8%			
Greeley	113.5	-8.4	92.6%			
Colorado	2,819.0	-110.6	96.1%			
Source: BLS cher co.						

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

In recent months the recovery in Colorado Springs, the non-MSA area, and Fort Collins have occurred faster than in other areas.

Pueblo, Boulder, and Greeley are recovering at slower rates than the state.

Overall, Colorado employment for May 2021 is 96.1% of the employment for February 2020.

Source: BLS, cber.co.

Note: The table is sorted in descending order by the far-right column/

Summary of Employment Recovery Colorado

Employment through May 2021 was 110,600 below the value for February 2020. Most of the shortfall is in the tourism and state and local government sectors.

Recovered +15,000

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

Wholesale trade, MCE, or corporate headquarters, and PST have high average wages.

These sectors account for about 21% of total employment.

Short-Term Recovery -11,300

- Retail trade
- Financial activities
- Healthcare

Retail trade and financial activities employment has declined since December 2020.

Healthcare employment has increased in 4 of 5 months in 2021.

All three sectors are at least 98% of their February 2020 employment. They account for about 28% of state employment.

Mid-Term Recovery -36,900

- Manufacturing
- Construction
- Administrative services
- Information
- Other services

Only manufacturing and administrative services have added employment in 2021.

About 24% of total employment is in these sectors.

Long-Term Recovery -77,400

- State government
- Local government
- Arts and entertainment
- Accommodations and food
- Extractive industries
- Educational services

The greatest increase in employment was for food services. All sectors added jobs in May.

These sectors account for about 28% of total state employment.

Source: BLS., cber.co.

Business Applications Colorado

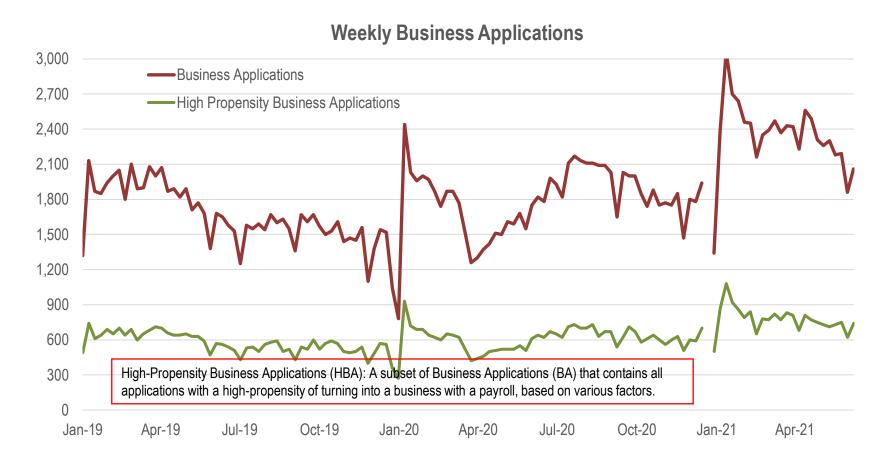
Key Points

Colorado business applications and high propensity applications increased faster during the first 24 weeks of 2021 than during the same period in 2020.

U.S. applications increased more rapidly than Colorado applications in 2020 and the first 24 weeks of 2021.

Colorado Weekly Business Applications

Total and High Propensity 2019 through 2021



Source: FRED, U.S. Census Bureau, NSA, cber.co.

Business Applications

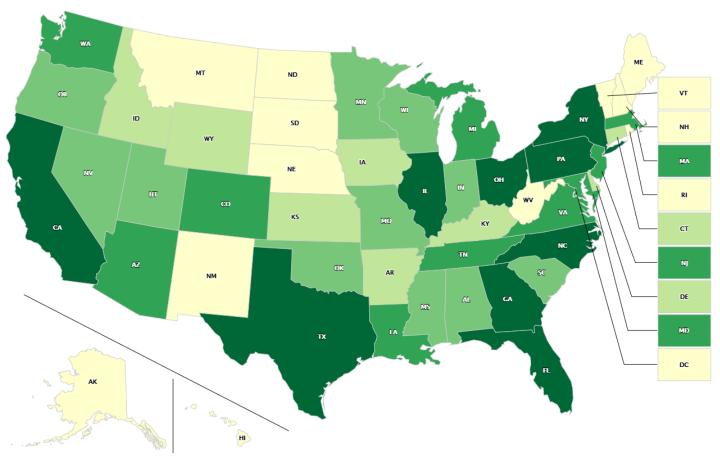
There were 91,790 business applications (burgundy) in 2020, a 6.2% increase over 2019. The number of applications through the first 24 weeks of 2021 is 39.5% greater than the same period in 2020.

