Economic Update
2020 Automotive Outlook Webinar

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The views expressed here are our own and do not necessarily reflect the views of the Federal Reserve Bank of Chicago, the Federal Open Market Committee (FOMC) or the Federal Reserve System.
Overview

- Real GDP for the U.S. fell 4.8% in Q1 2020 and a SAAR Basis, the largest quarterly decline since Q4 2018 with declines in Personal Consumption Expenditures and Private Domestic Investment being somewhat offset by contributions from Net Exports and Government Consumption and Investment.

- University of Michigan’s April release of its Index of Consumer Sentiment had the largest single month decline since October 2008 falling to its lowest level since November 2011 on fears of a worsening economy.

- Business fixed investment declined 5.6% in Q1 2020 with nonresidential investment falling 8.6%, its largest decline since Q2 2009, while residential investment increased 21.0% on a SAAR basis.

- The U.S. trade deficit fell by $83 billion as imports declined 15.3% while exports declined just 8.7%.

- Labor markets suffer their largest declines in history as over 26 million workers filed unemployment claims in just five weeks and inflation remains below the Fed’s target of 2.0%.
U.S. Real GDP

Contribution to Percent Change - Q/Q at SAAR, $2012

Contributions Q1 2020

<table>
<thead>
<tr>
<th>Sector</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>PCE</td>
<td>-5.26%</td>
</tr>
<tr>
<td>Private Investment</td>
<td>-0.96%</td>
</tr>
<tr>
<td>Net Exports</td>
<td>1.30%</td>
</tr>
<tr>
<td>Government</td>
<td>0.13%</td>
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<tr>
<td>GDP</td>
<td>-4.8%</td>
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</tbody>
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Note: Contributions by sector may not sum to total due to rounding errors.

Source: U.S. Bureau of Economic Analysis.
Consumer Sentiment

University of Michigan

Source: Thomson Reuters / University of Michigan
Real Disposable Personal Income

In Billions of Chained 2012 Dollars - Percent Change Yr./Yr.

Source: Bureau of Economic Analysis.
Stock Market

NYSE Stock Price Index, Daily Close - January 2020 = 100

Index

Source: Haver Analytics data taken from the Wall Street Journal and Coindesk.
Restoring Consumer Confidence

University of Michigan

Source: Thomson Reuters / University of Michigan
Purchasing Managers Index

ISM Manufacturing and Composite Indexes

Index

57.0
49.1

Mar ’20

Real Gross Private Domestic Investment

Contribution to Percent Change to GDP - Q/Q at SAAR, $2012

Contributions Q2 2019

-1.17% 0.74% -0.53% -0.96%

Source: U.S. Bureau of Economic Analysis
Industrial Production - Total

Index 2012 = 100 & Percent Change M/M

Source: Federal Reserve Board
Housing Starts

Thousands of Units – SAAR & Percent Change M/M

Source: U.S. Census Bureau
Total Real Trade - Imports and Exports

Percent Change Q/Q – SAAR

Source: U.S. Bureau of Economic Analysis
U.S. Nonfarm Payrolls

Monthly Change (000)’s and Percent Change M/M

Sources: U.S. Department of Labor and Chicago Fed Staff calculations.
Initial Unemployment Claims

Weekly Claims and Continued Claims, In Thousands

Note: In the three weeks since March 14, 2020, 30,307,000 workers have filed for unemployment.

Source: U.S. Labor and Training Administration
Labor Force Participation Rate

In Thousands

Note: Since January 2020 the labor force has declined by 380,000 workers.

Source: U.S. Bureau of Labor Statistics
Inflation Expectations

TIPS 5-10 Year Inflation Compensation

Source: Survey of Consumers – University of Michigan and Federal Reserve Board
U.S. Gasoline and Crude Oil Prices

Unleaded Regular & WTI Spot Price – In Current Dollars

New York Harbor Conventional Gasoline Regular Spot Price FOB (US$/Gal)
Cushing OK WTI Spot Price FOB (US$ per Barrel)

Source: Energy Information Administration and Haver Analytics
Light Sweet Crude Oil Futures
WTI, Cushing, OK - 1st Expiring to 2-year Contract Settlement

Note: On April 20, 2020 the 1st expiring futures fell to -$37.63.

