

# **U.C. Berkeley: Economics 115: Spring 2020**

# **20th Century Economic History: Lecture**

# **16: Inclusion**

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<<https://bcourses.berkeley.edu/courses/1487684>>

<<https://github.com/braddelong/public-files/blob/master/econ-115-lecture-16.pptx>>

# Inclusion: Ethnicity & Gender

## Inequality & domination as standard procedure for humanity:

- A great deal of inequality in human societies is economic inequality: work, income, spending, and prices.
- A great deal is simply things that:
  - you are not allowed to do, o
  - r are expected and required to do,
  - by virtue of what we might as well call your status-group, your estate, your caste.
- Minorities. Serfs. Slaves. Women.
- A great deal of this fueled by status inequality that is immutable (or nearly immutable) based on your individual characteristics
- You had social power only if you were male
  - Even if you were male, only if you were the right tribe, caste, lineage, & c.
- That was how it was
- That was how people expected it would always be
- Unless and until humans obtained the fantasy technologies of the Golden Age. Aristotle:
  - “Chief workmen would not want servants, nor masters slaves [only in the fantasyland in which] every instrument could accomplish its own work, obeying or anticipating the will of others, like the [blacksmithing] statues of Daedalus, or the three-wheeled catering serving-carts of Hephaestus, which, says the poet: "of their own accord entered the assembly of the Gods"… the shuttle would weave and the plectrum touch the lyre without a hand to guide them…
- True in 340 BC. True in 1870
- That began to change bigtime after 1870…

40:00 of audio

# After 1870 We Do Get Miracles

## Weaving shuttles and harps without hands:

- We get the autonomous robotic blacksmithing statues of master-craftsman Daedalus—and more, a thousand-fold
- We get food-production food-processing, and food-distribution technology vastly outstripping the self-propelled catering carts of Hephaestus the smith-god—and more, a thousand-fold
- Yet inequality and its maintenance remained important
- Not just capitalist inequality produced by the unequal distribution of property
- Sociological democracy also important
  - Heritage of the religions of the Book?

# Example: Abraham Lincoln

**The key is what came after the “but”:**

- Abraham Lincoln in 1858:
  - “I have no purpose to introduce political and social equality between the white and the black races. There is a physical difference between the two, which, in my judgment, will probably forever forbid their living together upon the footing of perfect equality, and inasmuch as it becomes a necessity that there must be a difference, I, as well as Judge Douglas, am in favor of the race to which I belong having the superior position.... I agree with Judge Douglas he is not my equal in many respects—certainly not in color, perhaps not in moral or intellectual endowment...”
- But:
  - “There is no reason in the world why the negro is not entitled to all the natural rights enumerated in the Declaration of Independence, the right to life, liberty, and the pursuit of happiness.... In the right to eat the bread, without the leave of anybody else, which his own hand earns, he is my equal and the equal of Judge Douglas, and the equal of every living man...”

# The “Promissory Note” Is Still in Arrears

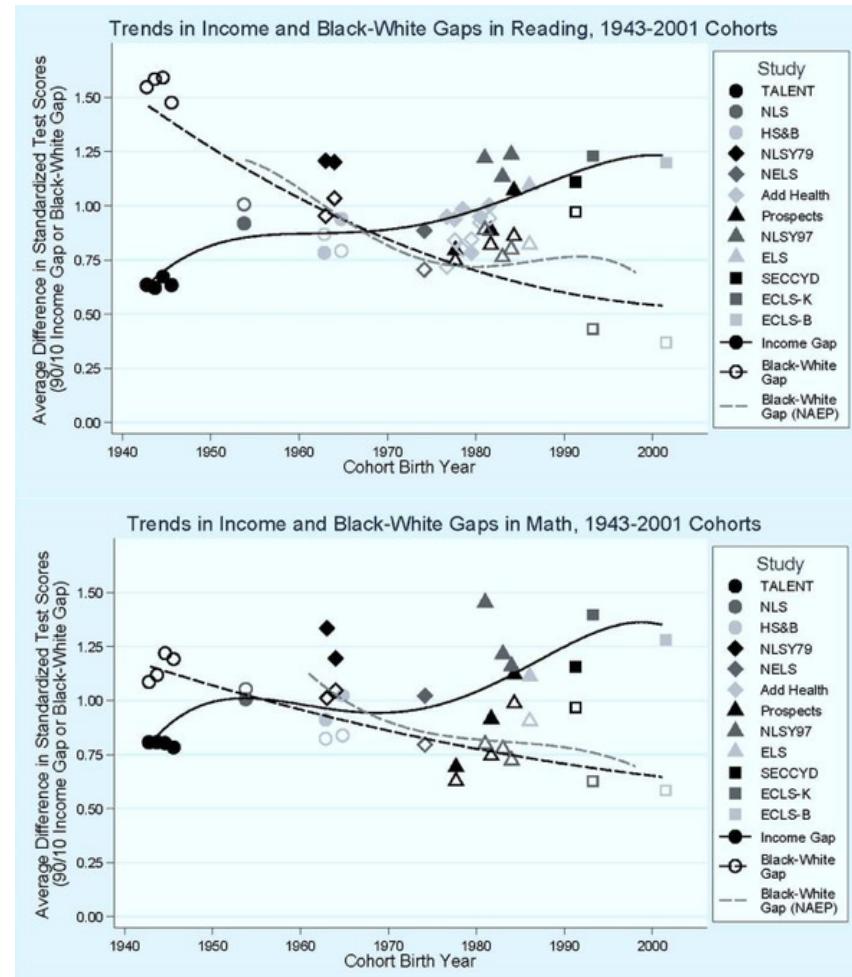
**Status-group inequality & domination based on ethnicity is still an important thing:**

- If not as important a thing as it was in Abraham Lincoln's day in 1858
- And not as important a thing as it was in Martin Luther King Jr.'s day in 1858
- And having the right kind of—and enough—property remains crucial
- And having the right kind of—and enough—education remains crucial
- And having been born in the right country has become crucial
- Still, at the end of WWII:
  - All indications then were that discrimination against African-Americans would continue into the indefinite future
  - It was inconsistent with the “American creed” of equality of opportunity
  - But the contradiction had been there since 1776
  - The Republican Party after WWII retained its ancestral commitment to African-American uplift

# Could White People Be a “Genetic Elite”?

## I'm afraid this is intellectual garbage collection:

- In a stable population, the typical person has 1000 descendants in 250 years, and a million in 500
- Advantageous genes mix very quickly through human populations
- If a group is a “genetic elite”, it would have to share genes that (a) are not advantageous and do not spread across other groups when they leak across, (b) do spread throughout the chosen ones, and (c) somehow make the chosen ones “special”
- What do IQ tests measure?
  - The Flynn effect: “Test score increases have been continuous and approximately linear from the earliest years of testing to the present. For the Raven's Progressive Matrices test, a study published in the year 2009 found that British children's average scores rose by 14 IQ points from 1942 to 2008...” (Flynn, James R. (March 2009). "Requiem for nutrition as the cause of IQ gains: Raven's gains in Britain 1938–2008". *Economics and Human Biology*. 7 (1): 18–27. doi:10.1016/j.ehb.2009.01.009. ISSN 1873-6130. PMID 19251490.)
  - Christopher Jencks & Meredith Phillips: “In America, 82 percent of those who took the Stanford-Binet test in 1978 scored above the 1932 average for individuals of the same age. The average black did about as well on the Stanford-Binet test in 1978 as the average white did in 1932..”



Sean Reardon: The Widening Achievement Gap Between Rich and Poor: New Evidence and Possible Explanations  
<https://github.com;braddelong/public-files/blob/master/readings/article-reardon-widening-achievement-gap.pdf>

# Could Rich People Be a “Genetic Elite”?

**I’m afraid this is intellectual garbage collection too:**

- Bowles & Gintis:
  - “A standard deviation change in the cognitive score, holding constant the remaining variables (including schooling), changes the natural logarithm of earnings by about one-seventh of a standard deviation....
  - “If the heritability of IQ were 0.5 and the degree of assortation,  $m$ , were 0.2 (both reasonable, if only ball park estimates) and the genetic inheritance of IQ were the only mechanism accounting for intergenerational income transmission, then the intergenerational correlation would be 0.01, or roughly two percent the observed intergenerational correlation. Note the conclusion that the contribution of genetic inheritance of IQ is negligible is not the result of any assumptions concerning assortative mating or the heritability of IQ: the IQ genotype of parents could be perfectly correlated and the heritability of IQ 100 per cent without appreciably changing the qualitative conclusions. The estimate results from the fact that IQ is just not an important enough determinant of economic success...
    -

# “Time & Chance...”

## Contrast:

- Andrew Carnegie: “The price which society pays for the law of competition... is also great... [but] while the law may be sometimes hard for the individual, it is best for the race, because it insures the survival of the fittest in every department. We accept and welcome therefore... great inequality of environment, the concentration of business, industrial and commercial, in the hands of a few, and the law of competition between these, as being not only beneficial, but essential for the future progress of the race.... That... talent for organization and management is rare among men is proved by the fact that it invariably secures for its possessor enormous rewards.... The MAN whose services can be obtained as a partner [is] not only the first consideration, but such as to render the question of his capital scarcely worth considering, for such men soon create capital; while, without the special talent required, capital soon takes wings...”
- Ecclesiastes 9:11: “I returned, and saw under the sun, that the race is not to the swift, nor the battle to the strong, neither yet bread to the wise, nor yet riches to men of understanding, nor yet favour to men of skill; but time and chance happeneth to them all...”

# Black Congressmen

## No Black members of congress from 1901 to 1929:

- Eight African-Americans served in congress in 1875-77
  - That number was not to be exceeded until 1969-71
- 1929: Republican Oscar Stanton De Priest from Southside Chicago.
- 1945: Adam Clayton Powell from Harlem
- 1955: Clarence Diggs from Michigan
- 1958: Robert Nix from Pennsylvania
- 1963: Augustus Hawkins from California
- 1965: John Conyers from Michigan
- Four African-American congressmen, all Democrats, in the last pre-Voting Rights Act congress...

# Making Progress

## As of 1940, a three-year education gap:

- Discrimination in employment widely applauded
  - The near consensus was that infringement on individual liberty to outlaw people's power to discriminate on the basis of race in the use of their property
- African-American male college graduates made half of what white *high school graduates* made
- 48% of whites below today's poverty line, 81% of African-Americans
- Yet today:
  - AA men's weekly wages 67% of whites
  - AA women's 95% of whites
- The Civil Rights leaders played an extremely weak hand with immense skill and patience

# Sources of Black-White Partial Convergence

## Four principal factors in progress 1940-1980:

- The end of formal, legal, state-sanctioned discrimination
- The migration of African-Americans from the rural south to the urban north
- The associated shift from low-paid low-skill agricultural employment to industrial and service industries
- Title VII of the 1964 Civil Right Act made employment discrimination on the basis of race illegal
- Yet since 1980 convergence has stalled out:
  - By the end of the 1980s at least one in five of African-American prime-aged men (aged 25-54) reported no earnings in a given calendar year
  - Real per capita family income for African-Americans today is still only some sixty percent of whites
  - Why?