High Propensity Business Applications

There were 31,050 high propensity applications (green) in 2020, a 4.3% increase over 2019. The number of high propensity applications through the first 24 weeks of 2021 is 34.7% greater than the same period in 2020.

Colorado Number of High Propensity Business

Applications For Week Ending June 12, 2021



For the week ending June 12, 2021, Colorado had 740 high propensity business applications. As a result, the state was in the upper 25% (barely) of all states for their number of applications.

That is commendable; however, California and Florida had more than 5,000 applications each, and Texas had 3,030.

Utah, which is has been a leader in the recovery, had fewer applications than Colorado. Could this be because its employment level has returned to pre-pandemic levels? It is fair to ask whether Colorado's high number of applications is a function of its innovation infrastructure or people were terminated and found it more suitable to start their own business instead of working for an established company.

Select Industry Data

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

Key Points

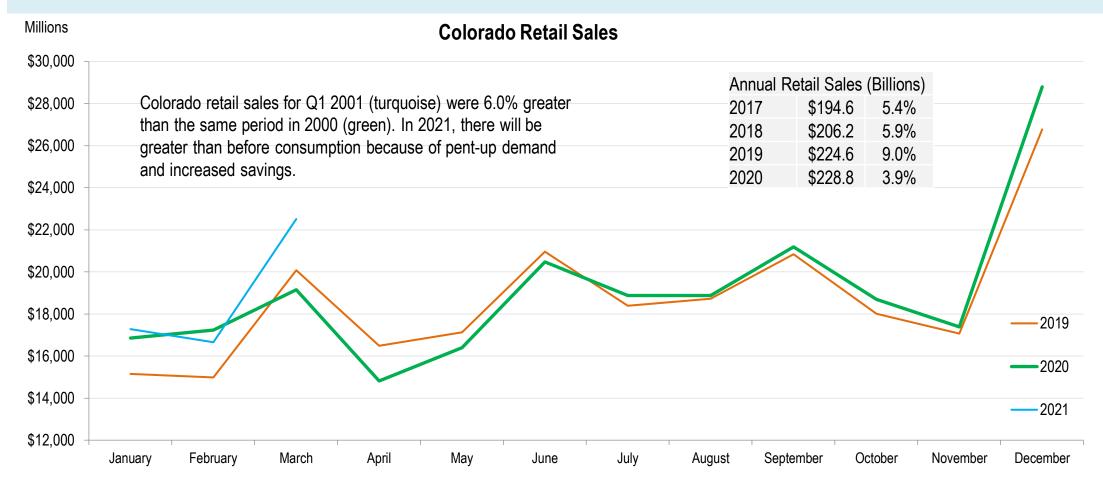
Retail sales got off to a sluggish start in 2021, but they rebounded in March, the most current data. Inflation has risen rapidly in recent months.

The number of passengers at DIA continues to increase.

The total number of permits issued for single-family and multifamily housing in Q1 2021 is greater than the same period in 2020. Housing prices are on the rise.

The production of oil in Colorado has declined because of state regulations and reduced global demand.

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

Inflation

Last fall, some of the country's top economists said that pigs would fly before inflation rose significantly. They have recently indicated the flight time of the pigs will be short-lived.

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

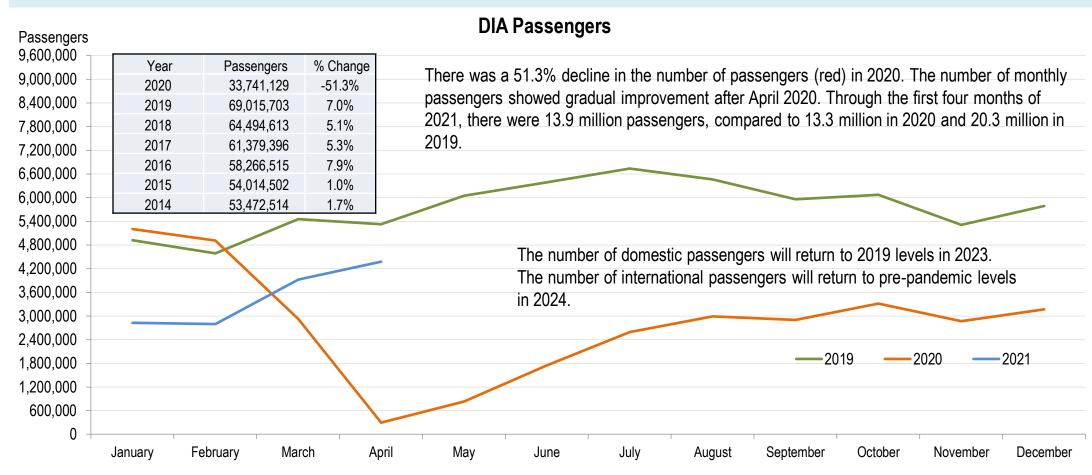
Recreation	-13.9%	Household Energy	3.1%
Medical	0.9%	Food, not at home	4.4%
Housing	1.4%	Household Furnishing	7.6%
Food	2.4%	Transportation	17.4%
School fees/childcare	2.6%	Apparel	26.4%
Electricity	2.6%	Used Vehicles	28.6%
Alcoholic Beverages	2.7%	Motor Fuel	68.1%

