Upstate Entrepreneur Ecosystem

The Current and Future Impact of COVID-19 for Upstate Entrepreneurs

• May 5, 2020
COVID-19: Economic Implications and Policy Response

Scott L. Baier
Clemson University
and
National Economic Education Delegation
Contributions from different expenditure components:

- Consumption: -5.26
- Investment: -0.96
- Government: 0.13
- Net Exports: 1.30

Note: The economic impact of COVID-19 likely only had an impact the last two to three weeks of 2020:Q1 GDP.
When the economy is doing well, initial claims for unemployment average about 280,000 to 340,000.

During recessions, initial claims typically increase to about 400,000 --the biggest increase had 665,000.
Weekly Unemployment Claims

1/6/190 – 3/25/2020

IUC the averaged
5 million

Last six weeks:

3/21: 3.31 mill
3/28: 6.87 mill
4/04: 6.62 mill
4/11: 5.24 mill
4/18: 4.42 mill
4/25: 3.84 mill

Early Predicted Impacts
Unemployment may be notably higher

Unemployment could be as high as 40 million!
COVID-19 and the Economy

• Initially, it was believed that COVID-19 would only have modest impacts on the US and World Economies.
• What changed?
• Flattening the COVID-19 and Deepening the Recession
• Policy response
• Growth Projections
Early COVID-19 Timeline

Dec 31
First case detected
In Hubei Province

Jan 20
First case outside
China (Thailand, Japan, and South Korea)

Jan 31
White House limits
International travel

Feb 9
Death toll in Mainland
China exceeds SARS

Feb 11
WHO names new coronavirus
COVID-19

At this point, most believed that the coronavirus would largely be contained within a few countries.
If contained, COVID-19 would mainly disrupt manufacturing supply chains.

The more a country’s manufacturing relied on these supply chains the bigger the impact on GDP.

<table>
<thead>
<tr>
<th>Countries</th>
<th>Share of World GDP</th>
<th>Manufacturing as a Share of GDP</th>
<th>Services as a Share of GDP</th>
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<tbody>
<tr>
<td>United States</td>
<td>24%</td>
<td>11%</td>
<td>77.4%</td>
</tr>
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<td>Canada</td>
<td>2%</td>
<td>10%</td>
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</tr>
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<td>UK</td>
<td>3%</td>
<td>9%</td>
<td>71.0%</td>
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If contained, COVID-19 would mainly disrupt manufacturing supply chains.

The more a country’s manufacturing relied on these supply chains the bigger the impact on GDP.

If limited to supply chain effects, COVID-19 was likely to be to slow GDP by 0.25 to 0.50 from its baseline prediction – say from 2.5 to 2%
Largest DJIA fall in two years on fears of COVID and a weak retail sales report (2/24)

COVID cases in US Exceed 500 (3/9)

Day after NBA, MLB and NCAA postpone games (3/12)

White House and Congress independently discuss fiscal policy (3/13)
Flattening the Curve
Flattening the Curve May Deepen and Lengthen the Recession
Flattening the Curve May Deepen and Lengthen the Recession

Social Distancing and Economic Activity: the sectors that rely most on social interaction will the hardest hit.
### Countries Share of World GDP Manufacturing as a Share of GDP Services as a Share of GDP

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The most vulnerable industries include entertainment, food, recreation, health and beauty, education, social assistance and manufacturing. These industries account for more than 50% of GDP.
Percent Change Hours Worked

Data Source: Homebase
Percent Change Hours Worked: State

Data Source: Homebase
The Day Before Closures, Restaurant Reservations Had Fallen 73 Percent on Average
Percent change in 2020 OpenTable reservations in 37 states compared to same day 2019

Source: OpenTable
Retail Sales

Monthly: Through Mar-20

Source: NBER and BEA. Gray shading indicates recession.
Growth: -102.3 (Month), -7.5 (Year), 0 (5-year), 1.4 (10-year), .8 (20-year)
Graph by: National Economic Education Delegation (www.NEEDelegation.org)
Automobile and Light Truck Sales

Source: Bureau of Economic Analysis, Seasonally Adjusted Annual Rate
Graph by: National Economic Education Delegation (www.NEEDelegation.org)
# GDP Shares and Impact of COVID-19

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<th>Countries</th>
<th>Share of World GDP</th>
<th>Manufacturing as a Share of GDP</th>
<th>Services as a Share of GDP</th>
<th>Confirmed Cases</th>
<th>Deaths</th>
<th>GDP Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>24%</td>
<td>11%</td>
<td>77.4%</td>
<td>1,215,457</td>
<td>70,129</td>
<td>-5.9</td>
</tr>
<tr>
<td>Canada</td>
<td>2%</td>
<td>10%</td>
<td>66.7%</td>
<td>60,772</td>
<td>3,854</td>
<td>-6.2</td>
</tr>
<tr>
<td>UK</td>
<td>3%</td>
<td>9%</td>
<td>71.0%</td>
<td>190,584</td>
<td>28,734</td>
<td>-6.5</td>
</tr>
<tr>
<td>Germany</td>
<td>5%</td>
<td>20%</td>
<td>61.8%</td>
<td>166,304</td>
<td>6,993</td>
<td>-7.0</td>
</tr>
<tr>
<td>France</td>
<td>3%</td>
<td>10%</td>
<td>70.3%</td>
<td>169,462</td>
<td>25,201</td>
<td>-7.2</td>
</tr>
<tr>
<td>Italy</td>
<td>2%</td>
<td>15%</td>
<td>66.3%</td>
<td>211,938</td>
<td>29,079</td>
<td>-9.1</td>
</tr>
<tr>
<td>Spain</td>
<td>2%</td>
<td>11%</td>
<td>67.7%</td>
<td>250,561</td>
<td>25,613</td>
<td>-8.0</td>
</tr>
<tr>
<td>Japan</td>
<td>6%</td>
<td>21%</td>
<td>69.1%</td>
<td>15,078</td>
<td>536</td>
<td>-5.2</td>
</tr>
<tr>
<td>China</td>
<td>16%</td>
<td>29%</td>
<td>52.2%</td>
<td>82,881</td>
<td>4,633</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Source: World Bank, Johns Hopkins Coronavirus Resource Center, Worldometer

US GDP growth in 2009 -2.54%
Cost Benefit Analysis: Tradeoffs

• No containment policies
  - **Reduced** economic activity
  - **More** coronavirus deaths
  - **Non-coronavirus deaths**

• Stringent containment policies
  - **Dramatically reduced** economic activity
  - **Fewer** coronavirus deaths
  - **Non-coronavirus deaths(?)**

Analysis of Containment Policies

Reduced economic activity < value of additional deaths

Complicated equation – both numerically and philosophically
• **BENEFITS of social distancing:**
  - $7 million/life and 600,000 lives saved ($4.2 trillion)
  - Long term health issues avoided: 2 million at $500,000 ($1 trillion)
  - Total Benefit of Social Distancing: $5.2 Trillion

• **COSTS of “Shelter in Place” or “Lockdown”**
  - There are about 70+ workdays in a quarter (plus March).
  - The cost of a “lockdown” is roughly $1.3 Trillion

Benefit: $5.2 trillion > Cost: $1.3 trillion
University of Chicago – Experts Poll

Policy for the COVID-19 Crisis

Question A: A comprehensive policy response to the coronavirus will involve tolerating a very large contraction in economic activity until the spread of infections has dropped significantly.

Responses

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>No Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>52%</td>
<td>36%</td>
<td>5%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Responses weighted by each expert's confidence

<table>
<thead>
<tr>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>66%</td>
<td>31%</td>
<td>3%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: IGM Economic Experts Panel
www.igmchicago.org/igm-economic-experts-panel
Confirmed Cases by State

For every one percent increase in state GDP, the number of cases increases by 1.22%.
Government Response: This Shock is Different

• This economic shock is a “health shock” with externalities that have (large) macroeconomic consequences.
• The fiscal and monetary response is not one where we can or should think about Keynesian versus Classical Solutions.
• Response should be to target the cause of the problem and provide income support for individuals and some financial support for firms.
  - Cause of the problem is COVID-19 and its contagion.
  - Social distancing reducing income and production
  - (We hope) The economic shock is not structural and on the “other side”. We hope that structurally things will be the same; therefore, we would like to preserve employment-employer matches.
Government Response: Fiscal Response

• Respond to the impacted sector(s) – health crisis,
• Provide income support for the lower income and most vulnerable,
• Provide support to maintain employer - employee matches, and
• Provide support for the sectors that are most exposed to the shock.
Fiscal Policy Timeline

Phase I: H.R. 6074
3/6
R&D
Public Health
Medical Supplies
Other

Phase II: Family First
3/14
Paid Sick Leave
Family Medical Leave
Covid-19 Testing
Unemployment Expansion

Phase IIIa: CARES
3/18
HHLD Payments
Support for Small Firms
Support for Medium Sized Firms
Unemployment Insurance
Aid to States

Phase III b
4/24
(More) Support for Small Firms
COVID-19 Testing
Hospitals
Government Response (Phase 2): Family First (H.R. 6201)

- Free testing for anyone whose doctor recommends testing.
- Expand family and medical leave.
- Paid emergency sick leave.
- Additional unemployment benefits.
- Food assistance: Supplemental Nutrition Assistance Program (SNAP) and Home-Delivered Nutritional Services.

Clearly this is designed to increase testing and support social distancing and (self) quarantines.
Paid Leave by Income Category

- **Paid Sick Leave**
- **Paid Vacation**
- **Paid Holidays**

<table>
<thead>
<tr>
<th>Category</th>
<th>Paid Sick Leave</th>
<th>Paid Vacation</th>
<th>Paid Holidays</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Workers</td>
<td>80</td>
<td>70</td>
<td>60</td>
</tr>
<tr>
<td>Lowest 10%</td>
<td>40</td>
<td>30</td>
<td>20</td>
</tr>
<tr>
<td>Lowest 25%</td>
<td>50</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>Second 25%</td>
<td>60</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>Third 25%</td>
<td>70</td>
<td>60</td>
<td>50</td>
</tr>
<tr>
<td>Highest 25%</td>
<td>80</td>
<td>70</td>
<td>60</td>
</tr>
<tr>
<td>Highest 10%</td>
<td>90</td>
<td>80</td>
<td>70</td>
</tr>
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</table>
Fiscal Response: CARES Act (H.R. 748)

- Direct payment to households $1,200 for every adult and $500 for every child – similar to the 2008 rebate but purpose is different.
- Small business loans (Paycheck Protection Program)-- $350 billion
  - <500 employees and designed to cover six (6) weeks of payroll.
- Economic Stabilization Fund (Main Street Lending Program) – $500bn
  - for medium sized firms,
  - state and local municipalities, and
  - passenger and cargo air carriers, and firms maintaining national security.
- Expand unemployment benefits
<table>
<thead>
<tr>
<th>Industry</th>
<th>Amount (Billions)</th>
<th>Percent of Loans</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>$44.9</td>
<td>13.1</td>
</tr>
<tr>
<td>Professional, Technical and Scientific, Services</td>
<td>$43.3</td>
<td>12.7</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>$40.9</td>
<td>12.0</td>
</tr>
<tr>
<td>Health Care and Social Assistance</td>
<td>$39.9</td>
<td>11.7</td>
</tr>
<tr>
<td>Accommodation and Food Service</td>
<td>$30.5</td>
<td>8.9</td>
</tr>
<tr>
<td>Retail Trade</td>
<td>$29.4</td>
<td>8.6</td>
</tr>
<tr>
<td>Wholesale Trade</td>
<td>$19.5</td>
<td>5.7</td>
</tr>
</tbody>
</table>

These seven (7) industries account for nearly 75% of the PPP loans.
Federal Reserve Timeline

March 3
Federal Funds Rate
Discount Window Lending
Quantitative Easing
Forward Guidance

March 15
Primary Dealer Credit Facility (PDCF)
Commercial Paper Funding Facility (CPFF)
Money Market Mutual Fund Facility (MMLF)

March 17/18

March 23
Primary Market Corporate Credit Facility (PMCCF)
Secondary Market Corporate Credit Facility (CMCCF)
Term Asset-Backed Securities Loan Facility (TALF)

April 9
Paycheck Protection Program Liquidity Facility (PPPLF)
Main Street Business Lending Program
Municipal Liquidity Facility

NATIONAL ECONOMIC EDUCATION DELEGATION
Federal Reserve: Standard Operations

• **Federal Funds Rate:** The Federal Reserve lowered the targeted Federal funds rate on March 3 and again on March 15 moving the targeted Federal Funds rate to zero.

• **Discount Window Lending:** Lowered the interest rate it charges banks to borrow from 1.75% to 0.25%.

• **Reserve Requirement:** Lowered the reserve requirement to zero.

• **Forward Guidance:** Honed during the Great Recession the Fed tries to set market expectations on the time path of interest rates over time.
US Treasury Rates: A Safe Haven?

US Treasury Rates
Over the last 30 days

Percent

0.0  0.5  1.0  1.5  2.0

05-Feb 19-Feb 04-Mar 18-Mar

Daily: Through 3/17/20

1-Year (.3%)  3-Year (.54%)
5-Year (.66%)  10-Year (1.02%)

Red line is Feb-24, the first day of significant stock market declines.
Source: Board of Governors of the Federal Reserve System
Graph by: National Economic Education Delegation (www.NEEDelegation.org)
Federal Reserve: Ensure Financial Market Stability

• In mid-March, Treasury and Mortgage Backed Securities markets began behaving irregularly as the demand for liquidity increased.
  - Re-launched the **Primary Dealer Credit Facility (PDCF)** in order “smooth market functioning and facilitate the availability of credit to businesses and households (3/17).
  - Re-instituted the **Money Market Mutual Fund Liquidity Facility (MMLF)** to “assist money market mutual funds in meeting demands for redemptions by households and investors enhancing overall market function and credit provision to the broader economy.”
  - Increased liquidity in the **repo market**. The repo market is where firms borrow and lend cash and short-term securities. The Fed was offering $100 billion in overnight loans and $20 billion in two-week loans.
    o The Fed increased the offerings to $1 trillion (from $100 bn) in overnight repos, and
    o $500 billion in one month **and** three-month repos (from $20bn 2/wks).
Treasury Rates: A Safe Haven?

Run to Safety → Cash Grab

Cash Grab → Liquidity Working
Federal Reserve: Support Corporations and Business

- Created the **Primary Market Corporate Credit Facility (PMCF)** allows the Fed to lend directly to corporations by buying new bond issuances and providing loans (3/17).

- Instituted the **Commercial Paper Funding Facility (CPFF)** the Fed can purchase commercial paper from firms at a given interest rate – effectively, the Fed is lending directly to firms. (3/17)

- **Main Street (Expanded) Loan Facility:** Through the CARES Act these two programs offer four-year loans to US businesses with up to 10,000 employees or revenues less than $2.5 billion. (4/9)

- **Paycheck Protection Program Facility:** Facilitates loans under the Small Business Administration Paycheck Protection Program
Most forecasts predict GDP growth will be between 4.0% to 5.0% in 2021.
Unemployment Projections

• Mining, retail, transportation, arts and entertainment, hotels and restaurants, and misc. services account for only 15% of GDP, but roughly 30% of employment.

• We anticipate COVID-19 reduces GDP growth by 7% from its baseline forecast.

• It is likely that 60 percent of the decline in GDP is due to these sensitive sectors.

• Therefore, we might expect unemployment to increase from 3.5% to 8.5% from these sectors alone and the overall unemployment rate may reach 11.0-13% by year’s end.
Federal Budget Implications

Federal Deficit Will Reach Record Levels

- Deficit may be nearly 20% of GDP

Debt Will Equal Size of Economy This Year

- Debt will likely equal GDP this year

Source: CRFB Calculations
Opening the Economy

• Concerns about opening the economy too soon and we have another outbreak.
  - Question: What was the purpose of social distancing?
    o Is it so the health care system is not overwhelmed?
    o Is it to "eradicate" COVID-19?
    o Is it someplace in between

• How much pent-up demand is out there?
  - States can be “open for business”
  - It does not mean businesses will be open
  - It does not mean consumers will come back
Other Events Canceled

- March 6 — SXSW canceled
- March 10 — Ivy League cancels its basketball tournament
- March 11 — March Madness will be played without fans
- March 12 — March Madness canceled
- March 12 — Cato Institute and Brookings Institution shift to mandatory telework
- March 13 — Masters and Boston Marathon postponed
- March 15 — CDC recommends cancellation of events involving 50+ people
- March 16 — Kentucky Derby postponed
- March 19 — California becomes the first state to issue a stay-home and business-closing order
- Early March: Clemson University began discussions of our contingency plans and canceling “non-essential” events that could potentially put individuals at risk.

Source: David Boaz and Author
The Day Before Closures, Restaurant Reservations Had Fallen 73 Percent on Average
Percent change in 2020 OpenTable reservations in 37 states compared to same day 2019

Source: OpenTable

Reservations: Open Table

Source: David Boaz
Apple Mobility Trends

Source: David Boaz
Conclusion

• COVID-19 is health crisis that has macroeconomic implications.
• The macroeconomic effects that have impacted both the supply and demand.
• GDP will likely contract between 5.0 and 6.0 percent this year.
• Positive growth will likely return in 2021 as long as there are preventative medicines and treatments.
• No easy answers – trade-offs are between bad outcomes.
• How do we plan for the next pandemic?
• Find the silver lining.