Colorado Municipal League
COVID Economic Discussion
What we know thus far

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Overview

• Slowing growth in domestic cases
• Economy was on a strong footing prior to COVID-19
• Economic data has lagged
• Federal policies will help mitigate the impact
• Select industries bore the initial brunt
• Collateral damage is following for select industries
• Colorado economy on a particularly strong footing pre-crisis
• Colorado is over-exposed to some of the downturn
• Colorado is also well-positioned in other areas
Confirmed COVID-19 Cases by Country

Source: Bloomberg.

Top 10

<table>
<thead>
<tr>
<th>Country</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S.</td>
<td>1,334,951</td>
</tr>
<tr>
<td>Spain</td>
<td>224,350</td>
</tr>
<tr>
<td>U.K.</td>
<td>224,327</td>
</tr>
<tr>
<td>Russia</td>
<td>221,344</td>
</tr>
<tr>
<td>Italy</td>
<td>219,814</td>
</tr>
<tr>
<td>France</td>
<td>177,094</td>
</tr>
<tr>
<td>Germany</td>
<td>171,999</td>
</tr>
<tr>
<td>Brazil</td>
<td>163,510</td>
</tr>
<tr>
<td>Turkey</td>
<td>138,657</td>
</tr>
<tr>
<td>Iran</td>
<td>109,286</td>
</tr>
</tbody>
</table>
Confirmed COVID-19 Cases by State

Source: Bloomberg.
Real GDP Growth

Quarterly Real GDP

Sources: Bureau of Economic Analysis and Consensus Forecasts.
National Employment

Month-over-Month Change

Sources: Bureau of Labor Statistics (Seasonally Adjusted), Moody’s Analytics, and the National Bureau of Economic Research.
National Employment

Month-over-Month Change

Sources: Bureau of Labor Statistics (Seasonally Adjusted), Moody’s Analytics, and the National Bureau of Economic Research.
Labor Underutilization

Percentage of Labor Force

Sources: Bureau of Labor Statistics (Seasonally Adjusted).
Employment Losses and Recovery

Peak to Trough

-10% -8% -6% -4% -2% 0%


Months to Recovery

Number of Months

0 20 40 60 80

Sources: Bureau of Labor Statistics (Seasonally Adjusted), National Bureau of Economic Research.
Initial Jobless Claims

Index of Consumer Confidence

Leeds Business Confidence Index

Index (50=Neutral)


Why?
Coronavirus
Economy
Election
Oil
Politics

Recession 18 months

29.9

29.7
1-Year Securities Trends

Indexed, May 10, 2019=100

<table>
<thead>
<tr>
<th>Change</th>
<th>S&amp;P 500</th>
<th>Dow Jones</th>
<th>Nasdaq</th>
<th>Russell 2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>From Peak</td>
<td>-13.5%</td>
<td>-17.7%</td>
<td>-7.1%</td>
<td>-22.0%</td>
</tr>
<tr>
<td>1-Year</td>
<td>1.7%</td>
<td>-6.2%</td>
<td>15.2%</td>
<td>-15.5%</td>
</tr>
</tbody>
</table>

Source: Yahoo! Finance.
Consumer Price Index

U.S. City Average, Core Inflation

- January 2015:
  - Core Inflation: -0.4%
  - All Items: -0.6%

- November 2018:
  - Core Inflation: 0.0%
  - All Items: -1.8%

- April 2020:
  - Core Inflation: -0.4%
  - All Items: -0.8%

Household Debt Growth

Source: U.S. Flow of Funds Account, Z.1 Data Release.
Household Debt Burden

Financial Obligations Ratio (R)

Debt Service Ratio (L)

Source: Federal Reserve, Household Debt Service and Obligations Ratios.
Interest Rates

Sources: Federal Reserve and Moody's Analytics.
Federal Budget Balance

2000 to 2020

$ Billions

Sources: Office of Management and Budget, Consensus Forecasts, and the Business Research Division.
The FED

Source: Board of Governors of the Federal Reserve System.
A Visualization of the CARES Act

Source

- Direct Payments: $290 billion
- Unemployment Benefits: $260 billion
- Tax Breaks: $300 billion
- Loans: $875 billion (Up to $366 billion forgiven)
- Grants: $230 billion
- Other Spending: $325 billion

Total Cost: $2.3 Trillion

Recipient

- Large Businesses*: $525 billion
- Small Businesses†: $600 billion
- Households: $610 billion
- Health Providers: $185 billion
- States & Municipalities: $175 billion
- Airline Industry: $75 billion
- FEMA: $45 billion
- Other: $65 billion

