

# COVID-19: Economic Implications and Policy Response

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and  
National Economic Education Delegation



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## Outline for the Talk

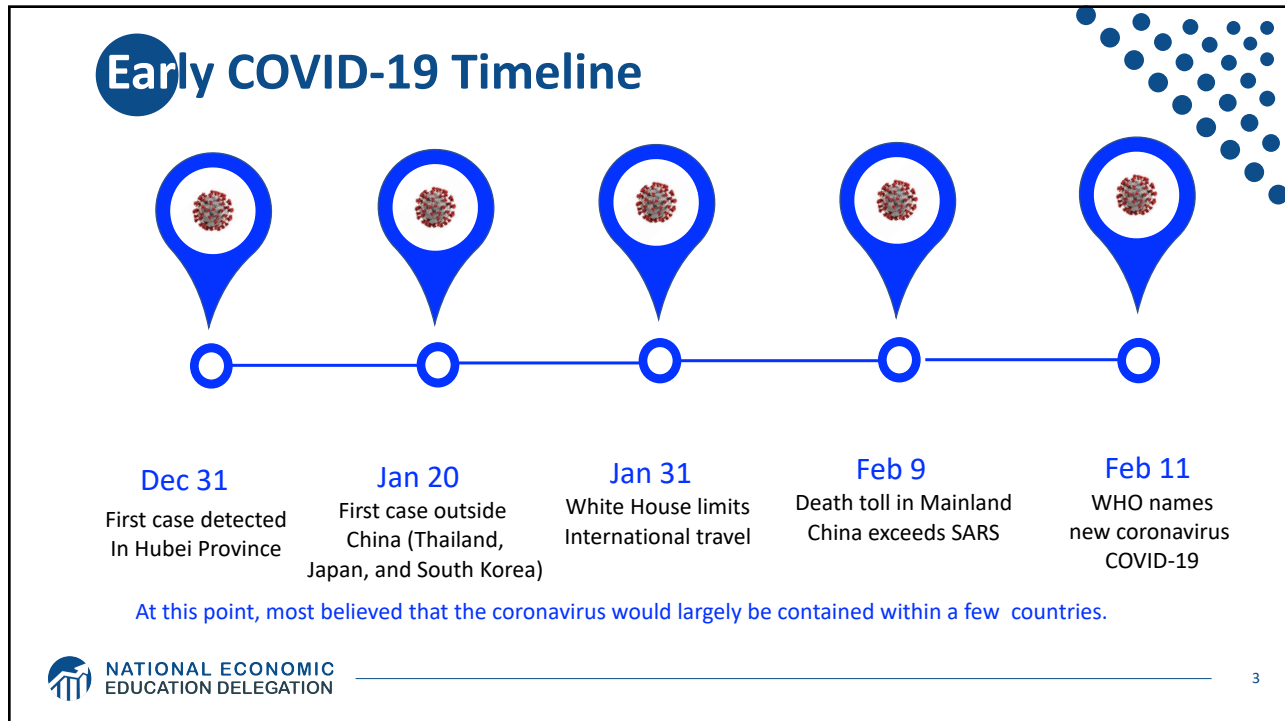
- Early Impact and Beliefs of the Economic Impacts
- US (Financial) Market Reaction
- Epidemiology and Flattening the Curve
- Flattening the Curve and Widening the Economic Impacts
- Government Response: Fiscal Authority
- Government Response: Monetary Authority
- What's Next Fiscal and Monetary
- Lessons Learned and Conclusion



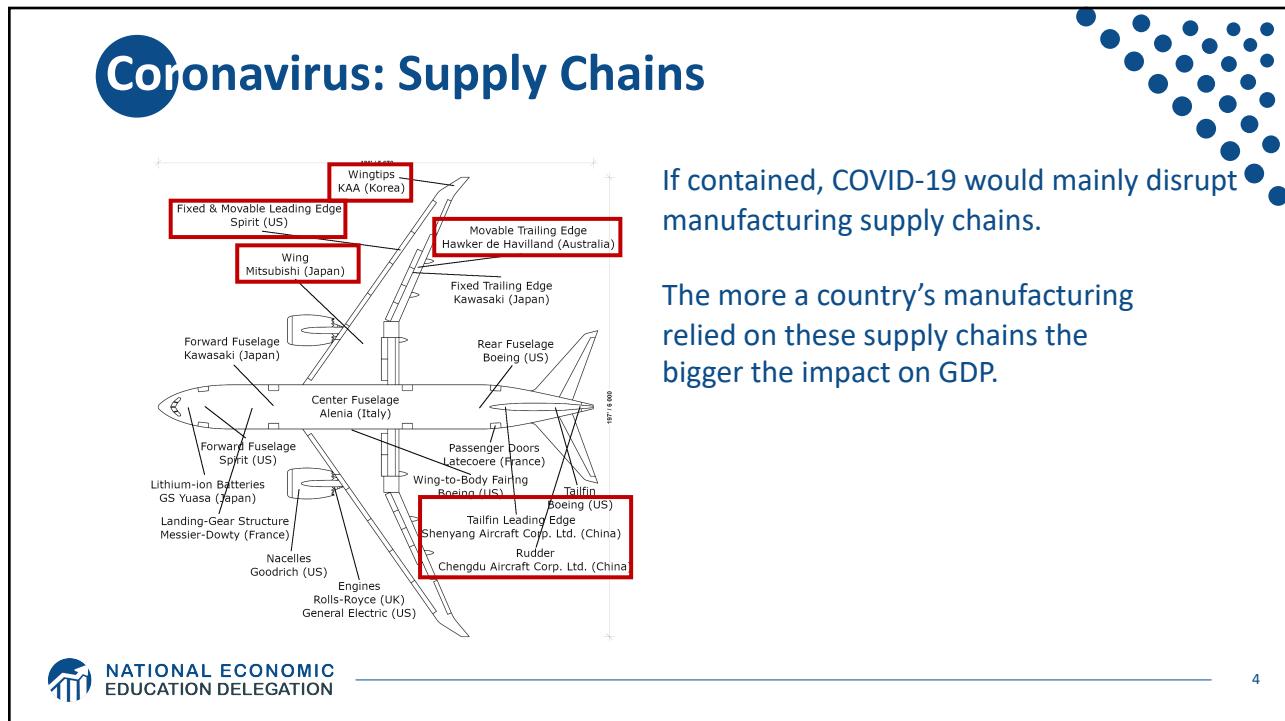
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# Coronavirus: Supply Chains

Countries	Share of World GDP	Manufacturing as a Share of GDP	Services as a Share of GDP
United States	24%	11%	77.4%
Canada	2%	10%	66.7%
UK	3%	9%	71.0%
Germany	5%	20%	61.8%
France	3%	10%	70.3%
Italy	2%	15%	66.3%
Spain	2%	11%	67.7%
Japan	6%	21%	69.1%
China	16%	29%	52.2%