The overall May CPI for Colorado was 3.2% and it was 4.9% of the U.S.



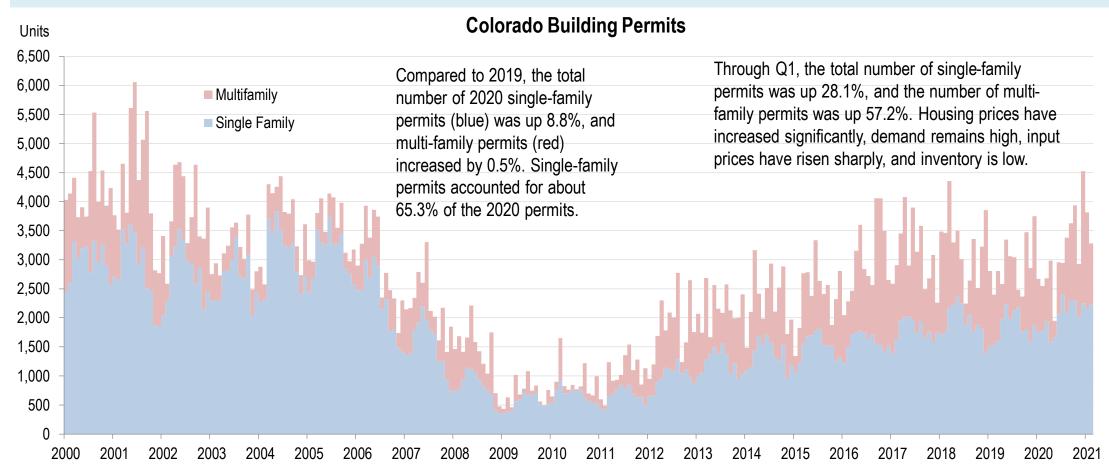
Source: BLS, cber.co.

Denver International Airport Passengers Monthly



Source: flydenver.com, cber.co.

Colorado Residential Building Permits



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

Change in Area FHFA Housing Price Index (HPI) Q1 2021 vs Four Different Time Frames

Change in FHFA	Change in FHFA Housing Price Index (Q1 2021) Rank 1-Quarter 1-Year 5-Years					
Metropolitan Area	Rank	1-Quarter	1-Year	5-Years	Si	

ince 1991Q1 M Boise City, ID 87.1% 377.7% 6.2% 18.2% Phoenix-Mesa-Chandler, AZ 8 300.0% 12.6% 4.3% 51.4% Pueblo, CO 12 3.6% 12.3% 56.6% 264.8% Salt Lake City, UT 16 426.7% 3.6% 11.7% 53.2% Austin-Round Rock-Georgetown, TX 19 4.2% 11.4% 43.9% 423.4% **Colorado Springs, CO** 30 313.8% 3.0% 10.3% 55.1% **Grand Junction, CO** 35 10.3% 45.7% 317.1% 4.3% Portland-Vancouver-Hillsboro, OR-WA 96 2.6% 38.0% 393.3% 8.2% Atlanta-Sandy Springs-Alpharetta, GA 109 2.7% 171.2% 7.9% 43.0% Seattle-Bellevue-Kent, WA (MSAD) 115 2.2% 47.5% 332.7% 7.7% Denver-Aurora-Lakewood, CO 417.0% 127 2.6% 7.4% 43.1% Los Angeles-Long Beach-Glendale, CA (MSAD) 172 2.3% 6.6% 32.2% 220.9% Dallas-Plano-Irving, TX (MSAD) 177 209.3% 2.1% 6.4% 38.3% Greeley, CO 188 341.3% 1.6% 6.1% 45.7% Fort Collins, CO 204 2.1% 39.2% 375.3% 5.6% New York-Jersey City-White Plains, NY-NJ (MSAD) 217 5.3% 204.5% 1.8% 24.2% **Boulder**, CO 235 438.0% 0.8% 4.0% 33.9% San Francisco-San Mateo-Redwood City, CA (MSAD) 257 -0.7% -3.5% 10.4% 290.1%

