Economic Outlook and Trends Through August 2023 United States and Colorado

cber.co Colorado-based Business and Economic Research Prepared September 20, 2023 Storm Clouds and Sunshine on the Horizon

Economic Outlook and Trends August 2023

Purpose and Summary

The purpose of this chartbook is to review the outlook and performance of the Colorado and U.S. economies. The analysis focuses on what caused the changes in employment during the first eight months of 2023 and looks at trends for the remainder of the year.

Many economists have revised their short-term forecasts upward. There is rationale for the increased optimism, but it does not mean the economy is healthy, particularly in Colorado.

Contents

The contents of the chartbook focus on the following topics.

- Key Issues
- Gross Domestic Product and Real Disposable Personal Income Per Capita
- U.S. and Colorado Employment, Earnings, and Unemployment
- Inflation
- Saving, Borrowing, Consumption, and the Wealth Effect
- U.S. Industry Indicators
- Colorado Industry Indicators
- 2023 Colorado Economic Outlook

Key Issues United States and Colorado

United States

- The U.S. labor market has slowed since Q2 2022, yet it remains resilient.
- At the same time, there are labor shortages in many sectors.
- Economic activity (real GDP) will improve in Q3.
- Inflation is cooling but is stubborn in some categories.
- Rising interest rates will impact many sectors.
- The banking crisis caused banks to tighten their credit.
- Energy regulations are often ineffective and counterproductive. •
- There are many housing and construction issues.
- Retail purchases are increasing at a decelerating rate.
- The level of spending and conflict in Eastern Europe are costly,
 and problematic in many ways.
- Manufacturing is in a recession. The economy is in an expansionary mode for many service businesses.
- Federal investments (IRA and Chips Act) will benefit select large organizations. Many small businesses are struggling.
- China's economy is faltering, which will hurt the U.S. economy.

Colorado

- The Colorado labor market has underperformed.
- Unemployment remains low, but there are severe labor shortages.
- The Colorado inflation rate is higher than the U.S. The rate for rural Colorado may be greater than the urban rate.
- The state's regulatory environment is unfriendly to businesses.
- The Case Shiller index shows that Denver housing prices have depreciated faster than the U.S.
- Denver home sales decreased in July.
- Rate hikes by utility companies, such as Xcel Energy, are making Colorado a more unaffordable place to live in.
- There has been a slowdown in Colorado construction (permits).
- Retail purchases are increasing at a decelerating rate.
- The water wars have pitted industries and regions against each other.
- Despite its many assets, Colorado is developing a reputation as an undesirable place to live and do business.
- On a bright note, 72 million passengers will travel through DIA in 2023.
- Oil production has stabilized.

Gross Domestic Product and Disposable Income

U.S. Real GDP – Economic Activity

Resilience or Recession

Resilience or Recession

Within the past month, economists have expressed two major scenarios for the economy:

- The labor market will continue to be resilient, and there will be a soft landing.
- Economic activity will deteriorate, and a shallow recession will occur in early 2024.

The chances of a recession are less than they were several months ago.

TCB Forecast

The Conference Board U.S. forecast is the base for the cber.co forecast.

In the second half of 2022, TCB called for a shallow recession at the end of 2022 or early 2023. That did not happen; however, the economy did not flourish during this period. The August forecast called for a mild recession in Q4 2023 and Q1 2024. The short-term forecast has been revised upward and the recession has been moved ahead by several months.

The current TCB forecast projects a recession, or much slower growth, in the first half of 2024. TCB is concerned about the following headwinds:

- Elevated inflation
- High-interest rates
- Reduced savings levels
- Mounting consumer debt
- Lower government spending
- Slower personal consumption
- Decelerating wage growth
- Resumption of mandatory student loan repayments.

Real GDP growth will be +2.2% in 2023 and +0.8% in 2024.

U.S. Real GDP Growth The Conference Board Forecast (September 2023)

Real GDP and Economic Growth

The Conference Board forecast projects real GDP growth of 2.2% in 2023, Real Disposable Income will increase by 3.6%, and Real Personal Consumption will increase by 2.5%. These are all upward revisions. In Q4 2023, quarterly Real GDP rates will be lower. Residential investment will change by -12.1% and non-residential investment will increase by 2.9% in 2023.

Other Economic Factors

Government spending will increase by 3.3% in 2023, followed by weaker spending in 2024. There will be slower growth in exports in 2023. The U.S. unemployment rate will be 3.6%. The annual PCE inflation rate will drop to 3.6%, and the core rate will be 4.0%. Inflation will approach the Fed's target rate in 2024. Economic activity will be weak in the first half of 2024.

	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023	2022	2023	2024
Real GDP (Preceding Qtr.)	-1.6%	-0.6%	3.2%	2.6%	2.0%	2.1%	3.0%	1.3%	2.1%	2.2%	0.8%
Real Disposable Income	-10.6%	-2.3%	3.2%	2.5%	8.5%	3.3%	0.9%	0.6%	-6.2%	3.6%	0.9%
Real Personal Consumption	1.3%	2.0%	2.3%	1.0%	4.2%	1.7%	3.8%	0.8%	2.7%	2.5%	0.5%
Residential Investment	-3.1%	-17.8%	-27.1%	-25.1%	-4.0%	-3.6%	-2.0%	0.0%	-10.6%	-12.1%	0.6%
Nonresidential Investment	7.9%	0.1%	6.2%	4.0%	0.6%	6.2%	1.7%	-1.7%	3.9%	2.9%	-0.6%
Total Gov't. Spending	-2.3%	-1.6%	3.7%	3.8%	5.0%	3.3%	2.4%	1.1%	-0.6%	3.3%	1.7%
Exports	-4.6%	13.8%	14.6%	-3.7%	7.8%	-10.6%	3.0%	3.0%	7.1%	2.1%	2.1%
Unemployment Rate	3.8%	3.6%	3.6%	3.6%	3.5%	3.6%	3.7%	3.8%	3.6%	3.6%	4.0%
PCE Inflation (%Y/Y)	6.4%	6.6%	6.3%	5.7%	4.9%	3.7%	3.2%	2.9%	6.3%	3.6%	2.3%
Core PCE Inflation (%Y/Y)	5.3%	5.0%	4.9%	4.8%	4.6%	4.4%	3.9%	3.4%	5.0%	4.0%	2.4%

Conforman Board US Boal CDD Growth Earonat

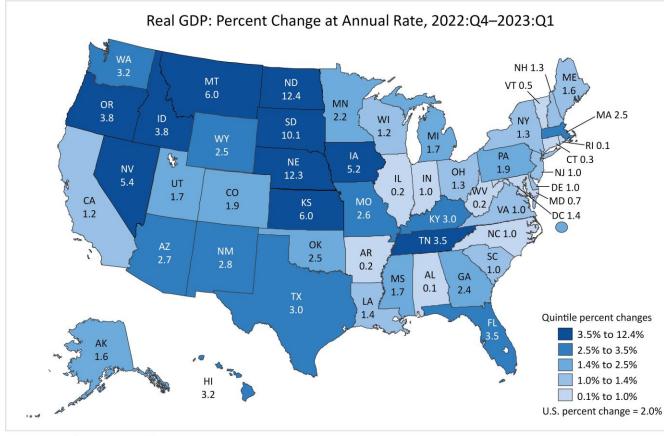
Real Disposable Personal Income Per Capita United States