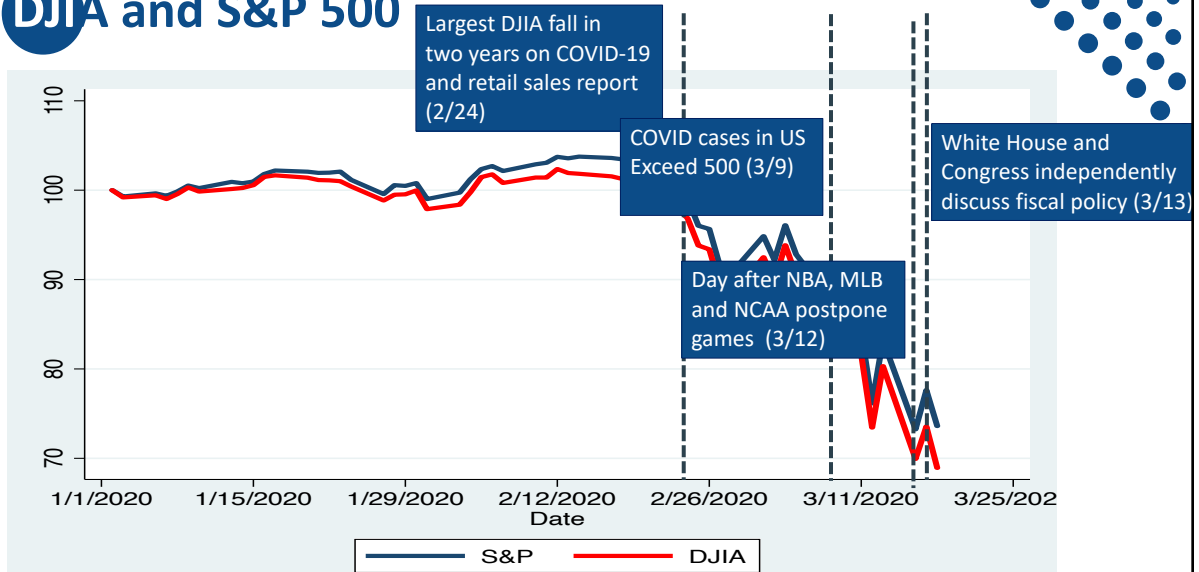
If contained, COVID-19 would mainly disrupt manufacturing supply chains.

The more a country's manufacturing relied on these supply chains the bigger the impact on GDP.

Limited to supply chain effects, COVID-19 was likely to be to slow GDP by 0.25 to 0.50 from its baseline prediction – say from 2.5 to 2 %

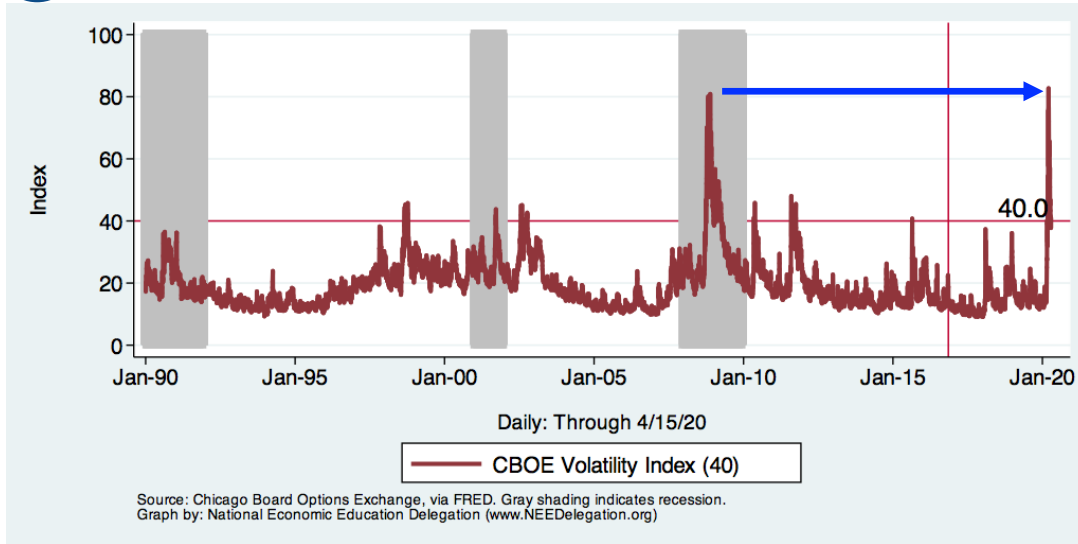
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# DJIA and S&P 500



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## Market Risk and Stress: CBOE VIX



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## The Escalation of the Economic Effects

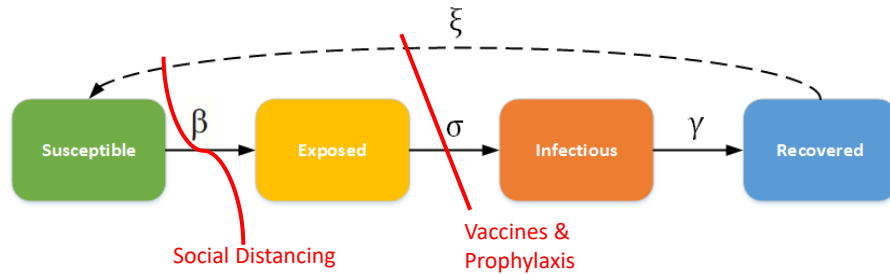


## Epidemiology

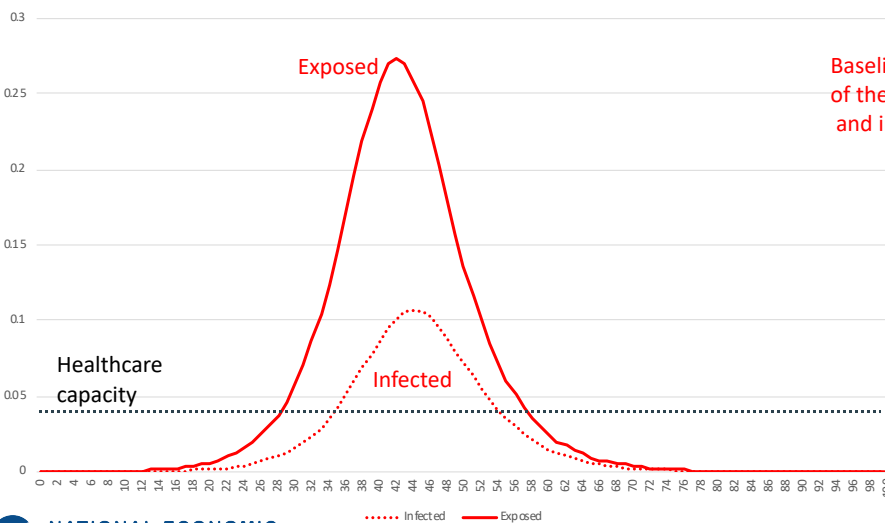
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# Epidemiology and Flattening the Curve