# The Rising Significance of Class

## General inequality rise first; family structure changes second:

- The extraordinary rise in income and wealth inequality since 1980
- The rise in single-parent households
  - The poverty rate for two-parent African-American families with children today is 12.5%
  - The poverty rate for single-parent African-American families with children today is 40%
- Right-wing claim: Charles Murray & George Gilder & c.: more generous welfare payments triggered the collapse of the African-American family by making it more profitable to be on the dole than to keep a man
- Haven't done their arithmetic:
  - By the mid-1990s welfare payments were lower in inflation-adjusted terms than they had been in 1960
  - Real wages were some fifty percent higher for African-American males.
  - Maintaining a two-parent household was, in material terms, a much more advantageous option relative to split-up and welfare receipt in the 1990s than it had been in the 1950s and 1960s

## Backwash: Links Between Economic and Cultural Changes:

- Divorce no longer stigmatized for males:
  - The 1980s saw the election of America's first divorced president, Ronald Reagan
  - By the 1990s the children of one Speaker of the House of Representatives—the Republican Newt Gingrich—had grown up in a single-parent family
- Plus families do not hold together when economic uncertainty is rife
- Seminal document of Murray-Gilder: a mid-1960s document written by a then-Johnson administration policymaker: Daniel Patrick Moynihan: *The Negro Family: The Case for National Action*:
  - But Moynihan's vision was shaped more by Moynihan's memories of Irish-American family dynamics under material pressure than an analysis of African-American families

# Sources of Hope...

## Promissory note remains in substantial arrears:

- But we care
- Or, at least, it is impolite to acknowledge that you do not care about ethnic, gender, and status-group inequality
- That is itself a big difference about how things were 100 years ago
- Moving goalposts & ethnogenesis:
  - Being on a conference panel with Muhammed El-Erian
  - Mark Krikorian in 2007, executive director of the “Center for Immigration Studies”...



# Mark Krikorian? WAT?

## Pizza Patrón in East Dallas, one of 59 in five Southwestern and Western states:

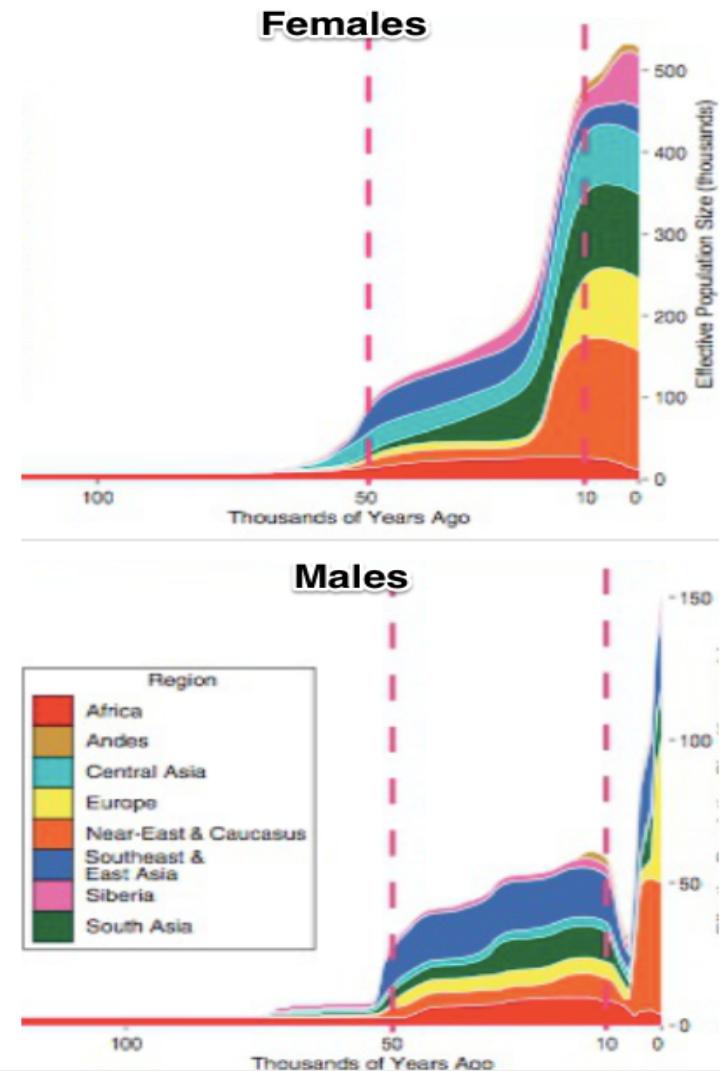
- Antonio Swad, president and founder of Pizza Patrón
- Italian-Lebanese and was born and raised in Columbus, Ohio
- Saw a business opportunity in the growing Latino minority in his neighborhood
- Changed the name from Pizza Pizza to Pizza Patrón, hired bilingual staff members and added items like La Mexicana, a pizza that includes spicy chorizo sausage and jalapeños
- Mark Krikorian, executive director of the Center for Immigration Studies in Washington, a group that seeks to limit immigration, said he was concerned that Hispanics could create a parallel mainstream in the United States. "It's a trivial example, but Hispanics now have their own pizza chain," Mr. Krikorian said. "It's a consequence of having too many people arrive from a single foreign culture, and may well reflect a kind of cultural secession..."



# Inclusion: Feminism

**High patriarchy—and men take advantage:**

- Extinction of y-chromosome lineages
- But even afterwards: patriarchy
- Emancipation of women comes late: following the political strategies of franchise and rights extension, but happening a century or so later...
- Women rarely have legal personality...
- Childbed mortality: 1 in 7
- Eating for two: 20 years
- Employment: textiles, gardening, in-home production, other occupations with savable state



28:30 of audio

# Childbed: British Queens

- 16 generations from Henry IV to Victoria
- 5 queens (or heiresses apparent) dead in childbed: Charlotte (Victoria's generation), Catherine Parr, Jane Seymour, Elizabeth of York, Mary de Bohun
- At an average of two queens per generation, this is a 16% childbed mortality rate for the most cosseted women in England
  - 2% maternal mortality per birth
  - 1% extra mortality per child from caring for sick children



# Women in Their Place...

- Biology...
  - 16% childbed mortality; 8% excess nursing sick mortality...
  - 3 yr x 7? 20 years eating for two?
- Occupations...
  - Elizabeth Wayland Barber (1995): Women's Work: The First 20,000 Years Women, Cloth, and Society in Early Times (0393035069) <<http://amzn.to/2BSw3fZ>>
  - Patriarchy...
  - Societal expectations...
- Interactions
  - Disparate impact
  - Even in Denmark today:
    - 7% lower employment probability
    - 7% lower hours per week conditional on employment
    - 7% lower wages and salaries conditional on employment and hours...

# What Happened When Women's Opportunities Opened Up—Even a Little?

- Market income and factory work...
- In 1840, in Lowell, unmarried young women (16-30) one quarter of the city's industrial workforce.
  - Expected to attend church
  - “Not employ anyone... known to be guilty of immorality”
- The Lowell mills in boom:
  - A way to acquire a dowry...
  - A way to have some extra freedom...
- The Lowell mills in bust:
  - Labor organization...

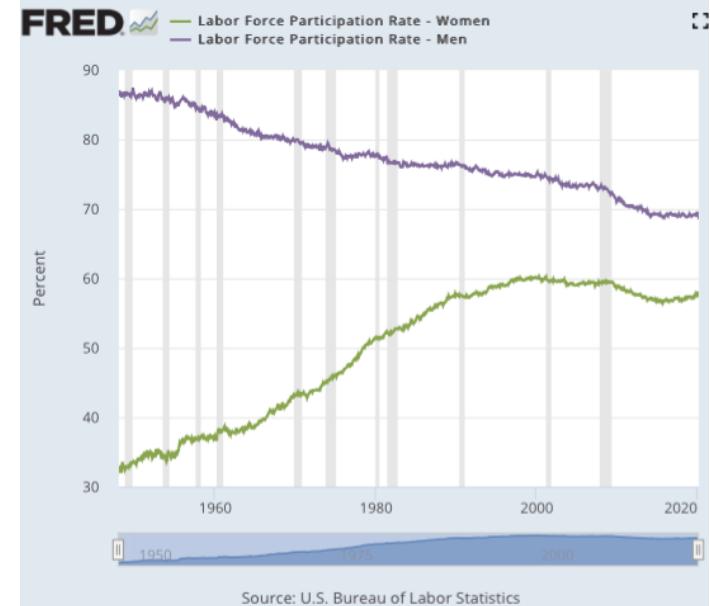
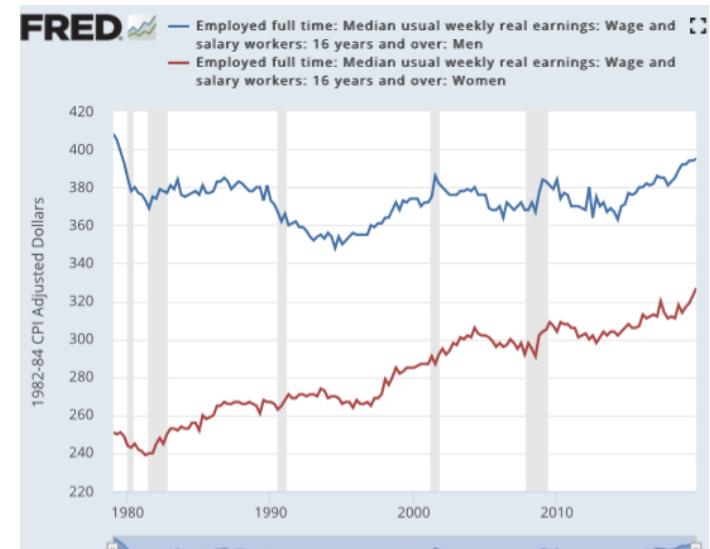


Tintype of two young women in Lowell, Massachusetts

# Wages and Paid Labor Force Participation

## Wage gap from 67% to 25% since 1979

- Share of women with jobs from 30% to 60%
  - Share of men with jobs from 85% to 70%
    - Aging
    - Longer schooling
    - 7% “missing men”
- Current female wage gap
  - Primarily a career-interruption childbearing gap
  - Women without interruptions in employment earn almost as much as men
  - Why should we think of this as unfair?



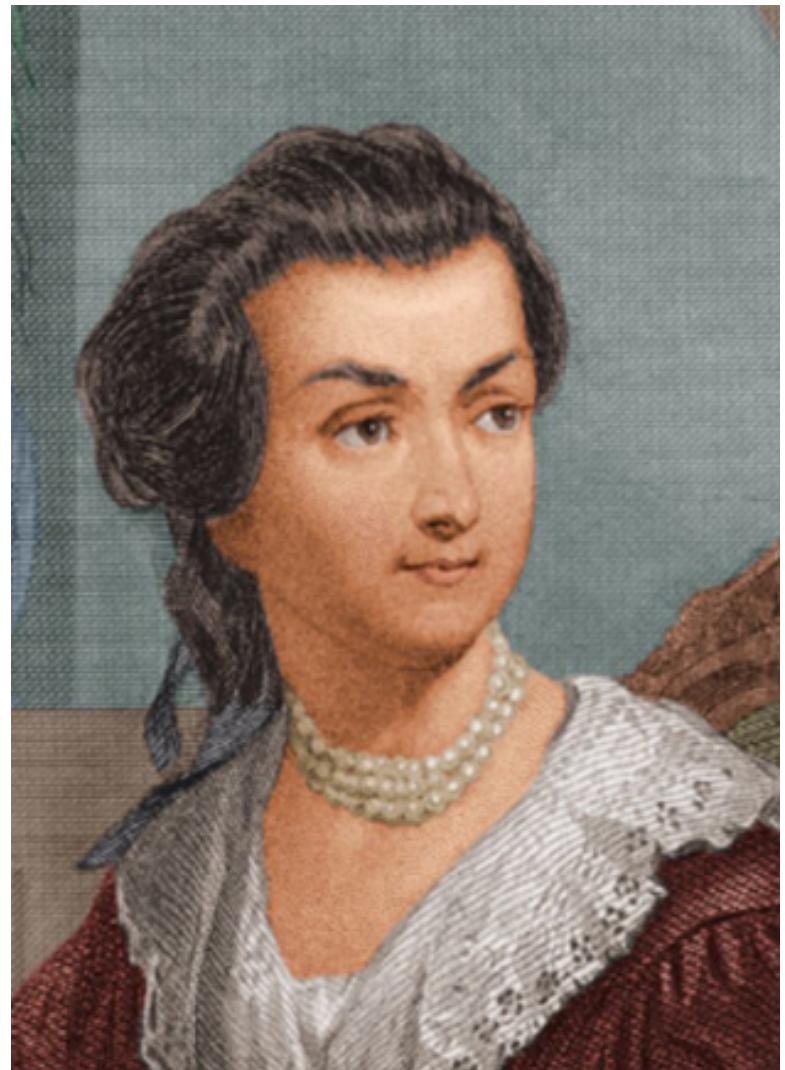
Source: U.S. Bureau of Labor Statistics

# Abigail Smith Adams

<<https://tinyurl.com/dl20180226a>>: Letter  
to John Adams 31 Mar-5 Apr 1776...

