

Great Depression: Origins & Progress

Brad DeLong

U.C. Berkeley

Last Edited: 2020-04-08

<<https://www.icloud.com/keynote/0Z2r-GEQD73BP9FRWMV6QA5bQ>>

<<https://github.com;braddelong/public-files/blob/master/econ-210a-lecture-11a.pptx>>

Coronavirus!

Members of the public were told to avoid gatherings of 10 or more



ABC News



Trump warns coronavirus crisis could stretch into summer

Watch

Members of the public were told to avoid gatherings of 10 or more and older people and those with underlying condition were asked to stay home.

Coronavirus

Where we think we are, as of Mo Apr 6:

- We really do not know
- No random samples...
- If we extrapolate out the past week straight-line log:
 - We will have 440,000 deaths in three weeks
 - But it is unlikely to be that bad
- Best thing I have read comes from Jim Stock <<https://drive.google.com/file/d/12MV466ZZy5xHir4xdPhoTrL1oO8CbZU-/view>>:
 - The basic SIR epidemiological model of contagion
 - The effect of social distancing and business shutdowns on epidemic dynamics enters the model through a single parameter: the case transmission rate β
 - Re-express the model in terms of β and the asymptomatic (or not very symptomatic) hence non-tested rate—the fraction of the infected who are not tested
 - The COVID-19 non-testing rate is unidentified in our model
 - Estimates in the epidemiological literature range from 0.18 to 0.86.
 - The asymptomatic rate could be estimated accurately and quickly by testing a random sample
 - The optimal policy response and its economic consequences hinge critically on the asymptomatic rate

| Coronavirus Extrapolations | | | | | | |
|----------------------------|--------|----------------------|---------------------------|-----------------------|-------------------------|---------------------------------------|
| Date | Deaths | Cases = Deaths x 100 | Constant Weekly New Cases | Cases = 5 x Cases(-3) | Cases = 20 x Cases (-3) | Cases = Cases (-3) x exp(3 x week ch) |
| 2020-04-05 | 9618 | | 3,102,000 | 4,809,000 | 19,236,000 | 55,832,145 |
| 2020-03-29 | 2484 | | 869,400 | 1,242,000 | 4,968,000 | 53,654,400 |
| 2020-03-22 | 414 | | 144,900 | 207,000 | 828,000 | 8,942,400 |
| 2020-03-15 | 69 | 961,800 | 19,800 | 34,500 | 138,000 | 128,966 |
| 2020-03-08 | 26 | 248,400 | 10,100 | 13,000 | 52,000 | 45,697,600 |
| 2020-03-01 | 1 | 41,400 | 370 | 500 | 2,000 | 100,000 |
| 2020-02-23 | | 6,900 | 37 | 50 | 200 | 10,000 |
| 2020-02-16 | | 2,600 | 4 | 5 | 20 | |
| 2020-02-09 | | 100 | | | | |
| 2020-02-02 | | 10 | | | | |
| 2020-01-26 | | 1 | | | | |
| | | 0 | | | | |

<https://www.incloud.com/numbers/0FzRFAnAOnIAin4VJWWiWIC0>

Coronavirus Cases:  United States

1,342,235

[view by country](#)

Coronavirus Cases:

364,059

Deaths:

74,554

Deaths:

10,792

Recovered:

278,182

Recovered:

19,536

| USA State | Tot Cases/ 1M pop | Deaths/ 1M pop |
|---------------|----------------------|-------------------|
| USA Total | 1,100 | 33 |
| New York | 6,662 | 243 |
| New Jersey | 4,626 | 113 |
| Michigan | 1,729 | 73 |
| California | 404 | 10 |
| Louisiana | 3,188 | 110 |
| Massachusetts | 2,026 | 38 |
| Florida | 662 | 12 |
| Pennsylvania | 1,016 | 13 |
| Illinois | 956 | 24 |
| Washington | 1,095 | 46 |
| Texas | 263 | 5 |
| Georgia | 710 | 22 |

Coronavirus II

We do not really know where we are, as of Mo Apr 6:

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Coronavirus Case



United States

1,342,235

[view by country](#)

Coronavirus Cases:

364,059

Deaths:

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Recovered:

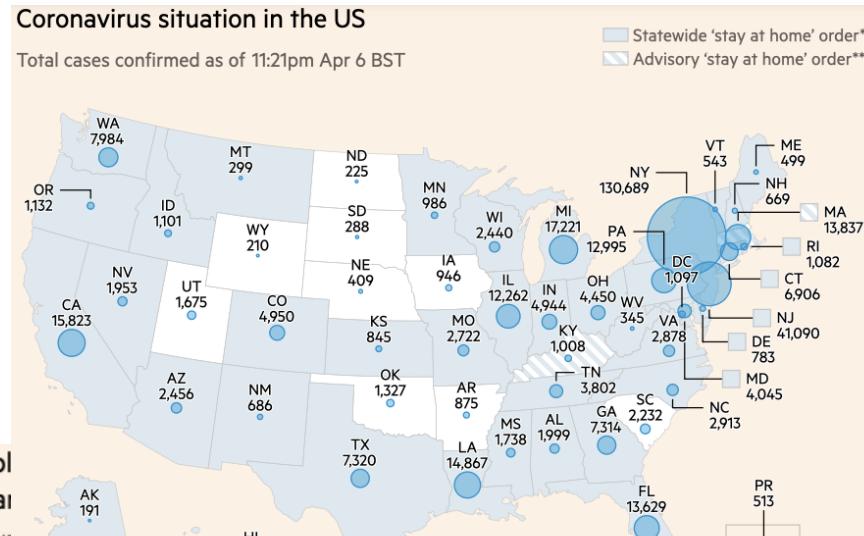
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Recovered:

19,536

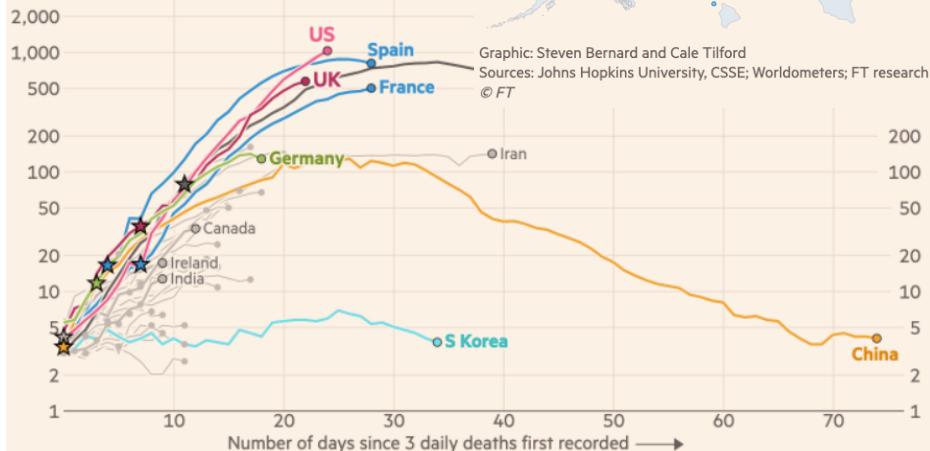
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Financial Times Graphs Blown Up...



Italy and Spain's daily death tolls are plateauing, while the US and UK's are rising. Every day brings more new deaths than the day before.

Daily coronavirus deaths (7-day rolling avg.), by number of days since 30 daily cases first recorded



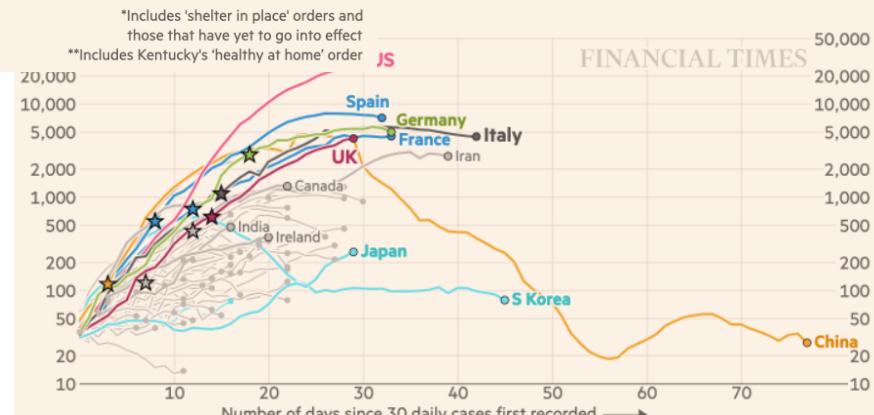
FT graphic: John Burn-Murdoch / @jburnmurdoch

Source: FT analysis of European Centre for Disease Prevention and Control; Worldometers; FT research. Data updated April 06, 19:00 GMT

© FT

numbers of new cases now in decline,

by number of days since 30 daily cases first recorded



FT graphic: John Burn-Murdoch / @jburnmurdoch

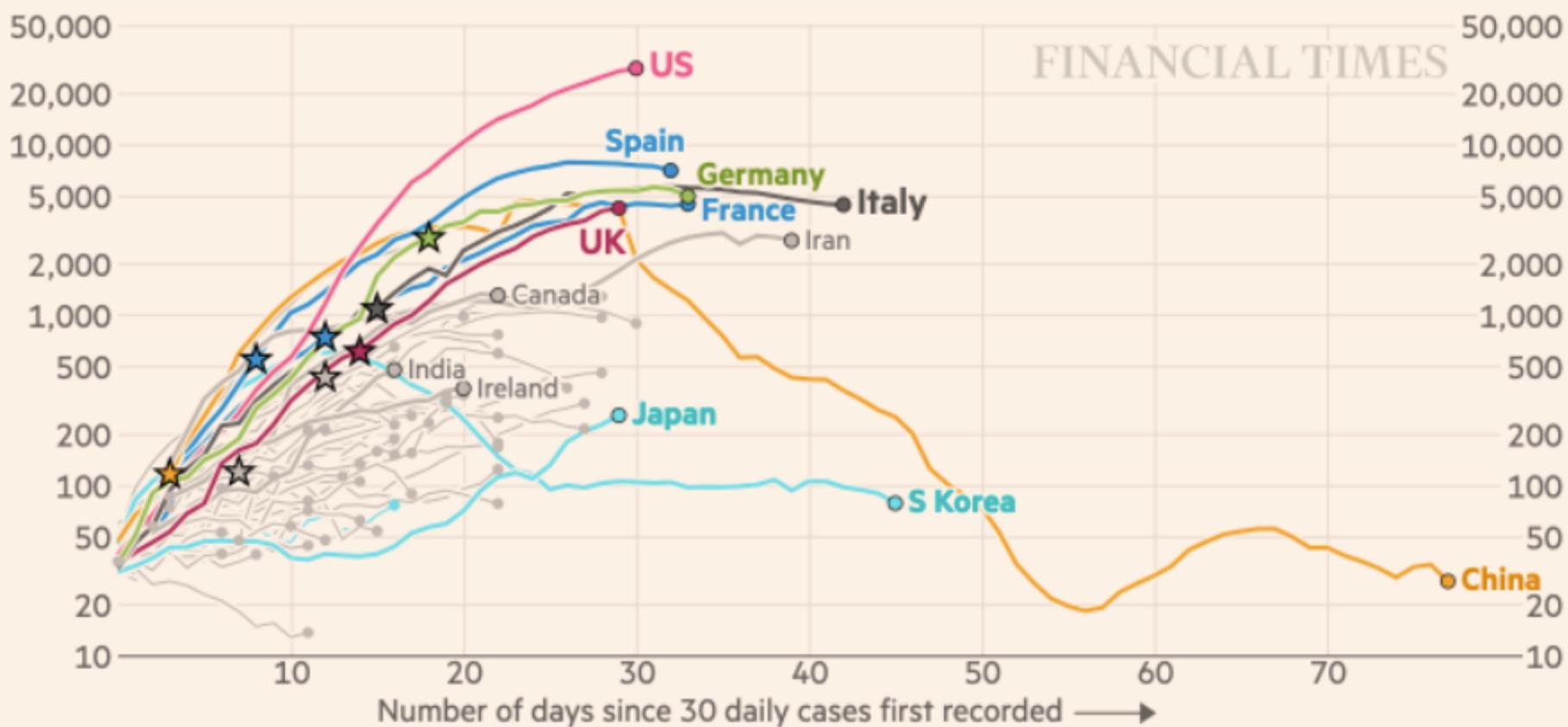
Source: FT analysis of European Centre for Disease Prevention and Control; Worldometers; FT research. Data updated April 06, 19:00 GMT

© FT

Italy has turned the corner, with numbers of new cases now in decline, following in China's footsteps

Daily confirmed cases (7-day rolling avg.), by number of days since 30 daily cases first recorded

Stars represent national lockdowns ★



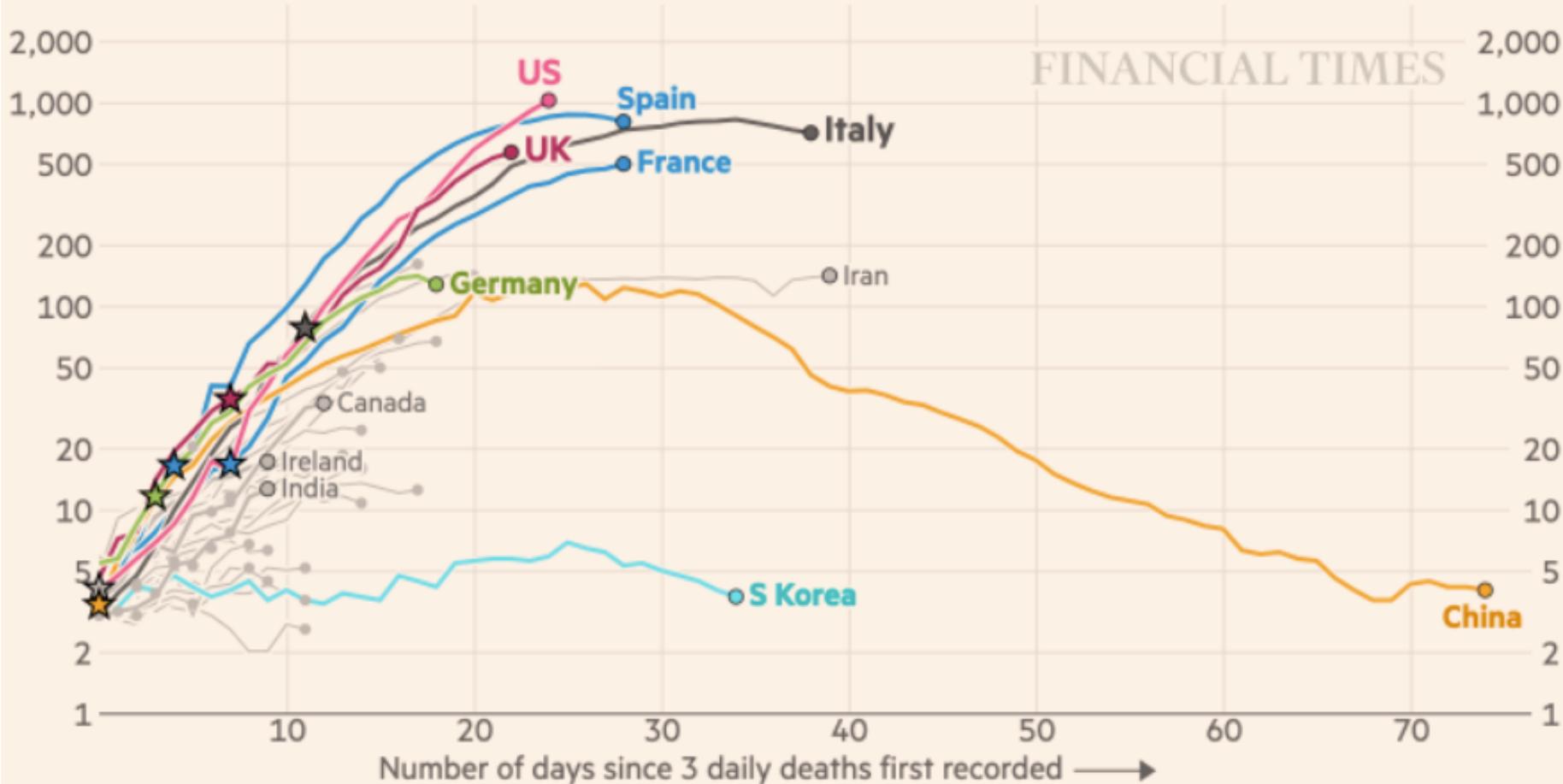
FT graphic: John Burn-Murdoch / @jburnmurdoch