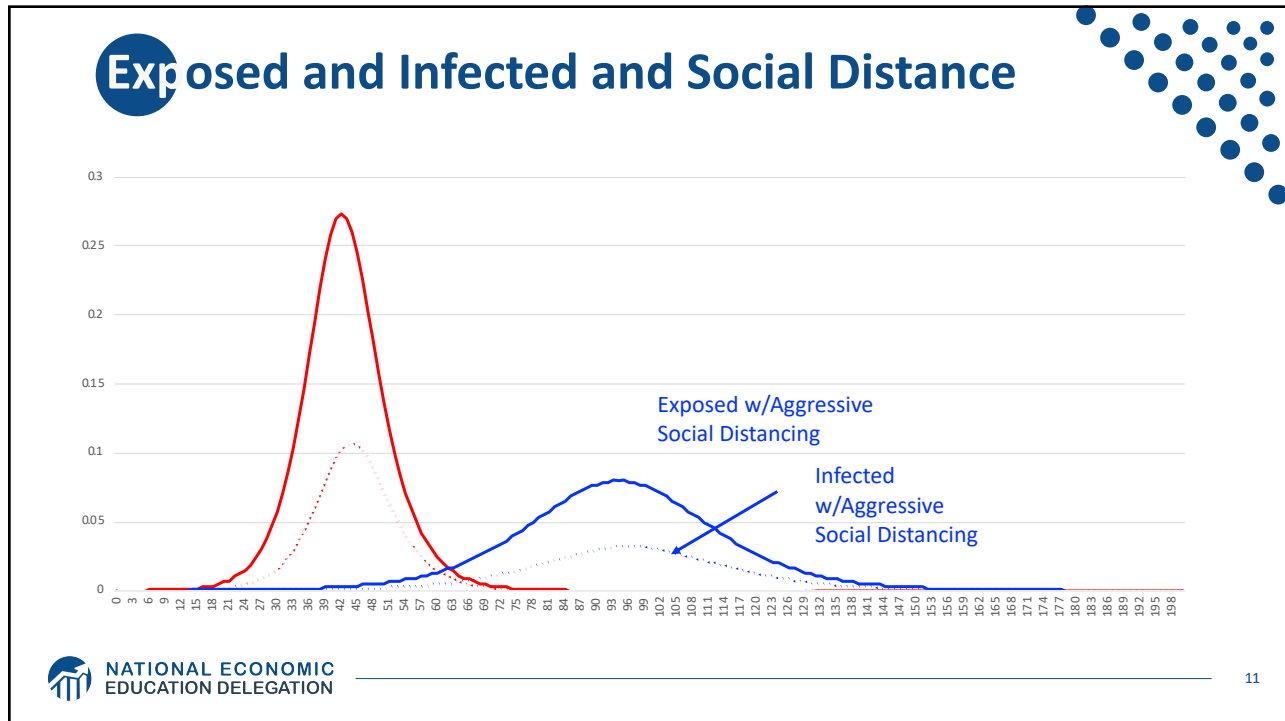
- The importance of testing and social distancing on containment.



