Tracking the Global Pandemic Economy

Webinar with Markus

Introductory remarks by

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Markus Brunnermeier
Princeton
PAST AND FUTURE SPEAKERS

- Last
  Arvind Krishnamurthy
  “Corporate Debt Overhang and Credit Policy”

- Today
  Mike Spence
  “Tracking the Global Pandemic Economy”

- Next webinar
  Bob Shiller
  “Narrative Economics and COVID”

- Related:
  Gita Gopinath
  Raj Chetty
  Erik Hurst
COVID SPEEDING UP EXISTING TRENDS

- Tyler Cowen’s webinar

- Exception: sharing economy
The evolution

Data Analysis in Macroeconomics

- Past
- Nowcasting
- Forecasting

Time series

ADD Cross-section

High frequency data

Do we need models when projecting into future after structural break?
HOW WOULD COVID IN 1995 LOOKED LIKE?

- Less in-time tracking of economic data
- More face masks (privacy) vs tracing apps

- Sharper recession
- Long-lasting effects
  - Negative: More scaring? Long-lasting effects
  - Positive: Speed up new technologies (virtual reality)?
    - Tele-medicine, home office activity, online-learning, online-conferences, ...
CROSS-COUNTRY COMPARISON

- Economists are critical to explain difference in GDP growth

- Are data comparable?
  - Testing/honest reporting
  - US unemployment vs. European (UI vs. “Kurzarbeit“)
  - Die with or die on COVID

- Cultural differences
  - Japan: tradition to follow rules/wear masks

- Interpret with caution
  - Benjamin Disraeli: there are “three kinds of lies: lies, damn lies and statistics”
  - Winston Churchill: “the only statistics you can trust are the ones you have falsified yourself”
CROSS-SYSTEM COMPARISON

- Temporary?
- Will we return to pre-COVID social order?

Authoritarian

- Surveillance
- Better externality internalization
  - Incentives: stick

Open society

- Better information aggregation by markets
  - Incentives: carrot
- Health externalities
- Privacy
1. High frequency on-time data significantly
   a. Improves policy response
   b. Reduces the depth of the recession
   c. Improves the recovery (in the long-run)

2. Cross-country comparisons are
   a. Show importance of state capacity
      (Germany, South Korea, Taiwan)
   b. Suggest a temporary larger state involvement
   c. Suggest permanent overhaul of
democracy and individual freedoms
TRACKING THE GLOBAL PANDEMIC ECONOMY AND A BRIEF LOOK AT ITS UNCERTAIN AFTERMATH

Princeton

Michael Spence

July 6, 2020
TOPICS

- Tracking the pandemic Economy in Real Time
- The Co-evolution of the Economy and the Epidemic
- Luohan Academy
  - https://www.luohanacademy.com/indices/covid19/overview
- Digital Trends and Acceleration
The five phases of pandemic economy

Economic contraction

Epidemic alleviation

Early Warning and Preparation: Epidemic initiation is recognized and the economy is yet to be affected.

Emergency Response: Epidemic growth accelerates, and the economy contracts.

Trough: Epidemic growth decelerates, and the economy remains in a trough.

Recovery: Epidemic is contained at low level and the economy recovers gradually.

Vaccination: Vaccine is widely deployed and the "Pandemic Economy" ends.
PANDEMIC ECONOMY FUNDAMENTALS

- Mobility, business closures and sector shutdowns reduce demand and supply very quickly
- Risk and risk aversion separately reduces demand, especially in sectors that entail contact
- The longer it lasts the greater the economic damage
- Reducing risk
  - 1. Reduce infection per contact – physical/social distancing
  - 2. Reduce number of contacts for a given level of economic activity – large gatherings out
  - 3. Reduce prevalence among people in circulation – test, track, isolate, digital
- Hard part is demand – and risk
- Reducing risk (especially part 3) is positive for health and economic recovery
CONTRACTION, DISTRIBUTION, POLICY RESPONSES

- Monetary policy and fiscal “stimulus”
- Main targets: medical capacity, buffering shock, redistribute the balance sheet damage
- Programs are large: implementation varies
- Move a fair amount of the damage to the public sector balance sheet – Italian example
- Risk aversion as a lingering drag on demand – Dave Brady and I are trying to get a handle on this via surveys
- Distributional impacts adverse
- Unemployment probably 25%
- 39% for households with income below $40K
### Table 1: Share of jobs that can be done at home, by metropolitan area

<table>
<thead>
<tr>
<th>Top five</th>
<th>Unweighted</th>
<th>Weighted by wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Jose-Sunnyvale-Santa Clara, CA</td>
<td>0.51</td>
<td>0.66</td>
</tr>
<tr>
<td>Washington-Arlington-Alexandria, DC-VA-MD-WV</td>
<td>0.50</td>
<td>0.64</td>
</tr>
<tr>
<td>Durham-Chapel Hill, NC</td>
<td>0.46</td>
<td>0.57</td>
</tr>
<tr>
<td>Austin-Round Rock, TX</td>
<td>0.45</td>
<td>0.58</td>
</tr>
<tr>
<td>San Francisco-Oakland-Hayward, CA</td>
<td>0.45</td>
<td>0.58</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bottom five</th>
<th>Unweighted</th>
<th>Weighted by wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grand Rapids-Wyoming, MI</td>
<td>0.29</td>
<td>0.37</td>
</tr>
<tr>
<td>Lancaster, PA</td>
<td>0.29</td>
<td>0.36</td>
</tr>
<tr>
<td>Bakersfield, CA</td>
<td>0.29</td>
<td>0.36</td>
</tr>
<tr>
<td>Stockton-Lodi, CA</td>
<td>0.29</td>
<td>0.33</td>
</tr>
<tr>
<td>Cape Coral-Fort Myers, FL</td>
<td>0.28</td>
<td>0.34</td>
</tr>
</tbody>
</table>
Hospitality workforce about 16.7 million
• Real time tracking data is live on their website
• The graphs that follow come from that project as it gets up and running
• https://www.luohanacademy.com/
• It is based in Hangzhou, and has access to ecommerce and mobile payments data, globally
• Much of the mobility data comes from Google
• https://www.google.com/covid19/mobility/
• For USA, by state and county, start date 2/15/2020
• Article by Chen Long and me in Project Syndicate
PANDEMIC ECONOMY TRACKING GRAPHS

