The Structure of the Federal Reserve System

• The Federal Reserve System was created by Congress in 1913.

• It is a public-private, decentralized institution consisting of the Board of Governors in Washington, D.C. and 12 regional Reserve Banks.
  – Board of Governors
    • Consists of seven members who are appointed by the President and confirmed by the Senate to serve 14-year terms.
    • There are currently five members of the Board of Governors: Jerome Powell, Michelle Bowman, Richard Clarida, Lael Brainard and Randal Quarles.

  – Regional Federal Reserve Banks
    • There are 12 Regional Reserve Banks, each serving a unique district. These are semi-independent by design.
    • The Reserve Banks are governed by their Board of Directors, and the Directors (excluding Banking Directors) select the President of the Bank.

  – Federal Open Market Committee (FOMC)
    • Comprised of the 7 members of the Board of Governors and the 12 Reserve Bank Presidents (only 5 presidents are voting members on a rotating basis).
    • Charged with conducting monetary policy.
The Primary Functions of the Federal Reserve System

• Conduct the Nation’s Monetary Policy
  – The Federal Open Market Committee is the group charged with conducting monetary policy within the U.S.
  – The Committee has a statutory mandate from Congress to promote maximum employment, stable prices and moderate long-term interest rates.

• Provide and Maintain an Effective and Efficient Payments System
  – The Federal Reserve supplies payments services to the public through depository institutions including banks, credit unions and savings and loans.
  – We also serve as a banking and fiscal agent for the United States government.
  – Payment services includes cash processing, processing and clearing checks, transferring funds and issuing, transferring and redeeming U.S. government securities.

• Supervise and Regulate Banking Operations
  – The Federal Reserve ensures the safety and soundness of banks and ensures that banks provide fair and equitable services to consumers.
  – The Federal Reserve also monitors and promotes the stability of the financial system as a whole.

**Real U.S. Gross Domestic Product**

*Percent Change from Previous Quarter at Seasonally Adjusted Annualized Rates*

- Year-over-Year Percent Change

Source: Bureau of Economic Analysis and Federal Open Market Committee (FOMC)/Haver Analytics

*Projections as of December FOMC meeting*
U.S. economic growth is expected to slow after robust growth in 2018.

**Real U.S. Gross Domestic Product**

Percent Change Q4-over-Q4, Seasonally Adjusted Annualized Rates

Source: Bureau of Economic Analysis and Federal Open Market Committee (FOMC)/Haver Analytics

*Projections as of December FOMC meeting*
Consumer spending continues to expand at a solid pace.

**REAL CONSUMPTION SPENDING**

*Seasonally Adjusted, Year-over-Year Percent Change*

![Graph showing real consumption spending over time with labels for real retail sales and real personal consumption expenditures.](chart.png)

Sources: Bureau of Economic Analysis & Haver Analytics
Business and consumer confidence have increased in recent months.

**BUSINESS AND CONSUMER SENTIMENT**

Univ. of Michigan Consumer Sentiment, Q1:1966 = 100

NFIB Small Business Optimism Index, Q1:1986 = 100

Source: University of Michigan, National Federation of Independent Business, & Haver Analytics
Inflation is at the FOMC’s two percent target.

**PERSONAL CONSUMPTION EXPENDITURE PRICE INDEX**

*Percent Change Year-over-Year*

Source: Bureau of Economic Analysis, Federal Open Market Committee, & Haver Analytics

*Projections as of December FOMC meeting; median projections

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Source: Bureau of Economic Analysis, Federal Open Market Committee, & Haver Analytics

*Projections as of December FOMC meeting; median projections*
The unemployment rate has declined steadily over the past nine years and has fallen below most estimates of its longer-run level.

U. S. UNEMPLOYMENT RATE

Seasonally Adjusted

Source: Bureau of Labor Statistics and Federal Open Market Committee (FOMC)/Haver Analytics

*Projections as of March FOMC meeting; median unemployment rate
The unemployment rate has declined steadily over the past eight years and has fallen below most estimates of its longer-run level.

U. S. Unemployment and Job Openings

Seasonally Adjusted, Thousands

Source: Bureau of Labor Statistics/Haver Analytics
“In view of realized and expected labor market conditions and inflation, the Committee decided to raise the target range for the federal funds rate to 2-1/4 to 2-1/2 percent.”

- December 2018 FOMC Statement

Source: Federal Reserve Board
FEDERAL RESERVE BALANCE SHEET
Trillions

Source: Federal Reserve Board, Haver Analytics, and author’s calculations.
Unemployment rates are below national rates across most of Colorado.