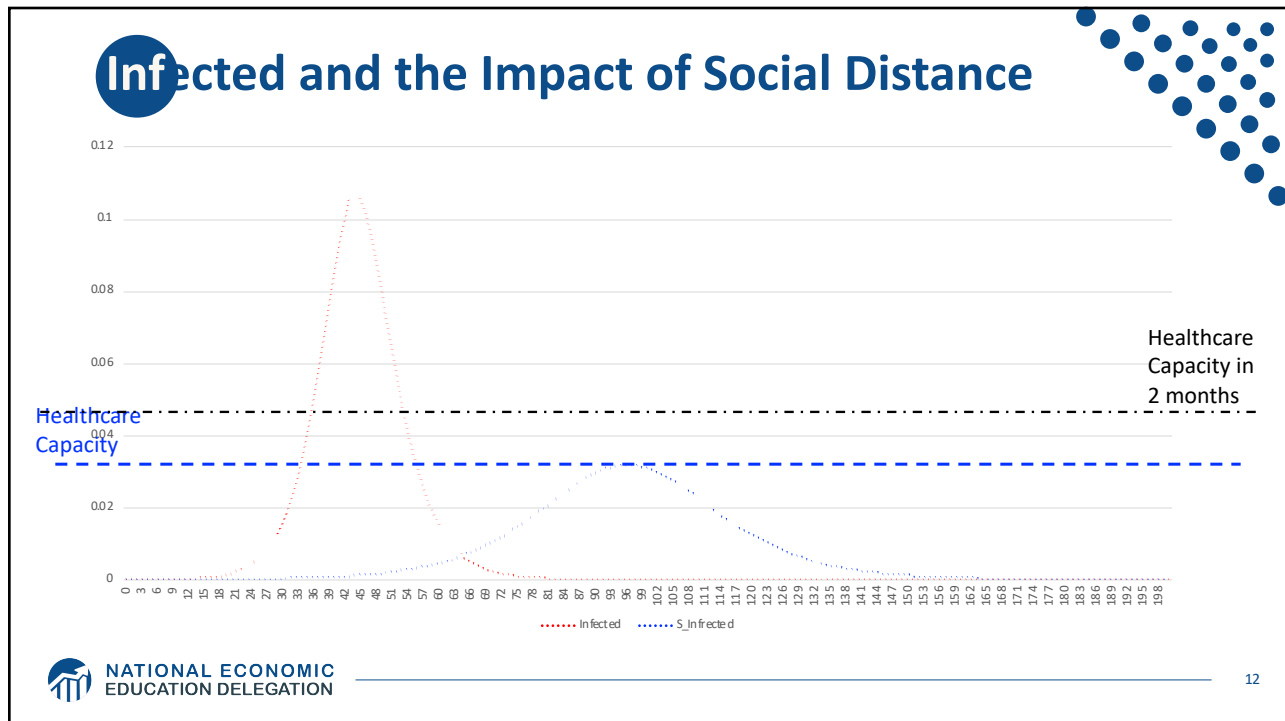
# Exposed and Infected – Baseline Case



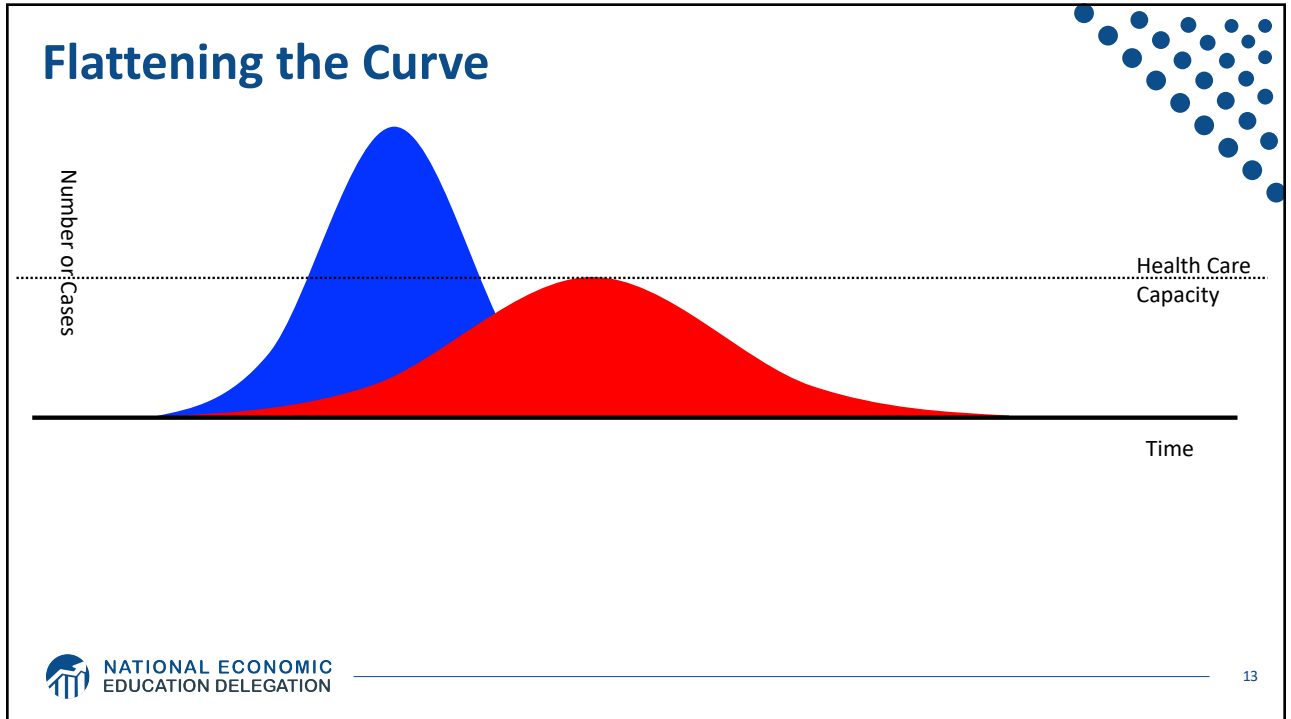
Baseline case of the fraction of the population exposed and infected.