Source: Legislative Offices, I ct, bill text, CRFB estimates.
† This includes $170 billion of tax cuts for businesses other than corporations, some of which are large companies.
* This includes $454 billion to set up a $4.5 trillion Fed facility which could support state and local governments as well as companies.
National One-Month Job Change – March

Thousands of Jobs

-881,000 Jobs

National Job Change – March+April

- Finance and Insurance
- Mining and Logging
- Management of Companies and Enterprises
- Real Estate and Rental and Leasing
- Information
- Wholesale Trade
- Educational Services
- Professional, Scientific, and Technical Services
- Transportation and Utilities
- Government
- Construction
- Other Services
- Arts, Entertainment, and Recreation
- Manufacturing
- Admin and Wastse Management
- Healthcare and Social Assistance
- Retail Trade
- Accommodation and Food Services

Thousands of Jobs

National Jobs Added by Industry – 2020

- Information
- Educational Services
- Real Estate and Rental and Leasing
- Finance and Insurance
- Natural Resources and Mining
- Management of Companies and Enterprises
- Wholesale Trade
- Health Care and Social Assistance
- Other Services
- Arts
- Professional and Technical Services
- Government
- Administrative and Waste Services
- Construction
- Transportation and Utilities
- Manufacturing
- Retail Trade
- Accommodations and Food Services

Source: Moody’s Analytics.
## Colorado Among Other States

<table>
<thead>
<tr>
<th>Metric</th>
<th>1-Year</th>
<th>3-Year</th>
<th>5-Year</th>
<th>10-Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real GDP Growth</td>
<td>5</td>
<td>8</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Employment Growth</td>
<td>9</td>
<td>7</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Population Growth</td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Personal Income Growth</td>
<td>6</td>
<td>1</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>PCPI Growth</td>
<td>6</td>
<td>2</td>
<td>14</td>
<td>NA</td>
</tr>
<tr>
<td>PCPI</td>
<td>11</td>
<td>13</td>
<td>12</td>
<td>NA</td>
</tr>
<tr>
<td>Average Annual Pay % Growth</td>
<td>5</td>
<td>5</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Average Annual Pay</td>
<td>9</td>
<td>11</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>Unemployment Rate*</td>
<td>31</td>
<td>7</td>
<td>7</td>
<td>27</td>
</tr>
<tr>
<td>Labor Force % Growth</td>
<td>7</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>LFPR</td>
<td>4</td>
<td>2</td>
<td>9</td>
<td>11</td>
</tr>
<tr>
<td>FHFA Home Price Index Growth</td>
<td>11</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