Source: FT analysis of European Centre for Disease Prevention and Control; Worldometers; FT research. Data updated April 06, 19:00 GMT

© FT

Italy and Spain's daily death tolls are plateauing, but in the UK and US every day brings more new deaths than the last

Daily coronavirus deaths (7-day rolling avg.), by number of days since 3 daily deaths first recorded



FT graphic: John Burn-Murdoch / @jburnmurdoch

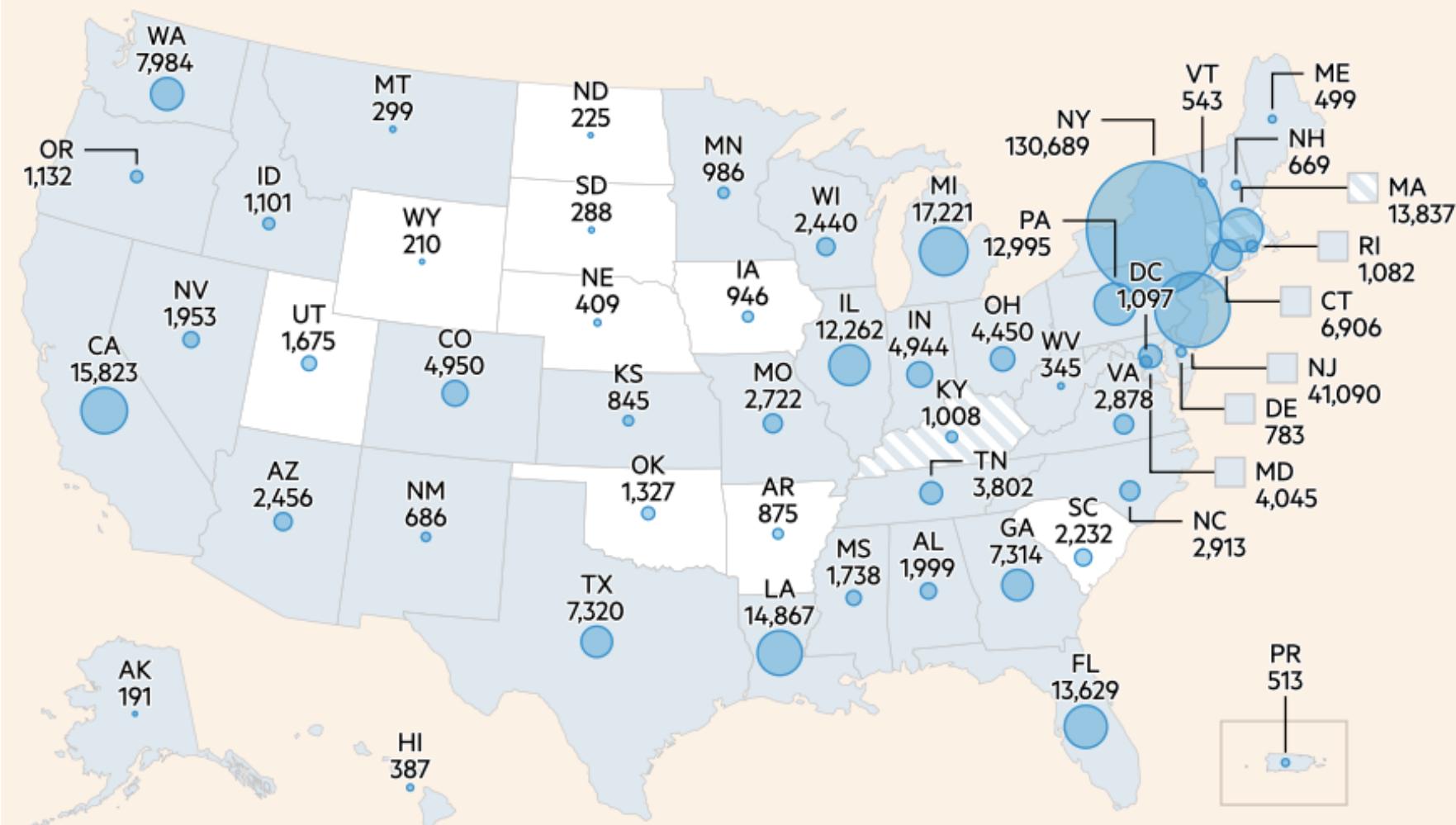
Source: FT analysis of European Centre for Disease Prevention and Control; Worldometers; FT research. Data updated April 06, 19:00 GMT

© FT

Coronavirus situation in the US

Total cases confirmed as of 11:21pm Apr 6 BST

- Statewide 'stay at home' order*
- Advisory 'stay at home' order**



Graphic: Steven Bernard and Cale Tilford

Sources: Johns Hopkins University, CSSE; Worldometers; FT research

© FT

*Includes 'shelter in place' orders and those that have yet to go into effect

**Includes Kentucky's 'healthy at home' order

James Stock (2020)

Standard SIR model: <<https://drive.google.com/file/d/12MV466ZZy5xHir4xdPhoTrL1oO8CbZU-/view>>:

- Susceptible, Infected, Recovered (& immune), transmission rate β , recovery rate γ , reproduction number R_0 , asymptomatic hence non-tested rate π_0
- Calibration: half-life of infection one week: $\gamma = 0.5$, $s_0 = 0.02$, 50 cases on Jan 24
- For March 21, 2020, the positive test rate in the United States is approximately 10%...

$$\Delta S_t = -\beta I_{t-1} \frac{S_{t-1}}{N}$$

$$\Delta R_t = \gamma I_{t-1},$$

$$\Delta I_t = \beta I_{t-1} \frac{S_{t-1}}{N} - \gamma I_{t-1}$$

<<https://drive.google.com/file/d/12MV466ZZy5xHir4xdPhoTrL1oO8CbZU-/view>>

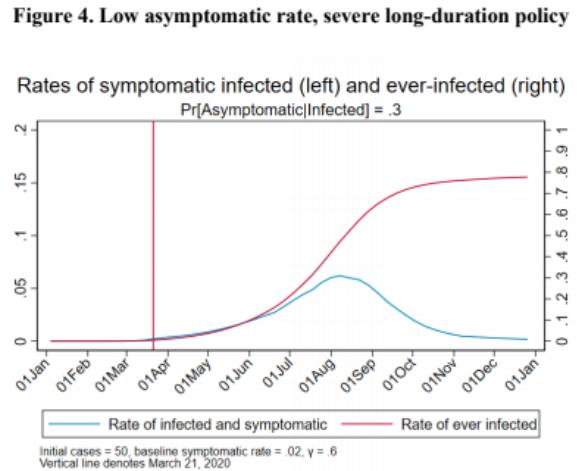
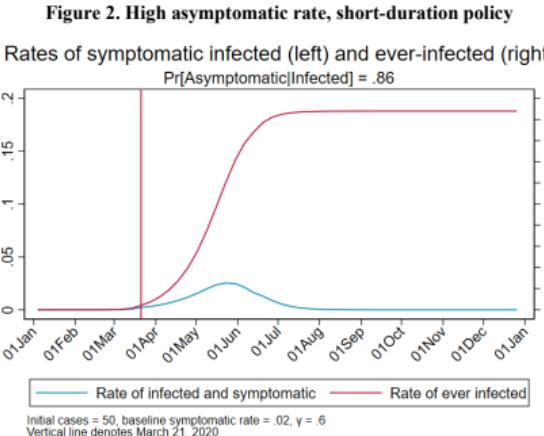
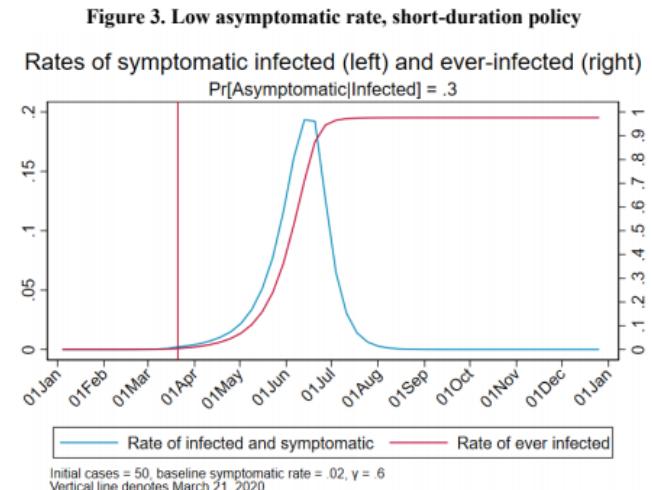
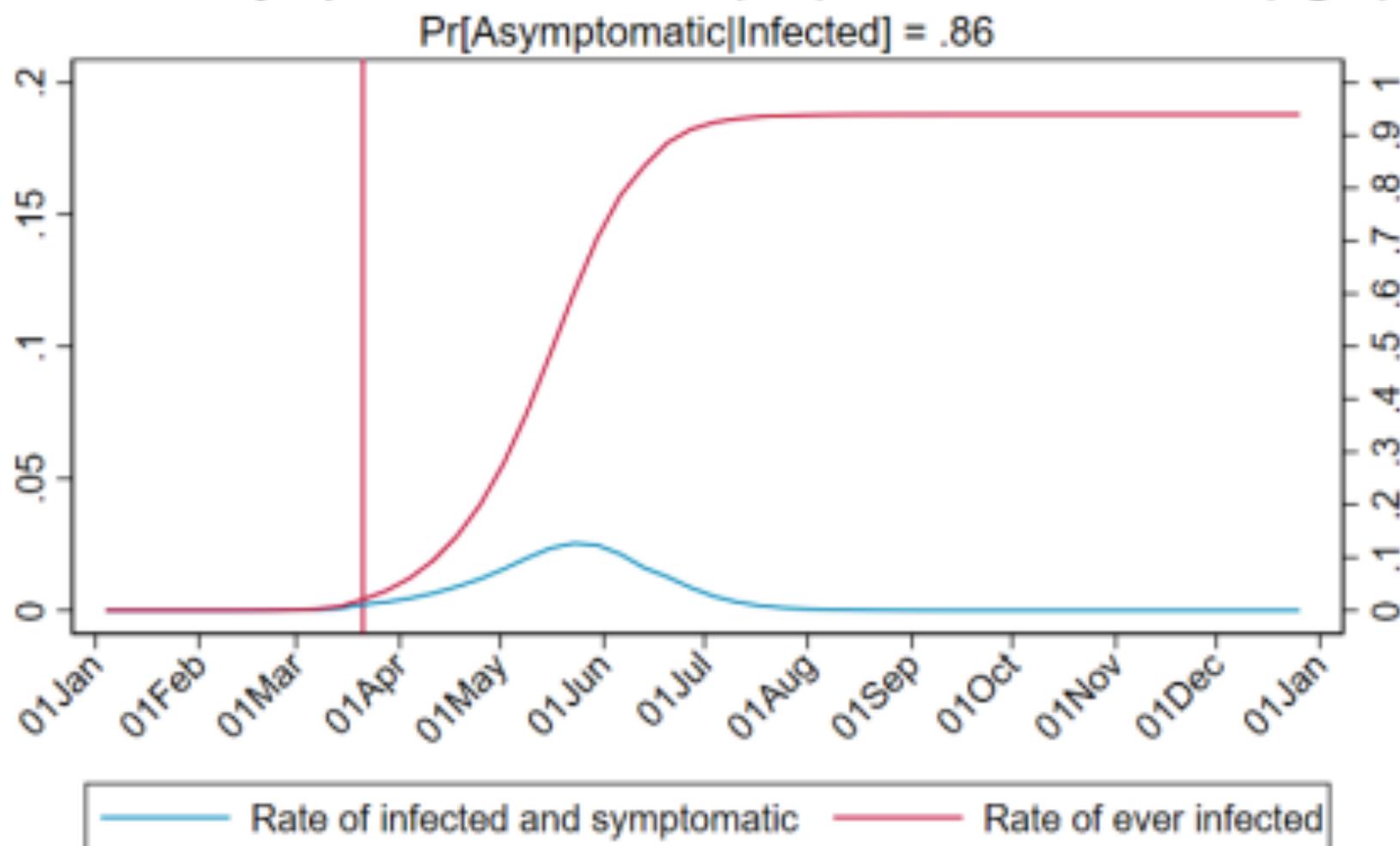


Figure 2. High asymptomatic rate, short-duration policy

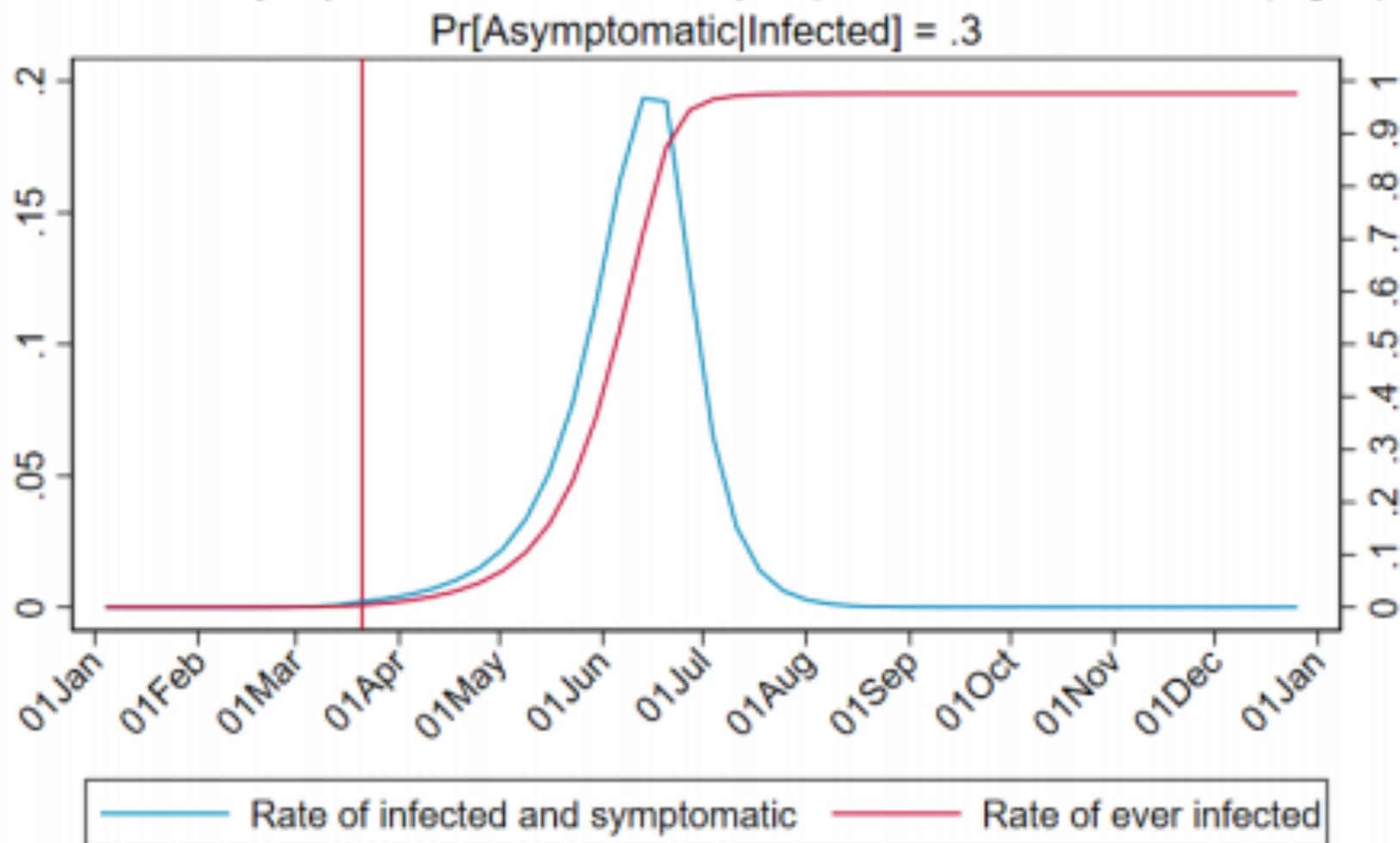
Rates of symptomatic infected (left) and ever-infected (right)



Initial cases = 50, baseline symptomatic rate = .02, $\gamma = .6$
Vertical line denotes March 21, 2020

Figure 3. Low asymptomatic rate, short-duration policy

Rates of symptomatic infected (left) and ever-infected (right)