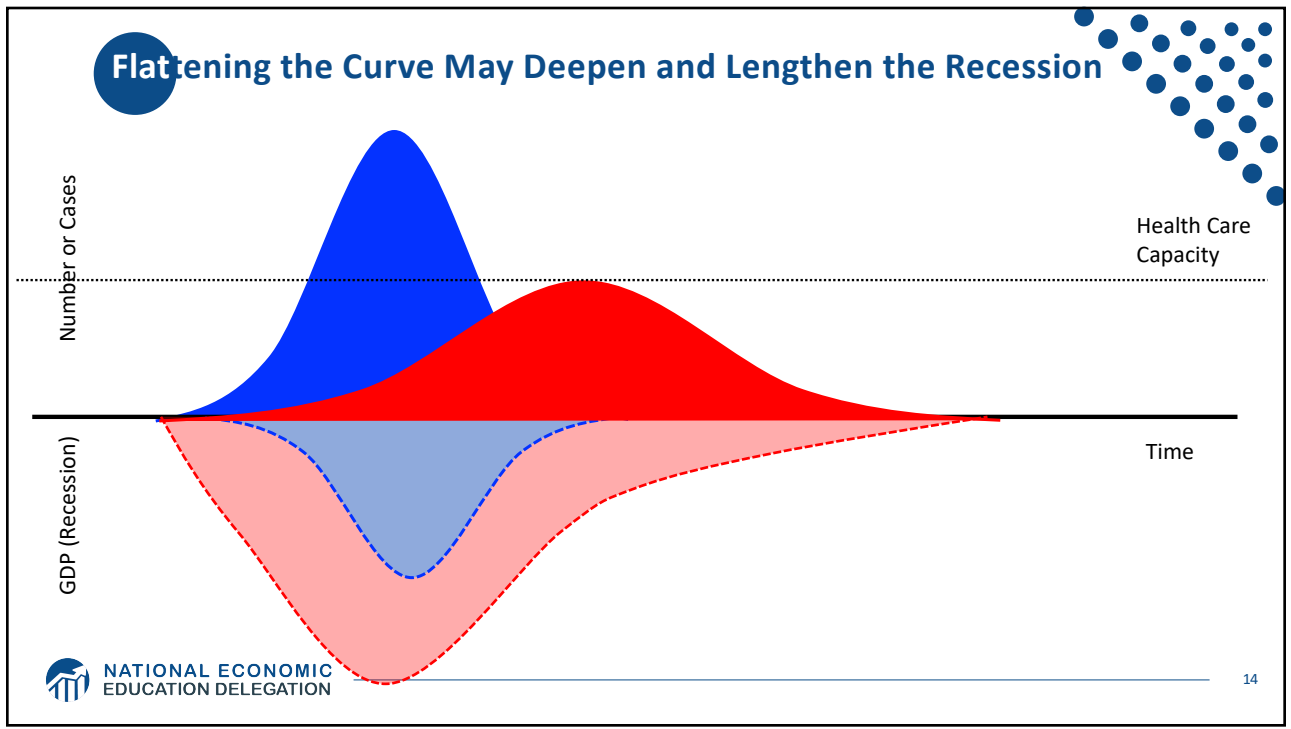
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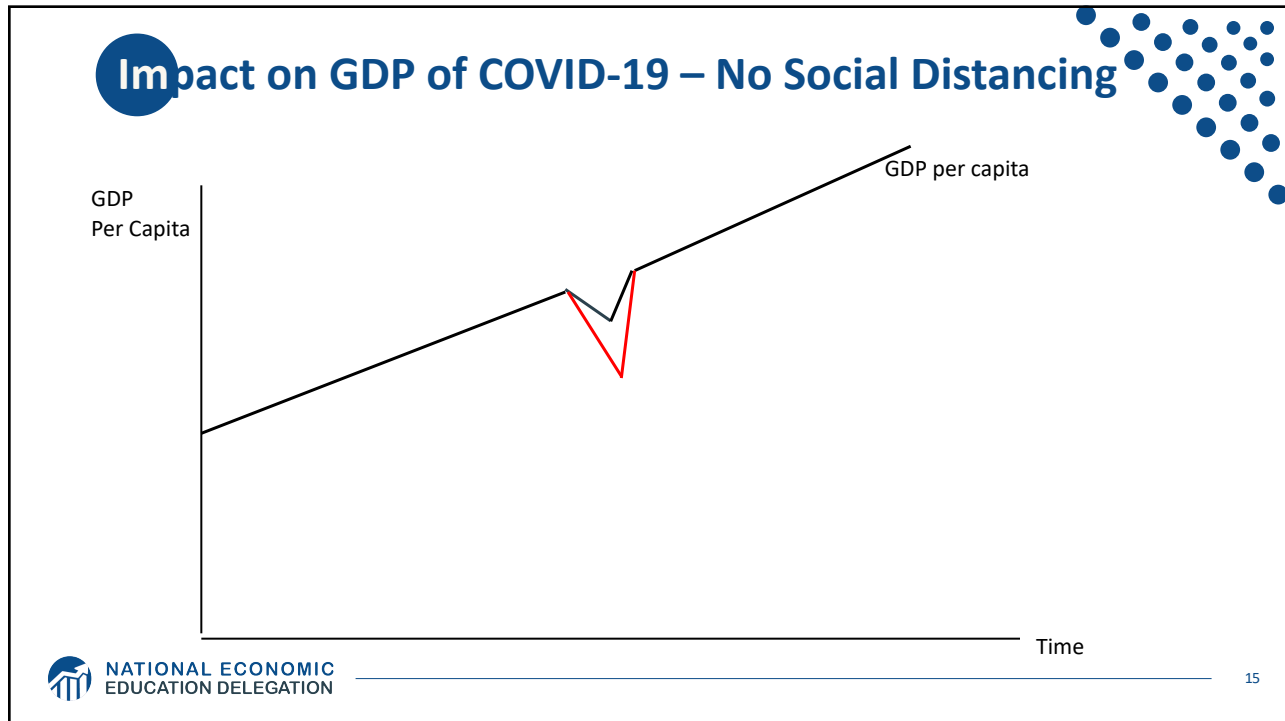
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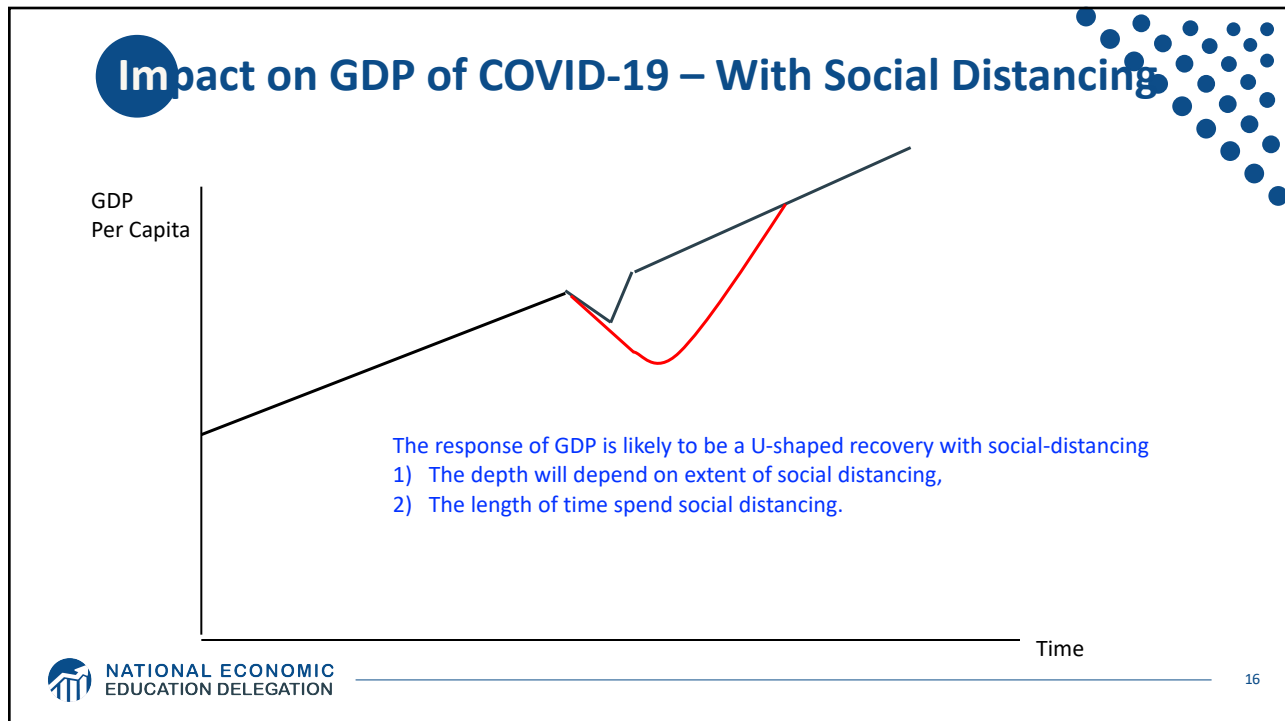
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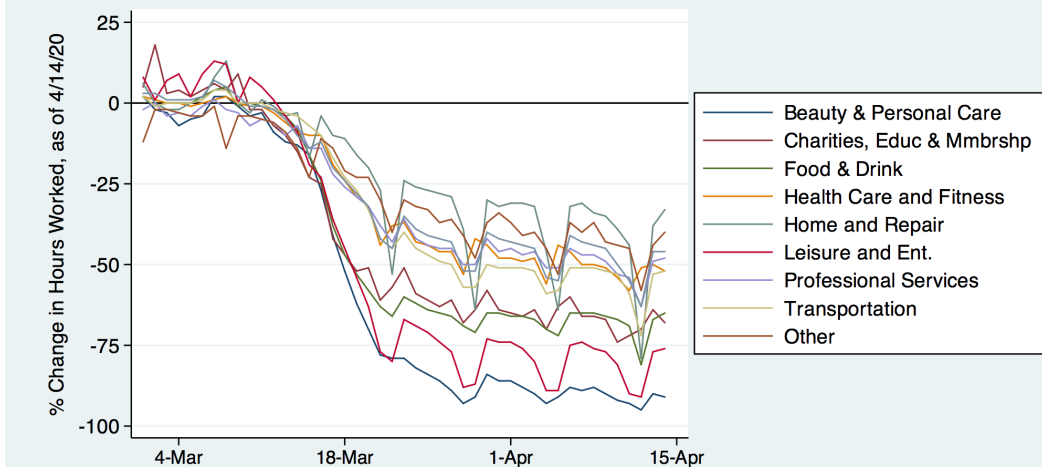
## GDP Shares and Sudden Demand Stops

Countries	Share of World GDP	Manufacturing as a Share of GDP	Services as a Share of GDP
United States	24%	11%	77.4%
Canada	2%	10%	66.7%
UK	3%	9%	71.0%
Germany	5%	20%	61.8%
France	3%	10%	70.3%
Italy	2%	15%	66.3%
Spain	2%	11%	67.7%
Japan	6%	21%	69.1%
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The most vulnerable industries include entertainment, food, recreation, health and beauty, Education, health, social assistance and manufacturing. These industries account for more than 50% of GDP.