Recessions -----Real DPI Per Capita Chained 2012 **Real DPI Per Capita** \$60,000 In July 2023, the real DPI PC was \$46,741, less Personal income is all income received from wages, other labor income, and transfer than the previous month but 3.3% greater than in payments. Disposable personal income (DPI) is personal income minus personal taxes, i.e., July 2022. the amount that can be saved or spent. Per capita DPI is the DPI divided by the population. \$56,000 **Real Disposable RDPIPC Annual** The data is inflation-adjusted by chaining it to 2012 data. (Average) RDPIPC % Change Year \$52,000 \$41,822 1.1% 2016 \$42,669 2.0% 2017 \$48,000 \$43,826 2.7% 2018 2019 \$45,105 2.9% 2020 \$47,729 5.8% \$44,000 2021 \$48,534 1.7% 2022 \$45,406 -6.4% The real DPI PC behaved very differently in the \$40,000 COVID-19 recession than during the Great Financial Crisis. There was much more money in the system between 2020 and 2022. After \$36,000 peaking at \$57,872 in March 2021, it bottomed 2007 2008 2009 2010 2013 2014 2015 2016 2017 2018 2019 2020 202 2022 2023 2011 2012 out at \$44,902 in June 2022. It has risen for the Source: FRED, BEA, SAAR, chained on 2012 dollars cber.co. past year.

Real Disposable Personal Income Per Capita

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

Colorado Quarterly GDP 2022 through Q1 2023



Colorado Real GDP Percentage Change

Colorado had volatile real GDP growth during the past five quarters.

The Colorado and U.S. growth rates were similar for the last three quarters.

The data on the map shows that real GDP gains were lackluster compared to other states, i.e., Colorado has not been a leading state in economic activity.

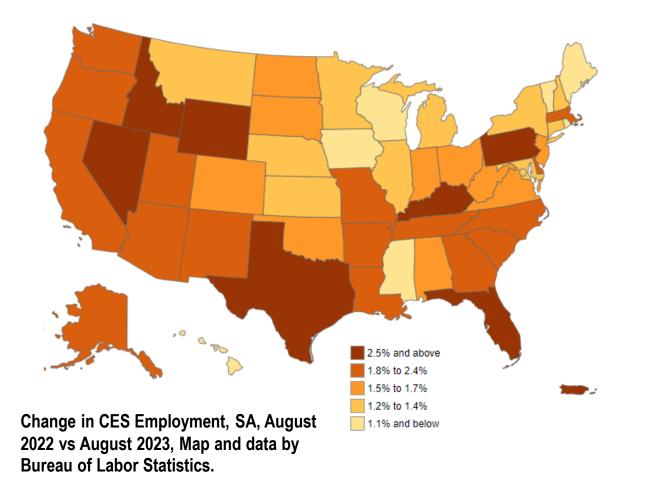
Quarter	U.S. Rate	Colorado Rate	Colorado Rank
2021:Q4-2022:Q1	-1.6%	2.9%	8
2022:Q1-:Q2	-0.6%	-2.0%	40
2022:Q2-:Q3	3.2%	3.5%	15
2022:Q3-:Q4	2.6%	2.7%	21
2022:Q4-2023:Q1	2.0%	1.9%	24

The next update will be September 29, 2023.

U.S. Bureau of Economic Analysis

U.S. and Colorado Employment and Unemployment

Change in State Employment, August 2023 vs 2022 All States and the District of Columbia

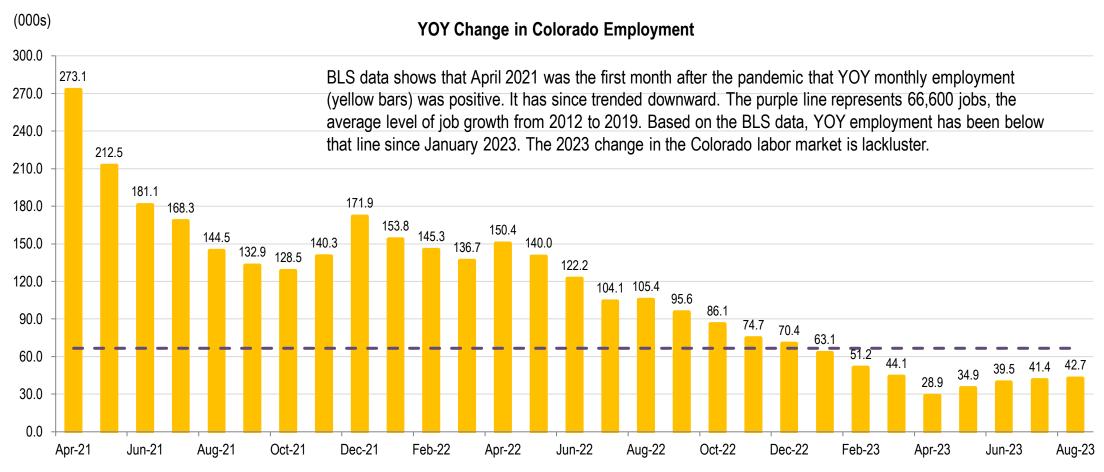


Employment Growth Rates by State In August 2023, Colorado had the 21st largest number of CES employees, 2.9 million.

When comparing 2023 August employment to 2022 August employment, Colorado was ranked as follows:

- 22nd in absolute change with +42,700 employees (not shown in map).
- Tied for 28th in percentage change with +1.5% (North Dakota, Oklahoma, South Dakota, and West Virginia)

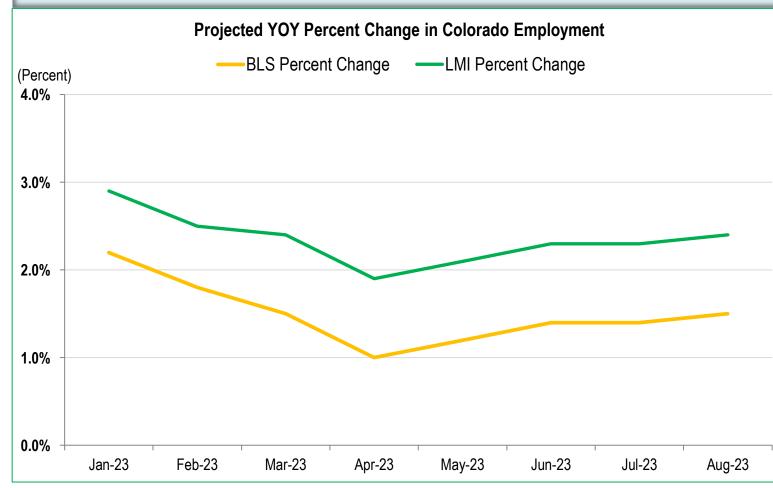
Change in Colorado Employment Monthly (April 2021 through August 2023)



Source: Bureau of Labor Statistics, cber.co.