Things to note about the letter as you read it:

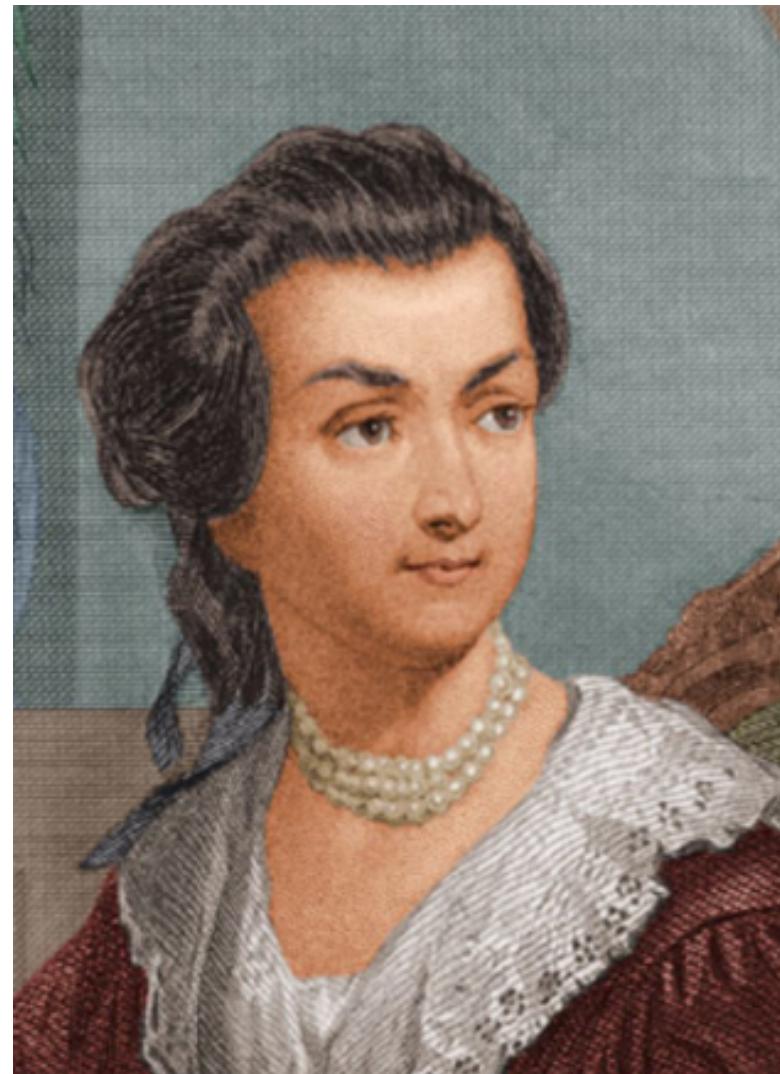
1. Speling...
2. Public concerns:
  - Suspicion of Virginia...
  - State of Boston after the occupation...
  - Power of the colonies to resist...
  - Soapmaking... saltpeter... gunpowder...
3. Private concerns:
  - Family security...
  - “Gorge the Eldest... Billy the youngest... Becky Peck... your brother’s youngest child lies bad with convulsion fits...”
  - Why don’t you write more, and at longer length?
4. Feminist concerns...



# Document: Abigail Smith Adams

<<https://tinyurl.com/dl20180226a>>: Letter to John Adams 31 Mar-5 Apr 1776...

- Braintree March 31, 1776: I wish you would ever write me a Letter half as long as I write you; and tell me if you may:
  - Where your Fleet are gone?
  - What sort of Defence Virginia can make against our common Enemy?
  - Whether it is so situated as to make an able Defence?
  - Are not the Gentry Lords and the common people vassals?
  - Are they not like the uncivilized Natives Brittan represents us to be?
- I hope their Riffel Men who have shewen themselves very savage and even Blood thirsty; are not a specimen of the Generality of the people.
- I [illegible] am willing to allow the Colony great merrit for having produced a Washington but they have been shamefully duped by a Dunmore.



# Lots and Lots and Lots in This Letter: But Focus on:

- I long to hear that you have declared an independency -- and by the way in the new Code of Laws which I suppose it will be necessary for you to make I desire you would Remember the Ladies, and be more generous and favourable to them than your ancestors. **Do not put such unlimited power into the hands of the Husbands.** Remember all Men would be tyrants if they could. If perticuliar care and attention is not paid to the Laidies we are determined to foment a Rebelion, and will not hold ourselves bound by any Laws in which we have no voice, or Representation.
- **That your Sex are Naturally Tyrannical is a Truth so thoroughly established as to admit of no dispute**, but such of you as wish to be happy willingly give up the harsh title of Master for the more tender and endearing one of Friend. **Why then, not put it out of the power of the vicious and the Lawless to use us with cruelty and indignity with impunity?** Men of Sense in all Ages abhor those customs which treat us only as the vassals of your Sex. Regard us then as Beings placed by providence under your protection and in immitation of the Supreem Being make use of that power only for our happiness.

# Abigail Smith Adams: Virginia/Boston

- I have sometimes been ready to think that the passion for Liberty cannot be Equally Strong in the Breasts of those who have been accustomed to deprive their fellow Creatures of theirs. Of this I am certain that it is not founded upon that generous and christian principal of doing to others as we would that others should do unto us.
- Do not you want to see Boston? I am fearfull of the small pox, or I should have been in before this time.
- I got Mr. Crane to go to our House and see what state it was in. I find it has been occupied by one of the Doctors of a Regiment, very dirty, but no other damage has been done to it. The few things which were left in it are all gone. Cranch has the key which he never deliverd up. I have wrote to him for it and am determined to get it cleand as soon as possible and shut it up. I look upon it a new acquisition of property, a property which one month ago I did not value at a single Shilling, and could with pleasure have seen it in flames.

# Abigail Smith Adams: Boston

- The Town in General is left in a better state than we expected, more oweing to a precipitate flight than any Regard to the inhabitants, tho some individuals discoverd a sense of honour and justice and have left the rent of the Houses in which they were, for the owners and the furniture unhurt, or if damaged sufficient to make it good.
- Others have committed abominable Ravages. The Mansion House of your President is safe and the furniture unhurt whilst both the House and Furniture of the Solisiter General have fallen a prey to their own merciless party. Surely the very Fiends feel a Reverential awe for Virtue and patriotism, whilst they Detest the paricide and traitor.

# Abigail Smith Adams: Optimism

- I feel very differently at the approach of spring to what I did a month ago. We knew not then whether we could plant or sow with safety, whether when we had toiled we could reap the fruits of our own industry, whether we could rest in our own Cottages, or whether we should not be driven from the sea coasts to seek shelter in the wilderness, but now we feel as if we might sit under our own vine and eat the good of the land.
- I feel a *gaiety de Coar* to which before I was a stranger. I think the Sun looks brighter, the Birds sing more melodiously, and Nature puts on a more cheerful countenance. We feel a temporary peace, and the poor fugitives are returning to their deserted habitations.
- Though we felicitate ourselves, we sympathize with those who are trembling least the lot of Boston should be theirs. But they cannot be in similar circumstances unless pusillanimity and cowardice should take possession of them. They have time and warning given them to see the Evil and shun it.

# Abigail Smith Adams: “Your Sex... Naturally Tyrannical...”

- I long to hear that you have declared an independency -- and by the way in the new Code of Laws which I suppose it will be necessary for you to make I desire you would Remember the Ladies, and be more generous and favourable to them than your ancestors. Do not put such unlimited power into the hands of the Husbands. Remember all Men would be tyrants if they could. If particular care and attention is not paid to the Laidies we are determined to foment a Rebellion, and will not hold ourselves bound by any Laws in which we have no voice, or Representation.
- That your Sex are Naturally Tyrannical is a Truth so thoroughly established as to admit of no dispute, but such of you as wish to be happy willingly give up the harsh title of Master for the more tender and endearing one of Friend. Why then, not put it out of the power of the vicious and the Lawless to use us with cruelty and indignity with impunity? Men of Sense in all Ages abhor those customs which treat us only as the vassals of your Sex. Regard us then as Beings placed by providence under your protection and in imitation of the Suprem Being make use of that power only for our happiness.

# Abigail Smith Adams: Stripped of Two Lovely Children in One Week

- **April 5:** Not having an opportunity of sending this I shall add a few lines more; tho not with a heart so gay. I have been attending the sick chamber of our Neighbour Trot whose affliction I most sensibly feel but cannot describe, striped of two lovely children in one week. Gorge the Eldest died on wedensday and Billy the youngest on fryday, with the Canker fever, a terrible disorder so much like the throat distemper, that it differs but little from it. Betsy Cranch has been very bad, but upon the recovery. Becky Peck they do not expect will live out the day. Many grown persons are now sick with it, in this street. It rages much in other Towns. The Mumps too are very frequent. Isaac is now confined with it. Our own little flock are yet well. My Heart trembles with anxiety for them. God preserve them.