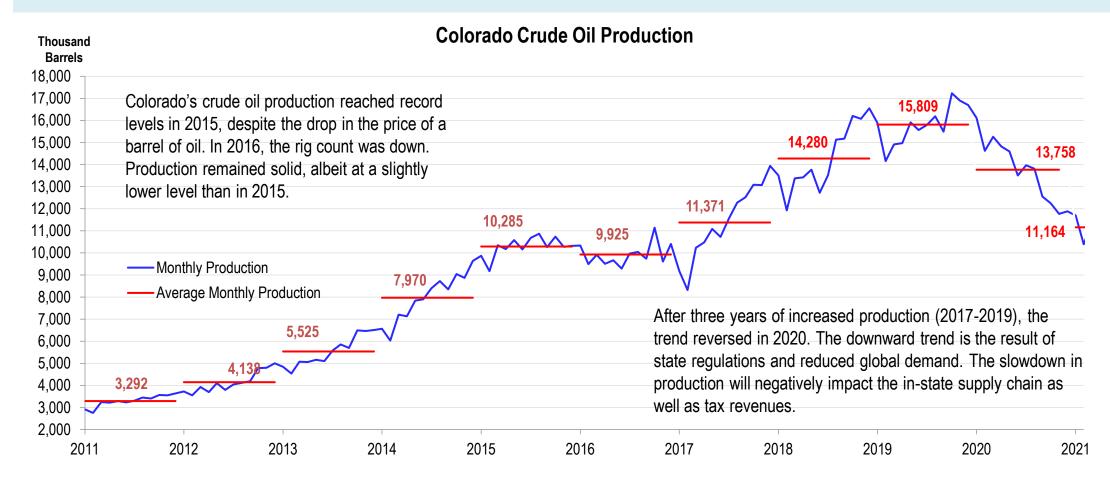
FHFA ranks 257 MSAs by the change in their quarterly HPI. For example, Boise was #1, and it rose by 6.2%. San Francisco was ranked #257, and its HPI changed by -0.7%. The changes in HPIs for the seven Colorado MSAs are printed in orange. Pueblo, Colorado Springs, and Grand Junction are ranked in the top 35.

The table also includes changes for 1year, 5-years, and 30-years. MSAs such as Pueblo and Colorado Springs experienced a higher percentage of change in the past five years. There was a greater level of change in the Boulder and Denver HPIs in prior years.

Source: Federal Housing Finance Agency, cber.co. NOTE: Table is sorted by the change in HPI for 1-Quarter.

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 for 2021 will be similar to the U.S. rate. It will return to its prepandemic value in early 2021.

Employment will return to its 2019 level in 2022. It has been stronger than expected in Q2 2021 but will not keep up the current pace in the second half of the year.

Retail sales will rebound in 2021 as a result of pent-up demand.

In 2021 and 2022, Colorado inflation will increase. It will be greater than the U.S. rate. As a result, the Fed will raise interest rates sooner than later.

Colorado Economic Forecast						
	2019	2020	2021	2022		
Real GDP Value (billions)	\$356.28	\$351.07	\$373.54	\$389.23		
% Change Real GDP	3.9%	-1.5%	6.4%	4.2%		
CES Employment (thousands)	2,790.1	2,644.6	2,728.6	2,794.6		
Annual Change (thousands)	62.8	(145.5)	84.0	66.0		
% Change	2.3%	-5.2%	3.2%	2.4%		
Unemployment Rate	2.7%	7.3%	5.8%	4.9%		
Retail Sales (billions)	\$224.6	\$227.0	\$243.0	\$252.0		
% Change	9.0%	1.1%	7.0%	3.7%		
Consumer Price Index	1.9%	2.0%	2.8%	2.4%		
DIA Passengers (millions)	69.0	33.0	52.0	61.0		
Single Family Permits	24,756	26,489	26,900	27,350		
Multi-family Permits	13,877	13,738	13,950	14,200		
Oil Production (thousands) barrels	189,707	172,000	170,000	175,000		

The number of passengers through DIA in 2020 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 the metro areas.

State regulations and reduced demand caused a decline in oil production in 2020. The production of oil will be flat in 2021 and 2022.

cber.co Review of Colorado Economy Through May 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.

For further information contact Colorado-based Business and Economic Research (cber.co). ©Copyright 2020 by cber.co.

Data contained in the tables, charts, and text of this presentation is from sources in the public domain. With appropriate credit, it may be reproduced and shared without permission. Please reference, "Colorado-based Business and Economic Research" (cber.co). Additional presentations are available at https://cber.co.

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

ACKNOWLEDGEMENTS

A special thank you to Ana and Allyson Horvath for their review and comments on this publication.

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.