Webinar: COVID-19 and re-opening the economy

Jointly Organized with the Society for Financial Studies

WITH JOHN COCHRANE
STANFORD UNIVERSITY

Monday, May 18, 12:30 PM ET
Pre-Registration Required

Intro: MARKUS BRUNNERMEIER    Twitter: @MarkusEconomist
Markus’ Zoominar intro

- Previous/future webinars
  - Paul Krugman: Externally vs. internally recession
  - Larry Summers: Q&A: COVID & Global Economy
  - Next Monday is memorial day

- Speakers
Beergarden opening today in Bavaria

- High-tech service only
  - app ordering, app reservations, distancing, ...

- Question: Will customers come back?
  - Supply restriction due to regulation
  - Demand collapse due to fear

5/18/2020
Re-opening: Lessons from China

- subway ridership in 30 major Chinese cities
  - 2020 vs. 2019
  - Missing “Friday spike”

... most recovery only work-related

Source: Tang Jie via Michael Pettis
Flattening or Crushing the Curve

▪ Flattening the curve
  ▪ Bring it below ICU coverage
  ▪ ... but SIR models ultimately go for herd immunity
    ▪ Not sensible if
      ▪ immunity does not last or
      ▪ long-lasting health damage

▪ Crushing the curve
  ▪ Return to tracing of individual cases
  ▪ ... not herd immunity

▪ Does re-opening imply a choice btw both?
Second wave/fixed cost challenge

- Re-opening imposes large fixed costs to firms
  - Significant investment for SMEs
  - Beergarden app for ordering, ...

- If flare-up leads to second wave and second shut-down
  - Firms are more likely to go bankrupt (after investments)
  - Firms are very reluctant to re-open after second shut-down

Source: Jean-Pierre Landau
Synchronized opening?

- Synchronized
  - Supply chain/value chains
  - Global demand dependent

- Differentiation
  - More focused
  - Regional experimentation
How much centralized planning?

- Input-output table analysis to design opening
  - Essentiality
  - Health risk

- Public/centralized:
  - Since private actors will not internalize externalities fully

- Private:
  - Since private actors are more creative to find best practice to open up

- Competition for best business practice to open up (within industry).
  - Firm with “best plan” is allowed to open first
  - Like a patent (temporary monopoly power)
Rise in uncertainty

- Employers suffers outbreak, unemployment
- Communication can amplify uncertainty
  - Add endogenous risk to exogenous risk

Economic consequences:
- Lower investment $\rightarrow$ lower growth
- Higher savings in safe asset $\rightarrow r_f$ $\downarrow$
  - Gov. budget deficit $\downarrow$
- Inequality $\uparrow$

inflation pressures
- inflationary
- disinflationary
Poll 01:

1. Economies should open up
   a. Rather soon
   b. Wait, since it is too risky

2. Opening should be governed by
   a. Free decision/flexibility by government
   b. Clear ex-ante rules

3. Selectively opening is based on
   a. Health risk
   b. Essentaility
   c. Other criteria (developed by the government)

4. Opening procedure should be planned centrally
   a. Yes, since private firms don’t internalize externalities
   b. No, since central planning stifles innovation how to creatively manage new COVID economy
End of MARKUS’ INTRODUCTORY REMARKS

Now

Please ask questions in Q&A box

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COVID-19 and re-opening the economy

John H. Cochrane May 17 2020
Senior Fellow, Hoover Institution, Stanford University
“The grumpy economist”
The dumb reopening

Ready or not, a dumb reopening. No widespread test, trace, isolate; public health.
Fizzle out vs. second wave? Models were completely wrong last time

**SIR model (February)**

\[
\begin{align*}
\Delta S_{t+1} &= -\beta S_t I_t / N & \text{Susceptible} \\
\Delta I_{t+1} &= \beta S_t I_t / N - \gamma I_t & \text{Infected} \\
\Delta R_{t+1} &= \gamma I_t - \theta R_t & \text{Resolving (sick)} \\
\Delta D_{t+1} &= \delta \theta R_t & \text{Dead} \\
\Delta C_{t+1} &= (1 - \delta) \theta R_t & \text{ReCovered}
\end{align*}
\]

- Exponential growth, until herd immunity
- $R$ brought down by contact with immune.
- Sweeps through in months. 60-80% get it. 2% = 5 million die. Ends swiftly.

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**SIR model, constant $R_0 = 5$**

[Graph showing SIR model with constant $R_0 = 5$]

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**SIR model, constant $R_0 = 5$**

[Graph showing SIR model with constant $R_0 = 5$ and additional labels for new infections and new dead]
Behavioral SIR models

\[ \Delta S_{t+1} = -\beta S_t I_t / N \]  
Susceptible

\[ \Delta I_{t+1} = \beta S_t I_t / N - \gamma I_t \]  
Infected

\[ \Delta R_{t+1} = \gamma I_t - \delta R_t \]  
Resolving (sick)

\[ \Delta D_{t+1} = \delta R_t \]  
Dead

\[ \Delta C_{t+1} = (1 - \delta) \theta R_t \]  
ReCovered

- Behavior: People and governments change behavior.
- More infected people around: Work harder to avoid contact.
- Private behavior vs. business shutdown sledgehammer.
- Fundamentally different mechanism for limiting \( R \).
- Converges to \( R=1 \). Getting better at it = slow recovery.
- Bad news: with us a long time absent magic bullet.
- It’s all about \( R<1 \), cost of lower \( R \).

People respond to current infection rate

\[ \log(\beta_t) = \log(\beta_0) - \alpha I_t / N_t \]

BSIR model, \( R_0 \) varies with infection rate

People get better at cost-effective mitigation

\[ \alpha \] Doubles over time

BSIR model, \( R_0 \) varies with infection rate, \( \alpha \) increases over time
Behavioral SIR models— a warning

\[
\begin{align*}
\Delta S_{t+1} &= -\beta S_t I_t / N & \text{Susceptible} \\
\Delta I_{t+1} &= \beta S_t I_t / N - \gamma I_t & \text{Infected} \\
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\end{align*}
\]

- Current, accurate information on the current local infection rate, location and nature of hotspots is vital.
- Just a little random testing would be really cheap relative to $5$ trillion dollars.
- Don’t try to lie.

People respond to current death rate

\[
\log(\beta_t) = \log \beta_0 - \alpha_D \Delta D_t / N.
\]
• Heterogeneity.
  • Superspreading activities and places.
  • Public vs. private health: R<1 is enough.
• Testing. Savior or panacea?
  • Massive failure of / lack of low-level bureaucratic public health capacity.
  • Test, track, trace, coercive isolation? Not in US.
• Summer/fall. Productivity and reallocation shock. (Demand/precautionary saving too)
  • Information: How does (and doesn’t) this spread.
• Policy.
  • From insurance to disincentives. Unemployment. Rent. Mortgage payments?
  • Regulation.
• Macro / Finance policy.
  • Why not great vacation? Debt.
  • Fed & cares support, lending predicated on V shaped recession.
  • Fed: no creditor may lose money, no price may fall.
  • Forecast much more money financed payout, Fed market support.
• Legacy.
  • Moral hazard. Over and over again is not an expedient, it’s a regime.
  • Debt (short term!) and reserves.
  • Does debt not matter? Wisdom of spending not amount of spending. Stimulus checks.
  • Just put Summers (secular stagnation) Blanchard (r>g, no matter how you expand debt) Kelton (MMT) vs 1000 years of history to test.
• WWII / UK 1800s were paid by steady primary surpluses, strong supply side (productivity) growth in a much less regulated economy.
• *Any* other success story for 150% D/GDP?