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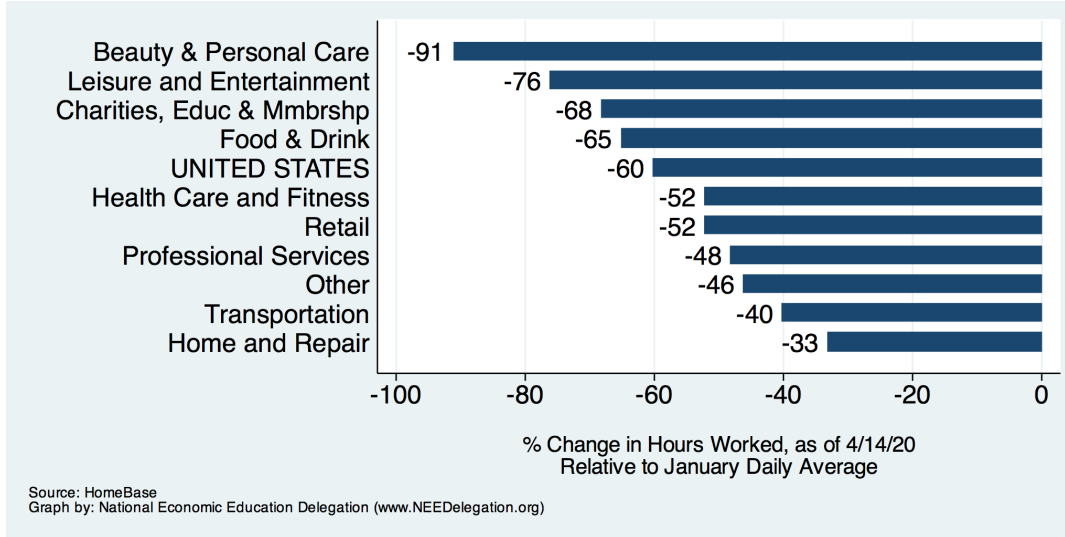
## Percent Change Hours Worked



Source: HomeBase - Values are relative to the January Daily Average  
 Graph by: National Economic Education Delegation (www.NEEDelegation.org)

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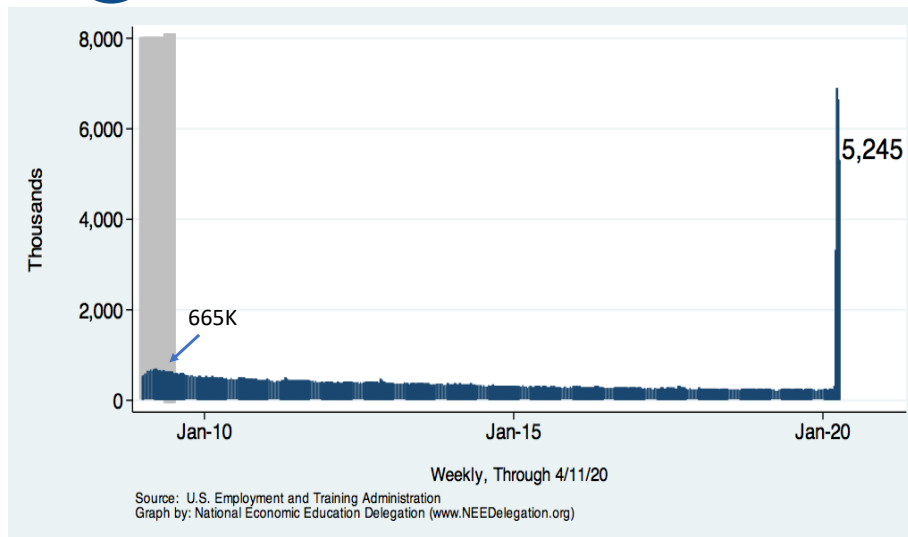
## Percent Change Hours Worked



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## Weekly New Unemployment Claims



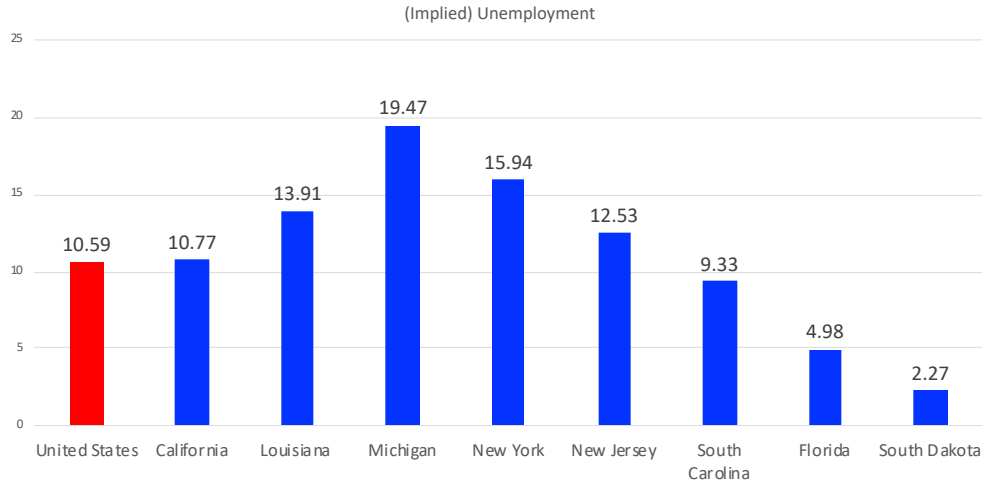
Over 4 weeks,  
 3/21 3.3 mill  
 3/28 6.8 mill  
 4/4 6.6 mill  
 4/11 5.2 mil



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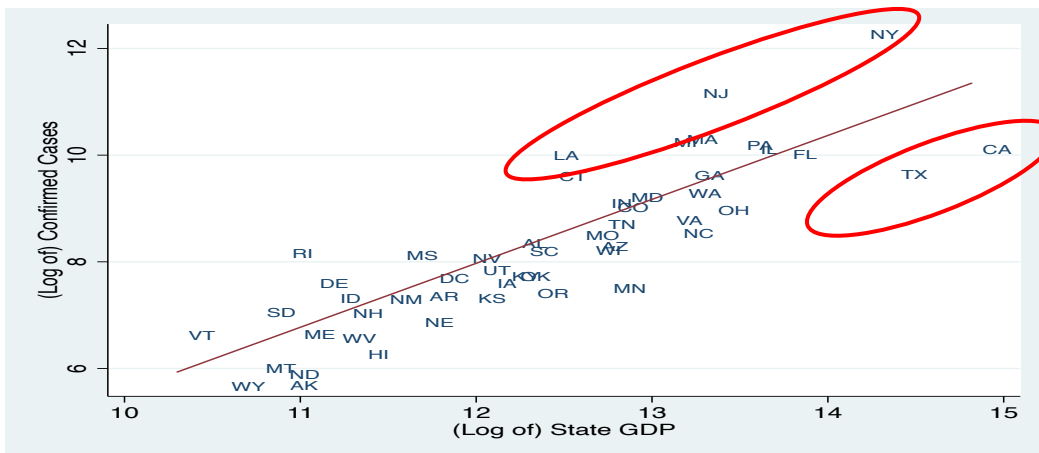
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# Unemployment Claims as Share of Labor Force



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# Confirmed Cases and State GDP



Correlation = 0.86

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## GDP Shares and Impact of COVID-19

Countries	Share of World GDP	Manufacturing as a Share of GDP	Services as a Share of GDP	Confirmed Cases	Deaths
United States	24%	11%	77.4%	667,572	33,903
Canada	2%	10%	66.7%	29,925	1,191
UK	3%	9%	71.0%	103,093	13,729
Germany	5%	20%	61.8%	135,663	3,867
France	3%	10%	70.3%	147,683	17,920
Italy	2%	15%	66.3%	168,941	22,170
Spain	2%	11%	67.7%	182,816	19,130
Japan	6%	21%	69.1%	8,626	178
China	16%	29%	52.2%	82,341	3,342

Source: World Bank, Johns Hopkins Coronavirus Resource Center, Worldometer

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## Cost Benefit Analysis: Tradeoffs

### • No containment policies

- Reduced economic activity
- More coronavirus deaths
- Non-coronavirus deaths

### • Stringent containment policies

- Dramatically reduced economic activity
- Fewer coronavirus deaths
- Non-coronavirus deaths(?)