**Unemployment Rates**

*October 2018, Seasonally Adjusted*

<table>
<thead>
<tr>
<th>Unemployment Rate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>United States (Dec. ‘18)</td>
<td>3.9%</td>
</tr>
<tr>
<td>Colorado (Nov. ‘18)</td>
<td>3.3%</td>
</tr>
<tr>
<td>Denver (Nov. ‘18)</td>
<td>3.4%</td>
</tr>
</tbody>
</table>

Source: Bureau of Labor Statistics and Haver Analytics
Employment has been increasing in Colorado and the nation over the past eight years, with Colorado gains outpacing the nation.

PAYROLL EMPLOYMENT GROWTH

Index 100 = December, 2008, Seasonally Adjusted

<table>
<thead>
<tr>
<th></th>
<th>Percent Change (April ‘18)</th>
<th>Past 10 Years</th>
<th>Past Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. (Dec. ‘18)</td>
<td>11.4%</td>
<td>1.8%</td>
<td></td>
</tr>
<tr>
<td>Colorado (Nov. ‘18)</td>
<td>17.9%</td>
<td>2.6%</td>
<td></td>
</tr>
<tr>
<td>Denver (Nov. ‘18)</td>
<td>21.3%</td>
<td>2.2%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Bureau of Labor Statistics
The majority of industries have added jobs over the past year.

**CHANGE IN PAYROLL EMPLOYMENT, NOVEMBER 2018**

*Seasonally Adjusted*

<table>
<thead>
<tr>
<th>Share</th>
<th>Location Quotient</th>
<th>Industry</th>
<th>Percent Change Year-over-Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1%</td>
<td>2.25</td>
<td>Natural Resources &amp; Mining</td>
<td>14.3%</td>
</tr>
<tr>
<td>16.0%</td>
<td>1.13</td>
<td>Professional &amp; Business Services</td>
<td>5.1%</td>
</tr>
<tr>
<td>2.7%</td>
<td>1.49</td>
<td>Information</td>
<td>4.0%</td>
</tr>
<tr>
<td>3.2%</td>
<td>0.80</td>
<td>Transportation &amp; Utilities</td>
<td>3.7%</td>
</tr>
<tr>
<td>4.7%</td>
<td>1.39</td>
<td>State Government</td>
<td>3.5%</td>
</tr>
<tr>
<td>12.7%</td>
<td>1.16</td>
<td>Leisure &amp; Hospitality</td>
<td>3.0%</td>
</tr>
<tr>
<td>10.1%</td>
<td>0.95</td>
<td>Retail Trade</td>
<td>2.5%</td>
</tr>
<tr>
<td>5.4%</td>
<td>0.63</td>
<td>Manufacturing</td>
<td>2.5%</td>
</tr>
<tr>
<td>10.9%</td>
<td>0.81</td>
<td>Health Care &amp; Social Assistance</td>
<td>2.0%</td>
</tr>
<tr>
<td>4.0%</td>
<td>0.99</td>
<td>Wholesale Trade</td>
<td>2.0%</td>
</tr>
<tr>
<td>9.6%</td>
<td>0.99</td>
<td>Local Government</td>
<td>1.4%</td>
</tr>
<tr>
<td>6.2%</td>
<td>1.26</td>
<td>Construction</td>
<td>1.4%</td>
</tr>
<tr>
<td>4.0%</td>
<td>1.01</td>
<td>Other Services</td>
<td>0.6%</td>
</tr>
<tr>
<td>6.1%</td>
<td>1.06</td>
<td>Financial Activities</td>
<td>-2.2%</td>
</tr>
<tr>
<td>1.9%</td>
<td>1.02</td>
<td>Federal Government</td>
<td>-2.5%</td>
</tr>
<tr>
<td>1.4%</td>
<td>0.56</td>
<td>Private Educational Services</td>
<td>-2.2%</td>
</tr>
</tbody>
</table>

Note: Construction and Mining are lumped together for Denver employment growth under the “Construction” sector in the chart above.

Source: Bureau of Labor Statistics
Wage growth in Colorado is similar to that of the U.S. as a whole and has been slower than in past expansionary periods.

**Wage per Employee**

*Year-over-Year Percent Change, Four-Quarter-Moving-Average*

- Gray bars indicate recession, and dotted lines indicate Colorado average growth for each expansionary period shown.

Sources: BLS – QCEW, NBER & Haver Analytics
Colorado continues to experience net in-migration, but the pace of growth has slowed over the past year.