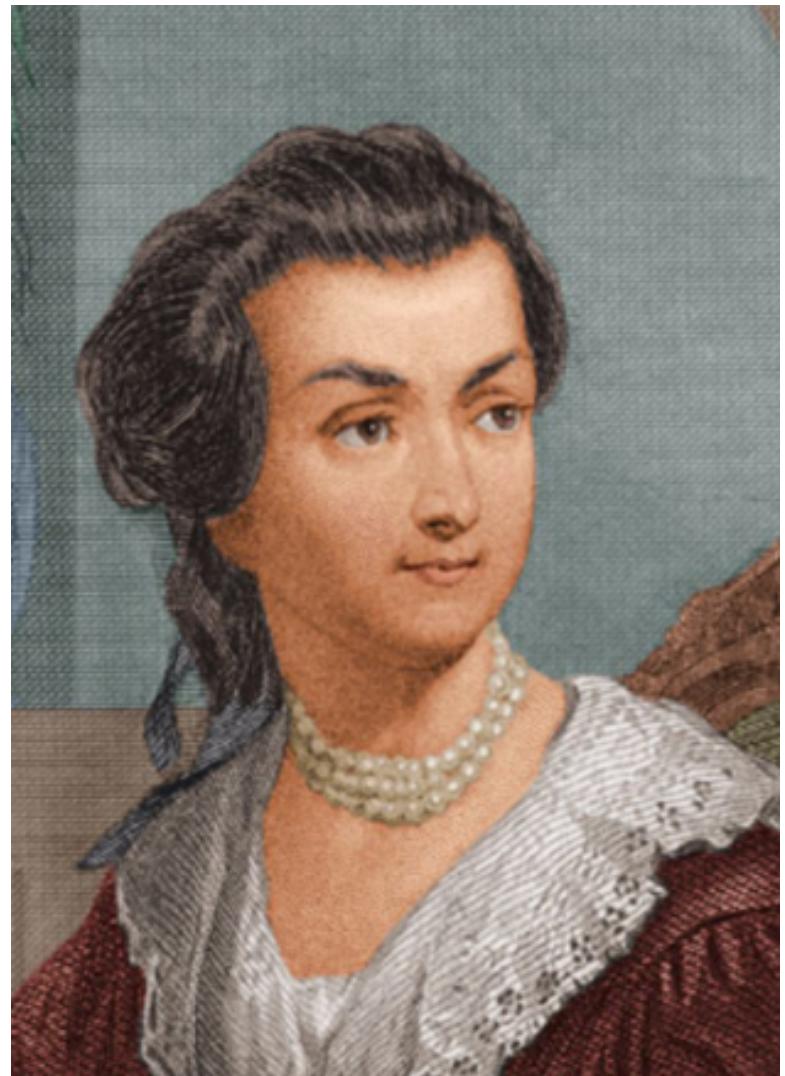
# Document: Abigail Smith Adams

- I want to hear much oftener from you than I do.
- March 8 [John to Abigail, 08 March 1776] was the last date of any that I have yet had.
- -- You inquire of whether I am making Salt peter. I have not yet attempted it, but after Soap making believe I shall make the experiment. I find as much as I can do to manufacture cloathing for my family which would else be Naked. I know of but one person in this part of the Town who has made any, that is Mr. Tertias Bass as he is calld who has got very near an hundred weight which has been found to be very good. I have heard of some others in the other parishes. Mr. Reed of Weymouth has been applied to, to go to Andover to the mills which are now at work, and has gone.
- I have lately seen a small Manuscrip describing the proportions for the various sorts of powder, such as fit for cannon, small arms and pistols [illegible]. If it would be of any Service your way I will get it transcribed and send it to you.
- -- Every one of your Friends send their Regards, and all the little ones.
- Your Brothers youngest child lies bad with convulsion fitts. Adieu.
- I need not say how much I am Your ever faithfull Friend...

# Abigail Smith and John Adams: Fecundity

Abigail Smith (20) married John Adams (30) in 1764:

- Children:
  - Abigail ("Nabby") 1765–1813
  - John Quincy Adams 1767–1848
  - Grace Susanna ("Suky") 1768–70
  - Charles 1770–1800
  - Thomas Boylston Adams 1772–1832
  - Elizabeth (stillborn) 1777
- Then they stopped...
- She ran his Braintree-Boston operation...



# Eating for Two

Abigail Smith Adams:

- Abigail ("Nabby") 1765–1813
- John Quincy Adams 1767–1848
- Grace Susanna ("Suky") 1768–70
- Charles 1770–1800
- Thomas Boylston Adams 1772–1832
- Elizabeth (stillborn) 1777
- Likely a couple of miscarriages in there between 1772 and 1777...
- Likely wetnursed...
- Then they stopped, when she was 33...
- Eight pregnancies to have four survive beyond the age of ten...
  - This is low child mortality...
- Have a baby, lose a tooth...



# Abigail Smith and John Adams: Terms of Partnership

- She ran his Braintree-Boston operation...
- Not just the inside-the-household part—pretty much the whole thing while he was being a High Politician...



# Abigail Smith Adams: Social Roles

Abigail Smith (20) married John Adams (30) in 1764:

No formal schooling...

Not present at husband's presidential inauguration: caring for her dying mother...

At 74: "Do not grieve, my friend, my dearest friend. I am ready to go. And John, it will not be long."



# John Adams's Reply to Abigail

- As to your extraordinary code of laws, I cannot but laugh.
- We have been told that our struggle has loosened the bonds of government everywhere; that children and apprentices were disobedient; that schools and colleges were grown turbulent; that Indians slighted their guardians, and negroes grew insolent to their masters.
- But your letter was the first intimation that another tribe, more numerous and powerful than all the rest, were grown discontented.
- This is rather too coarse a compliment, but you are so saucy, I won't blot it out.
- Depend upon it, we know better than to repeal our masculine systems. Although they are in full force, you know they are little more than theory. We dare not exert our power in its full latitude. We are obliged to go fair and softly, and, in practice, you know we are the subjects.
- We have only the name of masters, and rather than give up this, which would completely subject us to the despotism of the petticoat, I hope General Washington and all our brave heroes would fight.

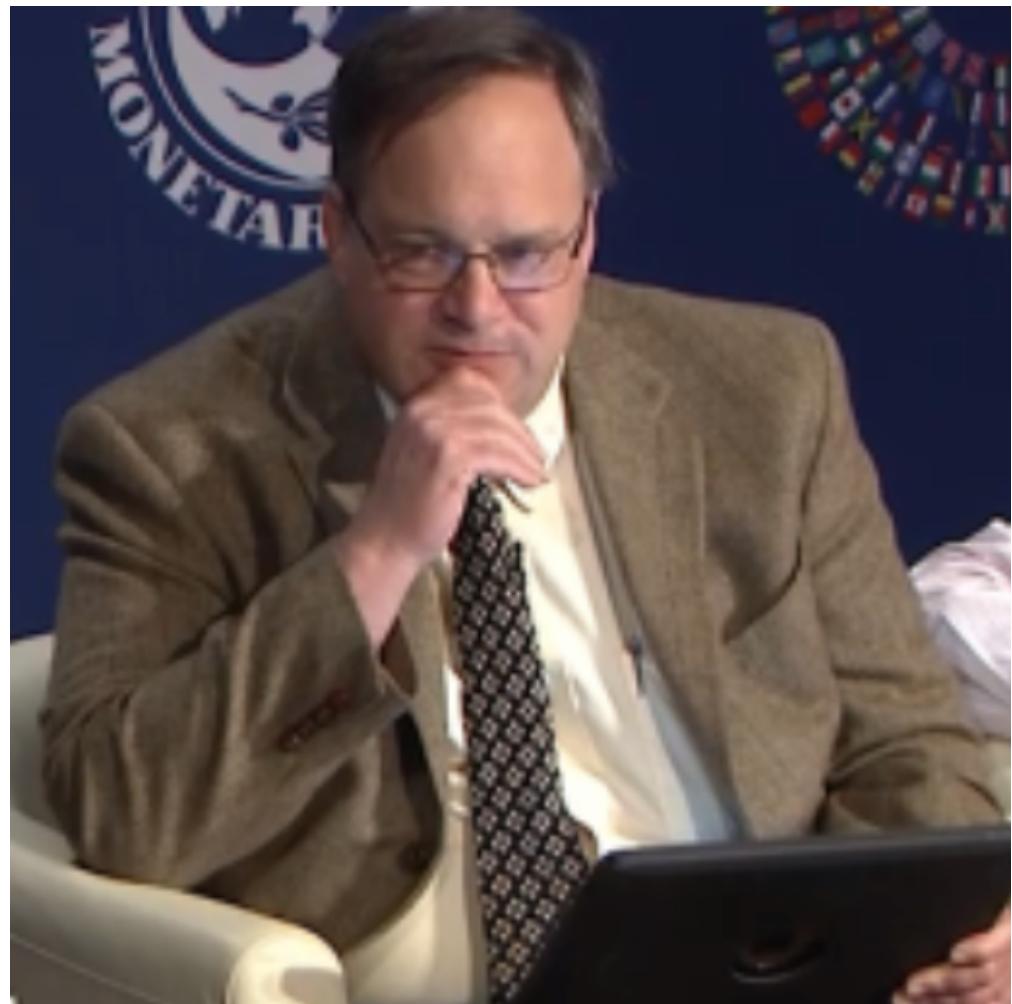
# Readings...

## Key readings:

- George Abernethy: The Idea of Equality: An Anthology <<https://github.com/braddelong/public-files/blob/master/readings/book-abernethy-equality.pdf>>
- Abigail Smith Adams (1776): Letter to John Adams <<https://tinyurl.com/dl20180226a>>
- Aristotle: Politics <<https://github.com/braddelong/public-files/blob/master/readings/book-selections-aristotle-politics-i.pdf>>
- Elizabeth Wayland Barber (1995): Women's Work: The First 20,000 Years: Women, Cloth, and Society in Early Times <<https://github.com/braddelong/public-files/blob/master/readings/book-barber-women's-work.pdf>>
- Samuel Bowles & Herbert Gintis (2002): The Inheritance of Inequality <<https://github.com/braddelong/public-files/blob/master/readings/article-bowles-gintis-inheritance-inequality.pdf>>
- Andrew Carnegie (1889): Wealth <<https://github.com/braddelong/public-files/blob/master/readings/article-carnegie-wealth.pdf>>
- Christopher Jencks & Meredith Phillips (1998): The Black-White Test Score Gap: Why It Persists & What Can Be Done <<https://www.brookings.edu/articles/the-black-white-test-score-gap-why-it-persists-and-what-can-be-done/>>
- Abraham Lincoln & Stephen Douglas (1858): Debates <<https://github.com/braddelong/public-files/blob/master/readings/book-lincoln-douglas-debates.pdf>>
- Sean Reardon: The Widening Achievement Gap Between Rich & Poor: New Evidence & Possible Explanations <<https://github.com/braddelong/public-files/blob/master/readings/article-reardon-widening-achievement-gap.pdf>>

# Catch Our Breath...

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



# About the Course

**The long 20th century will in all likelihood be seen in the future as *the watershed in human experience*:**

- Nine aspects:
  1. History was *primarily* economic—and that was true for the first time...
  2. Explosion of wealth: 2%+ per year...
  3. Cornucopia of technology...
  4. Demographic transition...
  5. Feminist revolution...
  6. Empowered tyrannies...
  7. Wealth gulfs...
  8. Inclusion and hierarchy attenuation...
  9. Mismanagement and insecurity...
  10. The global public health system and global epidemic transmission
- Humanity is unlikely to see as *transformative*—for good and ill, but mostly for good, so far at least, I think—a century again...

# Questions About Your Situation...

## Things we would like to know:

1. Where do you expect to be located for the rest of the semester?
2. What aspect of our class are you most worried about?
3. What outside factors do we need to be aware of that impact your ability to participate in this class for the rest of the semester?
4. Beyond our class, what is your main worry for the upcoming weeks?
5. Do you have Wi-fi where you are staying?
6. Yes - on a computer or tablet
7. What kinds of devices do you have access to currently? Computer with a camera and microphone? Computer without a camera or microphone? Phone with a camera that can do video? Tablet with a camera that can do video?
8. Is data usage a concern when viewing videos where you are?
9. Are you able to keep up with the lectures and class work? Is there anything challenging or beneficial to your learning in the new format?
10. What questions do you have for us?