#### Analysis of Containment Policies

Reduced economic activity < value of additional deaths

Complicated equation – both numerically and philosophically

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# BOTE Cost Benefit Analysis

BOTE: Back Of The Envelope

- **BENEFITS of social distancing:**

- \$7 million/life and 600,000 lives saved (\$4.2 trillion)
- Long term health issues avoided: 2 million at \$500,000 (\$1 trillion)
- **Total Benefit of Social Distancing: \$5.2 Trillion**

- **COSTS of “Shelter in Place” or “Lockdown”**

- There are about 70+ workdays in a quarter (plus March).
- **The cost of a “lockdown” is roughly \$1.3 Trillion**

**Benefit: \$5.2 trillion > Cost: \$1.3 trillion**



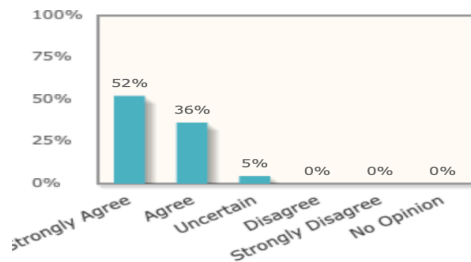
<https://twitter.com/BetseyStevenson/status/1242180499566669828>

# University of Chicago – Experts Poll

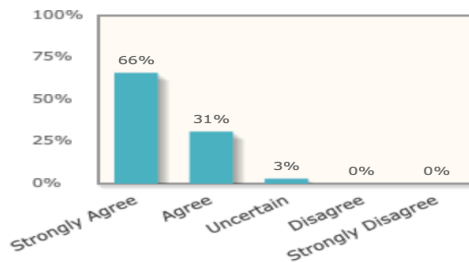
## Policy for the COVID-19 Crisis

**Question A: A comprehensive policy response to the coronavirus will involve tolerating a very large contraction in economic activity until the spread of infections has dropped significantly.**

**Responses**



**Responses weighted by each expert's confidence**



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Source: IGM Economic Experts Panel  
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## Government Response: This Shock is Different

- **This economic shock is a “health shock” with externalities that have (large) macroeconomic consequences.**
- **The fiscal and monetary response is not one where we can or should think about Keynesian versus Classical Solutions.**
- **Response should be to target the cause of the problem and provide income support for individuals and some financial support for firms.**
  - Cause of the problem is COVID-19 and its contagion.
  - Social distancing reducing income and production
  - (We hope) The economic shock is not structural and on the “other side” structurally things will be the same; therefore, we would like to preserve employment-employer matches.

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## This Time is Different

- **Great Depression and Recession (Demand Shocks)**
  - A Financial Crisis which led to
  - A Collapse of demand with persistent high unemployment
- **Oils Crisis of 1975 due to a sharp rise in the price of oil (Supply Shocks)**
- **Prior to the pandemic none of the above:**
  - Financial markets were not in trouble.
  - Real GDP growth was strong buoyed by strong consumer spending.
  - Unemployment and inflation were both low.
  - Oil prices were falling.
- **“Health Shock:” public health requires cessation of economic activity**

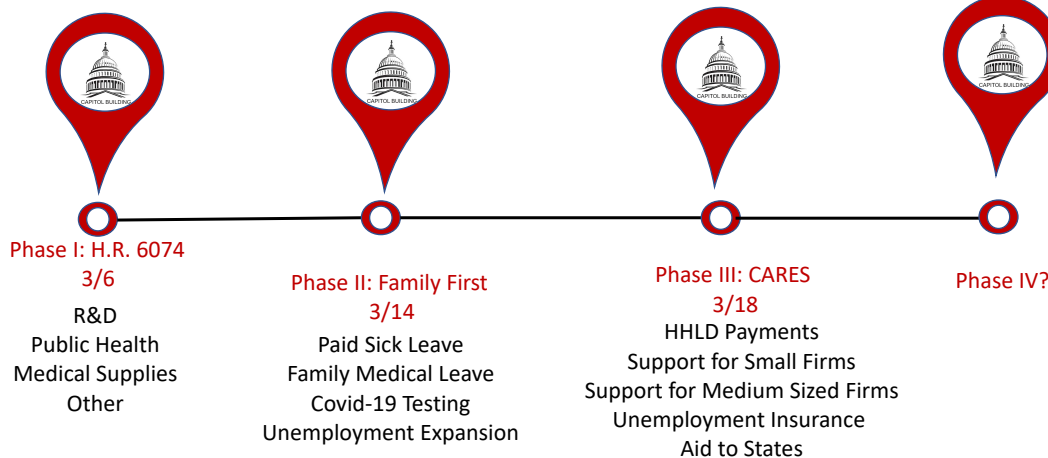
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## Government Response: Fiscal Response

- Respond to the impacted sector(s) – health crisis,
- Provide income support for the lower income and most vulnerable,
- Provide support to maintain employer - employee matches, and
- Provide support for the sectors that are most exposed to the shock.

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## Fiscal Policy Timeline



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## Government Response (Phase 2): Family First (H.R. 6201)

- Free testing for anyone whose doctor recommends it
- Expand family and medical leave
- Paid emergency sick leave
- Additional employment benefits

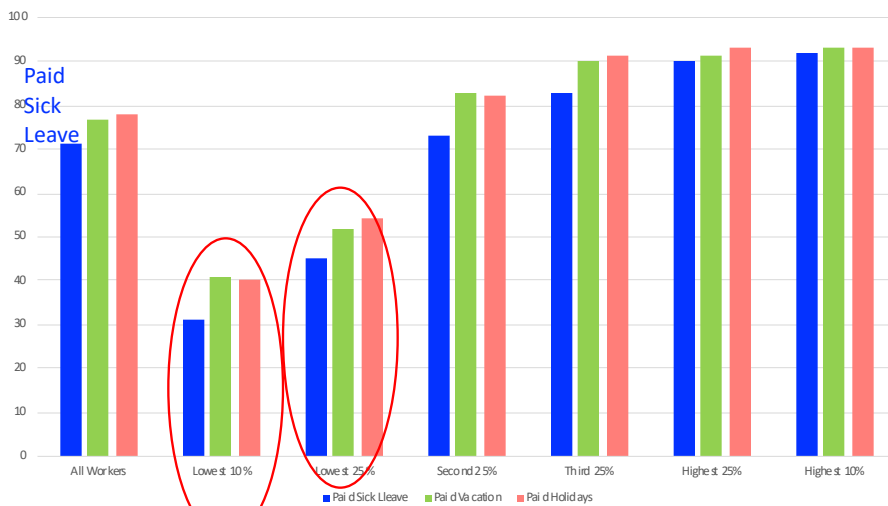
Clearly this is designed to increase testing and support social distancing and (self) quarantines