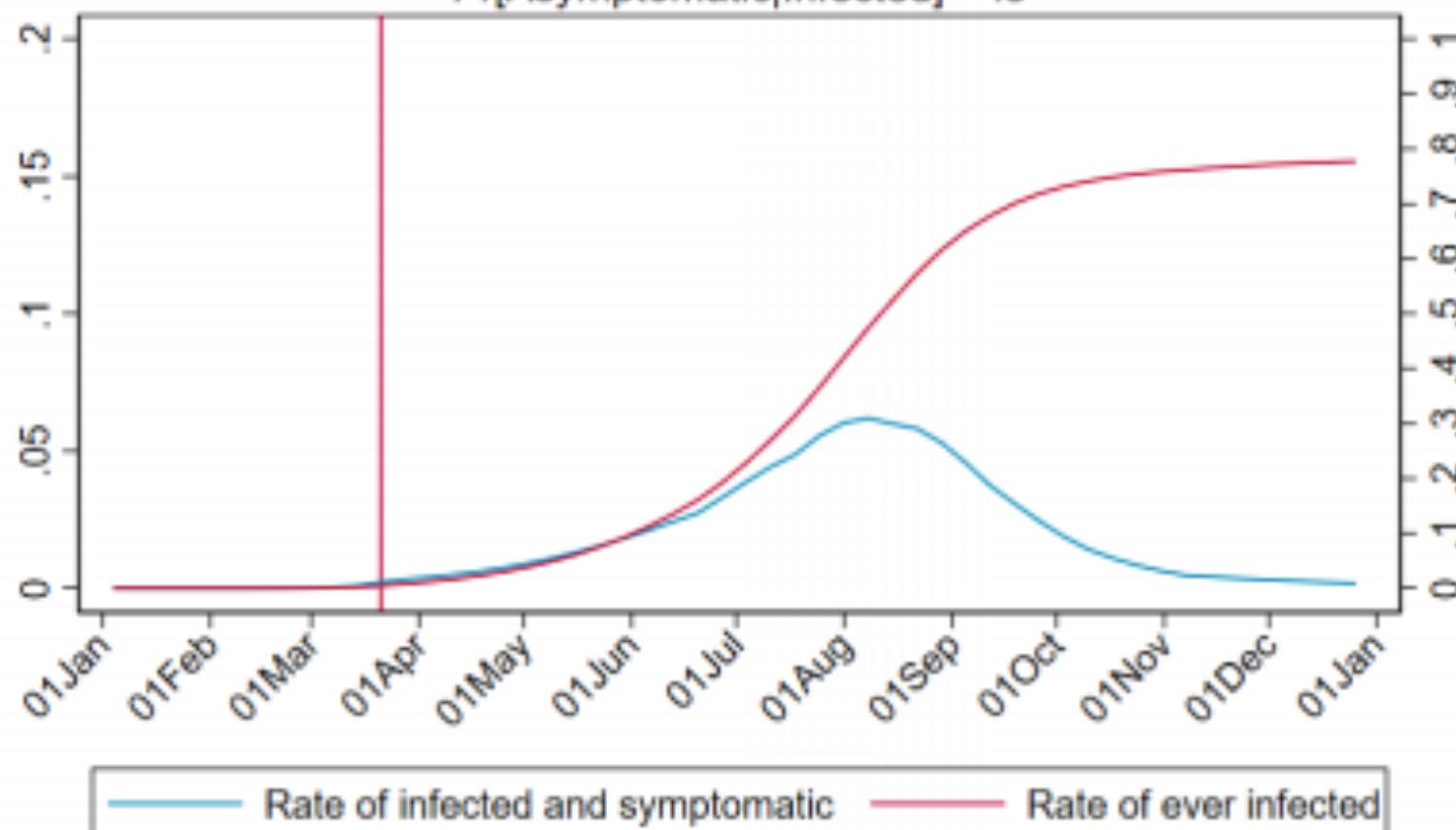


Initial cases = 50, baseline symptomatic rate = .02, $\gamma = .6$
Vertical line denotes March 21, 2020

Figure 4. Low asymptomatic rate, severe long-duration policy

Rates of symptomatic infected (left) and ever-infected (right)

$$\Pr[\text{Asymptomatic} | \text{Infected}] = .3$$



Initial cases = 50, baseline symptomatic rate = .02, $\gamma = .6$
Vertical line denotes March 21, 2020

$$\Delta S_t = -\beta I_{t-1} \frac{S_{t-1}}{N}$$

$$\Delta R_t = \gamma I_{t-1},$$

$$\Delta I_t = \beta I_{t-1} \frac{S_{t-1}}{N} - \gamma I_{t-1}$$

Bringing the Economy Back Up from Anæsthesia

Major issues:

- Certificates of immunity:
 - Which requires test, test, test:
 - And not just disease virus tests
 - Presence-of-antibodies tests
- How quickly can we match the immune with public-contact jobs?
- What jobs can be done with minimal infection risk?
- What minimal-infection substitutes can we find for previous jobs?
- How quickly can restrictions be relaxed without the virus coming roaring back?
- How do we avoid having the market give a “shutdown” signal to enterprises we in fact want restarted?
 - Which is pretty much all of them
- How much of the potential caseload do we want to push out beyond the vaccine-arrival date?

ALL THESE QUESTIONS ARE ANSWERABLE IF WE LEARN THE ASYMPTOMATIC HENCE NON-TESTED RATE!!

Keeping the Economy from Crashing During the Lockdown

Nick Rowe: We have a 50% output cut in 100% of the sectors:

- A temporary 100% output cut in 50% of the sectors (what the Coronavirus does) is very different from a 50% output cut in 100% of the sectors
- Nick's thought experiment:
 - In three months we are going to invent unobtanium:
 - Substantial intertemporal substitutability
 - Plus lower cross-good contemporaneous substitutability
 - Hence high desired savings rate now
 - Flex-price market thus produces a nominal rate at the zero lower bound and a high inflation rate over the next three to six months
 - Plus liquidity-constrained workers in affected sectors see their demand go to zero immediately
 - Can we get there? Should we get there? What should we do instead?
 - We need a good RBC economist: are there any?...

Keeping the Economy from Crashing During the Lockdown II

Nick Rowe:

- <https://worthwhile.typepad.com/worthwhile_canadian_initi/2020/03/relative-supply-shocks-unobtainium-walras-law-and-the-coronavirus.html>
- Plus: to extend the thought experiment:
 - We just lost the ability to make “unobtainium”
 - So we *should* be substituting leisure for work, and moving workers into relatively unproductive labor, making the commodities we can still produce right now
 - How should relative prices move as a result? How should we make them move?

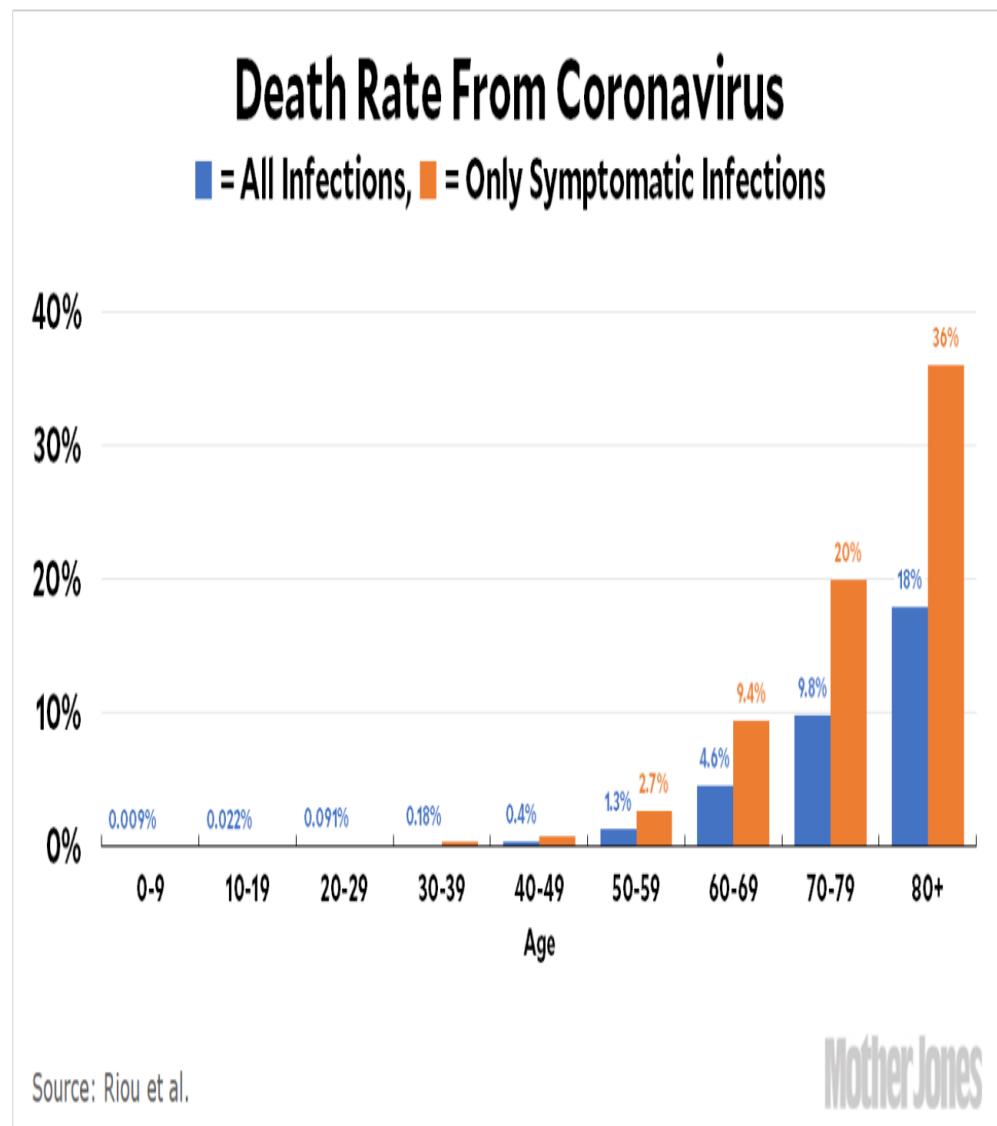
Plus: distributional issues

Plus: bankruptcy and credit chain issues

MOAR Coronavirus!

Death for Geezers!

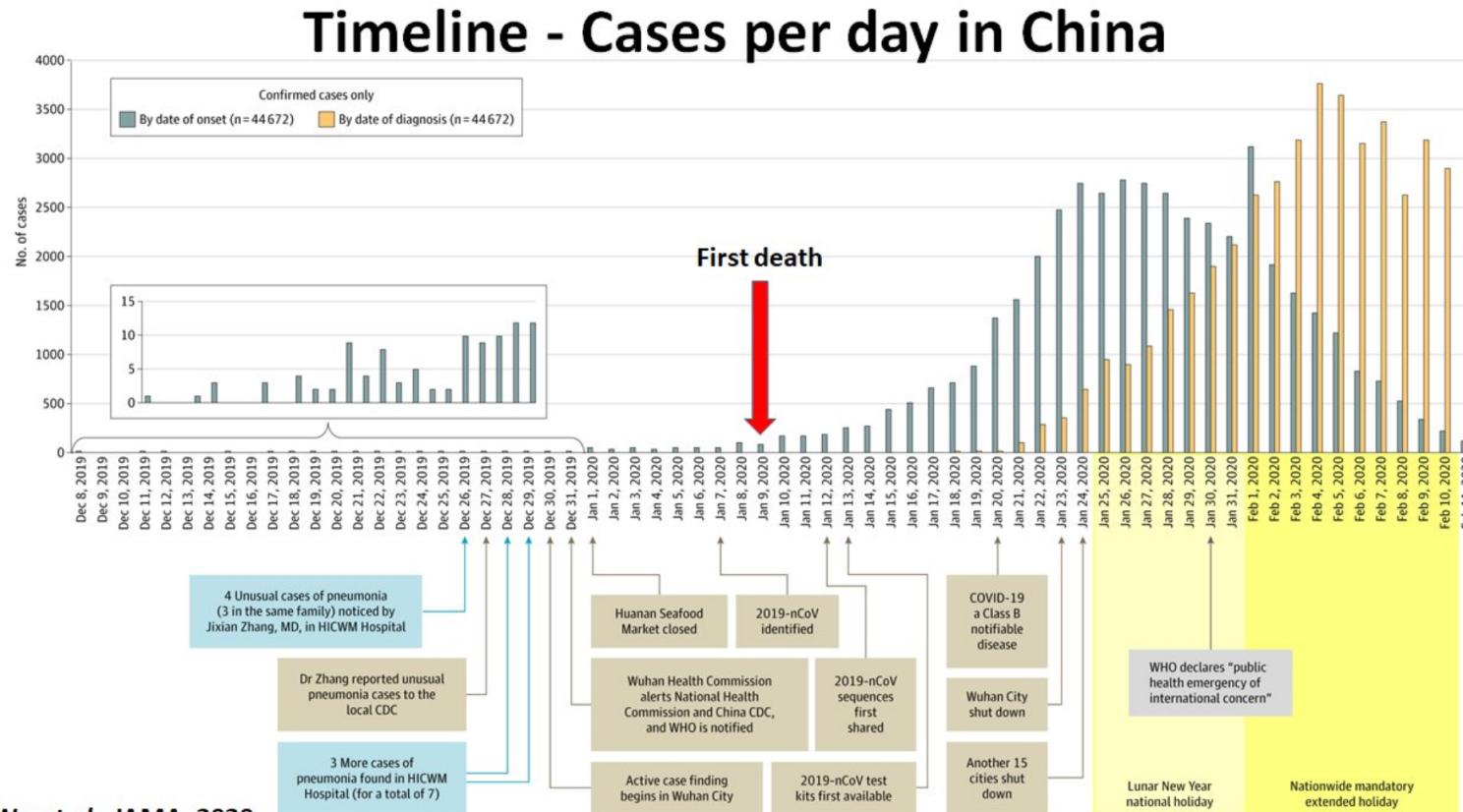
- Mortality for the Youngs very low...
- It's the flu for them—for you...
- And an extra doubling—or is it 5%?—mortality for the asthmatic
- And an extra doubling—or is it 5%?—mortality for the overweight



What We Think Happened in Wuhan

China beat it quickly & relatively easily!

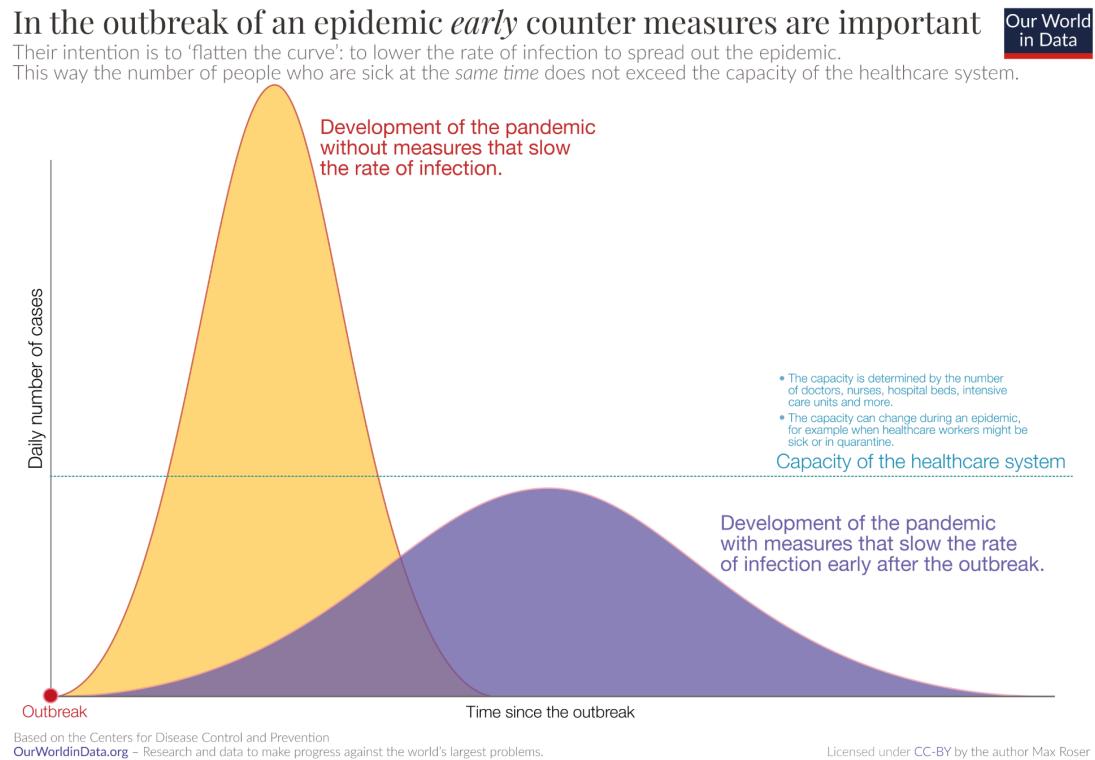
- We think
- Shut down Wuhan when 200 cases per day
- That seems to have been a good decision



The Goal

When Is It Appropriate to Move on This?