# 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...
- 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  $\beta$
  - Re-express the model in terms of  $\beta$  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/0FzRFArAOnIAin4VJWWIWIC0>

Coronavirus Cases:

**1,342,235**

[view by country](#)

United States



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

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		0				

<https://www.icloud.com/numbers/0FzRFAoAQoiAin4V.IWYWIWICQ>

Coronavirus Case



United States

**1,342,235**

[view by country](#)

Coronavirus Cases:

**364,059**

Deaths:

**74,554**

Deaths:

**10,792**

Recovered:

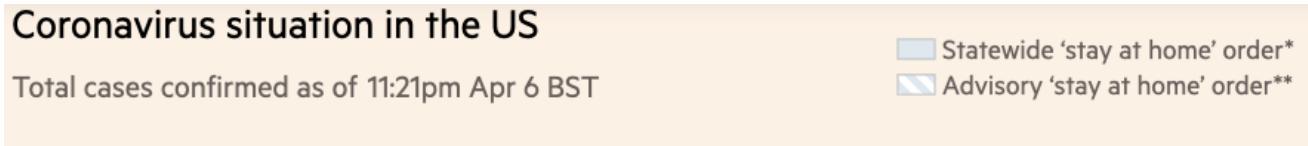
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Washington	1,095	46
Texas	263	5
Georgia	710	22

# Financial Times Graphs Blown Up...



Italy and Spain every day bring

Daily coronavirus c

2,000

1,000

500

200

100

50

20

10

5

2

1

1 decline,

first recorded

L TIMES

50,000

20,000

10,000

5,000

2,000

1,000

500

200

100

50

20

70

10

China

Graphic: Steven Bernard and Cale Tilford

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

© FT

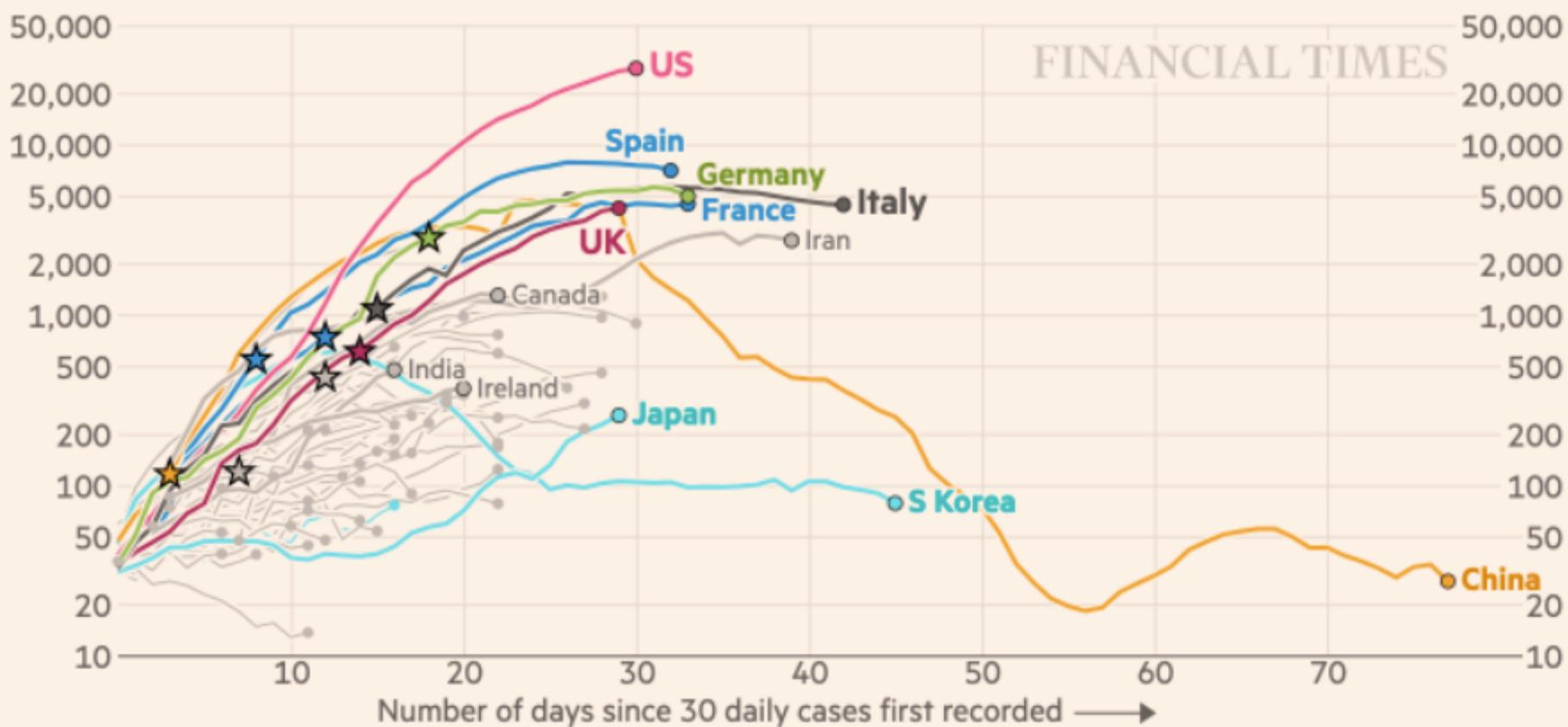
\*Includes 'shelter in place' orders and those that have yet to go into effect

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

# 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 ★



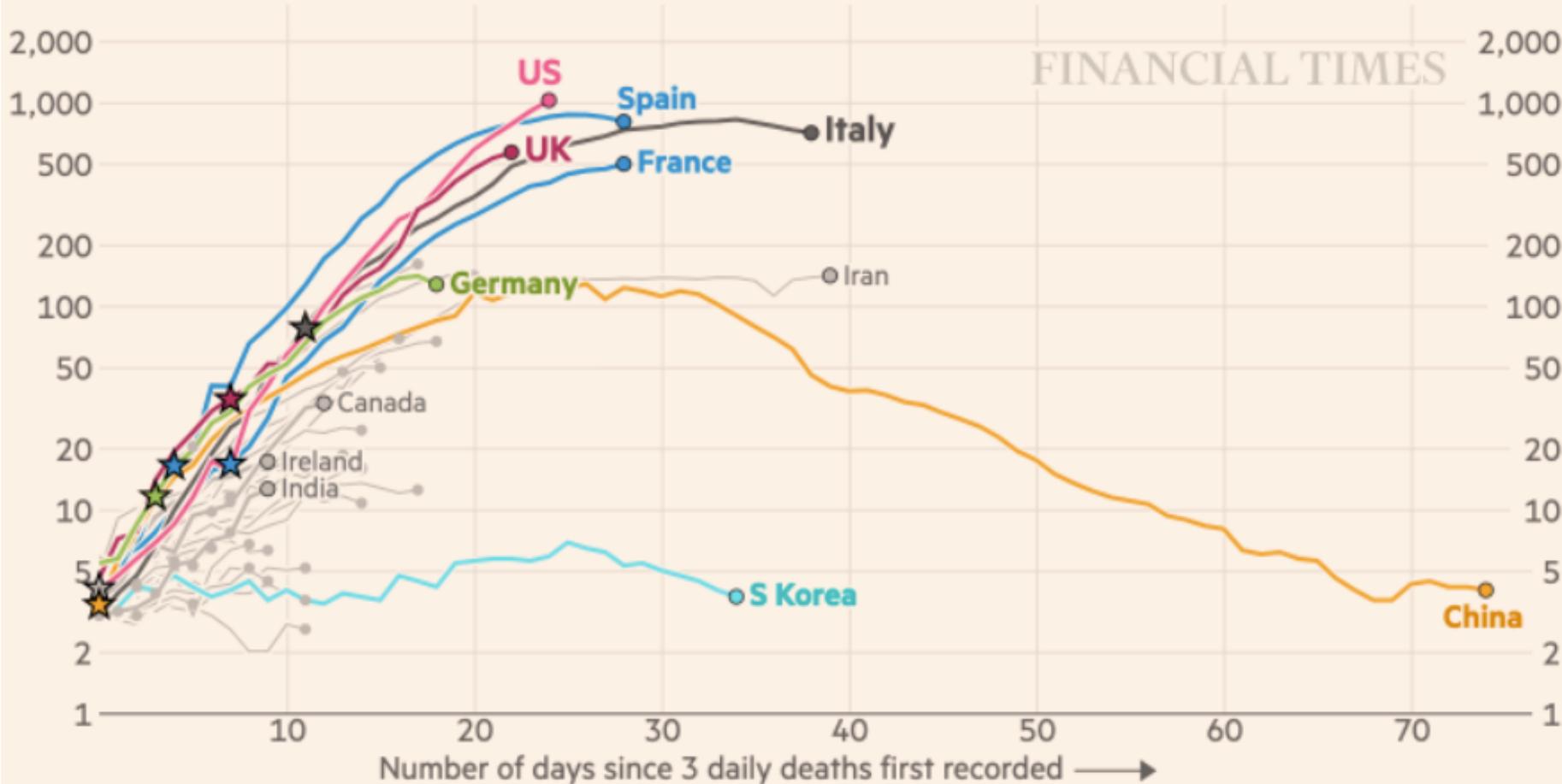
FT graphic: John Burn-Murdoch / @jburnmurdoch

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

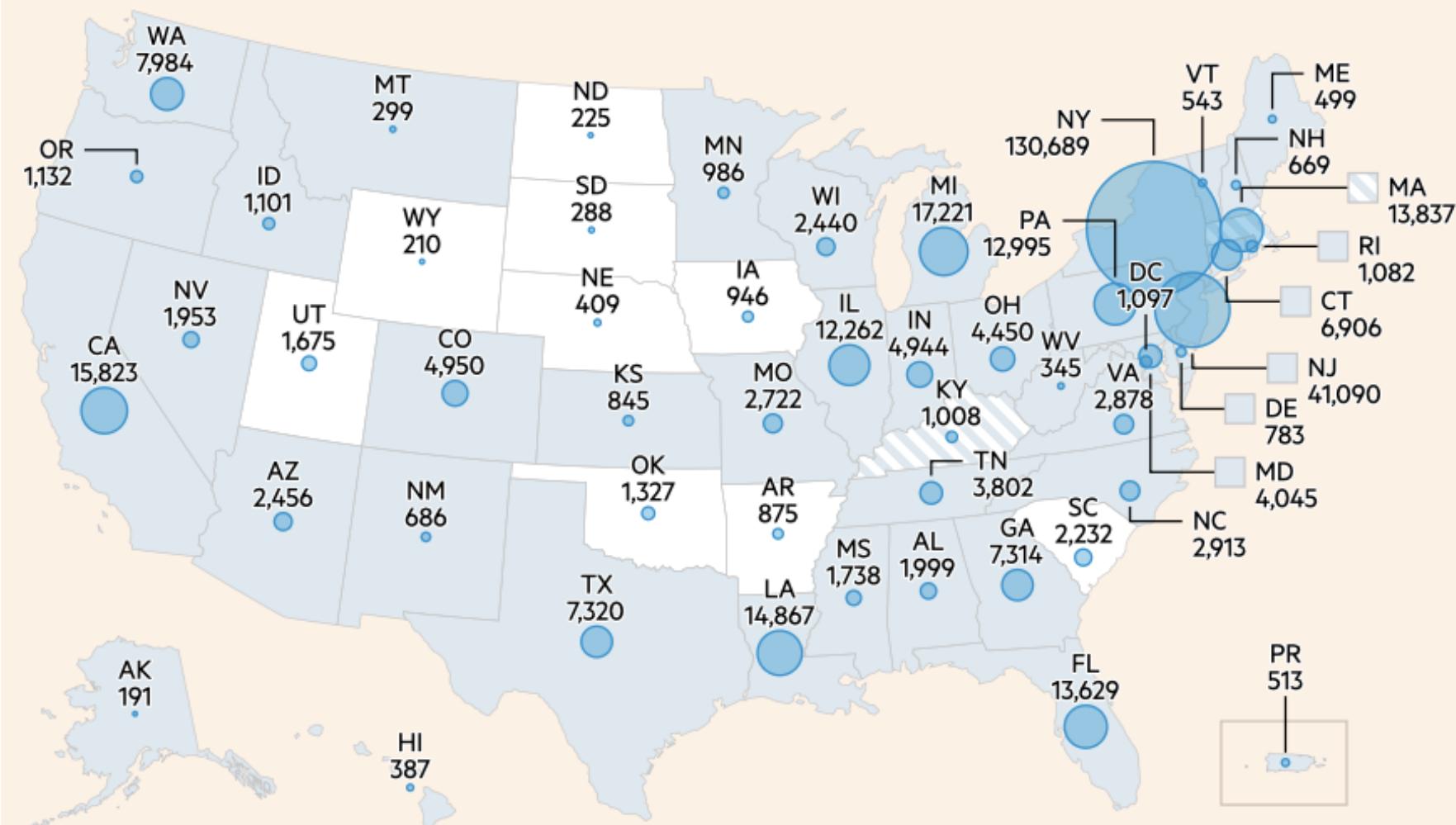
Source: FT analysis of European Centre for Disease Prevention and Control; Worldometers; FT research. Data updated April 06, 19:00 GMT