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Projected Change in Colorado Employment Benchmark A Different Story



Estimated Benchmark Revision for 2023

Colorado Labor Market Information (LMI) group uses UI data to compile the QCEW employment numbers used by BLS as the foundation for their benchmark revisions to the CES employment data series. Official benchmark revisions will occur in Q1 2024.

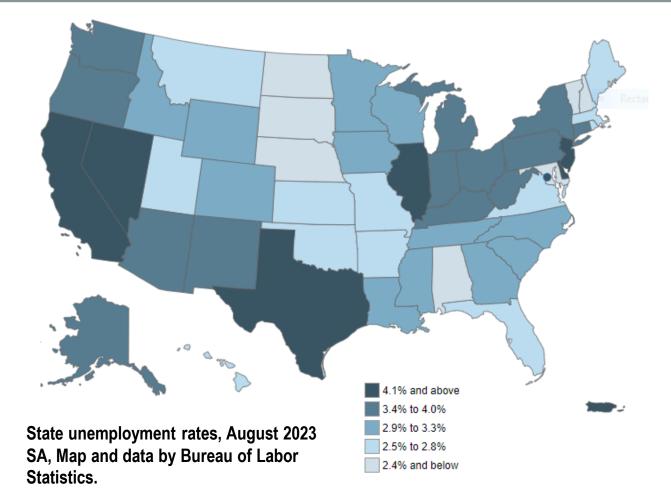
The yellow line measures the percent change published by the BLS. In a recent report, LMI uses QCEW data to estimate that BLS data understates employment by an absolute range of .7% to .9%.

If the LMI data is correct, the benchmark will see a revision of 20,000 to 30,000 workers. In other words, the change in Colorado employment may be significantly greater than currently stated by BLS.

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

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Unemployment Rate All States and the District of Columbia



Unemployment Rates by State

The August BLS data shows that Colorado is in the 25th spot for the lowest unemployment rate, tied with Minnesota and Tennessee. The three states had unemployment rates of 3.1%.

As can be seen on the map to the left, many of the states with lower rates are states with smaller populations.

Many of the states with larger populations have higher unemployment rates.

Unemployment Rate United States and Colorado

- Colorado Recessions Percent 16% 14% 12% 10% 8% 6% 4% 2% 0% 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

U.S. and Colorado Unemployment

Unemployment Rate

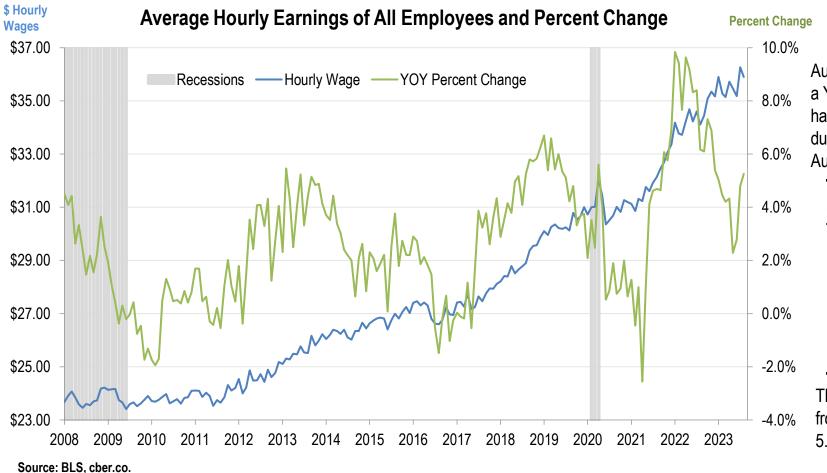
The Colorado unemployment rate increased to 3.1% in August, and the U.S. rate rose to 3.8%. The economy operates inefficiently when the unemployment rate is this low.

Ann	Annual Unemployment Rate						
Year	United States	Colorado					
2016	4.9%	3.1%					
2017	4.4%	2.6%					
2018	3.9%	3.0%					
2019	3.7%	2.7%					
2020	8.1%	6.8%					
2021	5.3%	5.4%					
2022	3.6%	3.0%					

July data shows that there were about 95,000 unemployed Coloradans to fill 190,000 job openings. Colorado is ranked 18th in the U.S. for the most job openings.

Source: BLS, SA, cber.co.

Average Hourly Earnings of All Employees (Private) Colorado



Hourly Wages and Percent Change August hourly wages (blue) were \$35.90, a YOY increase of 5.2% (green). There has been minimal change in earnings during 2023. Earnings are the same in August as in January.

Annual Wages and Change					
Year	CO CPI	Wages	Change		
2017	3.4%	\$27.60	2.0%		
2018	2.7%	\$28.92	4.8%		
2019	1.9%	\$30.37	5.0%		
2020	2.0%	\$30.99	2.0%		
2021	3.5%	\$31.97	3.2%		
2022	8.0%	\$34.47	7.8%		
Source: B	LS, cber.co				

The current rate of wage growth is down from a peak of 9.4% in February 2022 to 5.2% in August 2023.

Average Hourly Earnings of Private Employees All States and the District of Columbia

То	p Ten States Hourly	/ Earnings
1	District of Columbia	\$49.89
2	Massachusetts	\$40.02
3	Washington	\$39.64
4	California	\$37.91
5	New York	\$36.57
<mark>6</mark>	Colorado	<mark>\$35.90</mark>
7	Connecticut	\$35.65
8	Minnesota	\$35.55
9	Alaska	\$34.71
10	New Jersey	\$34.69

Тор	o Ten States Weekly	Earnings
1	District of Columbia	\$1,746.15
2	Washington	\$1,355.69
3	Massachusetts	\$1,348.67
4	California	\$1,292.73
5	Alaska	\$1,221.79
6	New York	\$1,210.47
7	Minnesota	\$1,208.70
<mark>8</mark>	Colorado	\$1,195.47
9	Connecticut	\$1,187.15
10	New Jersey	\$1,175.99

Bot	tom Ten States by Ho	urs Worked
42	Utah	33.4
<mark>43</mark>	Colorado	<mark>33.3</mark>
44	Connecticut	33.3
45	Maryland	33.3
46	Missouri	33.3
47	Vermont	33.3
48	Montana	33.2
49	Wisconsin	33.2
50	New York	33.1
51	Delaware	32.5

Average Earnings of Private Employees

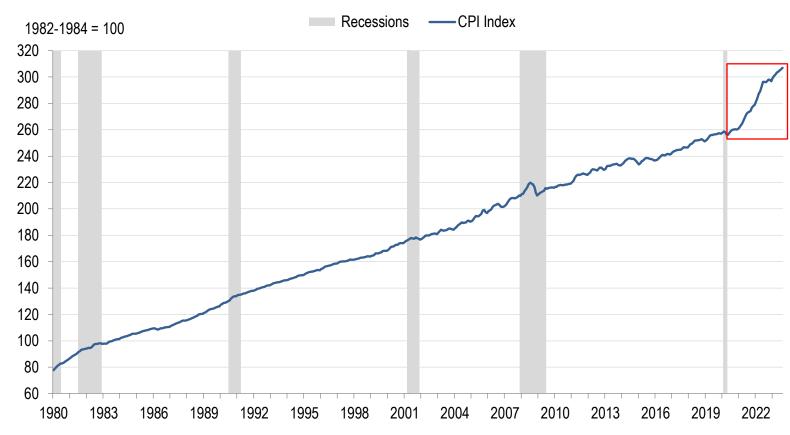
The August BLS data shows that Colorado is a leader in hourly (6th) and weekly earnings (8th).