Initial Jobless Claims Colorado

## Jobless Claims by County

### Sources:
Colorado Department of Labor and Employment (March 14-May 5).

<table>
<thead>
<tr>
<th>County</th>
<th>Initial Jobless Claims</th>
<th>Share of Total Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Park</td>
<td>42%</td>
<td>Arapahoe 11%</td>
</tr>
<tr>
<td>Dolores</td>
<td>29%</td>
<td>Larimer 11%</td>
</tr>
<tr>
<td>Lake</td>
<td>28%</td>
<td>El Paso 11%</td>
</tr>
<tr>
<td>Clear Creek</td>
<td>27%</td>
<td>Weld 11%</td>
</tr>
<tr>
<td>San Juan</td>
<td>27%</td>
<td>Kiowa 11%</td>
</tr>
<tr>
<td>Hinsdale</td>
<td>26%</td>
<td>Mesa 11%</td>
</tr>
<tr>
<td>Custer</td>
<td>24%</td>
<td>Moffat 11%</td>
</tr>
<tr>
<td>El Paso</td>
<td>24%</td>
<td>Crowley 11%</td>
</tr>
<tr>
<td>Ouray</td>
<td>23%</td>
<td>Pueblo 10%</td>
</tr>
<tr>
<td>Archuleta</td>
<td>23%</td>
<td>Las Animas 10%</td>
</tr>
<tr>
<td>San Miguel</td>
<td>22%</td>
<td>Mineral 10%</td>
</tr>
<tr>
<td>Teller</td>
<td>21%</td>
<td>Montezuma 10%</td>
</tr>
<tr>
<td>Conejos</td>
<td>19%</td>
<td>Boulder 9%</td>
</tr>
<tr>
<td>Grand</td>
<td>19%</td>
<td>Fremont 9%</td>
</tr>
<tr>
<td>Summit</td>
<td>19%</td>
<td>Broomfield 9%</td>
</tr>
<tr>
<td>Eagle</td>
<td>18%</td>
<td>Denver 9%</td>
</tr>
<tr>
<td>Gunnison</td>
<td>18%</td>
<td>Rio Grande 9%</td>
</tr>
<tr>
<td>Gilpin</td>
<td>17%</td>
<td>Washington 8%</td>
</tr>
<tr>
<td>Routt</td>
<td>16%</td>
<td>Phillips 8%</td>
</tr>
<tr>
<td>Saguache</td>
<td>14%</td>
<td>Cheyenne 8%</td>
</tr>
<tr>
<td>Pitkin</td>
<td>14%</td>
<td>Alamosa 8%</td>
</tr>
<tr>
<td>Jefferson</td>
<td>14%</td>
<td>Bent 7%</td>
</tr>
<tr>
<td>Huerfano</td>
<td>14%</td>
<td>Lincoln 7%</td>
</tr>
<tr>
<td>Garfield</td>
<td>14%</td>
<td>Baca 7%</td>
</tr>
<tr>
<td>Chaffee</td>
<td>14%</td>
<td>Otero 6%</td>
</tr>
<tr>
<td>La Plata</td>
<td>13%</td>
<td>Logan 6%</td>
</tr>
<tr>
<td>Delta</td>
<td>13%</td>
<td>Morgan 5%</td>
</tr>
<tr>
<td>Jackson</td>
<td>12%</td>
<td>Rio Blanco 5%</td>
</tr>
<tr>
<td>Douglas</td>
<td>12%</td>
<td>Sedgwick 4%</td>
</tr>
<tr>
<td>Adams</td>
<td>12%</td>
<td>Kit Carson 4%</td>
</tr>
<tr>
<td>Montrose</td>
<td>12%</td>
<td>Prowers 4%</td>
</tr>
<tr>
<td>Costilla</td>
<td>12%</td>
<td>Yuma 2%</td>
</tr>
</tbody>
</table>
Initial Jobless Claims by Industry

State Total Since 3/7/20

0 10,000 20,000 30,000 40,000 50,000 60,000

Accommodation and Food Services
Retail Trade
Health Care and Social Assistance
Other Services
Arts, Entertainment, and Recreation
Administrative and Waste Services
Construction
Manufacturing
Professional and Technical Services
Wholesale Trade
Transportation, Warehousing, and Utilities
Real Estate, Rental, and Leasing
Education Services
Information
Mining
Management of Companies and Enterprises
Finance and Insurance
Public Administration
Agriculture, Forestry, Fishing and Hunting

Total Initial Jobless Claims
Colorado Employment Growth

Sources: Colorado Department of Labor and Employment and the Colorado Business Economic Outlook Committee.
Colorado Average Annual Pay

(i.e., -$1B for every 16,300 jobs)

Source: Federal Reserve Board, Balance Sheet of Households and Nonprofit Organizations (B.101) (Not Seasonally Adjusted).
## Colorado Wages