© 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>>:

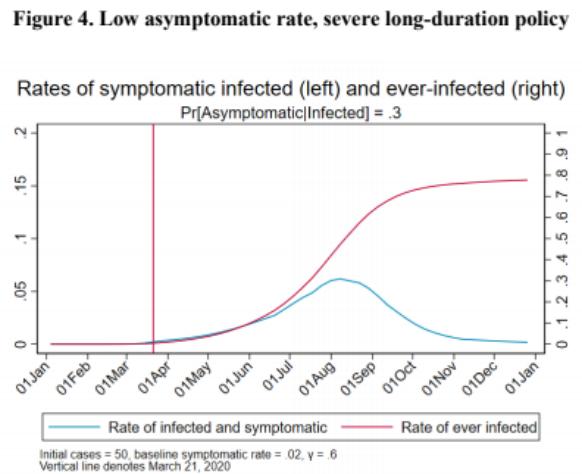
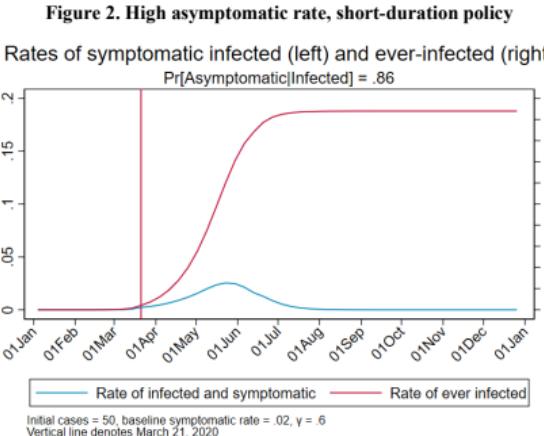
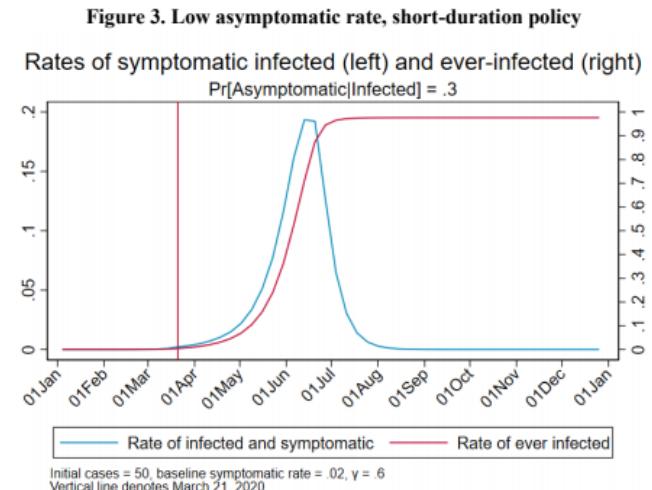
- Susceptible, Infected, Recovered (& immune), transmission rate  $\beta$ , recovery rate  $\gamma$ , reproduction number  $R_0$ , asymptomatic hence non-tested rate  $\pi_0$
- Calibration: half-life of infection one week:  $\gamma = 0.5$ ,  $s_0 = 0.02$ , 50 cases on Jan 24
- For March 21, 2020, the positive test rate in the United States is approximately 10%...

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

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

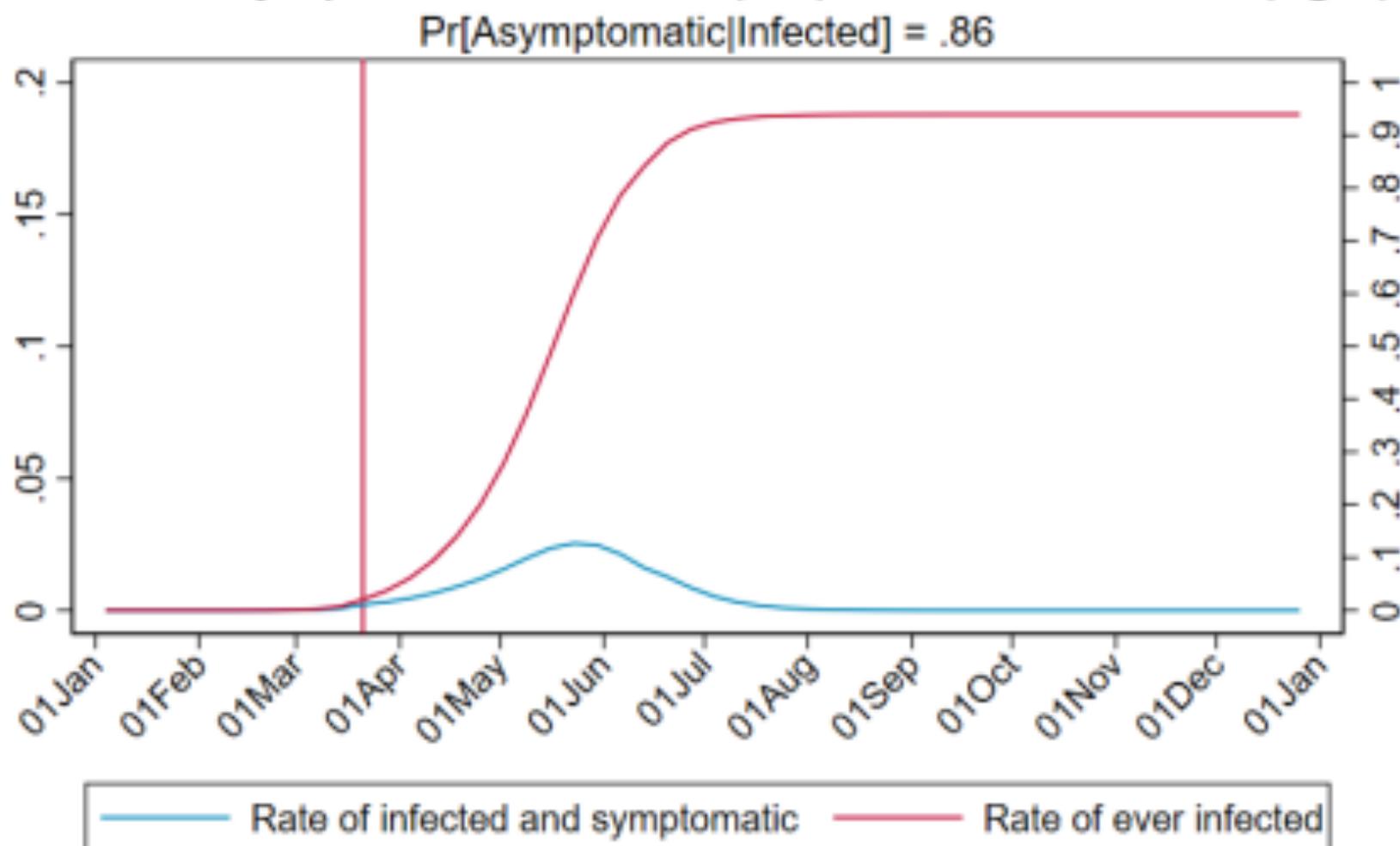
$$\Delta I_t = \beta I_{t-1} \frac{S_{t-1}}{N} - \gamma I_{t-1}$$

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



**Figure 2. High asymptomatic rate, short-duration policy**

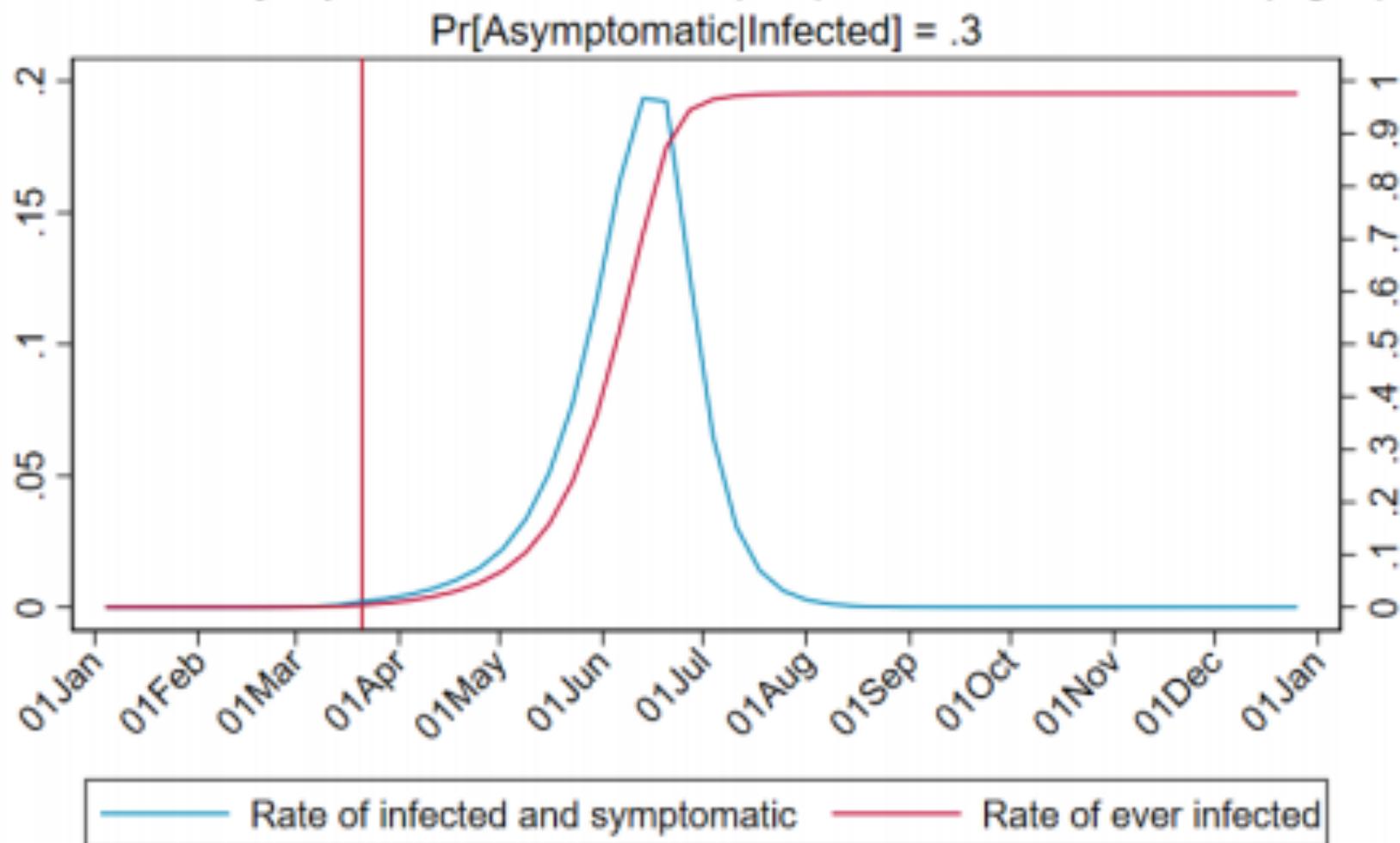
Rates of symptomatic infected (left) and ever-infected (right)