- Immediate social distancing...
- Self-isolate if you have a cough and a fever...
- Hope that warmer temperatures will do to this what they did to SARS...
- Otherwise, when do you want to start spreading out transmission. It seems that early is as good as later, so do it early...
 - I have no good intuition on why you want to move early
 - Plus your moving early will be wasted if you get reinfected
 - Plus the sparks you throw off making others' lives more difficult



References

- **Financial Times** (2020): Coronavirus Tracked: The Latest Figures as the Pandemic Spreads <<https://www.ft.com/coronavirus-latest>>
- **Nick Rowe** (2020): *Relative Supply Shocks, Unobtainium, Walras' Law, and the Coronavirus* <https://worthwhile.typepad.com/worthwhile_canadian_initi/2020/03/relative-supply-shocks-unobtainium-walras-law-and-the-coronavirus.html>
- **Jim Stock** (2020): *Coronavirus Data Gaps and the Policy Response* <<https://drive.google.com/file/d/12MV466ZZy5xHir4xdPhoTrL1oO8CbZU-/view>>

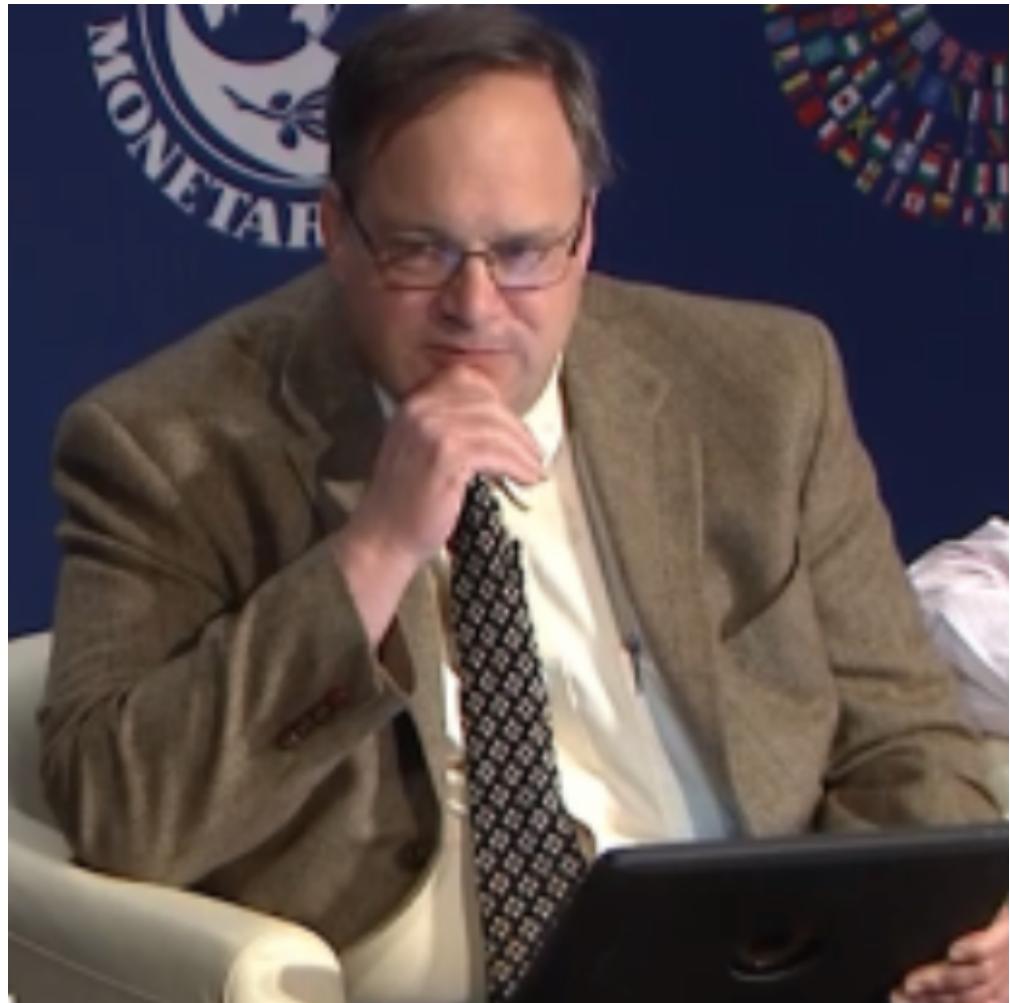
MOAR Coronavirus!

What I am watching:

- **Max Roser & Hannah Ritchie:** *Coronavirus Disease (COVID-19)* <<https://ourworldindata.org/coronavirus>>...
- **Worldometer:** *Coronavirus Update (Live)* <<https://www.worldometers.info/coronavirus/>>: '125,599 Cases and 4,605 Deaths from COVID-19 Virus Outbreak...'
- *FT Coronavirus Tracker* <<https://www.ft.com/content/a26fbf7e-48f8-11ea-aeb3-955839e06441>>
- Josh Marshall's COVID Twitter List <<https://twitter.com/i/lists/1233998285779632128>>
- NEJM Group: Updates on the Covid-19 Pandemic <http://m.n.nejm.org/nl/jsp/m.jsp?c=%40kxNtXckRDOq8oG0jJvAXsIzN4mPECIPhtxoTSdTU9k%3D&cid=DM89089NEJM_COVID-19_Newsletter&bid=173498255>: 'From the New England Journal of Medicine, NEJM Journal Watch, NEJM Catalyst, and other trusted sources...'

Catch Our Breath...

- Ask a couple of questions?
 - Make a couple of comments?
 - Any more readings to recommend?
-
- <<https://www.icloud.com/keynote/0YKEi7HeOrVGvKYtt9FEqH7nA>>
 - <<https://www.bradford-delong.com/2020/04/coronavirus.html>>
 - github:<<https://github.com/braddelong/public-files/blob/master/coronavirus.pptx>>
 - <https://github.com/braddelong/public-files/blob/master/coronavirus.pdf>
 - html File: <<https://www.bradford-delong.com/2020/04/coronavirus.html>>
 - Edit This File: <<https://www.typepad.com/site/blogs/6a00e551f08003883400e551f080068834/post/6a00e551f080038834025d9b3bd66a200c/edit>>
 - <<https://delong.typepad.com/files/2020-04-01-coronavirus.pdf>>



Coronavirus! (March 16)

With 31 deaths in the U.S. as of March 11, a 1% death rate, and up to 4 weeks between infection and death, that means that as of Feb 12 there were 3100 coronavirus cases in the United States.

With 87 deaths in the U.S. as of Mar 16, a 1% death rate, and up to 4 weeks between infection and death, that means that as of Feb 17 there were 8700 coronavirus cases in the United States

If it is doubling every seven days, then now about 150,000 people have and in the next week about 150,000 more people in the U.S. will catch coronavirus—which means 1/2200, currently 3500 of the 7.6 million inhabitants of San Francisco Bay. Touch a hard surface that any of those 3500 has touched in the last 48 hours, and the virus has a chance to jump to you...

These numbers could be five times too big. These numbers are probably not five times too small unless the thing is a lot less deadly, and there are a lot of asymptomatic cases...

- What is wrong with this analysis?

MOAR Coronavirus!

As of March 21: Things are not moving in the right direction:

- What is the R_0 ?
- How can the R_0 be changed?
- How will the R_0 change?
- What is the asymptote share of the population?
- What is the mortality rate?

| Country, Other | Total Cases | New Cases | Total Deaths | New Deaths | Total Recovered | Active Cases | Serious, Critical | Tot Cases/1M pop |
|-----------------------------|-------------|-----------|--------------|------------|-----------------|--------------|-------------------|------------------|
| China | 80,880 | +36 | 3,213 | +14 | 67,819 | 9,848 | 3,226 | 56.2 |
| Italy | 27,980 | +3,233 | 2,158 | +349 | 2,749 | 23,073 | 1,851 | 462.8 |
| Iran | 14,991 | +1,053 | 853 | +129 | 4,590 | 9,548 | | 178.5 |
| Spain | 9,428 | +1,440 | 335 | +41 | 530 | 8,563 | 272 | 201.6 |
| S. Korea | 8,236 | +74 | 75 | | 1,137 | 7,024 | 59 | 160.6 |
| Germany | 7,241 | +1,428 | 15 | +2 | 65 | 7,161 | 2 | 86.4 |
| France | 5,423 | | 127 | | 12 | 5,284 | 400 | 83.1 |
| USA | 4,186 | +506 | 73 | +5 | 73 | 4,040 | 12 | 12.6 |
| Switzerland | 2,353 | +136 | 19 | +5 | 4 | 2,330 | | 271.9 |
| UK | 1,543 | +152 | 55 | +20 | 52 | 1,436 | 20 | 22.7 |
| Netherlands | 1,413 | +278 | 24 | +4 | 2 | 1,387 | 45 | 82.5 |
| Norway | 1,323 | +67 | 3 | | 1 | 1,319 | 27 | 244.0 |

Coronavirus Cases:

179,836

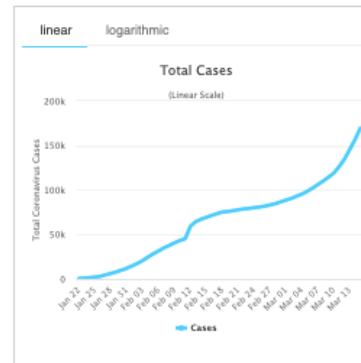
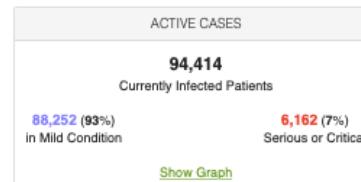
[view by country](#)

Deaths:

7,098

Recovered:

78,324



MOAR Coronavirus!

As of March 10: Things are not moving in the right direction:

- What is the R_0 ?
- How can the R_0 be changed?
- How will the R_0 change?
- What is the asymptote share of the population?
- What is the mortality rate?

Coronavirus Cases:

125,599

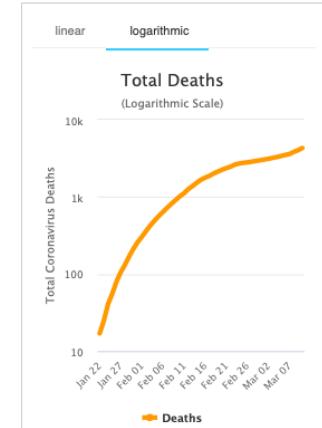
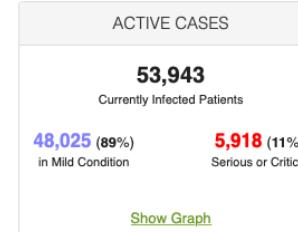
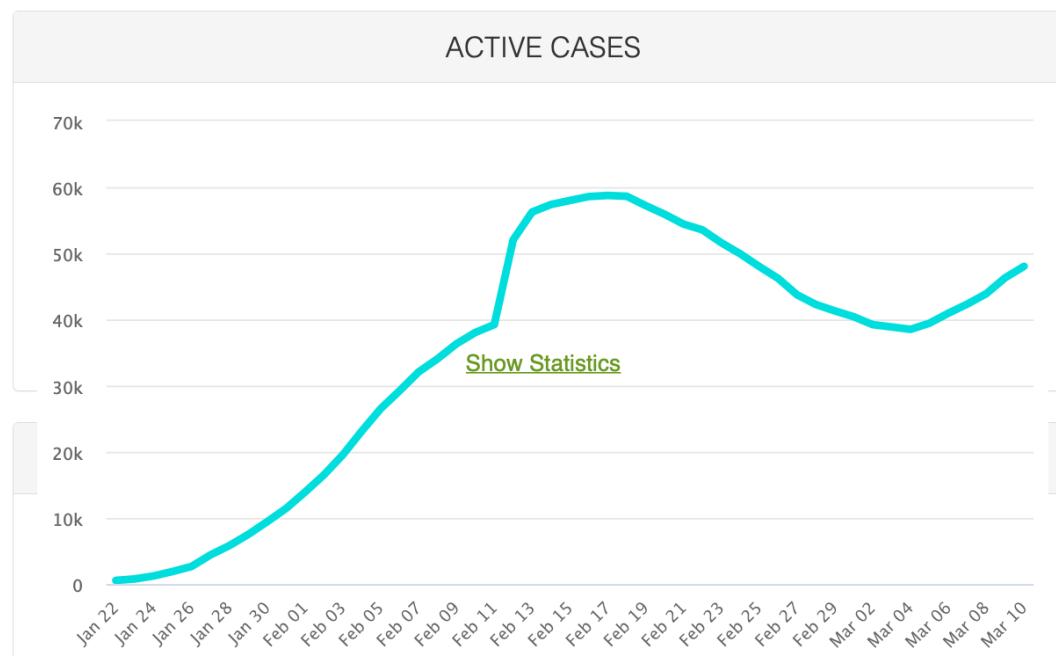
[view by country](#)

Deaths:

4,605

Recovered:

67,051



Notes



Readings

The Great Depression: Origins & Progress:

- Ben Bernanke (1995): *The Macroeconomics of the Great Depression: A Comparative Approach* <<https://github.com/braddelong/public-files/blob/master/readings/article-bernanke-macroeconomics-great-depression.pdf>>
- Gary Richardson & William Troost (2009): *Monetary Intervention Mitigated Banking Panics during the Great Depression: Quasi-Experimental Evidence from the Federal Reserve District Border in Mississippi, 1929 to 1933* <<https://github.com/braddelong/public-files/blob/master/readings/article-richardson-troost-monetary-intervention.pdf>>

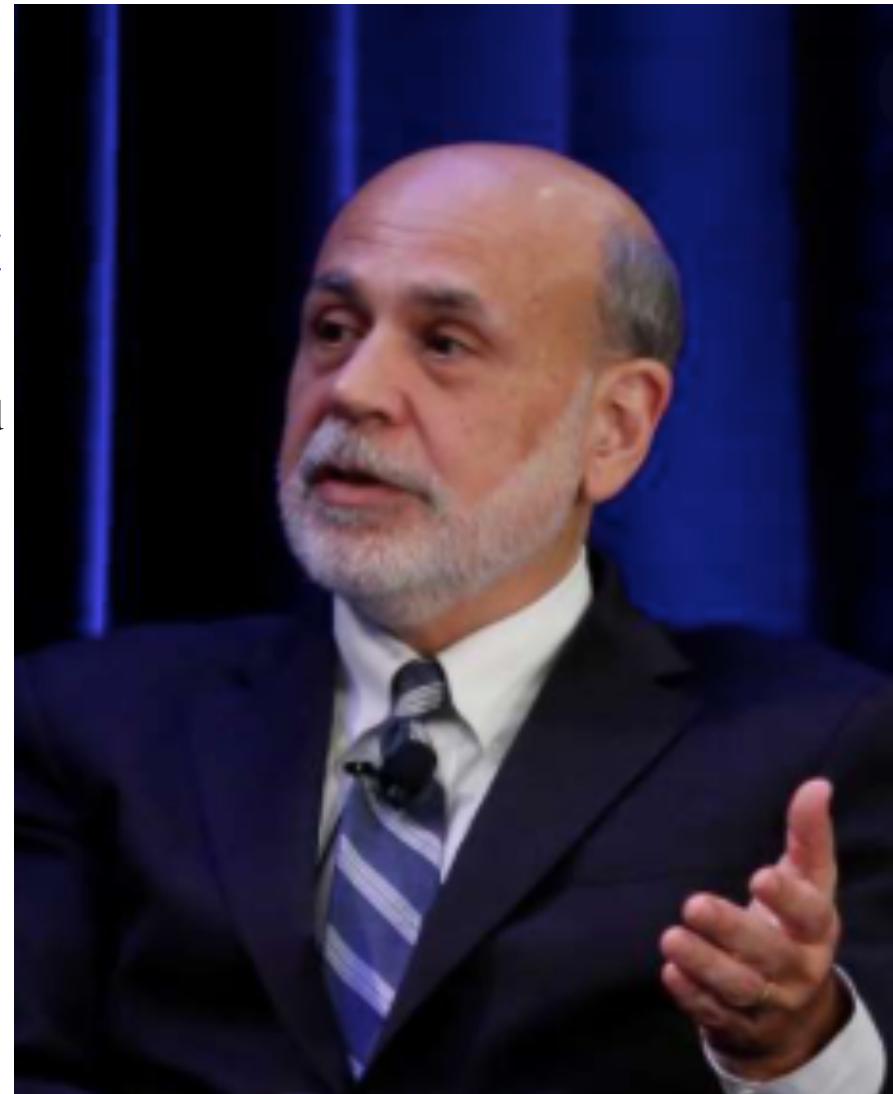
Inequality:

- Branko Milanovic, Peter H. Lindert, & Jeffrey G. Williamson (2010): *Pre-Industrial Inequality* <<https://github.com/braddelong/public-files/blob/master/readings/article-milanovic-%26-al-pre-industrial-inequality.pdf>>
- Thomas Piketty & Gabriel Zucman (2014): *Capital Is Back: Wealth-Income Ratios in Rich Countries 1700–2010* <<https://github.com/braddelong/public-files/blob/master/readings/article-piketty-zucman-capital-is-back.pdf>>

Ben Bernanke

The Macroeconomics of the Great Depression: A Comparative Approach:

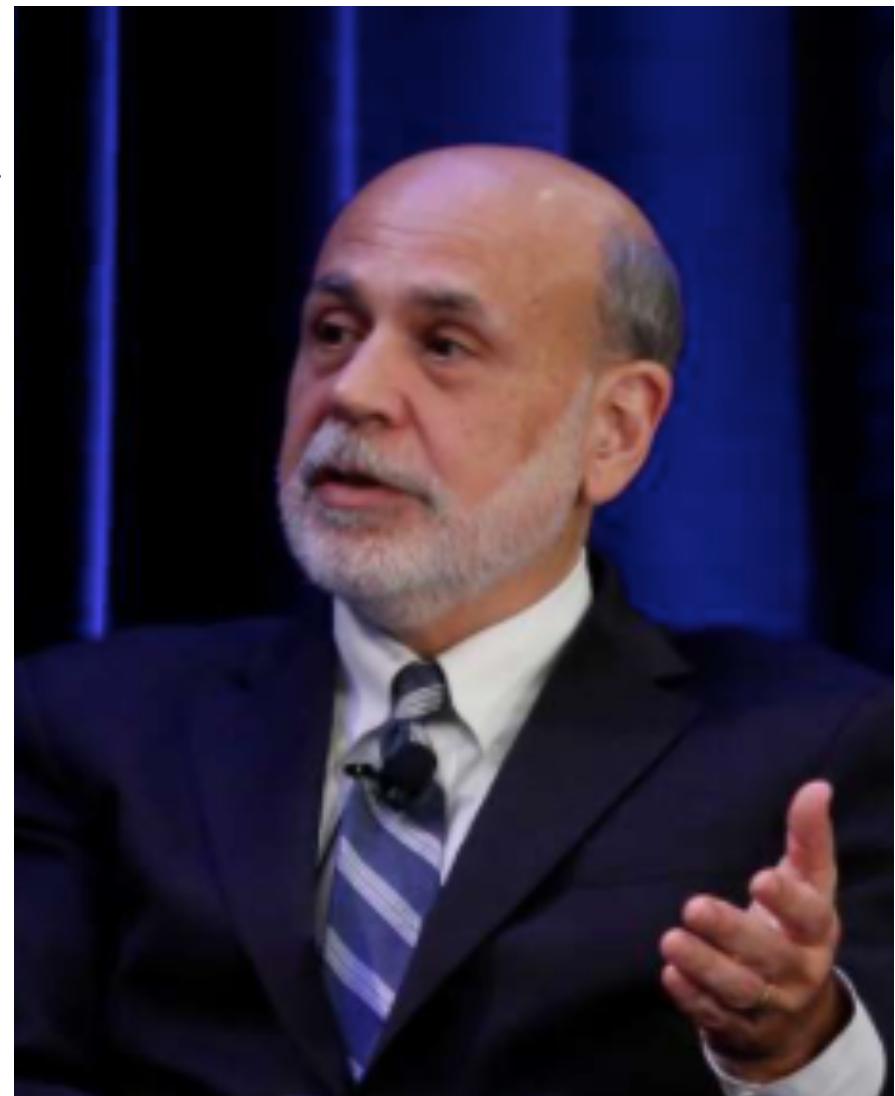
- <<https://github.com/braddelong/public-files/blob/master/readings/article-bernanke-macroeconomics-great-depression.pdf>>
- Bernanke's view seems to be that two prices need to be "right":
 - w/p
 - $r = i - \pi + \rho$
- w is, for reasons that Bernanke finds mysterious, "sticky"
- falls in the wage and price levels that might restore w/p and M/p to full employment levels drive ρ through the roof
- Fix a Great Depression by boosting M
- This view now looks rather naive...



International Evidence on M & Y

Bernanke regards this as conclusive:

- “Much of the worldwide monetary contraction of the early 1930s was... the largely unintended result of an interaction of poorly designed institutions, shortsighted policy-making, and unfavorable political and economic preconditions...”
- “Countries that left gold were able to reflate...”
- “Countries remaining on gold were forced into further deflation...”
- “Countries that left the gold standard recovered from the Depression more quickly than countries that remained on gold...”
- “The strong dependence of the rate of recovery on the choice of exchange-rate regime is further, powerful evidence for the importance of monetary factors...”



Sources of Declines in M

A multiple-equilibrium story:

- “In 1931 and subsequently, the large declines in the money-gold ratio... did not reflect anyone's consciously chosen policy...”
- “Under the gold standard as it operated during this period, there appeared to be multiple potential equilibrium values of the money supply...”
- $M/GOLD = (M/BASE)(BASE/RES)(RES/GOLD)$
- “Banking panics and exchange-rate crises... by leading to rises in aggregate currency-deposit and bank reserve-deposit ratios, banking panics typically led to sharp declines in the money multiplier, $M/BASE$... led central banks to substitute gold for foreign exchange reserves... reduced the ratio of total reserves to gold, $RES/GOLD$... central banks attempted to increase gold reserves and coverage ratios... induced continuing declines in $BASE/RES$...”
- No banking crises and financial panics, no shifts in any of:
 - $M/BASE$
 - $BASE/RES$
 - $RES/GOLD$

TABLE I
DETERMINANTS OF THE MONEY SUPPLY IN SIX COUNTRIES, 1929–1936

| FRANCE (devalued October 1936) | | | | | | |
|--------------------------------|----------------|-----------------|-----------------|--------------|--------------|--------|
| <i>M1</i> | <i>M1/BASE</i> | <i>BASE/RES</i> | <i>RES/GOLD</i> | <i>PGOLD</i> | <i>QGOLD</i> | |
| 1929 | 101562 | 1.354 | 1.109 | 1.623 | 16.96 | 2456.3 |
| 1930 | 111720 | 1.325 | 1.106 | 1.489 | 16.96 | 3158.4 |
| 1931 | 122748 | 1.239 | 1.101 | 1.307 | 16.96 | 4059.4 |
| 1932 | 121519 | 1.263 | 1.010 | 1.054 | 16.96 | 4893.9 |
| 1933 | 114386 | 1.264 | 1.156 | 1.015 | 16.96 | 4544.9 |
| 1934 | 113451 | 1.244 | 1.098 | 1.012 | 16.96 | 4841.2 |
| 1935 | 108009 | 1.230 | 1.298 | 1.020 | 16.96 | 3908.1 |
| 1936 | 117297 | 1.218 | 1.557 | 1.024 | 22.68 | 2661.8 |

POLAND (imposed exchange control April 1936, devalued October 1936)

| POLAND (imposed exchange control April 1936, devalued October 1936) | | | | | | |
|---------------------------------------------------------------------|----------------|-----------------|-----------------|--------------|--------------|-------|
| <i>M1</i> | <i>M1/BASE</i> | <i>BASE/RES</i> | <i>RES/GOLD</i> | <i>PGOLD</i> | <i>QGOLD</i> | |
| 1929 | 2284 | 1.339 | 1.390 | 1.750 | 5.92 | 118.3 |
| 1930 | 2212 | 1.328 | 1.709 | 1.735 | 5.92 | 94.9 |
| 1931 | 1945 | 1.267 | 1.888 | 1.355 | 5.92 | 101.3 |
| 1932 | 1773 | 1.275 | 2.177 | 1.273 | 5.92 | 84.7 |
| 1933 | 1802 | 1.280 | 2.496 | 1.185 | 5.92 | 80.3 |
| 1934 | 1861 | 1.301 | 2.693 | 1.056 | 5.92 | 84.9 |
| 1935 | 1897 | 1.277 | 3.155 | 1.061 | 5.92 | 74.9 |
| 1936 | 2059 | 1.340 | 3.634 | 1.076 | 5.92 | 66.3 |

BELGIUM (devalued March 1935)

| BELGIUM (devalued March 1935) | | | | | | |
|-------------------------------|----------------|-----------------|-----------------|--------------|--------------|-------|
| <i>M1</i> | <i>M1/BASE</i> | <i>BASE/RES</i> | <i>RES/GOLD</i> | <i>PGOLD</i> | <i>QGOLD</i> | |
| 1929 | 42788 | 2.504 | 1.949 | 1.492 | 23.90 | 245.9 |
| 1930 | 46420 | 2.336 | 1.697 | 1.707 | 23.90 | 287.1 |
| 1931 | 44863 | 2.047 | 1.266 | 1.358 | 23.90 | 533.4 |
| 1932 | 41349 | 1.805 | 1.395 | 1.265 | 23.90 | 543.1 |
| 1933 | 40382 | 1.754 | 1.314 | 1.282 | 23.90 | 571.9 |
| 1934 | NA | NA | 1.113 | 1.266 | 23.90 | 524.0 |
| 1935 | 39956 | 1.579 | 1.063 | 1.378 | 33.19 | 520.8 |
| 1936 | 43314 | 1.637 | 1.098 | 1.293 | 33.19 | 561.6 |

UNITED KINGDOM (suspended gold standard September 1931)

| UNITED KINGDOM (suspended gold standard September 1931) | | | | | | |
|---------------------------------------------------------|----------------|-----------------|-----------------|--------------|--------------|--------|
| <i>M1</i> | <i>M1/BASE</i> | <i>BASE/RES</i> | <i>RES/GOLD</i> | <i>PGOLD</i> | <i>QGOLD</i> | |
| 1929 | 1328 | 1.560 | 5.825 | 1.0 | 0.1366 | 1069.8 |
| 1930 | 1361 | 1.618 | 5.699 | 1.0 | 0.1366 | 1080.8 |
| 1931 | 1229 | 1.579 | 6.452 | 1.0 | 0.1366 | 883.8 |
| 1932 | 1362 | 1.667 | 6.823 | 1.0 | 0.1366 | 877.2 |
| 1933 | 1408 | 1.680 | 4.395 | 1.0 | 0.1366 | 1396.4 |
| 1934 | 1449 | 1.642 | 4.590 | 1.0 | 0.1366 | 1408.1 |
| 1935 | 1565 | 1.694 | 4.615 | 1.0 | 0.1366 | 1465.2 |
| 1936 | 1755 | 1.700 | 3.291 | 1.0 | 0.1366 | 2297.0 |

SWEDEN (suspended gold standard September 1931)

| SWEDEN (suspended gold standard September 1931) | | | | | | |
|-------------------------------------------------|----------------|-----------------|-----------------|--------------|--------------|-------|
| <i>M1</i> | <i>M1/BASE</i> | <i>BASE/RES</i> | <i>RES/GOLD</i> | <i>PGOLD</i> | <i>QGOLD</i> | |
| 1929 | 988 | 1.498 | 1.280 | 2.082 | 2.48 | 98.8 |
| 1930 | 1030 | 1.508 | 1.082 | 2.618 | 2.48 | 97.2 |
| 1931 | 1021 | 1.522 | 2.631 | 1.238 | 2.48 | 83.1 |
| 1932 | 1004 | 1.373 | 1.740 | 2.039 | 2.48 | 83.1 |
| 1933 | 1085 | 1.106 | 1.202 | 2.205 | 2.48 | 149.2 |
| 1934 | 1205 | 1.211 | 1.101 | 2.575 | 2.48 | 141.5 |
| 1935 | 1353 | 1.268 | 1.029 | 2.542 | 2.48 | 164.5 |
| 1936 | 1557 | 1.211 | 1.032 | 2.355 | 2.48 | 213.3 |

(continued)

UNITED STATES (suspended gold standard March 1933)

| UNITED STATES (suspended gold standard March 1933) | | | | | | |
|----------------------------------------------------|----------------|-----------------|-----------------|--------------|--------------|---------|
| <i>M1</i> | <i>M1/BASE</i> | <i>BASE/RES</i> | <i>RES/GOLD</i> | <i>PGOLD</i> | <i>QGOLD</i> | |
| 1929 | 26434 | 3.788 | 1.746 | 1.0 | 0.6646 | 6014.0 |
| 1930 | 24922 | 3.498 | 1.655 | 1.0 | 0.6646 | 6478.9 |
| 1931 | 21894 | 2.831 | 1.854 | 1.0 | 0.6646 | 6278.8 |
| 1932 | 20341 | 2.534 | 1.900 | 1.0 | 0.6646 | 6358.6 |
| 1933 | 19759 | 2.380 | 2.057 | 1.0 | 0.6646 | 6072.7 |
| 1934 | 22774 | 2.396 | 1.154 | 1.0 | 1.1253 | 7320.9 |
| 1935 | 27032 | 2.335 | 1.144 | 1.0 | 1.1253 | 8997.8 |
| 1936 | 30852 | 2.327 | 1.178 | 1.0 | 1.1253 | 10004.7 |

Sources of Declines in M

TABLE I

DETERMINANTS OF THE MONEY SUPPLY IN SIX COUNTRIES, 1929–1936

FRANCE (devalued October 1936)

| | <i>M1</i> | <i>M1/BASE</i> | <i>BASE/RES</i> | <i>RES/GOLD</i> | <i>PGOLD</i> | <i>QGOLD</i> |
|------|-----------|----------------|-----------------|-----------------|--------------|--------------|
| 1929 | 101562 | 1.354 | 1.109 | 1.623 | 16.96 | 2456.3 |
| 1930 | 111720 | 1.325 | 1.106 | 1.489 | 16.96 | 3158.4 |
| 1931 | 122748 | 1.239 | 1.101 | 1.307 | 16.96 | 4059.4 |
| 1932 | 121519 | 1.263 | 1.010 | 1.054 | 16.96 | 4893.9 |
| 1933 | 114386 | 1.264 | 1.156 | 1.015 | 16.96 | 4544.9 |
| 1934 | 113451 | 1.244 | 1.098 | 1.012 | 16.96 | 4841.2 |
| 1935 | 108009 | 1.230 | 1.298 | 1.020 | 16.96 | 3908.1 |
| 1936 | 117297 | 1.218 | 1.557 | 1.024 | 22.68 | 2661.8 |

POLAND (imposed exchange control April 1936, devalued October 1936)

| | <i>M1</i> | <i>M1/BASE</i> | <i>BASE/RES</i> | <i>RES/GOLD</i> | <i>PGOLD</i> | <i>QGOLD</i> |
|------|-----------|----------------|-----------------|-----------------|--------------|--------------|
| 1929 | 2284 | 1.339 | 1.390 | 1.750 | 5.92 | 118.3 |
| 1930 | 2212 | 1.328 | 1.709 | 1.735 | 5.92 | 94.9 |
| 1931 | 1945 | 1.267 | 1.888 | 1.355 | 5.92 | 101.3 |
| 1932 | 1773 | 1.275 | 2.177 | 1.273 | 5.92 | 84.7 |
| 1933 | 1802 | 1.280 | 2.496 | 1.185 | 5.92 | 80.3 |
| 1934 | 1861 | 1.301 | 2.693 | 1.056 | 5.92 | 84.9 |
| 1935 | 1897 | 1.277 | 3.155 | 1.061 | 5.92 | 74.9 |
| 1936 | 2059 | 1.340 | 3.634 | 1.076 | 5.92 | 66.3 |