Colorado, Connecticut, and New York have high hourly and weekly earnings and low hours worked.

Source: BLS, cber.co.

Inflation

CPI Inflation United States



U.S. CPI Inflation (NSA)

CPI Inflation

The chart shows the actual data for the Consumer Price Index. The steep slope of the line in the red box shows how strong inflation has been since 2021. If a family had expenses of \$50,000 in January 2020, they would be \$59,507.85 in August 2023.

The YOY CPI data can be tricky because of the base effect.

- The increase for August 2023 vs. 2022 is 3.2%.
- The August annualized 2023 vs. 2021 increase is 5.9%.
- The August annualized 2023 vs. 2020 increase is 5.7%.

Source: BEA, FRED, NSA, CPI calculator, cber.co.

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

CPI Inflation U.S. CPI vs. Core Inflation

0.0%		Inflation – (CPI vs. Co	re Inflatior	n Rate				
9.0% - 8.0% -	The Consumer Price Index (CPI) is an aggregate of prices paid by urban consumers for a typical basket of goods. The Core CPI excludes food and energy	The CPI rate (red) had dro rate was 4.9	pped to 6.5%			-			\
7.0% -	because their prices are volatile.		/0.						
6.0%		Core inflation 5.7% in Dece	ember. In Aug	gust 2023, it	was 4.3%.	The core rate	e is declinin	g	
5.0% -		more slowly	than the over	all CPI. The	mia-year co	ore rate was	5.4%.		
4.0%	\sim	The war on i	nflation is not	over!				\bigvee	
3.0% - 2.0% -		~	$\sim \wedge$	M	y~	$\sim $		Core I CPI	nflation
1.0% -		\sim			\vee \vee				
).0% -				1	1		1		
1.0%									
20	011 2012 2013 2014 2	2015 2016	2017	2018	2019	2020	2021	2022	2023

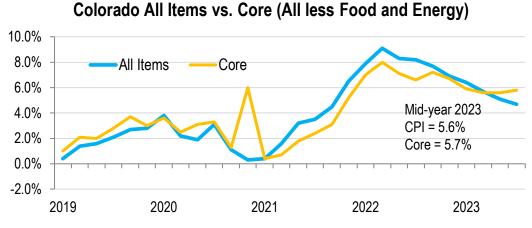
Colorado-based Business and Economic Research https://

U.S. Inflation CPI vs. Producer Price Index (Final Demand)

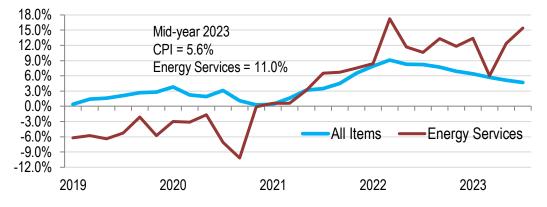
12.0%	Inflation – CPI vs. PPI Rate
11.0% 10.0% 9.0% 8.0% 7.0%	The Consumer Price Index (CPI) is an aggregate of prices paid by urban consumers for a typical basket of goods. The Core CPI excludes food and energy because they may have very volatile prices. The Producer Price Index (PPI) measures the average change over time in the selling prices received by domestic producers for their output. The CPI peaked at 9.0% in June 2022, and the PPI peaked at 11.7% in March 2022. In December 2022, the YOY CPI rate (red) was 6.4%, and the PPI rate (green) was 6.5%. The August 2023 CPI rate was 3.7%, and the Final Demand PPI rate was 1.6%.
6.0% 5.0%	The CPI and PPI increased after the 2007-2008 — Final Demand PPI Global Financial Crisis (GFC). The volatility of — CPI
4.0% 3.0%	inflation during the GFC is much less than that associated with the COVID-19 recession.
2.0% 1.0%	Man man
0.0% -1.0%	
	011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 reau of Labor Statistics, PPI Commodity Data, Final Demand SA: CPI All Items City Average SA, cber.co.

Source: Bureau of Labor Statistics, PPI Commodity Data, Final Demand SA; CPI All Items City Average SA, cber.co. Colorado-based Business and Economic Research https:cber.co

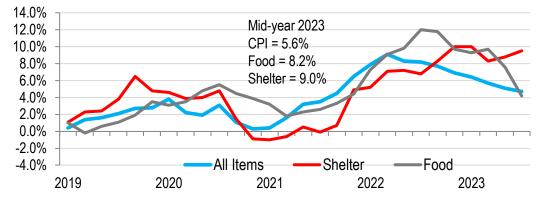
Bi-Monthly Change in Colorado CPI All Items vs. Core, Food, Shelter, and Energy Services



Colorado All Items vs. Energy Services



Colorado All Items vs. Food and Shelter



Colorado CPI

Inflation for most Colorado items is published bi-monthly. The charts illustrate three bimonthly Colorado CPI comparisons. Mid-year inflation rates are also on the three charts. Takeaways are:

- Between February-March 2021 and April-May 2023, Colorado core inflation was less than inflation for all items. Both are greater than the U.S. CPI rate.
- Since mid-2021, inflation for energy services (gas and electricity) has been greater than for all items. In August, energy services inflation increased from 15.4% to 16.0%. Higher energy inflation will continue, given energy-related policies and rate increases from utilities such as Xcel Energy.
- Inflation for shelter was 9.2% in August, down from 9.5% in July. Inflation for food was 4.2% in July.

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

Saving, Borrowing, Consumption, and the Wealth Effect

U.S. Personal Saving

Billions Personal Savings Rate **Current Level** Recessions - -\$7,000.0 \$6,000.0 \$5,000.0 \$4,000.0 \$3,000.0 \$2,000.0 \$1,000.0 \$0.0 1980 1983 1986 1989 1992 1995 1998 2001 2004 2007 2010 2013 2016 2019 2022

Personal Savings

Personal Saving

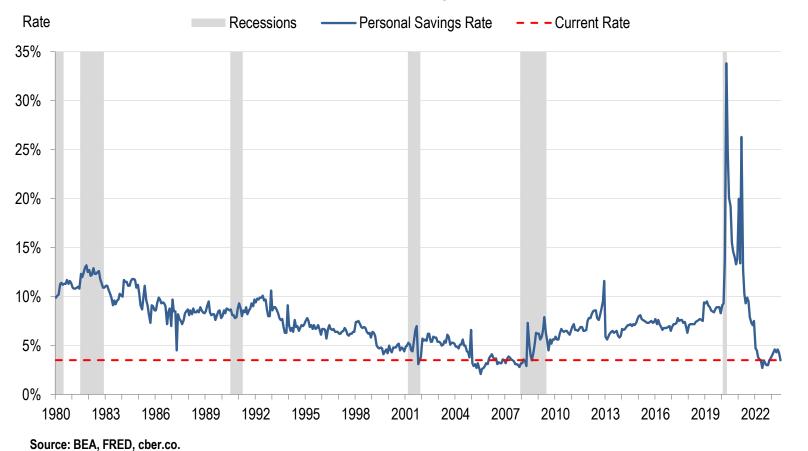
The level of savings in July 2023 was \$705.6 billion, down from \$6.4 trillion in April 2020. Americans have either spent their savings or invested in other assets.