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)

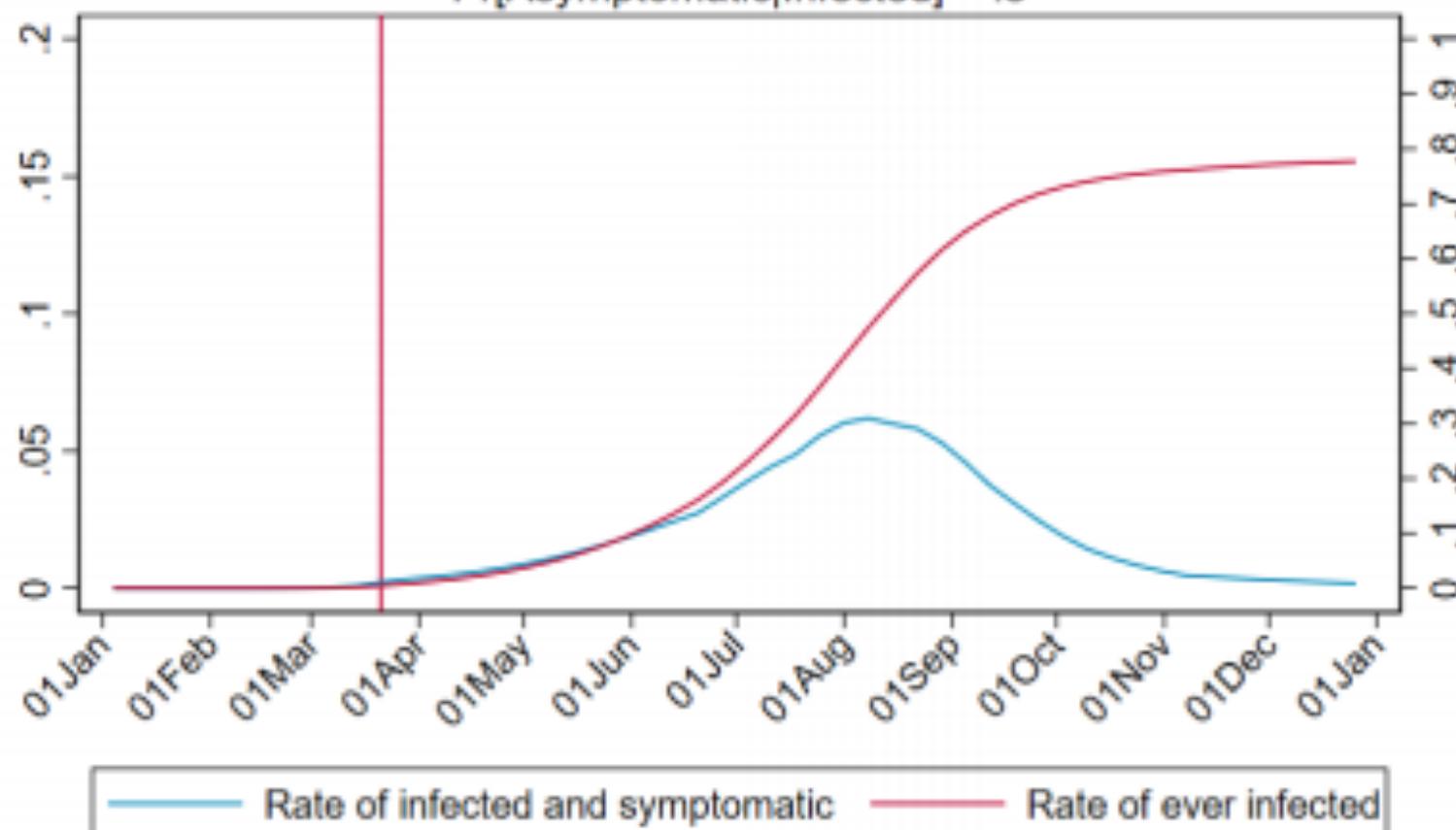


Initial cases = 50, baseline symptomatic rate = .02,  $\gamma = .6$   
Vertical line denotes March 21, 2020

**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](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?

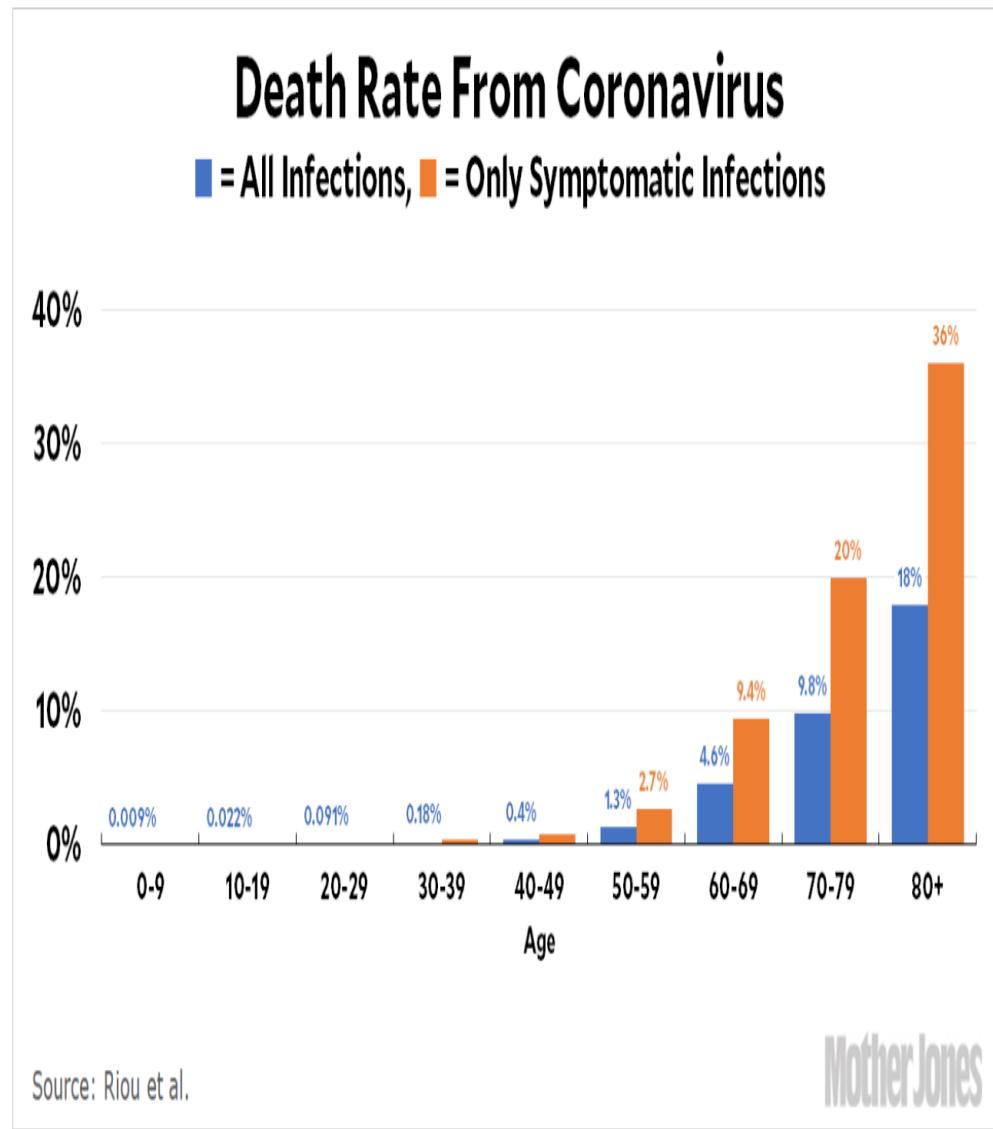
**Plus: distributional issues**

**Plus: bankruptcy and credit chain issues**

# MOAR Coronavirus!

## Death for Geezers!

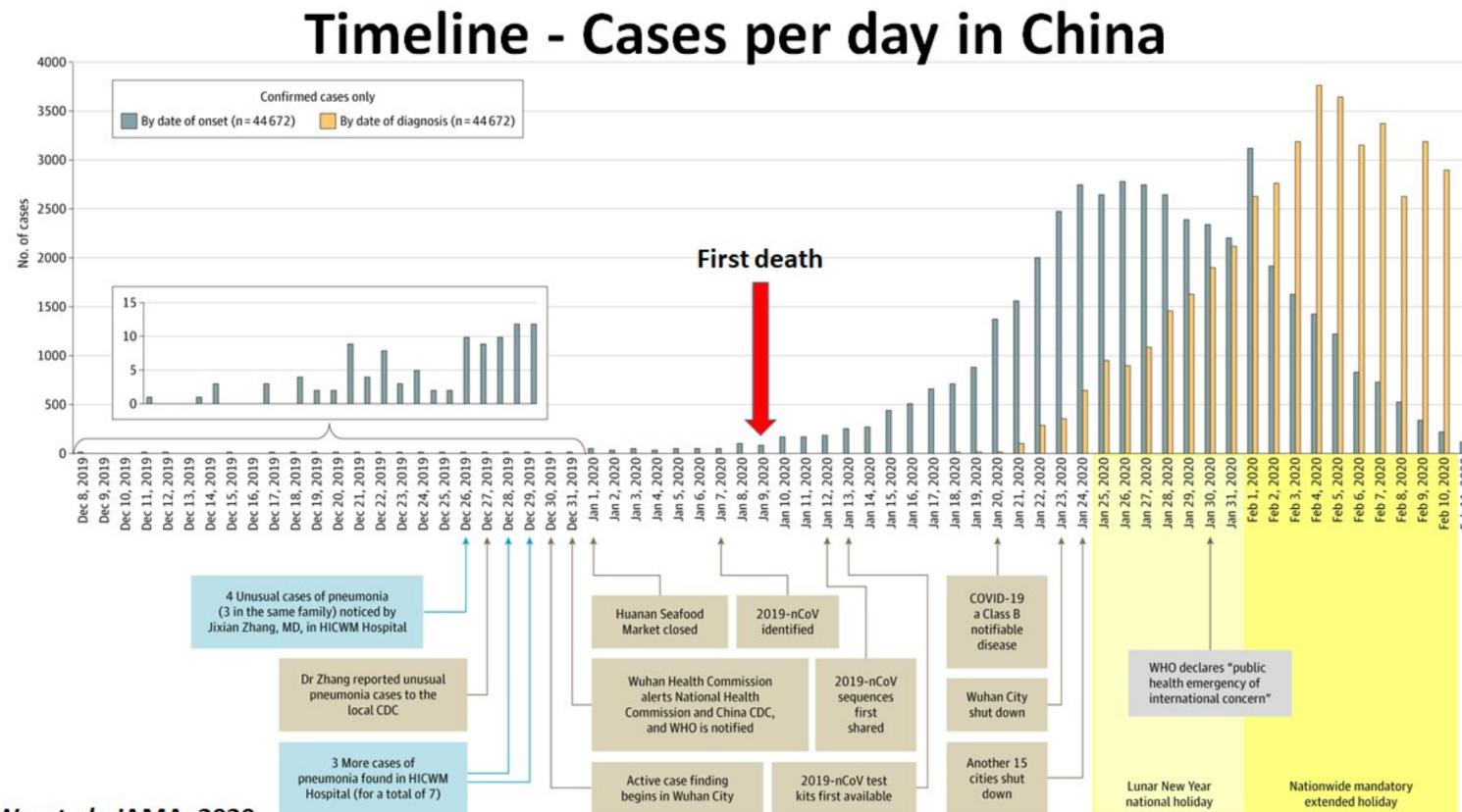
- Mortality for the Youngs very low...
- It's the flu for them—for you...
- And an extra doubling—or is it 5%?—mortality for the asthmatic
- And an extra doubling—or is it 5%?—mortality for the overweight



# What We Think Happened in Wuhan

China beat it quickly & relatively easily!