**NET MIGRATION**

*Total 2017 Net Migration as a Percentage of 2017 Population*

<table>
<thead>
<tr>
<th>Annual Percent Change</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>0.3%</td>
</tr>
<tr>
<td>Colorado</td>
<td>0.8%</td>
</tr>
<tr>
<td>Denver County</td>
<td>0.7%</td>
</tr>
</tbody>
</table>

For the map, the color codes represent the following:

- More than 2%
- 1% to 2%
- 0% to 1%
- -1% to 0%
- -2% to -1%
- Less than -2%
Months supply of homes remains very low in Denver compared to the United States as a whole.

**MONTHS SUPPLY OF HOMES**  
*Seasonally Adjusted*

- **United States**
- **Denver**

*Note: Dotted lines are historical averages from November 2002 to November 2018.*

Sources: Coldwell Banker, Denver Metro Association of Realtors, Census Bureau and Haver Analytics
Residential construction activity has been increasing for eight years, led by strong gains in multifamily building.

**RESIDENTIAL PERMITS**

*Year-to-Date Through November, Seasonally Adjusted*

**Colorado**

- **Multifamily**
- **Single Family**

**Denver**

- **Multifamily**
- **Single Family**

*Source: Census Bureau/Haver Analytics*
Low inventories have led to strong home price appreciation in recent years in Colorado and Denver.

**Home Prices**

*Seasonally Adjusted, Index 100 = Q1:2007*

![Graph showing home price appreciation in Denver, Colorado, and the United States.](image)

*Note: United States and Colorado price indices are for purchase-only transactions, whereas Fort Collins includes re-financing and purchase transactions.*

*Source: Federal Housing Finance Agency*
Tourism activity has been strong in Colorado over the past few years.

**Hotel Occupancy Rates**

- **Colorado**

**Hotel Room Rates**

- **Colorado, 1999 Dollars**

Source: Colorado Hotel and Lodging Association
Manufacturing activity improved throughout 2017 and 2018, although is showing recent weakness.

**Manufacturing Activity**

*Diffusion Index, Seasonally Adjusted, Month-over-Month*

Source: Kansas City Federal Reserve Bank, ISM, & Haver Analytics
Colorado exporting activity rebounded modestly in 2017, and is up so far through 2018.

**COLORADO EXPORTS BY TRADING PARTNER**

**Billions**

**Year-to-Date October 2018**

<table>
<thead>
<tr>
<th>Year-over-Year Percent Change</th>
<th>Total Trade</th>
<th>Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Other</td>
<td>10.4</td>
<td>30.2%</td>
</tr>
<tr>
<td>Japan</td>
<td>-1.1</td>
<td>5.5</td>
</tr>
<tr>
<td>Mexico</td>
<td>-0.5</td>
<td>16.3</td>
</tr>
<tr>
<td>Canada</td>
<td>3.4</td>
<td>17.3</td>
</tr>
<tr>
<td>China</td>
<td>3.9</td>
<td>12.8</td>
</tr>
<tr>
<td>Eurozone</td>
<td>7.6</td>
<td>17.9</td>
</tr>
</tbody>
</table>

Source: WISERTrade and Census Bureau
Oil prices remain low.

**Oil Prices (West Texas Intermediate)**

$/Barrel

Source: Bloomberg Energy Services
Oil prices are expected to remain above $55 over the next two years which is above profitable prices for most District firms.

**Energy Survey Special Question**

*Q3:2018*

**Oil (WTI)**

- Profitable Price: $55
- Price expected in 6 months: $71
- Price expected in 1 year: $72
- Price expected in 2 years: $73
- Price expected in 5 years: $79

**Natural Gas (Henry Hub)**

- Profitable Price: $3.23
- Price expected in 6 months: $2.89
- Price expected in 1 year: $2.92
- Price expected in 2 years: $3.10
- Price expected in 5 years: $3.42

Note: Blue bars represent range for survey respondents. Numbers above bars indicate average of the range (the black line in the middle of the blue bars).
Oil production has reached record levels in Colorado despite a low-price environment.

**CRUDE OIL PRODUCTION**
*Millions of Barrels, Monthly, Seasonally Adjusted*

Source: Energy Information Administration and Haver Analytics
Farm income is projected to decline in 2018, as commodity prices remain low.

U.S. REAL NET FARM INCOME

*Billion Dollars (Constant 2016 Dollars)*

*Projection for 2018*
For additional information on the regional economy: