COVID-19: Economic Implications and Policy Response

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and
National Economic Education Delegation

National Economic Education Delegation

• Vision
  - One day, the public discussion of policy issues will be grounded in an accurate perception of the underlying economic principles and data.

• Mission
  - NEED unites the skills and knowledge of a vast network of professional economists to promote understanding of the economics of policy issues in the United States

• NEED Presentations
  - Are nonpartisan and intended to reflect the consensus of the economics profession
Who Are We?

- **Honorary Board: 47 members**
  - 2 Fed Chairs: Janet Yellen, Ben Bernanke
  - 6 Chairs Council of Economic Advisers
    - Furman (D), Rosen (R), Bernanke (R), Yellen (D), Tyson (D), Goolsbee (D)
  - 3 Nobel Prize Winners
    - Akerlof, Smith, Maskin

- **Delegates: 500+ members**
  - At all levels of academia and some in government service
  - All have a Ph.D. in economics
  - Crowdsources slide decks
  - Give presentations

- **Global Partners: 45 Ph.D. Economists**
  - Aid in slide deck development

Where Are We?

[Map showing the distribution of delegates across the United States]

- 1-5 Delegates
- 6-10 Delegates
- 11-20 Delegates
- 21+ Delegates
Outline for the Talk

- Early Impacts and Beliefs of the Economic Impacts
- Epidemiology and its Relation to the Economic Impacts of COVID-19
- Flattening the Curve and Widening the Economic Impacts
- Impact on GDP – State of Economy and Impacts on GDP components
- This Shock is Different.
- Government Response: Fiscal Authority
- Government Response: Monetary Authority
- Private Sector Response
- What’s Next Fiscal and Monetary
- Lessons Learned and Conclusion

GDP Shares

<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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Originally, believed that COVID-19 would be largely contained within a few countries and would disrupt manufacturing supply chains. The more a country’s manufacturing relied on these supply chains the bigger the impact on GDP. Still the effect was likely to be to slow GDP by 0.25 to 0.50 from its baseline prediction.
Next week’s jobless claims are likely to be notably higher; for example, in Ohio Monday and Tuesday’s jobless claims were 48,000 compared to 1,825 the week before.

The Escalation of the Economic Effects

Epidemiology
Comparison of COVID-19: Fatality an R0

Fatality Rate 100% (log scale)

Average # of People Infected by Each Sick Person

Note: Average case-fatality rates and transmission numbers are shown. Estimates of case-fatality rates can vary. The preliminary estimates for the new coronavirus are shown in the pink region.

Epidemiology and Flattening the Curve

- In order to understand the economic response, we need to understand the nature of the shock and COVID-19 spreads.
**Exposed and Infected – Baseline Case**

Baseline case of the fraction of the population exposed and infected.

By practicing social distancing, quarantining the sick, and self-quarantining the exposed, you may reduce the likelihood that (or when) a member of the susceptible population will be in contact with a member of the exposed population.

**Epidemiology and Flattening the Curve**

- The importance of testing and social distancing on containment.

![Diagram](Image)
Exposed and Infected and Social Distance

Exposed w/Modest Social Distancing

Infected w/ Modest Social Distancing

Exposed w/Aggressive Social Distancing

Infected w/Aggressive Social Distancing

Healthcare Capacity in 2 months

Healthcare Capacity
Effective Social Distancing

Effects of social distancing on 1918 flu deaths

As the first cases of the 1918 flu were reported in Philadelphia in September 1918, authorities played down the significance and allowed public gatherings to continue. Closures in Philadelphia were only enacted once the virus had spread. The first cases in St. Louis were reported in early October, with measures to contain the spread enacted two days later. This resulted in a slower spread and lower mortality rate.


GDP Shares and Sudden Demand Stops

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The response of GDP is likely to be a U-shaped recovery with social-distancing

1) The depth will depend on extent of social distancing,
2) The length of time spend social distancing.
Impact on GDP of COVID-19 – With Social Distancing

With social distancing, we can expect a reduction in GDP because:
1) Some services are most effective when delivered face-to-face,
2) Working remotely is likely to reduce the productivity of most workers
3) Disrupted supply chains

Impact on GDP of COVID-19 – L-Shaped Recovery
Quarterly Real GDP Growth
(1990-2019)

Since 2000, there have only been 26 quarters where GDP growth has exceeded 3% -- (33% of the time)

GDPNow forecast for Q1 is 3.1%

What “Accounts” for GDP Growth?

• Expenditures Relationship to GDP growth.
  - GDP is the sum of four categories of spending:
    o Consumption (C)
    o Investment (I)
    o Government spending (G)
    o Net Exports: Exports – Imports (NX)

• Productivity and Inputs as Drivers for GDP Growth.
  - Employment
  - Productivity

Concern: Supply side -- slower growth from disrupted value chains.

Concern: Demand Side -- Sudden Stop fueled by increased difficulty in transactions that typically require face-to-face interactions as well as uncertainty (economic and policy)
Composition of Real GDP

- Slow growth in any of these categories will slow overall GDP growth.

- How does each component account for changes in GDP growth pre- vs. post-recession?

- What explains current trends in each component?
Understanding Contributions to GDP Growth

- GDP Growth is a combination of the growth in its components:
  - Consumption, Investment, Government, and Net Exports
  - It’s a weighted average of these components

- For example: Consumption
  - If consumption accounts for \( \frac{2}{3} \) of the economy,
  - If consumption grew by 3%,
  - It implies that consumption growth accounts for 2 percentage points of GDP growth; that is, \( \frac{2}{3} \times 3\% \).

Contribution to GDP Growth: Consumption

From 1990-2007: Average Contribution from Consumption was 2.2%
Since 2010, Average Contribution from Consumption is 1.7%
**Personal Consumption Expenditures**

- Consumption has been slow to recover.
  - Pre-Great Recession average contribution of consumption expenditures is 2.15 percentage points.
  - Post-Great Recession contribution is 1.7 percentage points.

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**Household Debt as a Share of GDP**

While households are in better financial position than at the start of Great Recession, overall debt relative to GDP is still high by historical standards.

Source: Federal Reserve Board. Gray shading indicates recession.
Graph by: National Economic Education Delegation (www.NEEDelegation.org)
Household Debt: Other Sources

Investment Expenditures

- Investment expenditures are composed of residential and non-residential spending.

- Residential spending refers to purchases of new homes.

- Non-residential spending refers to capital purchases and new inventory accumulation.
  - Tools, machinery, new factories, commercial real estate.

Investment’s Average contribution to GDP growth is 0.80
A drop in the ISM index usually indicates that the real GDP growth is also slowing down. The ISM index is an indicator that a recession may be on the horizon.

### China’s PMI Manufacturing Index

- **Chinese Manufacturing Activity Plunges on Coronavirus Outbreak**
- **Purchasing Manager’s Index (PMI), Three-Year Period Through February 2020**

Source: Bloomberg, U.S. Global Investors
Contributions to GDP: Government

Source: Bureau of Economic Analysis. Gray shading indicates recession.
Graph by: National Economic Education Delegation (www.NEEDelegation.org)

Trade's Contribution to GDP: Imports

Source: Bureau of Economic Analysis. Gray shading indicates recession.
Graph by: National Economic Education Delegation (www.NEEDelegation.org)
Trade’s Contribution to GDP: Exports

Unemployment Rate: 1965-2020
Job Separations and Hires

Country by country: how coronavirus case trajectories compare

Cumulative number of cases, by number of days since 100th case

FT graphic: John Burn-Murdie / @jburnmurdie
Source: FT analysis of Johns Hopkins University, CSSE, Worldometers. Data updated March 19, 19:00 GMT
© FT
### 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>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>24%</td>
<td>11%</td>
<td>77.4%</td>
<td>9,415</td>
<td>155</td>
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<tr>
<td>Canada</td>
<td>2%</td>
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<td>727</td>
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<td>UK</td>
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<td>243</td>
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<td>Italy</td>
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<td>35,713</td>
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<td>Spain</td>
<td>2%</td>
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<td>15,014</td>
<td>640</td>
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<tr>
<td>Japan</td>
<td>6%</td>
<td>21%</td>
<td>69.1%</td>
<td>924</td>
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<tr>
<td>China</td>
<td>16%</td>
<td>29%</td>
<td>52.2%</td>
<td>81,154</td>
<td>3,245</td>
</tr>
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Source: World Bank, Johns Hopkins Coronavirus Resource Center, Worldometer

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**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” 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.
Government Response (Phase 2): 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
**Fiscal Response: What is Next?**

- Direct payment to households $1,000 for every adult and $500 for every child – similar to the 2008 rebate but purpose is different.
- Small business loans -- $300 billion
  - <500 employees and designed to cover six (6) weeks of payroll.
- Assistance for airlines and other industries where revenues have been impacted -- $50 billion.
- Additional support for distressed industries -- $150 billion
- Payroll tax cut (not in any recent proposal).

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**US Treasury Rates: A Safe Haven?**

[Graph showing US Treasury Rates Over the last 30 days]

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 Response: Federal Funds Rate

Monthly: Through Mar-20

Effective Fed Funds Rate (.25%)

Source: NBER and Board of Governors. Gray shading indicates recession.
Graph by: National Economic Education Delegation (www.NEEDelegation.org)

Runs Again
**Government Response: Federal Reserve**

- Lower (targeted) Federal Funds Rate and “Forward Guidance”.
- QE-2020: Buy $500 billion of Treasuries and $200 billion of Mortgage Backed Securities.
- Discount rate cut to 0.25%
- Encourage banks to use intraday credit
- Loan guidance: encourage banks to loan to firms and HHLDS
- Eliminates reserve requirement.
- Create the Money Market Mutual Fund Liquidity Facility designed to help meet the demands for redemption by households and firms.

**What is next and what else can be done?**

- How do we pay for it?
  - Run larger deficits
  - Run the printing press MMT
  - Firms and/or individuals borrow through Treasury (Cochrane)
- Additional fiscal measures
  - Buyer of last resort (Piketty and Zucman)
  - Employer of last resort (MMT)
- Additional cash disbursements
Private Sector Response

• Some firms have committed to maintain employment and continue to pay hourly workers.

• Some firms and individuals have committed to use resources to help support the health crisis.

What have we learned? Positive Take-Aways

• May improve enhance the delivery of some services
• Encourage firms, households, governments to have a business continuity plan.
• In an integrated world, this will likely not be the last pandemic...
  - Improve social insurance for these types of events
  - Allow more flexibility to governments and firms to respond
Conclusion

• COVID-19 is health crisis that has macroeconomic implications.
• The macroeconomic effects are derived from supply-chain disruptions and "sudden-demand" stops.
• Fiscal and monetary response should be targeted at health crisis first and income and employment maintenance.
• Negative GDP growth 2020:Q2 seems likely.

Flattening the curve

Source: CDC
Real Disposable Personal Income

![Graph showing Trillions of 2020 US$]

Monthly: Through Jan-20

- **Trend, Jan/60-Dec/07**
- **Forecast Trend**

Disposable Personal Income

Source: NBER and BEA. Grey shading indicates recession.
Growth: 9 (Month), 2.2 (Year), 2.9 (5-year), 3 (10-year), 3.1 (20-year)
Graph by: National Economic Education Delegation (www.NEEDelegation.org)
A model showing why one day of social distancing makes a huge difference in slowing the spread of coronavirus.
Thank you!

Any Questions?

www.NEEDelegation.org
Scott Baier Ph.D.

Contact NEED: Info@NEEDelegation.org