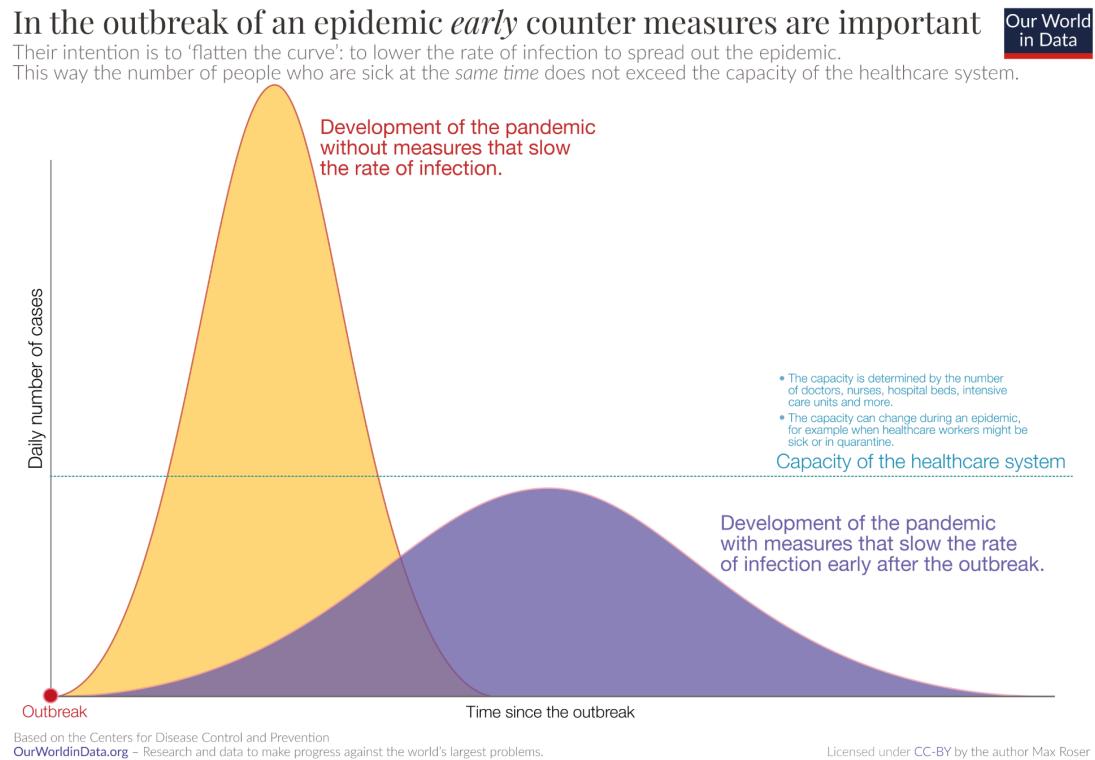
- We think
- Shut down Wuhan when 200 cases per day
- That seems to have been a good decision



# 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](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>>

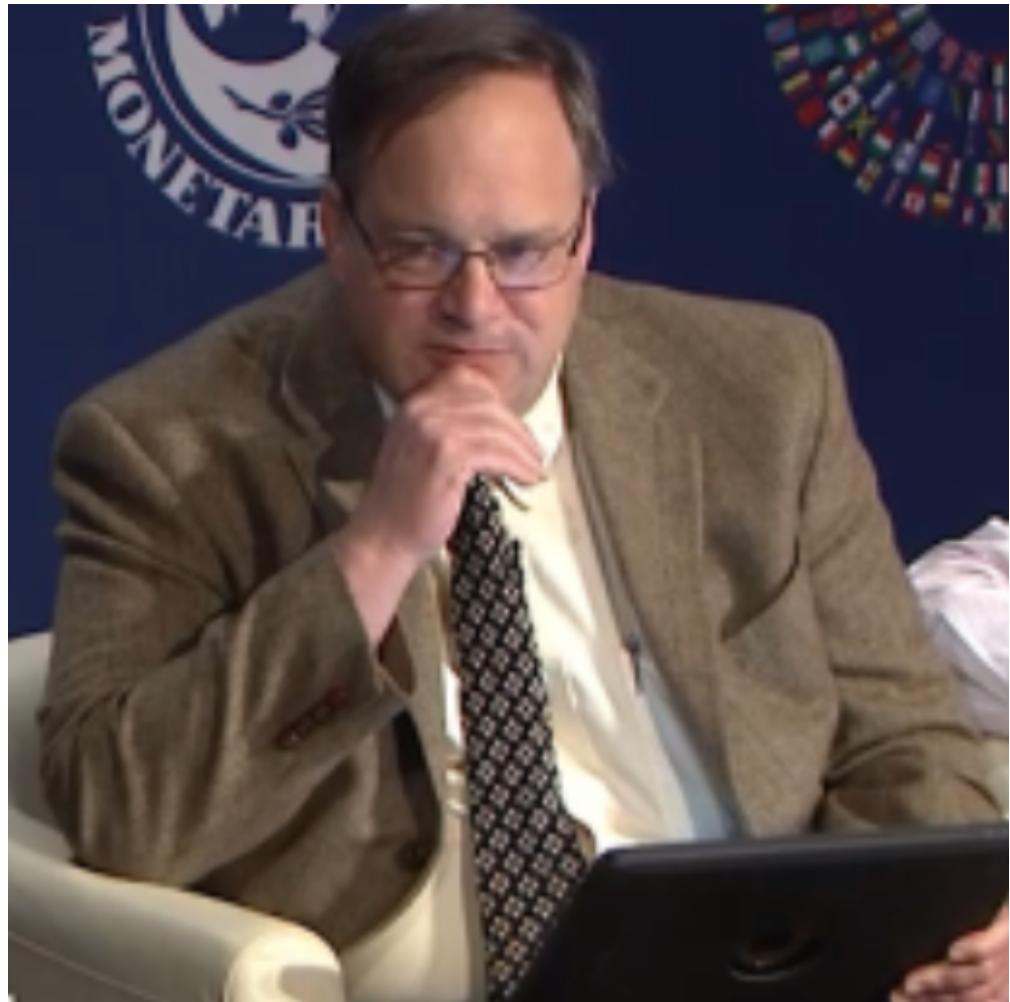
# MOAR Coronavirus!

## 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](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>>



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

Coronavirus Cases:

**179,836**

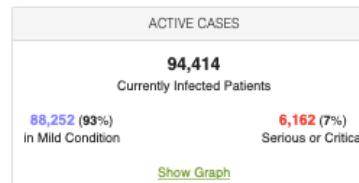
[view by country](#)

Deaths:

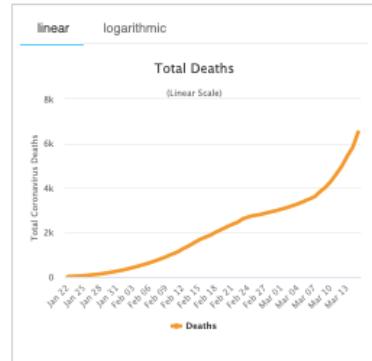
**7,098**

Recovered:

**78,324**



[More Case Statistics](#)



[More Death Statistics](#)

# MOAR Coronavirus!

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

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- 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**

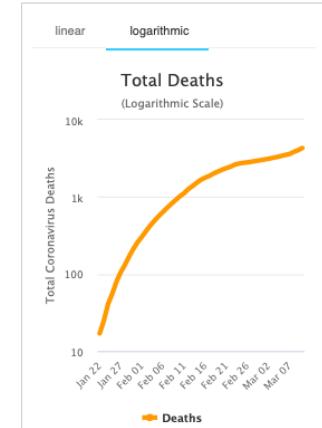
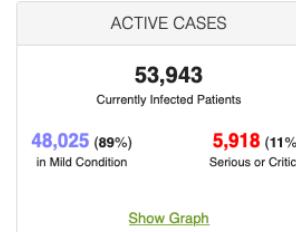
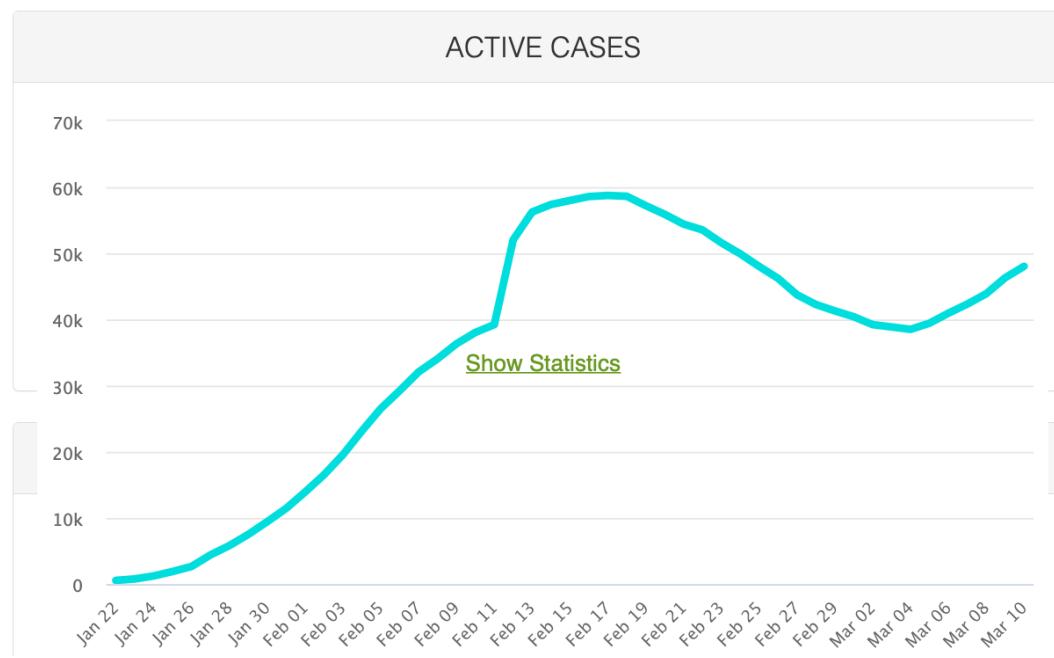
[view by country](#)

Deaths:

**4,605**

Recovered:

**67,051**



# Notes