Source: BEA, FRED, cber.co.

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

U.S. Personal Savings Rate Percentage of Disposable Personal Income (DPI)

Personal Savings Rate



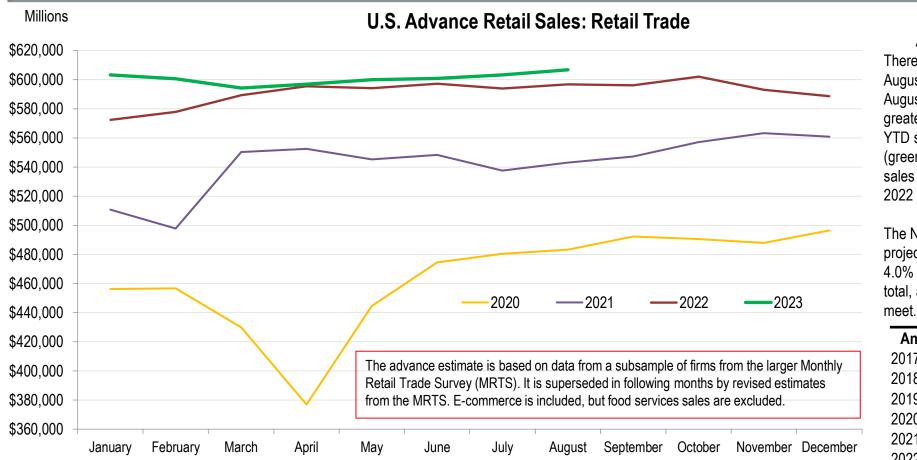
Personal Savings Rate

The July 2023 personal savings rate was 3.5%, and savings were \$705.6 billion, down from \$6.4 trillion in April 2020. That month, the savings rate was 33.8%. Since then, Americans have spent their savings or invested in other assets.

Year End Personal Savings (Billions) and Rate							
2017	\$948.5	6.3%					
2018	\$1,511.9	9.4%					
2019	\$1,381.3	8.3%					
2020	\$2,402.8	13.8%					
2021	\$1,372.3	7.5%					
2022	\$858.2	4.5%					
Source: Bl	EA, cber.co						

The personal savings rate jettisoned to a monthly high of 33.8% in the early stages of the pandemic. It fell to 13.0% in November 2020, then rose to 26.3% in March 2021. In June 2022, the personal savings rate bottomed out at 2.7%.

U.S. Advance Retail Sales: Retail Trade Monthly



Advance Retail Sales

There was a slight uptick in July and August in advance retail sales. August 2023 sales were 1.7% greater than August 2022 sales. Total YTD sales through August 2023 (green) were 1.9% greater than YTD sales for the first eight months in 2022 (burgundy).

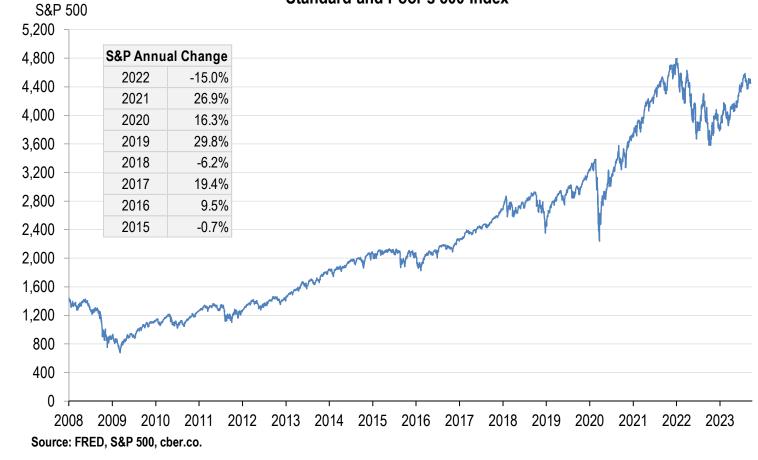
The National Retail Federation projected that 2023 sales would be 4.0% to 6.0% greater than the 2022 total, a forecast that will be difficult to meet.

Annua	Retail Sales	(Trillions)
2017	\$5.04	4.4%
2018	\$5.25	4.1%
2019	\$5.39	2.7%
2020	\$5.57	3.3%
2021	\$6.51	16.9%
2022	\$7.10	8.9%
Source: Ce	ensus, cber.co	

Source: U.S. Census Bureau, cber.co. Note: Not adjusted for inflation. Colorado-based Business and Economic Research https:cber.co

Standard and Poor's 500 Index

Standard and Poor's 500 Index



Market Returns

2020 COVID-19 Policies February 19, 2020 3,386 March 23, 2020 2,237 a change of **-34%** to 1,148 August 18, 2020 3,386 bear market was 149 days 2020 change was **+16.3%**

Year-End 2021 Bull Market For most of 2021 – steady growth

December 31, 2021 4,766, a change of +26.9%.

2022 Bear Market

December 31, 2022 3,839, a change of -15.0%

2023

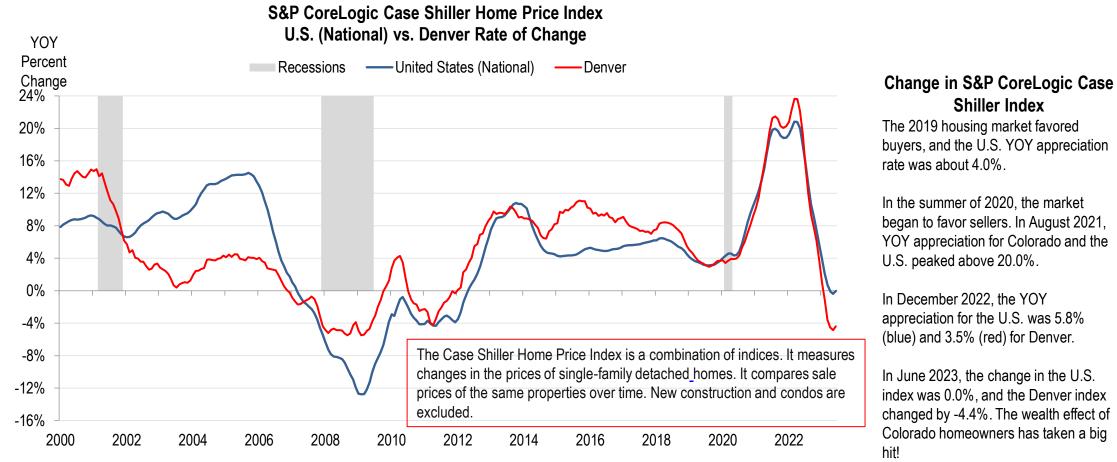
September 15, 2023

4,450, YTD change +15.9%

In August, the market has slowed. The Baby Bull market lasted through the end of the August. How much longer will it continue?

