Outlook themes

• An unprecedented decline in economic activity in the United States and globally. Early signs that activity has bottomed out.

• The downturn has been met by an aggressive policy response, both by fiscal authorities and by the Federal Reserve.

• The economy should pick up as restrictions are lifted. However, effects of the crisis will persist for some time. There are a number of risks and headwinds that could prolong the recovery.
U.S. GDP declining at an unprecedented pace

Sources: BEA, NBER, Wolters Kluwer, Haver Analytics
Decline led by consumption, services, and exports

Retail Sales (Bn $, sa)

PMI Index, >50 = increasing (sa)

Exports (% chg, sa)

Sources: Census Bureau, IHS Markit, NBER, Haver Analytics
Unemployment rate ticks back in May

Sources: BLS, NBER, Haver Analytics
As restrictions lift, signs of life

Sources: Opentable, Safegraph
Financial markets have rebounded

Sources: Wall Street Journal, Standard & Poor's, Haver Analytics
Wide range of fiscal actions support households and businesses

<table>
<thead>
<tr>
<th>Program</th>
<th>Approximate Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Stimulus Checks to Households</td>
<td>$290 Billion</td>
</tr>
<tr>
<td>2 Student Loan and Mortgage Relief</td>
<td>$42 Billion</td>
</tr>
<tr>
<td>3 Augmented Food Stamps</td>
<td>$47 Billion</td>
</tr>
<tr>
<td>4 Expanded Unemployment Insurance</td>
<td>$269 Billion</td>
</tr>
<tr>
<td>5 Expansion of Paid Sick Leave</td>
<td>$105 Billion</td>
</tr>
<tr>
<td>6 Tax Cuts for Businesses and Corporations</td>
<td>$241 Billion</td>
</tr>
<tr>
<td>7 Grants to State and Local Governments</td>
<td>$230 Billion</td>
</tr>
<tr>
<td>8 Additional Medicare Payments</td>
<td>$28 Billion</td>
</tr>
<tr>
<td>9 Diasaster Relief (FEMA)</td>
<td>$45 Billion</td>
</tr>
<tr>
<td>10 Paycheck Protection Program</td>
<td>$670 Billion</td>
</tr>
</tbody>
</table>

Sources: Congressional Budget Office, CRFB
Paycheck Protection Program (PPP) facilitated importantly by smaller banks

### PPP Approved Dollars by Lender Size (left)

- **<=$10B in Assets**
- **$10B to $50B in Assets**
- **>$50B in Assets**

### Participation of 10th District Banks in PPP Program (right)

- **Not Participating**
- **Participating**

Sources: Small Business Administration
District has been well represented in PPP uptake – High firm uptake

Number of PPP Loans / Number of Establishments with Fewer than 500 Employees

Sources: Census Bureau, Small Business Administration
District has been well represented in PPP uptake (percent of eligible payroll)

PPP Loans as Percent of Eligible Quarterly Payroll

Sources: Census Bureau, Small Business Administration
PPP uptake high in industries that have lost many jobs

Sources: BLS, Small Business Administration
But PPP likely contributed to May increase in employment

Sources: BLS, Small Business Administration
The Federal Reserve has acted swiftly and forcefully.

Monetary Policy:
- Cut policy rate to near zero.
- Forward guidance

Actions to Improve Market Functioning:
- Open Market Purchases
- Eased access to discount window.
- Primary Dealer Credit Facility (PDCF)
- Money Market Mutual Fund Liquidity Facility (MMLF)
- Commercial Paper Funding Facility (CPFF)
- Expanded Foreign Central Bank Swap Lines

Actions to Support the Flow of Credit:
- PPP Loan Facility (PPPLF)
- Term Asset-Backed Security Loan Facility (TALF)
- Corporate Credit Facilities (CCF)
- Municipal Liquidity Facility (MLF)
- Main Street Lending Facility

Actions to Encourage Bank Lending:
- Dropped reserve requirements to zero.
- Temporary adjustment to regulations.
Covid-19 Programs Expand the Fed’s Balance Sheet

### The Federal Reserve Balance Sheet

<table>
<thead>
<tr>
<th></th>
<th>Level (Billions)</th>
<th>Peak Date</th>
<th>Peak Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1/1/2020</td>
<td>6/10/2020</td>
<td></td>
</tr>
<tr>
<td>1 U.S. Treasury Securities</td>
<td>2329</td>
<td>4143</td>
<td></td>
</tr>
<tr>
<td>2 MBS</td>
<td>1409</td>
<td>1836</td>
<td></td>
</tr>
</tbody>
</table>

### Market Functioning

<table>
<thead>
<tr>
<th></th>
<th>Level (Billions)</th>
<th>Peak Date</th>
<th>Peak Level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1/1/2020</td>
<td>6/10/2020</td>
<td></td>
</tr>
<tr>
<td>3 Repurchase Agreements</td>
<td>242</td>
<td>184</td>
<td>March 18</td>
</tr>
<tr>
<td>4 Discount Window Primary Credit</td>
<td>0</td>
<td>9</td>
<td>April 1</td>
</tr>
<tr>
<td>5 Primary Dealer Credit Facility (PDCF)</td>
<td>0</td>
<td>6</td>
<td>April 15</td>
</tr>
<tr>
<td>6 Money Market Mutual Fund Liquidity Facility (MMLF)</td>
<td>0</td>
<td>28</td>
<td>April 15</td>
</tr>
<tr>
<td>7 Central Bank Liquidity Swaps</td>
<td>4</td>
<td>446</td>
<td>May 27</td>
</tr>
<tr>
<td>8 Commercial Paper Funding Facility (CPFF)</td>
<td>0</td>
<td>13</td>
<td></td>
</tr>
</tbody>
</table>

### Credit Support

<table>
<thead>
<tr>
<th></th>
<th>Level (Billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 Paycheck Protection Program Liquidity Facility (PPPLF)</td>
<td>0 56</td>
</tr>
<tr>
<td>10 Corporate Credit Facilities (CCF)</td>
<td>0 37</td>
</tr>
<tr>
<td>11 Municipal Liquidity Facility (MLF)</td>
<td>0 16</td>
</tr>
<tr>
<td>12 Main Street Lending Facility</td>
<td>0 0</td>
</tr>
<tr>
<td>13 Term Asset-Backed Security Loan Facility (TALF)</td>
<td>0 0</td>
</tr>
</tbody>
</table>
Fed’s balance sheet

Sources: Federal Reserve Board, Haver Analytics
Economy has suffered a tremendous hit to income – Likely drag as household and firms rebuild buffers

Sources: BEA, NBER, Haver Analytics
Risk of labor market scarring

Employment to Population Ratio

Sources: BLS, NBER, Haver Analytics
Risk of fiscal drag

Sources: Hutchins Center
Risk of global disruptions, including supply chains

Foreign Sources of Intermediate Inputs to the U.S. Market

- Canada: 18%
- China: 10%
- Mexico: 7%
- Ireland: 7%
- Japan: 5%
- Germany: 5%
- Other: 48%

Sources: BEA, NBER, Haver Analytics, USITC
Oil prices remain depressed

Sources: Energy Information Administration, Federal Reserve Bank of Kansas City, Haver Analytics
Inflation is likely to remain subdued in the near term

Sources: BEA, NBER, Haver Analytics