BELGIUM (devalued March 1935)

| | <i>M1</i> | <i>M1/BASE</i> | <i>BASE/RES</i> | <i>RES/GOLD</i> | <i>PGOLD</i> | <i>QGOLD</i> |
|------|-----------|----------------|-----------------|-----------------|--------------|--------------|
| 1929 | 42788 | 2.504 | 1.949 | 1.492 | 23.90 | 245.9 |
| 1930 | 46420 | 2.336 | 1.697 | 1.707 | 23.90 | 287.1 |
| 1931 | 44863 | 2.047 | 1.266 | 1.358 | 23.90 | 533.4 |
| 1932 | 41349 | 1.805 | 1.395 | 1.265 | 23.90 | 543.1 |
| 1933 | 40382 | 1.754 | 1.314 | 1.282 | 23.90 | 571.9 |
| 1934 | NA | NA | 1.113 | 1.266 | 23.90 | 524.0 |
| 1935 | 39956 | 1.579 | 1.063 | 1.378 | 33.19 | 520.8 |
| 1936 | 43314 | 1.637 | 1.098 | 1.293 | 33.19 | 561.6 |

UNITED KINGDOM (suspended gold standard September 1931)

Sources of Declines in M

| | <i>M1</i> | <i>M1/BASE</i> | <i>BASE/RES</i> | <i>RES/GOLD</i> | <i>PGOLD</i> | <i>QGOLD</i> |
|------|-----------|----------------|-----------------|-----------------|--------------|--------------|
| 1929 | 1328 | 1.560 | 5.825 | 1.0 | 0.1366 | 1069.8 |
| 1930 | 1361 | 1.618 | 5.699 | 1.0 | 0.1366 | 1080.8 |
| 1931 | 1229 | 1.579 | 6.452 | 1.0 | 0.1366 | 883.8 |
| 1932 | 1362 | 1.667 | 6.823 | 1.0 | 0.1366 | 877.2 |
| 1933 | 1408 | 1.680 | 4.395 | 1.0 | 0.1366 | 1396.4 |
| 1934 | 1449 | 1.642 | 4.590 | 1.0 | 0.1366 | 1408.1 |
| 1935 | 1565 | 1.694 | 4.615 | 1.0 | 0.1366 | 1465.2 |
| 1936 | 1755 | 1.700 | 3.291 | 1.0 | 0.1366 | 2297.0 |

SWEDEN (suspended gold standard September 1931)

| | <i>M1</i> | <i>M1/BASE</i> | <i>BASE/RES</i> | <i>RES/GOLD</i> | <i>PGOLD</i> | <i>QGOLD</i> |
|------|-----------|----------------|-----------------|-----------------|--------------|--------------|
| 1929 | 988 | 1.498 | 1.280 | 2.082 | 2.48 | 98.8 |
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| 1931 | 1021 | 1.522 | 2.631 | 1.238 | 2.48 | 83.1 |
| 1932 | 1004 | 1.373 | 1.740 | 2.039 | 2.48 | 83.1 |
| 1933 | 1085 | 1.106 | 1.202 | 2.205 | 2.48 | 149.2 |
| 1934 | 1205 | 1.211 | 1.101 | 2.575 | 2.48 | 141.5 |
| 1935 | 1353 | 1.268 | 1.029 | 2.542 | 2.48 | 164.5 |
| 1936 | 1557 | 1.211 | 1.032 | 2.355 | 2.48 | 213.3 |

(continued)

UNITED STATES (suspended gold standard March 1933)

| | <i>M1</i> | <i>M1/BASE</i> | <i>BASE/RES</i> | <i>RES/GOLD</i> | <i>PGOLD</i> | <i>QGOLD</i> |
|------|-----------|----------------|-----------------|-----------------|--------------|--------------|
| 1929 | 26434 | 3.788 | 1.746 | 1.0 | 0.6646 | 6014.0 |
| 1930 | 24922 | 3.498 | 1.655 | 1.0 | 0.6646 | 6478.9 |
| 1931 | 21894 | 2.831 | 1.854 | 1.0 | 0.6646 | 6278.8 |
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| 1933 | 19759 | 2.380 | 2.057 | 1.0 | 0.6646 | 6072.7 |
| 1934 | 22774 | 2.396 | 1.154 | 1.0 | 1.1253 | 7320.9 |
| 1935 | 27032 | 2.335 | 1.144 | 1.0 | 1.1253 | 8997.8 |
| 1936 | 30852 | 2.327 | 1.178 | 1.0 | 1.1253 | 10004.7 |

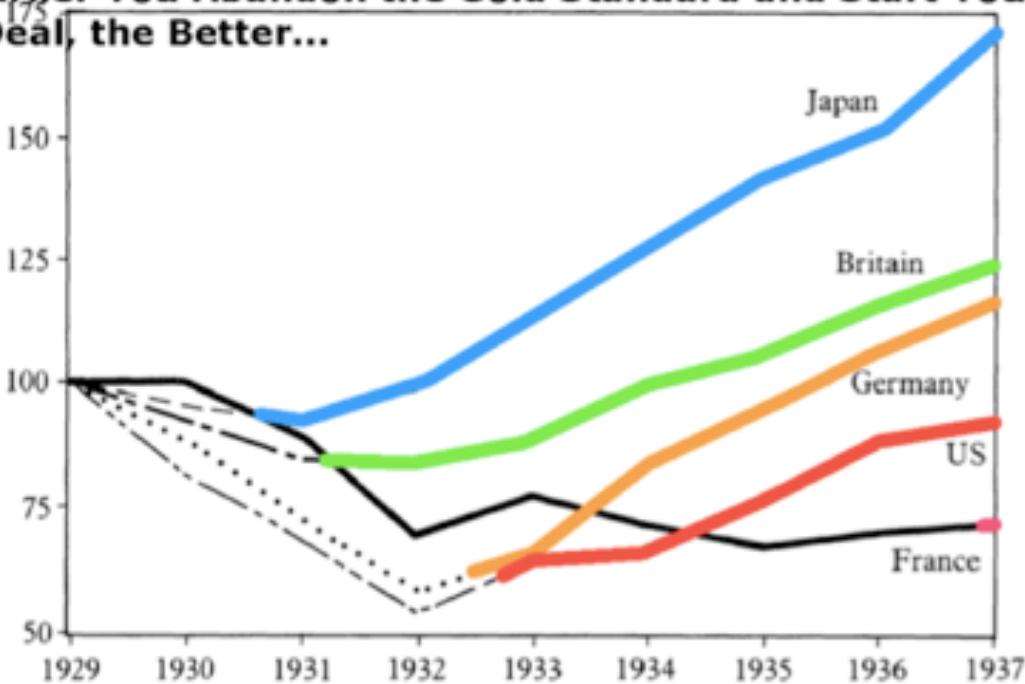
“New Deals” and Economic Recovery

Among the major industrial powers:

- Correlation one-for-one:
 - Takehishi Korekiyu in Japan
 - Montagu Norman's nervous breakdown in Britain
 - Adolf Hitler in Germany
 - Franklin Delano Roosevelt in America
 - Leon Blum in France
- Confirmed by a broader panel
- Problem with Bernanke's interpretation: fiscal headroom and international financial benefits of abandoning your exchange rate peg as well

Recovery in the Great Depression Does Not Begin Until the Gold Standard Is Abandoned

The Earlier You Abandon the Gold Standard and Start Your New Deal, the Better...¹⁷⁵



An Aggregate Supply Puzzle?

A market economy has nominal wages (and prices) and nominal debts:

- Both can send “shutdown” signals
 - If real wage is too high, workers aren’t worth employing
 - If real debts are too high, firms aren’t worth financing
- Both real wages and real debt levels are valuable *microeconomic* signals
- But macroeconomic distress can lead a lot of wrong signals being sent all at once
- The kicker: more flexible downward wages mean fewer “w/p shutdown” signals sent, and more “D/p” shutdown signals sent

The Problem with Bernanke

He tried to apply his view of the world in the Great Recession:

- And money turned out to be pretty damned near neutral...

Richardson & Troost

Monetary Intervention Mitigated Banking Panics during the Great Depression: Quasi-Experimental Evidence from the Federal Reserve District Border in Mississippi, 1929 to 1933:

- <<https://github.com;braddelong/public-files/blob/master/readings/article-richardson-troost-monetary-intervention.pdf>>
- “The Federal Reserve Act of 1913 divided Mississippi between the 6th (Atlanta) and 8th (St. Louis) Federal Reserve Districts. Before and during the Great Depression, these districts' policies differed. The Atlanta Fed championed monetary activism and the extension of credit to troubled banks. The St. Louis Fed adhered to the doctrine of real bills and eschewed expansionary initiatives. Outcomes differed across districts. In the 6th District, banks failed at lower rates than in the 8th District, particularly during the banking panic in the fall of 1930. The pattern suggests that discount lending reduced failure rates during periods of panic. Historical evidence and statistical analysis corroborates this conclusion...”

Figure 1
Discount Response After the Collapse of Caldwell
Aggregate Discounts Each Week as a Percent of Initial Level

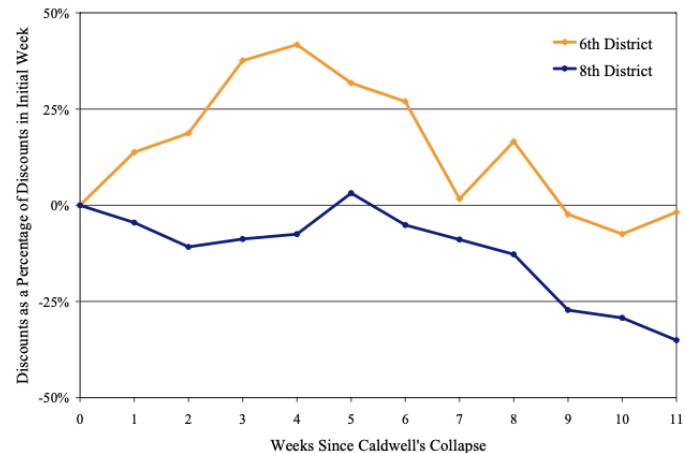
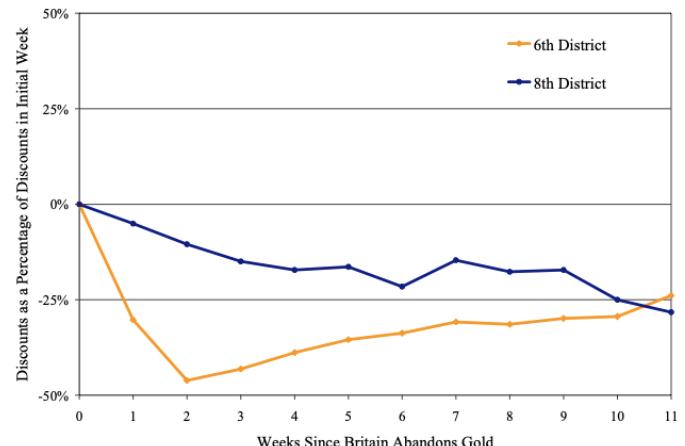


Figure 2
Discount Response to Britain's Departure from Gold
Aggregate Discounts Each Week as a Percent of Initial Level



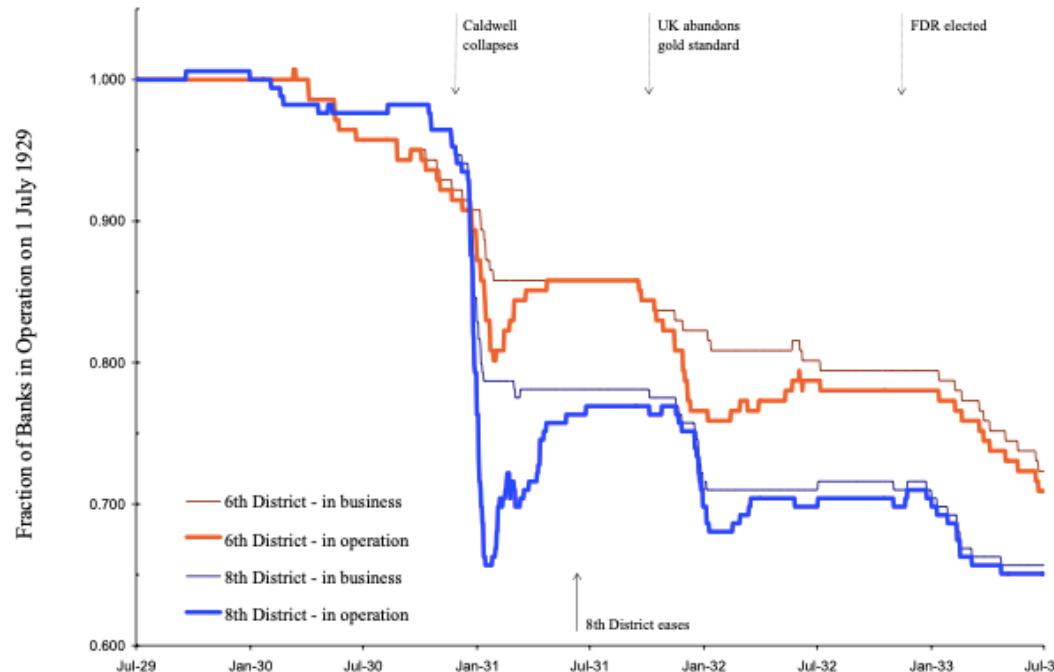
Bank Collapse in Mississippi

As close to a real discontinuity as you can get:

- Everything else is continuous across the 6th-8th District line...
- Study presumes that bank failures are themselves a cause of depression...
- As opposed to cleaning out the rottenness...
- Implicit belief in a multiple equilibrium story behind this paper...

Figure 3

Percentage of Banks in Business and in Operations in the 6th and 8th Federal Reserve Districts Mississippi, July 1929 to June 1933



Notes: The difference between ‘banks in operation’ and ‘banks in business’ is the percentage of temporarily suspended banks. The numerator of the series ‘banks in operation’ is the number of banks in operations on 1 July 1929 minus the number of banks which since that date suspended operations (either temporarily or permanently), consolidated due to financial distress, liquidated voluntarily, or surrendered their charter after merging with another institution and plus the number of banks which since 1 July 1929 newly opened for business or reopened after temporarily suspending operations. The numerator of the series ‘banks in business’ equals ‘banks in operation’ plus the number of suspended banks yet to reopen. The denominator of both series is the number of banks in operation (which equals the number of banks in business) on 1 July 1929. For the 6th District, that number is 141. For the 8th District, that number is 169.

Source: See Section 1.

Milanovic & al.

Pre-Industrial Inequality:

- <<https://github.com;braddelong/public-files/blob/master/readings/article-milanovic-%26-al-pre-industrial-inequality.pdf>>
- “Is inequality largely the result of the Industrial Revolution? Or, were pre-industrial incomes as unequal as they are today? This article infers inequality across individuals within each of the 28 pre-industrial societies, for which data were available, using what are known as social tables. It applies two new concepts: the inequality possibility frontier and the inequality extraction ratio. They compare the observed income inequality to the maximum feasible inequality that, at a given level of income, might have been 'extracted' by those in power. The results give new insights into the connection between inequality and economic development in the very long run...”