Daily

Case Shiller Home Price Index YOY National vs. Denver Rate of Change



Source: S&P Case Shiller, cber.co.

U.S. Industry Indicators

ISM Purchasing Managers Composite Indices Manufacturing vs. Services

70 -ISM Manufacturing Index -ISM Services Index 65 Neutral 60 55 50 45 Values > 50 points represent an 40 expansion and values < 50 points represent a contraction. A value of 50 is 35 neutral. 30 2008 2023 2013 2014 2016 2017 2018 2019 2020 2021 2022 2009 2010 2011 2012 2015 Source: Institute of Supply Management, cber.co.

ISM Manufacturing PMI vs. Services PMI Composite Indices

Manufacturing and Services PMI

The ISM manufacturing index (blue) trended downward after peaking at 64.7 in March 2021. It dropped below 50 in November 2022 and was 46.4 in August 2023. Most subindices posted significant gains, even though many remained in negative territory.

The ISM service index (orange) has trended downward since November 2021. It fell below 50 in December 2022 but has been above 50 during the first eight months of 2023. It was 54.5 in August. Overall, businesses are optimistic about economic conditions.

NFIB Small Business Optimism Index United States

1984=100 ------NFIB - - - Current Value Recessions Index Average 116 112 108 104 100 96 92 88 84 80 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020 2022

NFIB Small Business Optimism Index

NFIB Small Business Index

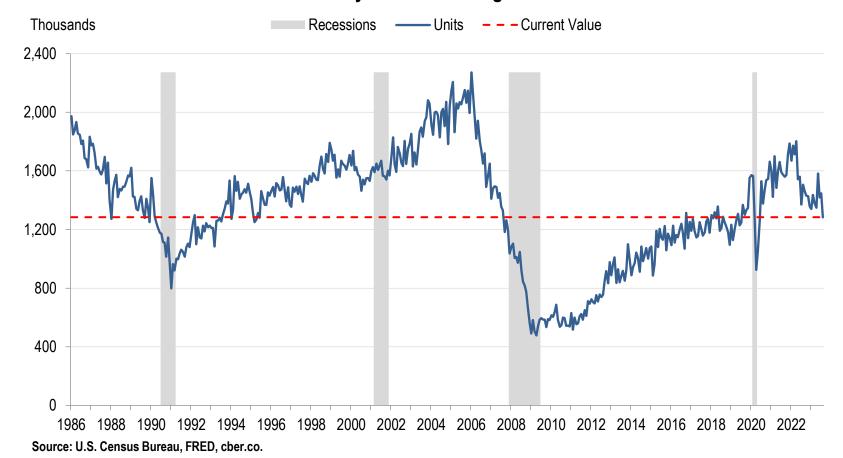
In July 2023, the NFIB index rose slightly to 91.9 (red dotted line), the 20th consecutive month below the 49year average of 98.0 (purple dotted line).

The first half of 2023 was weak, but in some cases, it was better than expected. A portion of the improvement was tied to government subsidies, and its purchase of goods and services. Inflation was problematic, along with the lack of qualified workers.

The NFIB monthly SBET report provides insight into the challenges of being a small business owner in this economy - <u>https://www.nfib.com/</u>.

Source: NFIB, cber.co.

New Privately-Owned Housing Units Started United States



New Privately Owned Housing Units Started

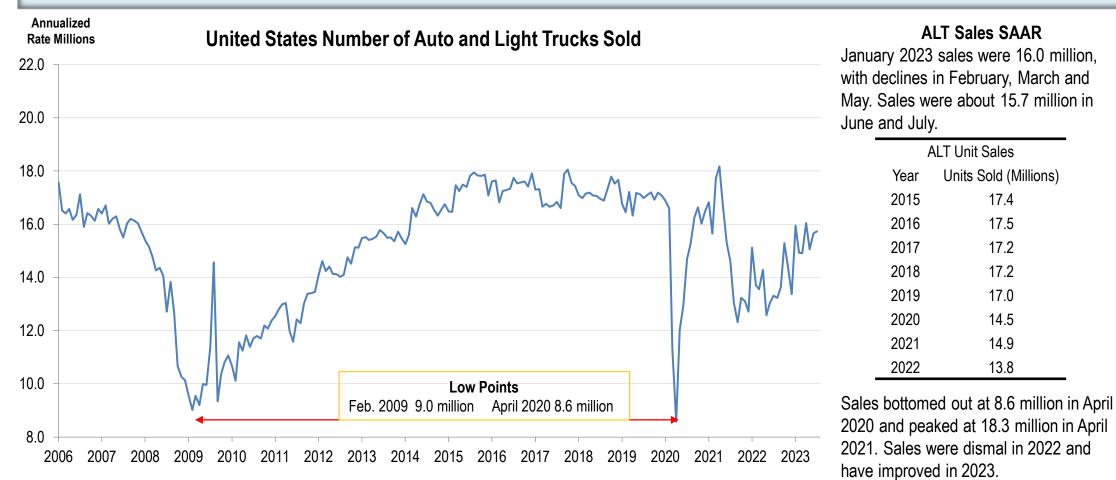
New Privately Owned Housing Units Started

The number of housing starts has been volatile. It has been below 1.6 million homes since May 2022. In August 2023, fewer than 1.3 million homes were started, comparable to mid-2020.

Increased interest rates and other headwinds have caused reduced demand for new housing.

Colorado-based Business and Economic Research https://doi.org/10.1011/j.com/10011/j.com/10011/j.