- Real time data - daily
- Vertical axis: contraction estimated from daily mobility data
  - Proxy for economic contraction
  - Actual contractions are larger based on a few cases
  - May vary over the whole cycle
- Horizontal axis: days to double for confirmed cases
  - Proxy for the rate of spread
- VERTICAL LINE: first occurrence of three consecutive days in which recoveries exceeding new confirmed cases
  - Average over all cases in which this has occurred. That average is 19 days
- Time: days from the start to the bottom, to the start of upturn in economic activity, to the present on whatever day you are looking at it.
Figure 3: Current Pandemic-Economy Phases of 131 Countries and Regions
Figure 4: PET Graphs of Selected East Asian Countries and Regions

**East Asia**

- **China**
- **South Korea**
- **Japan**

**Start time of:**
- A: Response phase
- B: Trough phase
- C: Recovery phase

Percentage of economic activity vs. Doubling days of confirmed cases
Figure 5: PET Graphs of Selected Advanced Economies

US, UK and Oceania

United States  United Kingdom  New Zealand  Australia

Percentage of economic activity

100%

95%

90%

85%

80%

75%

70%

0  20  40  60  80  100

Doubling days of confirmed cases

93 days, 4.6 DPM

94 days, 4.1 DPM

102 days, 378.1 DPM

102 days, 648.6 DPM

14 days

13 days

16 days

18 days

63 days

Start time of:

A: Response phase

B: Trough phase

C: Recovery phase
Figure 6: PET Graphs of Selected Advanced Economies

Europe

- Sweden
- Norway
- Austria
- Italy

Start time of:
- A: Response phase
- B: Trough phase
- C: Recovery phase
Figure 8: COVID-19 Testing Rates

Testing rates in economies at different income levels

- High income
- Upper-middle income
- Lower-middle income
- Low income

Test per thousand people

Date

Figure 9: PET Graphs of Selected Emerging and Developing Economies in Latin America
Figure 10: PET Graphs of Selected Emerging and Developing Economies in Africa
Figure 11. PET Graphs of Selected Emerging and Developing Economies in Asia
AMERICA: LOOKS LIKE PREMATURE AND EXCESSIVELY QUICK OPENING
Reopen since May 15th

- Arizona
- Minnesota
- New York
- Washington

Percentage of economic activity

Doubling days of confirmed cases

Start time of:
- A: Response phase
- B: Trough phase
- C: Recovery phase

105 days, 227.8 DPM
103 days, 263.0 DPM
111 days, 179.7 DPM
104 days, 1592.9 DPM

14 days
24 days
30 days
18 days
75 days

YouGov COVID-19 tracker: government handling

% of people in each country who think the government is handling the issue of COVID-19

From Feb 19, 2020 To Jun 16, 2020

Zoom 1m 3m YTD All

Italy
Germany
Spain
France

Mar '20 Apr '20 May '20 Jun '20
Jio Goldrush in India

- Jio is the digital network and platform of Reliance Industries in India.
- Facebook, Silver Lake, Vista Equity Partners, General Atlantic, KKR, Abu Dhabi-based sovereign investor Mubadala, and Abu Dhabi Investment Authority.
- Roughly 13 B US dollars.
- In two months or less.
- Intel just invested another $253M in Jio.
**Key Digital Issues**

- Amplifying, reinforcing and accelerating existing trends
- Distance, time and remoteness
- In pandemic economy, remoteness suddenly became much more local
- Inertia and accelerated adoption
- Substitutes and Complements
- Post pandemic mix of mean reversion and permanent change
- Hybrid models
Many Areas of Rapid Change

- Ecommerce
- Retail and consumer
- Mobile Payments and Fintech
- Education
- Work
- Health care and Medicine
- Resilience
- Digital footprint will deepen in pretty much every sector
THE GLOBAL SYSTEM AND THE PANDEMIC

- Most likely outcome: reinforcement of existing negative trends
- Fragmentation already underway and unlikely to change
- Geopolitical tensions and technology still there
- Old rules will probably not survive without modification
- Resilience, diversification, and some self-sufficiency/localization likely
- US-China relationship going very badly
CRUDE SUMMARY: THE POST-PANDEMIC GLOBAL ECONOMY

- Trends already underway will be reinforced, amplified and accelerated
- Pandemic overcomes “inertia”: some innovation, mostly adoption
- Digital in a vast array of sectors: education, medicine, eCommerce, mobile payments and Fintech
- Resilience as a priority
- Deglobalization
- Reconfiguration of global supply chains