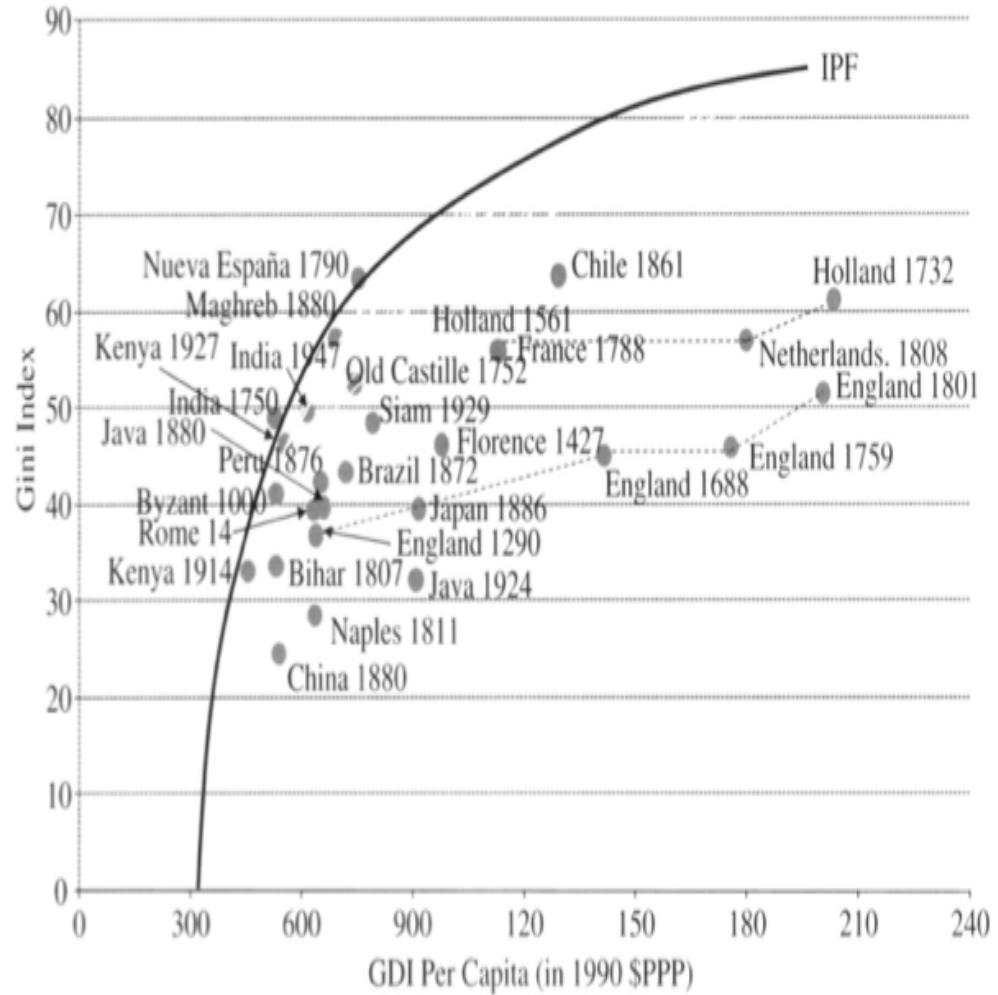


Fig. 2. Pre-industrial Inequalities: Estimated Gini Coefficients, and the Inequality Possibility Frontiers

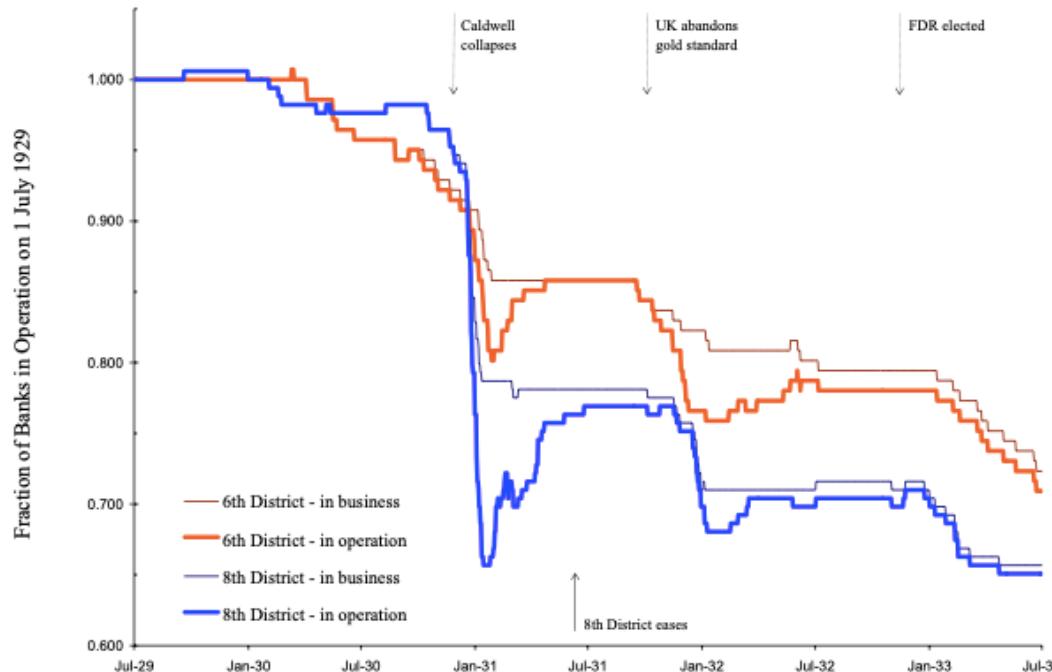
Into the Modern Age...

As close to a real discontinuity as you can get:

- Everything else is continuous across the 6th-8th District line...
- Study presumes that bank failures are themselves a cause of depression...
- As opposed to cleaning out the rottenness...
- Implicit belief in a multiple equilibrium story behind this paper...

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Notes: The difference between ‘banks in operation’ and ‘banks in business’ is the percentage of temporarily suspended banks. The numerator of the series ‘banks in operation’ is the number of banks in operations on 1 July 1929 minus the number of banks which since that date suspended operations (either temporarily or permanently), consolidated due to financial distress, liquidated voluntarily, or surrendered their charter after merging with another institution and plus the number of banks which since 1 July 1929 newly opened for business or reopened after temporarily suspending operations. The numerator of the series ‘banks in business’ equals ‘banks in operation’ plus the number of suspended banks yet to reopen. The denominator of both series is the number of banks in operation (which equals the number of banks in business) on 1 July 1929. For the 6th District, that number is 141. For the 8th District, that number is 169.

Source: See Section 1.

Into the Modern Age...

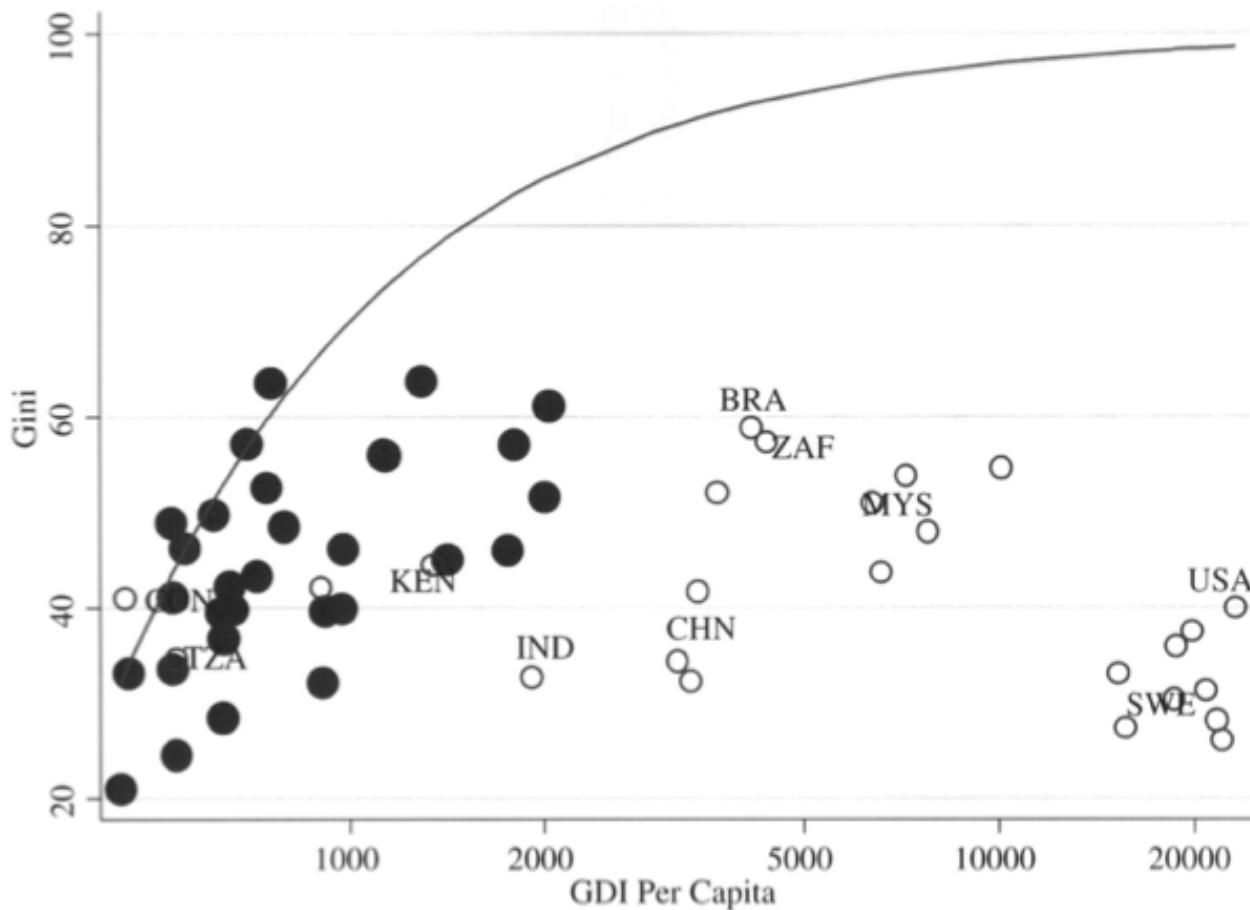


Fig. 3. *Ginis and the Inequality Possibility Frontier for the Pre-industrial Society Sample and Selected Modern Societies*

Note. Modern societies are drawn with hollow circles. IPF drawn on the assumption of $s = \$PPP\ 300$ per capita per year. Horizontal axis in logs.

Inequality Extraction Ratios

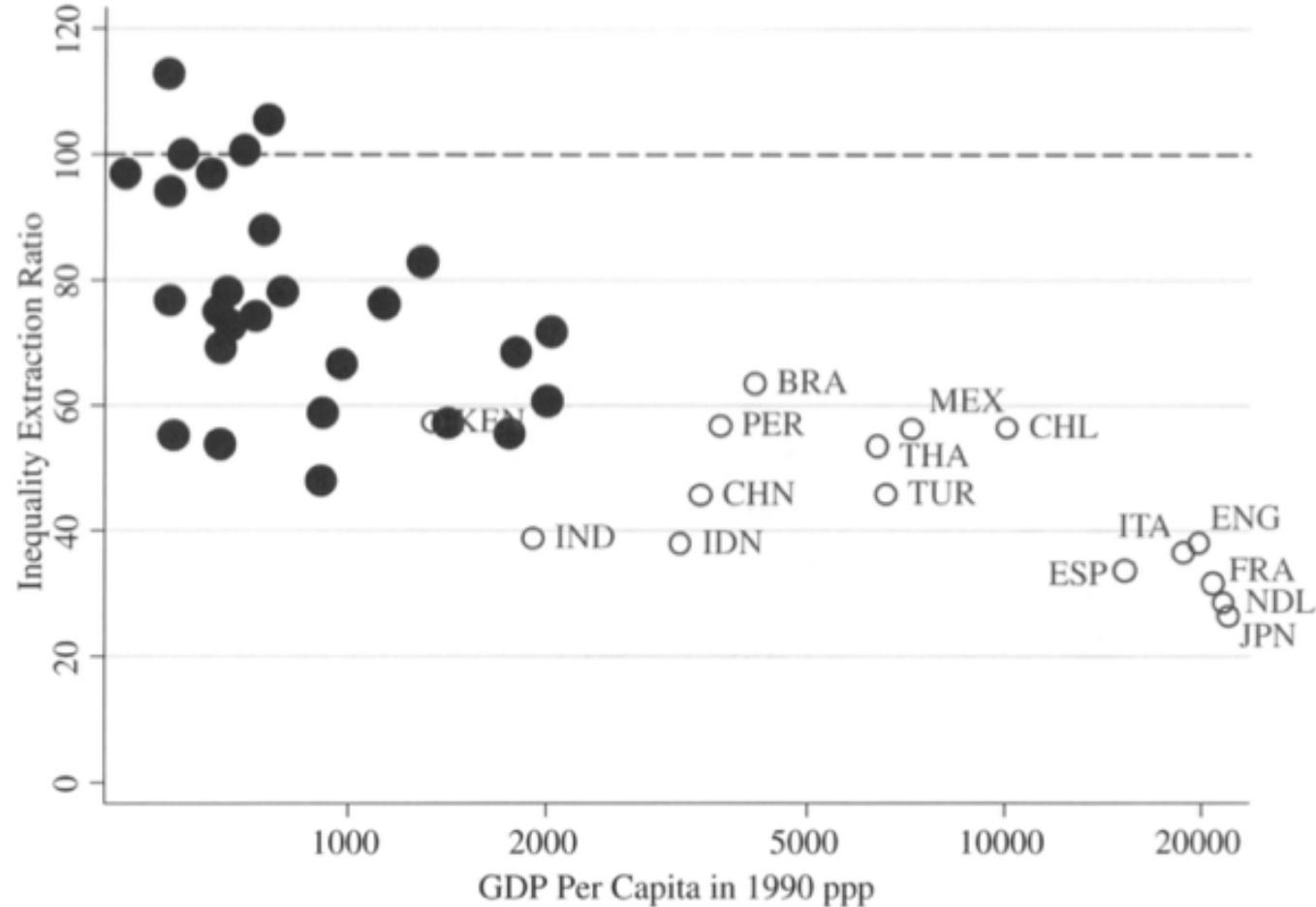


Fig. 4. *Inequality Extraction Ratio for the Pre-industrial Society Sample and their Counterpart Modern Societies*

The Economic Consequences of the Peace

Once again, the 1870 Watershed:

- Nearly five-fold amplification of rate of growth of human h relative to the 1770-1870 Industrial Revolution era
 - & that was three times Commercial Revolution 1500-1770 pace...
 - & that was four times Agrarian era pace...
- “What an extraordinary episode in the economic progress of man that age was which came to an end in August, 1914!...”
- “The projects and politics of militarism and imperialism, of racial and cultural rivalries, of monopolies, restrictions, and exclusion, which were to play the serpent to this paradise, were little more than the amusements of his daily newspaper, and appeared to exercise almost no influence at all on the ordinary course of social and economic life, the internationalization of which was nearly complete in practice...”

Longest-Run Global Economic Growth

| Date | Rate of Ideas-Stock Growth h | Rate of Efficiency-of-Labor Growth g | Rate of Population and Labor Force Growth n | Average Real Income per Capita y (per year) | Total Real World Income Y (billions) | Total Human Population L (millions) | ideas Level H |
|--------|--------------------------------|----------------------------------------|-----------------------------------------------|-----------------------------------------------|----------------------------------------|---------------------------------------|-----------------|
| -68000 | | | | \$1,200 | \$0 | 0.1 | 1.0 |
| -8000 | 0.003% | 0.000% | 0.005% | \$1,200 | \$3 | 2.5 | 5.0 |
| -6000 | 0.011% | -0.014% | 0.051% | \$900 | \$6 | 7 | 6.3 |
| -3000 | 0.013% | 0.000% | 0.025% | \$900 | \$14 | 15 | 9.2 |
| -1000 | 0.030% | 0.000% | 0.060% | \$900 | \$45 | 50 | 16.8 |
| 0 | 0.061% | 0.000% | 0.122% | \$900 | \$153 | 170 | 30.9 |
| 800 | 0.035% | 0.000% | 0.071% | \$900 | \$270 | 300 | 41.1 |
| 1500 | 0.036% | 0.000% | 0.073% | \$900 | \$450 | 500 | 53.0 |
| 1770 | 0.149% | 0.074% | 0.150% | \$1,100 | \$825 | 750 | 79.4 |
| 1870 | 0.442% | 0.167% | 0.550% | \$1,300 | \$1,690 | 1300 | 123.5 |
| 2020 | 2.061% | 1.473% | 1.177% | \$11.842 | \$90.000 | 7600 | 2720.5 |

<https://www.icloud.com/numbers/0Y0FpX-xky2r4_BwNZ-iJPbew>

Longest-Run Global Economic Growth

| Date | Rate of Ideas-Stock Growth h | Rate of Efficiency-of-Labor Growth g | Rate of Population and Labor Force Growth n | Average Real Income per Capita y (per year) | Total Real World Income \bar{Y} (billions) | Total Human Population L (millions) | ideas Level H |
|--------|--------------------------------|----------------------------------------|-----------------------------------------------|-----------------------------------------------|----------------------------------------------|---------------------------------------|-----------------|
| -68000 | | | | \$1,200 | \$0 | 0.1 | 1.0 |
| -8000 | 0.003% | 0.000% | 0.005% | \$1,200 | \$3 | 2.5 | 5.0 |
| -6000 | 0.011% | -0.014% | 0.051% | \$900 | \$6 | 7 | 6.3 |
| -3000 | 0.013% | 0.000% | 0.025% | \$900 | \$14 | 15 | 9.2 |
| -1000 | 0.030% | 0.000% | 0.060% | \$900 | \$45 | 50 | 16.8 |
| 0 | 0.061% | 0.000% | 0.122% | \$900 | \$153 | 170 | 30.9 |
| 800 | 0.035% | 0.000% | 0.071% | \$900 | \$270 | 300 | 41.1 |
| 1500 | 0.036% | 0.000% | 0.073% | \$900 | \$450 | 500 | 53.0 |
| 1770 | 0.149% | 0.074% | 0.150% | \$1,100 | \$825 | 750 | 79.4 |
| 1870 | 0.442% | 0.167% | 0.550% | \$1,300 | \$1,690 | 1300 | 123.5 |
| 2020 | 2.061% | 1.473% | 1.177% | \$11.842 | \$90.000 | 7600 | 2720.5 |

The Fragility of the Pre-1914 Order

Globalization: order, security, and uniformity:

- “interference of frontiers and of tariffs was reduced to a minimum...”
- “almost absolute security of property and of person...”
- “currencies... maintained on a stable basis... facilitated the easy flow of capital and of trade to an extent the full value of which we only realize now, when we are deprived of its advantages...”
- Psychology & economy:
 - “Europe... organized socially... to secure the maximum accumulation of capital...”
 - “Society... so framed as to throw... the increased income into the control of the class least likely to consume it...”
 - “If the rich had spent their new wealth on their own enjoyments, the world would long ago have found such a régime intolerable...”
 - “But like bees they saved and accumulated, not less to the advantage of the whole community because they themselves held narrower ends in prospect...”