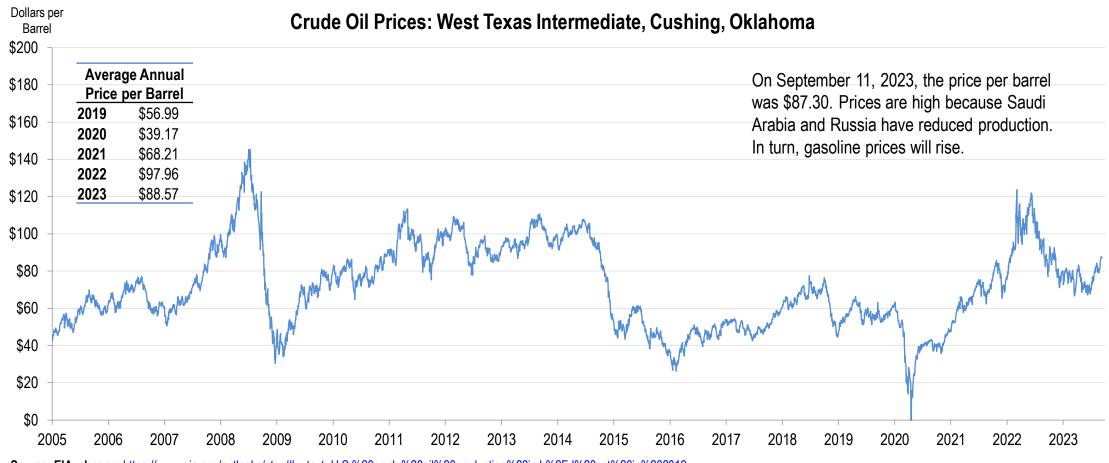
U.S. Auto and Light Truck (ALT) Sales Monthly (Seasonally Adjusted Annualized Rate in Millions)



Source: FRED, BEA, Seasonally Adjusted Annualized Rates (SAAR), cber.co.

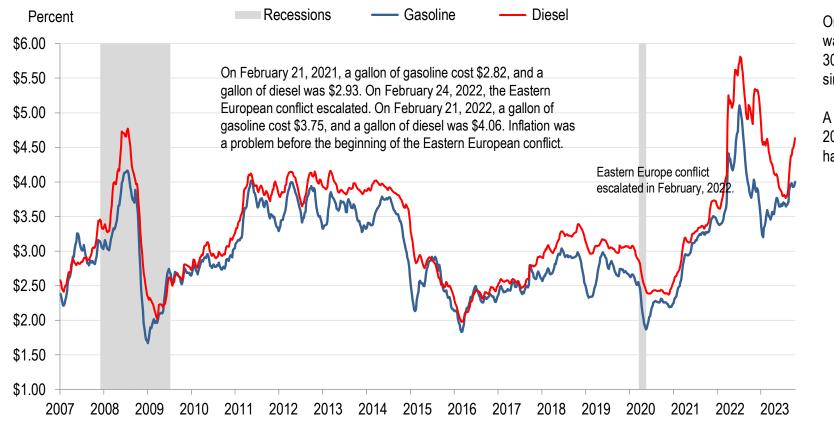
Crude Oil Prices

West Texas Intermediate



Source: EIA, cber.co, https://www.eia.gov/outlooks/steo/#:~:text=U.S.%20crude%20oil%20production%20in,b%2Fd%20set%20in%202019

Weekly Gasoline (Regular All Formulations) and Diesel Prices United States



U.S. Gasoline Regular (All Grades, All Formulations) and Diesel Prices

Gasoline and Diesel Prices

On September 18, 2023, a gallon of gasoline was \$4.00, down from a peak of \$5.11 on June 30, 2022. Gasoline prices have been on the rise since December 26, 2022.

A gallon of diesel was \$4.63 on September 18, 2023, compared to its peak of \$5.78. Prices have been on the rise since July 3, 2023.

Average Annual						
Year	Diesel	Gasoline				
2015	\$2.71	\$2.63				
2016	\$2.30	\$2.30				
2017	\$2.65	\$2.26				
2018	\$3.18	\$2.90				
2019	\$3.06	\$2.83				
2020	\$2.55	\$2.37				
2021	\$3.29	\$3.22				
2022	\$4.99	\$4.27				

Source: FRED, EIA , https://www.eia.gov/dnav/pet/pet pri gnd a epd2d pte dpgal w.htm, https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMM EPM0 PTE NUS DPG&f=W, cber.co.

Colorado Industry Indicators

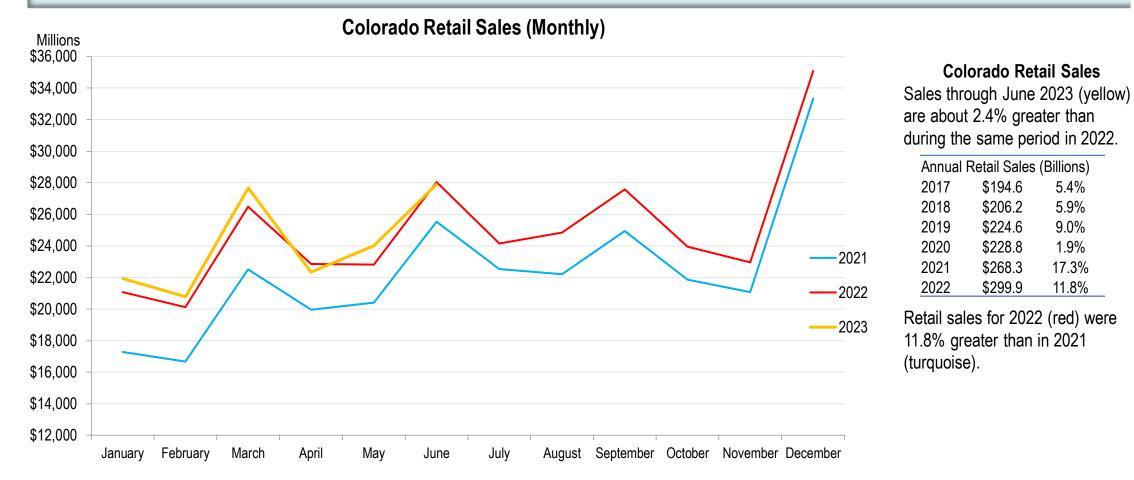
Colorado Residential Building Permits

Units

Units	Colorado Building Permits (Monthly)	A	nnual Building P	
		Year	Single Family	-
,500 —		2000	38,588	16,008
000 +	The YOY total number of single-family permits changed by -32.1% for	2001	36,437	18,570
	the first seven months of 2023 compared to 2022. The multi-family	2002	35,042	12,878
500 +	permits changed by -19.8% compared to the same period in 2022.	2003	33,894	5,732
000 +		2004	40,753	5,746
		2005	40,018	5,732
500 +		2006	30,365	7,978
00 -		2007	20,516	8,938
	Multiformity	2008	11,147	7,851
00 -	Multifamily	2009	7,261	2,094
00 -	Single Family	2010	8,790	2,801
		2011 2012	8,729 12,618	4,779 10,684
500 -		2012	12,010	11,745
000 -		2013	17,100	11,591
		2014	20,025	11,846
500 -		2016	21,577	17,397
000 -		2017	24,338	16,335
	المحاجب	2018	26,134	16,493
500 -		2019	24,756	13,877
0 -		2020	26,636	13,833
•	0 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023	2021	30,246	26,278
200		2022	23,728	25,111