Source: Chicago Mercantile Exchange
U.S. Light Vehicle Sales

In Millions of Units - SAAR

Source: Standard & Poor’s and Haver Analytics
Real Incentive Spend

Index – 2012 = 100* & Seasonal Pattern

Incentive spending started 2020 well above the normal seasonal pattern.

* Incentive spend inflation adjusted using average new vehicle price.

Source: Author’s Calculations using J.D. Power and FOMC data.
Stock Market Volatility

S&P 500 Daily Change – Mar 1, 2019 to Apr 20, 2020

Source: Standard & Poor’s and Haver Analytics
Federal Funds & Prime Credit Rates

Mar 6, 2019 to Apr 15, 2020

Source: Federal Reserve and Haver Analytics
Unclogging the Treasury and MBS Markets

Normal times:

Sellers (example: pension fund) → Broker-dealers hold Treasury securities and MBS, look for buyers → Buyers (example: wealth manager)

Mid-March:

Sellers (example: pension fund) → Broker-dealers too filled up to take any more securities → Buyers (example: wealth manager)

Source: Federal Reserve Bank of Chicago, Sam Schulhofer-Wohl, Senior Vice President and Director of Financial Policy
Temporary Open Market Operations

In Billions of Dollars, Weekly Operations

$ Billions

<table>
<thead>
<tr>
<th>Date</th>
<th>Value</th>
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<tbody>
<tr>
<td>Sep 3</td>
<td>$66.8</td>
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<tr>
<td>Sep 10</td>
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<td>Sep 17</td>
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<td>Sep 24</td>
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<td>Mar 4</td>
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<td>Mar 11</td>
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<td>Mar 18</td>
<td>$826.9</td>
</tr>
<tr>
<td>Mar 25</td>
<td>$241.8</td>
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</tbody>
</table>

Source: Federal Reserve Bank of New York and Haver Analytics
Unclogging the Treasury and MBS Markets

Source: Federal Reserve Bank of Chicago, Sam Schulhofer-Wohl, Senior Vice President and Director of Financial Policy
Yield Curve
10 Year Minus 1 Yr. and 3 Mo. Treasuries in Basis Points

Daily Market Bid Yield at Constant Maturity January 2, 2019 to Most Current

Source: Board of Governors – Federal Reserve System
National Financial Conditions Index

Federal Reserve Bank of Chicago, Positive = Tighter

Source: Federal Reserve Bank of Chicago
U.S. Real GDP – Blue Chip Forecast

Percent Change Q/Q - SAAR

Source: January 10, 2020 and April 10, 2020 Blue Chip Forecast
Earliest date social distancing may be relaxed with containment strategies that include testing, contact tracing, isolation, and limiting gathering size. Threshold of 1 infection per million residents.

CDC Death Projections

Contact Reduction Scenarios

Source: Center for Disease Control (CDC), Institute for Health Metrics and Evaluation (IHME), and Columbia University
Summary

- U.S. economic activity has suffered an unprecedented decline since the start of the COVID-19 pandemic.
- Labor markets are showing sighs of extreme stress as companies cut workers and prepare for and extended period of lost revenue.
- The Federal Reserve has taken extreme actions, using its full range of tools to support the U.S. economy in an effort to promote maximum employment and price stability.
- With some states still experiencing day-to-day increases in COVID-19 cases, others are looking for ways to re-open their economies.
- However, concerns of a resurgence of the virus remain high, especially if states open their economies too soon without the appropriate amount of testing, contact tracing, isolation, and contact reduction.

Source: Federal Reserve
Thank You!
Appendix
U.S. Real GDP

Billions Chained $2012 and Percent Change Q/Q at SAAR

Source: U.S. Bureau of Economic Analysis
Real Advanced Retail Sales

In Millions of Dollars and Percent Change M/M

Source: FRB St. Louis
U.S. Light Vehicle Sales

Millions of Units

Source: WardsAuto Intelligence, BEA, and April 10, 2020 Blue Chip Consensus Forecast