### 2019 Q3

<table>
<thead>
<tr>
<th>Sector</th>
<th>Total Employment (Thousands)</th>
<th>Share of Employment</th>
<th>Average Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Above Average Total</strong></td>
<td>1,115</td>
<td>41.0%</td>
<td>$88,117</td>
</tr>
<tr>
<td>Management of companies and enterprises</td>
<td>42</td>
<td>1.5%</td>
<td>$142,648</td>
</tr>
<tr>
<td>Utilities</td>
<td>8</td>
<td>0.3%</td>
<td>$109,248</td>
</tr>
<tr>
<td>Information</td>
<td>76</td>
<td>2.8%</td>
<td>$108,196</td>
</tr>
<tr>
<td>Professional and technical services</td>
<td>233</td>
<td>8.6%</td>
<td>$102,596</td>
</tr>
<tr>
<td>Finance and insurance</td>
<td>113</td>
<td>4.2%</td>
<td>$99,721</td>
</tr>
<tr>
<td>Natural Resources and Mining</td>
<td>48</td>
<td>1.8%</td>
<td>$90,297</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>110</td>
<td>4.0%</td>
<td>$89,010</td>
</tr>
<tr>
<td>Federal Government</td>
<td>53</td>
<td>1.9%</td>
<td>$85,085</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>150</td>
<td>5.5%</td>
<td>$73,539</td>
</tr>
<tr>
<td>State Government</td>
<td>106</td>
<td>3.9%</td>
<td>$66,802</td>
</tr>
<tr>
<td>Construction</td>
<td>177</td>
<td>6.5%</td>
<td>$64,109</td>
</tr>
<tr>
<td><strong>All Industries</strong></td>
<td>2,720</td>
<td>100.0%</td>
<td>$61,200</td>
</tr>
<tr>
<td>Real estate and rental and leasing</td>
<td>54</td>
<td>2.0%</td>
<td>$60,451</td>
</tr>
<tr>
<td>Transportation and warehousing</td>
<td>82</td>
<td>3.0%</td>
<td>$58,586</td>
</tr>
<tr>
<td>Health care and social assistance</td>
<td>302</td>
<td>11.1%</td>
<td>$52,428</td>
</tr>
<tr>
<td>Local Government</td>
<td>267</td>
<td>9.8%</td>
<td>$49,762</td>
</tr>
<tr>
<td>Administrative and waste services</td>
<td>161</td>
<td>5.9%</td>
<td>$45,942</td>
</tr>
<tr>
<td>Educational services</td>
<td>37</td>
<td>1.4%</td>
<td>$42,247</td>
</tr>
<tr>
<td>Other services, except public administration</td>
<td>84</td>
<td>3.1%</td>
<td>$42,096</td>
</tr>
<tr>
<td>Arts, entertainment, and recreation</td>
<td>58</td>
<td>2.1%</td>
<td>$38,952</td>
</tr>
<tr>
<td>Retail trade</td>
<td>272</td>
<td>10.0%</td>
<td>$33,416</td>
</tr>
<tr>
<td>Accommodation and food services</td>
<td>285</td>
<td>10.5%</td>
<td>$24,528</td>
</tr>
<tr>
<td><strong>Below Average Total</strong></td>
<td>1,602</td>
<td>58.9%</td>
<td>$42,452</td>
</tr>
</tbody>
</table>

25.7% of employment
13.2% of total wages

Colorado Employment by Industry – March 2020

- Trade, Transportation, and Utilities
- Government
- Professional and Business Services
- Education and Health Services
- Leisure and Hospitality
- Construction
- Financial Activities
- Manufacturing
- Other Services
- Information
- Natural Resources and Mining

Thousands of Jobs

Colorado Employment by Industry – One-Month Change

Leisure and Hospitality Share of Employment

Leisure and Hospitality
- Arts, Entertainment, and Recreation
  - Ski
  - Golf
  - Pro Sports
  - Performing Arts
  - Museums
  - Gaming
  - Fitness
- Accommodation and Food Services
  - Hotels
  - Restaurants
  - Bars
- Local Concentrations
  - Boulder: 11.7%
  - Denver: 12.6%
  - Pitkin: 39%
  - Summit: 41.1%
Baker Hughes Rig Count

1-Year Change:
- WTI: -67%
- Rig Count: -75%

May Rig Count: 8

Source: Energy Information Administration and Baker Hughes.
July 2008:
- U.S. $4.17
- Colorado: $4.08

December 2008:
- U.S. $1.67
- Colorado: $1.54

May 2020:
- U.S. $1.88
- Colorado: $1.78

Source: Energy Information Administration (All Grades/All Formulations). Data through December 2019.
National Retail and Food Services Sales

Source: U.S. Census Bureau.
National Retail by Category

Month-over-month % change

Food & beverage stores
Health & personal care stores
Building material & garden equip
Total
Miscellaneous store retailers
Electronics & appliance stores
Gasoline stations
Department stores
Sporting goods, hobby, musical
Motor vehicle & parts dealers
Food services & drinking places
Furniture & home furn stores
Clothing & clothing accessories

Source: U.S. Census Bureau, Monthly Retail Trade (Advance Estimate, February.)
Colorado Sales and Use Taxes

Sales and Use Taxes

- Total: +4.2%
  - Sales Taxes: +7.4%
  - Use Taxes: -24.2%

- Total: -13.6%
  - Sales Taxes: -12.9%
  - Use Taxes: -24.2%

State v. Local

- State: 40%
- Local: 60%

Source: Colorado Department of Revenue and the U.S. Census Bureau (2017).
Colorado Summary

- Economy was on a strong footing prior to COVID-19
- Tourism industry on the front line of the economic downturn
- Disproportionate impact on mountain resort economies
- Oil impact on energy communities
- Financial hit to state and local government
- CARES act will partially mitigate impacts
- Professional Services provide economic cover
- Additional economic modeling forthcoming