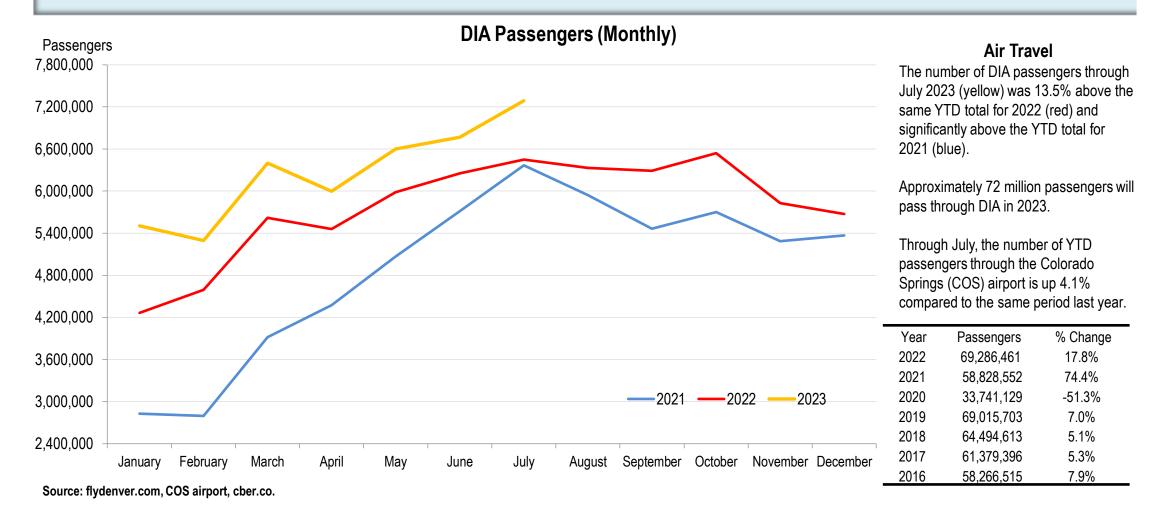
Source: TAMU Real Estate Center, U.S. Census Bureau, cber.co.

Colorado Retail Sales Monthly



Source: Colorado Department of Revenue, https://cdor.colorado.gov/retail-sales-reports, cber.co. Note: Not adjusted for inflation.

Denver International Airport Passengers Monthly



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

Colorado Field Production of Crude Oil 2011 to 2023 (Thousand Barrels)

Thousand Barrels				C	olorado	Crude Oil F	Production						
18,000									N				
17,000	Crude oil pro	duction for	Colorado rea	ached				16,031					
16,000	record levels	in 2015, de	spite the dro	op in the									
15,000	price of a bar	-	•	•			14,11		v \ ·	14,303			
14,000	was down. P		•	0				<u> </u>		12	2,785 🔨 13,12		
13,000	a slightly low			a, aboit at			$\neg \land \land \lor$	/				$\sim r$	
12,000	a singituy iow		1111 2010.							$\neg \gamma /$		Y	
11,000				10,185		10,84	.5			V			
10,000				-~~	<u> </u>	670						13,323	
9,000	Monthly P	roduction		\mathcal{N}	→ ·						n 2022, averag	•	
8,000	— Average N	/onthly Produ	7,969			V							
			5				years of incre		``		production was		
7,000		5,525	\sim			2019), the	trend reverse	d in 2020 be	cause of sta		13.1 million bari	•	
6,000		· · · · · · · · · · · · · · · · · · ·				regulations	and reduced	demand ca	used by CO	VID- r	nonth. Producti	on	
5,000	4,14(related poli	cies. In 2021.	, the average	e monthly	t	hrough June 20	023, is	
4,000	3,293						dropped to 1	. 0	,	onth. f	lat is about 13.	3 million	
3,000 🔽						•	nce tax rever		•		parrels per mon	ith.	
2,000		1								·J.	• -		
2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	

Source: EIA, cber.co.

Colorado Economic Outlook

Colorado Economic Forecast 2023 (Revisions)

Revisions for 2023

As stated earlier in this update, Colorado Labor Market Information recently released a report on their website suggesting the BLS CES data will be revised upward in the spring benchmark by 25,000 to 30,000 workers, <u>https://www.colmigateway.com/admin/gsipub/htmlarea/uploads</u>/Analysis-of-2023-Q1-Expected-Revisions-to-Colorado-Nonfarm-Payroll-Jobs.pdf

In addition, the unemployment rate will be 3.2% in 2023.

Finally, the strength of the labor market will drive economic activity from 2.0% to 2.6% in 2023, compared to 2.1% for the U.S.

Areas such as retail spending and construction will not be affected by this change.

Potential Concerns

Average annual employment increased by 66,600 per year from 2012 to 2019, or 5,550 per month. For the four years between 2020 and 2023, average annual employment was 33,700, or about 2,800 per month. Employment will continue to be volatile.

Colorado inflation will remain higher than the U.S. rate, particularly in housing and energy services.

Downtown Denver has become a place to avoid. Mayor Mike Johnston has aggressively addressed the homeless issue in Denver.

There are still concerns about the Colorado business environment, as expressed in a survey commissioned by the Colorado Chamber of Commerce, <u>https://cochamber.com/reports-and-research/</u>.

Colorado Economic Forecast 2023

	In 2023, the Colorado real GDP	Colorado Economic Forecast						
	growth rate will be 2.6% compared to 2.2% for the U.S.	Real GDP Value (billions) (chained 2012) % Change Real GDP	2020 \$353.35 -1.4%	2021 \$373.76 5.8%	2022 \$385.8 3.2%	2023 \$395.8 2.6%		
	Colorado's job growth in 2023 will be more volatile and much weaker than in 2022, and the unemployment rate will remain	CES Employment (thousands) Annual Change (thousands) % Change Unemployment Rate	2,652.7 -137.4 -4.9% 6.8%	2,750.9 98.2 3.7% 5.4%	2,864.9 114.0 4.1% 3.0%	2,924.9 60.0 2.1% 3.2%		
	low. Retail sales for 2023 will increase	Retail Sales (billions) % Change	\$228.8 1.9%	\$268.3 17.3%	\$299.9 11.8%	\$308.9 3.0%		
	more slowly than during the past two years. Coloradans will face	Consumer Price Index (CPI)	272.2 2.0%	281.8 3.5%	304.3 8.0%	317.4 4.3%		
	sticky inflation, high interest rates, high energy and housing costs,	DIA Passengers (millions)	33.0	59.0	69.0	72.0		
	labor shortages, and tight credit conditions. Inflation has declined, but it is more of a problem in	Single Family Permits Multi-family Permits	26,636 13,833	30,246 26,278	24,000 25,000	19,000 23,000		
	Colorado than in the U.S. That will continue to be the case in 2024.	Oil Production (thousands) barrels	172,000	142,000	146,000	145,000		

More than 72 million passengers will pass through DIA in 2023. There will be solid travel activity through the Colorado Springs airport.

The total number of 2023 building permits will be less than in 2022. Multi-family permits will be popular. The construction (housing) and real estate market will remain volatile in 2023.

Crude oil production declined in 2021 because of state regulations and reduced demand related to COVID policies. Production increased in 2022 and will be flat in 2023. cber.co Economic Outlook and Trends Through August 2023 Colorado and the United States

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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 Regional Economic Partnership, 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 Advanced Industries grant program, and he served on the 2021 Colorado Legislative Redistricting Commission.