John Maynard Keynes (1919): *The Economic Consequences of the Peace* <<https://delong.typepad.com/files/keynes-peace.pdf>>

The Prospect of Utopia

A double bluff, or deception:

- “The laboring classes accepted... [that] they could call their own very little of the cake that they and Nature and the capitalists were co-operating to produce...”
- “The capitalist classes were allowed to call the best part of the cake theirs and were theoretically free to consume it, on the tacit underlying condition that they consumed very little of it in practice...”
- “Society knew what it was about...”
- “If only the cake were... allowed to grow in the geometrical proportion...”
- “A day might come when there would at last be enough to go round... overwork, overcrowding, and underfeeding...come to an end, and men, secure of the comforts and necessities of the body, could proceed to the nobler exercises of their faculties....”
- “The great events of history are often due to secular changes in the growth of population and other fundamental economic causes, which, escaping by their gradual character the notice of contemporary observers, are attributed to the follies of statesmen or the fanaticism of atheists...”

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The Dangers Raised by World War I

**Upsetting the belief that the system was what it was,
& upsetting accumulative psychology:**

- “The pre-war order of Society and of progress... depended on unstable psycholog[y]...”
- “It may be impossible to recreate...”
- “It was not natural for a population, of whom so few enjoyed the comforts of life, to accumulate so hugely...”
- “The war has disclosed the possibility of consumption to all and the vanity of abstinence to many...”

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French Premier Clemenceau as Villain

Justified villainy given his goals, but villainy:

- The fundamentals:
 - “By 1914 the population of Germany was nearly seventy per cent in excess of that of France...”
 - “She had become one of the first manufacturing and trading nations of the world...”
 - “Her technical skill and her means for the production of future wealth were unequaled...”
 - “France... a stationary or declining population... fallen seriously behind in wealth and in the power to produce it...”
- Clemenceau’s choice: transform Germany, or cripple it:
- Clemenceau’s view:
 - “European civil war is to be regarded as a normal, or at least a recurrent, state of affairs...”
 - “A Peace of magnanimity or of fair and equal treatment... could only have the effect of shortening the interval of Germany's recovery and hastening the day when she will once again hurl at France her greater numbers and her superior resources and technical skill...”
 - “Each guarantee that was taken... increasing irritation and thus the probability of a subsequent *Revanche* by Germany, made necessary yet further provisions to crush...”
 - “Thus, as soon as this view of the world is adopted and the other discarded, a demand for a Carthaginian Peace is inevitable, to the full extent of the momentary power to impose it...”

American President Woodrow Wilson's Dreams

The revolutionary German government asked for an armistice & peace negotiations on the basis of Woodrow Wilson's "14 Points":

1. Public diplomacy
2. Freedom of navigation
3. Free and equal trade
4. Disarmament and arms control.
5. Impartial adjustment of colonial claims in which the interests of the populations concerned have equal weight with the government awarded title
6. The evacuation of all Russian territory and such a settlement of all questions affecting Russia as will secure the best and freest cooperation of the other nations of the world in obtaining for her an unhampered and unembarrassed opportunity for the independent determination of her own political development and national policy under institutions of her own choosing
7. Belgium evacuated and restored
8. All French territory freed and restored, including Alsace-Lorraine
9. Italy's frontiers to follow national lines
10. Peoples of Austria-Hungary accorded the freest opportunity to autonomous development.
11. Romania, Serbia, and Montenegro evacuated and Serbia accorded free and secure access to the sea.
12. The present Ottoman Empire dissolved, with nationalities assured security and an absolutely unmolested opportunity of autonomous development, the Dardanelles opened under international guarantees
13. Independent Polish including territories inhabited by indisputably Polish populations, with free and secure access to the sea, with political and economic independence and territorial integrity guaranteed
14. A general association of nations

The Big Four

Wilson's commitments: “no annexations, no contributions, no punitive damages...” “justice meted out must involve no discrimination between those to whom we wish to be just and those to whom we do not wish to be just...”:

- “Mr. Lloyd-George’s election pledge to the effect that the Allies were entitled to demand from Germany the entire costs of the war...”
 - David Lloyd-George said: Not contributions, not punitive damages, only *reparations*
- “The President's slowness... was noteworthy... liable, therefore, to defeat by the mere swiftness, apprehension, and agility of a Lloyd George. There can seldom have been a statesman of the first rank more incompetent than the President in the agilities of the council chamber...”
- A *diktat*: “Clemenceau brought to success, what had seemed to be, a few months before, the extraordinary and impossible proposal that the Germans should not be heard...”
- “The President had thought nothing out, [so] the Council was generally working on the basis of a French or British draft...”
- “The more extravagant expectations as to Reparation receipts, by which Finance Ministers have deceived their publics, will be heard of no more when they have served their immediate purpose of postponing the hour of taxation and retrenchment...”
- “To his horror, Mr. Lloyd George, desiring at the last moment all the moderation he dared, discovered that he could not in five days persuade the President of error in what it had taken five months to prove to him to be just and right. After all, it was harder to de-bamboozle this old Presbyterian than it had been to bamboozle him...”

The *Diktat*

A domestic political and an international document:

- “The Treaty includes no provisions for the economic rehabilitation of Europe,—nothing to make the defeated Central Empires into good neighbors, nothing to stabilize the new States of Europe, nothing to reclaim Russia; nor does it promote in any way a compact of economic solidarity amongst the Allies themselves; no arrangement was reached at Paris for restoring the disordered finances of France and Italy, or to adjust the systems of the Old World and the New...”
- “The Council of Four paid no attention to these issues, being preoccupied with others,—Clemenceau to crush the economic life of his enemy, Lloyd George to do a deal and bring home something which would pass muster for a week, the President to do nothing that was not just and right. It is an extraordinary fact that the fundamental economic problems of a Europe starving and disintegrating before their eyes, was the one question in which it was impossible to arouse the interest of the Four...”
- “Article 231 reads:
 - “The Allied and Associated Governments affirm and Germany accepts the responsibility of Germany and her allies for causing all the loss and damage to which the Allied and Associated Governments and their nationals have been subjected as a consequence of the war imposed upon them by the aggression of Germany and her allies.”
 - “This is a well and carefully drafted Article; for the President could read it as statement of admission on Germany's part of moral responsibility for bringing about the war, while the Prime Minister could explain it as an admission of financial liability for the general costs of the war...”

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The *Diktat* !!

The rubber meets the road here:

- “Article 232 continues:
 - “The Allied and Associated Governments recognize that the resources of Germany are not adequate, after taking into account permanent diminutions of such resources which will result from other provisions of the present Treaty, to make complete reparation for all such loss and damage.”
- “The President could comfort himself that this was no more than a statement of undoubted fact, and that to recognize that Germany cannot pay a certain claim does not imply that she is liable to pay the claim; but the Prime Minister could point out that in the context it emphasizes to the reader the assumption of Germany's theoretic liability asserted in the preceding Article. Article 232 proceeds:
 - "The Allied and Associated Governments, however, require, and Germany undertakes, that she will make compensation for all damage done to the civilian population of the Allied and Associated Powers and to their property during the period of the belligerency of each as an Allied or Associated Power against Germany by such aggression by land, by sea, and from the air, and in general all damage as defined in Annex I. hereto."
 - “The words italicized being practically a quotation from the pre-Armistice conditions, satisfied the scruples of the President, while the addition of the words "and in general all damage as defined in Annex I. hereto" gave the Prime Minister a chance in Annex I...”
 - “the Treaty... fixes no definite sum as representing Germany's liability.... Two different kinds of false statements had been widely promulgated, one as to Germany's capacity to pay, the other as to the amount of the Allies' just claims in respect of the devastated areas. The fixing of either of these figures presented a dilemma. A figure for Germany's prospective capacity to pay, not too much in excess of the estimates of most candid and well-informed authorities, would have fallen hopelessly far short of popular expectations both in England and in France...”

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Was There a “Transfer Problem”?

Many have argued that Keynes was wrong here...

- Thought experiment: impose a large wealth tax on Germany:
 - Then give the proceeds to the allies
 - In the form of ownership of German capital
- How can there be a “transfer problem”?
 - Now the allies own Germany’s capital...
 - If they want to turn that ownership into consumption, they simply sell the shares and buy exports...

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The Economic Consequences of Mr. Churchill

The British 1924 decision to return to the gold standard in 1925:

- At the pre-WWI parity of \$4.86 = £1
- At a time when the “fundamental” value was something like \$3.40
- Market settled at \$4.30 because of a belief that there was a 70% chance of return
- What happens when you try to peg your real exchange rate above its fundamental level?
 - The risk that the real peg is going to collapse
 - Higher short-term real interest rates than the world level until...

<https://gutenberg.ca/ebooks/keynes-essaysinpersuasion/keynes-essaysinpersuasion-00-h.html#Economic_Consequences>

The British Government's Reaction

Let's try to prevent the wage adjustment, to the extent we can:

- Boosting UI so that people can stay in their jobs and their communities
- So the signal that you have to accept lower nominal wages in the export industries are not sent
- And the general excess supply of labor nationwide putting downward pressure on nominal wages is not registered elsewhere in the economy
- An indicative-planning attempt to reduce lending abroad
 - With consequences for London's role as a financial center
- And, of course, when the peg does break, it does so at the worst possible time...

<https://gutenberg.ca/ebooks/keynes-essaysinpersuasion/keynes-essaysinpersuasion-00-h.html#Economic_Consequences>

Thomas Piketty & Gabriel Zucman

Capital Is Back: Wealth-Income Ratios in Rich Countries 1700–2010:

- <<https://github.com/braddelong/public-files/blob/master/readings/article-piketty-zucman-capital-is-back.pdf>>
- “How do aggregate wealth-to-income ratios evolve in the long run and why? We address this question using 1970–2010 national balance sheets recently compiled in the top eight developed economies. For the United States, United Kingdom, Germany, and France, we are able to extend our analysis as far back as 1700. We find in every country a gradual rise¹ of wealth-income ratios in recent decades, from about 200–300% in 1970 to 400–600% in 2010. In effect, today’s ratios appear to be returning to the high values observed in Europe in the eighteenth and nineteenth centuries (600–700%). This can be explained by a long-run asset price recovery (itself driven by changes in capital policies since the world wars) and by the slowdown of productivity and population growth, in line with the $\frac{1}{4}$ gs Harrod-Domar-Solow formula. That is, for a given net saving rate $s = 10\%$, the long-run wealth-income ratio is about 300% if $g = 3\%$ and 600% if $g = 1.5\%$. Our results have implications for capital taxation and regulation and shed new light on the changing nature of wealth, the shape of the production function, and the rise of capital shares...”

Since 1870 in the Global North

A common pattern in Europe:

- Divergence with much smaller moves in the United States—so far
- To what extent are these fluctuations in accumulated/improved productive asset stocks?
- To what extent are these fluctuations in valuation ratios?
- How are we to interpret fluctuations in valuation ratios?

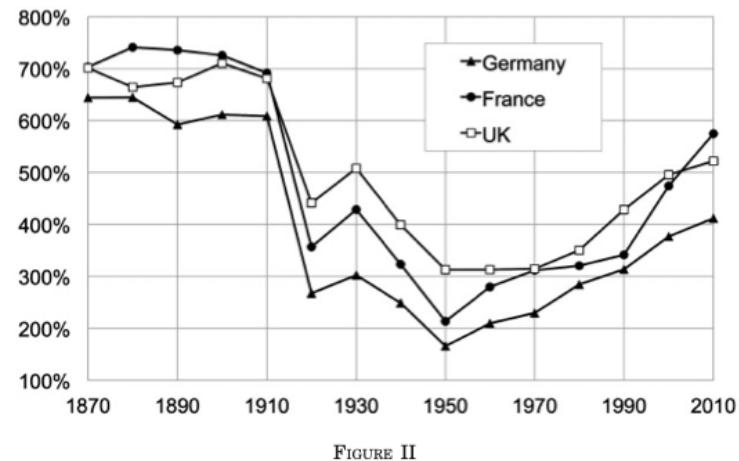


FIGURE II
Private Wealth-National Income Ratios in Europe, 1870–2010

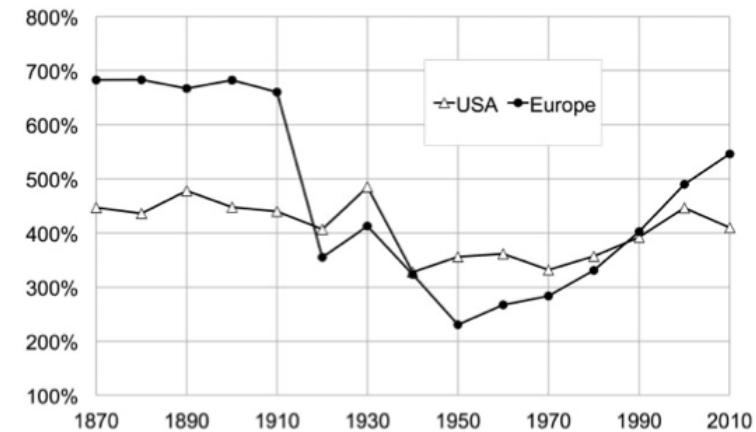


FIGURE IV
Private Wealth-National Income Ratios, 1870–2010: Europe versus United States

Housing vs. Other

How much of the rise in wealth/national income is housing?

- And how much of the end-of-First-Gilded-Age-decline was the fall in value of agricultural land?
- And how concentrated is housing/agricultural land relative to other forms of wealth?

TABLE II
DOMESTIC CAPITAL ACCUMULATION IN RICH COUNTRIES, 1970–2010: HOUSING VERSUS
OTHER DOMESTIC CAPITAL (%)

| | 1970 domestic capital/national income ratio | | 2010 domestic capital/national income ratio | | 1970–2010 rise in domestic capital/national income ratio | |
|----------------|---------------------------------------------|------------------------------|---------------------------------------------|------------------------------|----------------------------------------------------------|------------------------------|
| | Incl. housing | Incl. other domestic capital | Incl. housing | Incl. other domestic capital | Incl. housing | Incl. other domestic capital |
| | | United States | 399 | 456 | 57 | |
| Japan | 142 | 257 | 182 | 274 | 41 | 17 |
| | 356 | | 548 | | 192 | |
| Germany | 131 | 225 | 220 | 328 | 89 | 103 |
| | 305 | | 377 | | 71 | |
| France | 129 | 177 | 241 | 136 | 112 | -41 |
| | 340 | | 618 | | 278 | |
| United Kingdom | 104 | 236 | 371 | 247 | 267 | 11 |
| | 359 | | 548 | | 189 | |
| Italy | 98 | 261 | 300 | 248 | 202 | -13 |
| | 247 | | 640 | | 392 | |
| Canada | 107 | 141 | 386 | 254 | 279 | 113 |
| | 325 | | 422 | | 97 | |
| Australia | 108 | 217 | 208 | 213 | 101 | -4 |
| | 410 | | 655 | | 244 | |
| | 172 | 239 | 364 | 291 | 193 | 52 |

Paper Presentations

Two this week:

- Dan Tavrov
- Ethan McClure

Paper Check-Out...

Who wants to volunteer for next week?:

- I would like to have four...

Catch Our Breath...

- Ask a couple of questions?
- Make a couple of comments?
- Any more readings to recommend?