Food assistance: Supplemental Nutrition Assistance Program (SNAP) and Home-Delivered Nutritional Services



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## Paid Leave by Income Category



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## Fiscal Response: CARES Act (H.R. 748)

- **Direct payment to households \$1,200 for every adult and \$500 for every child – similar to the 2008 rebate but purpose is different.**
- **Small business loans (Paycheck Protection Program)-- \$350 billion**
  - <500 employees and designed to cover six (6) weeks of payroll.
- **Economic Stabilization Fund (Main Street Lending Program) – \$500bn**
  - for medium sized firms,
  - state and local municipalities, and
  - passenger and cargo air carriers, and firms maintaining national security.
- **Expand unemployment benefits**

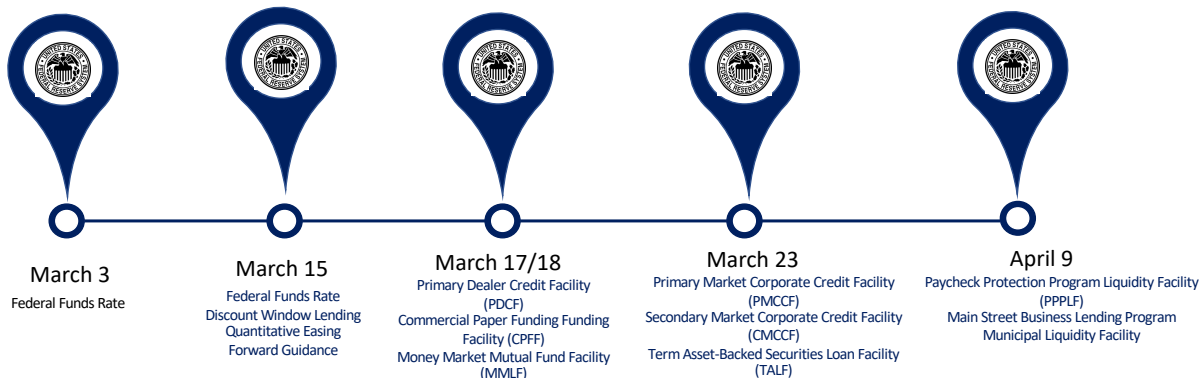


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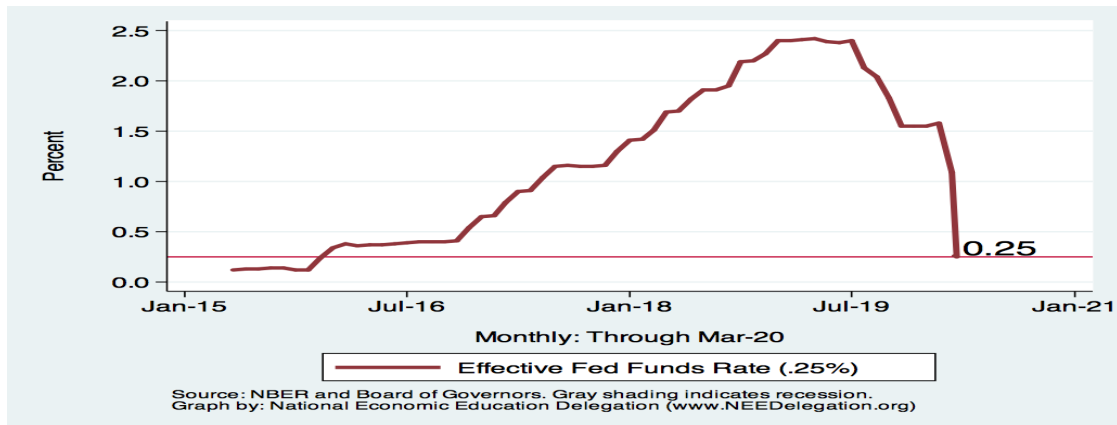
## Federal Reserve Timeline



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## Federal Reserve Response: Federal Funds Rate



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## Federal Reserve: Standard Operations

- **Federal Funds Rate:** The Federal Reserve lowered the targeted Federal funds rate on March 3 and again on March 15 moving the targeted Federal Funds rate to zero.
- **Discount Window Lending:** Lowered the interest rate it charges banks to borrow from 1.75% to 0.25%.
- **Reserve Requirement:** Lowered the reserve requirement to zero.
- **Forward Guidance:** Honed during the Great Recession the Fed tries to set market expectations on the time path of interest rates over time.

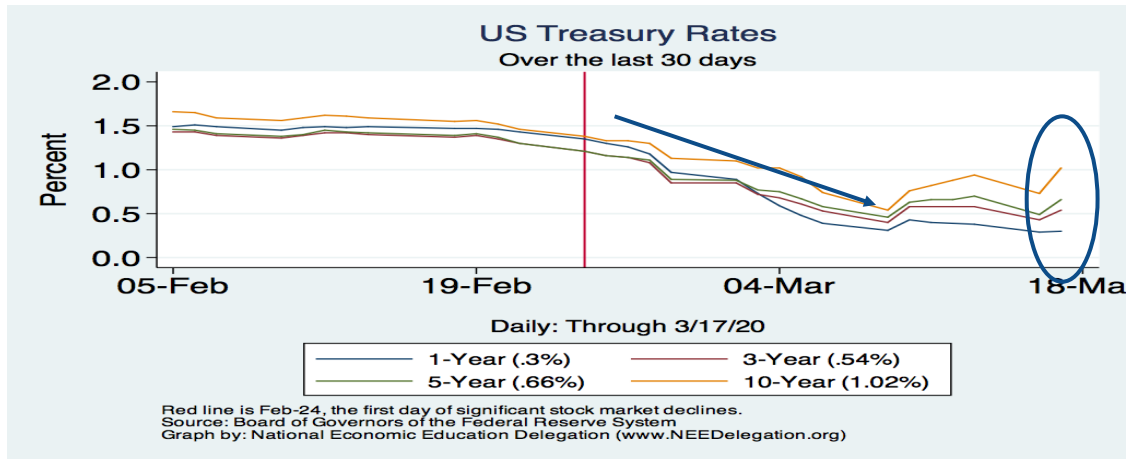


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# US Treasury Rates: A Safe Haven?



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# Runs Again



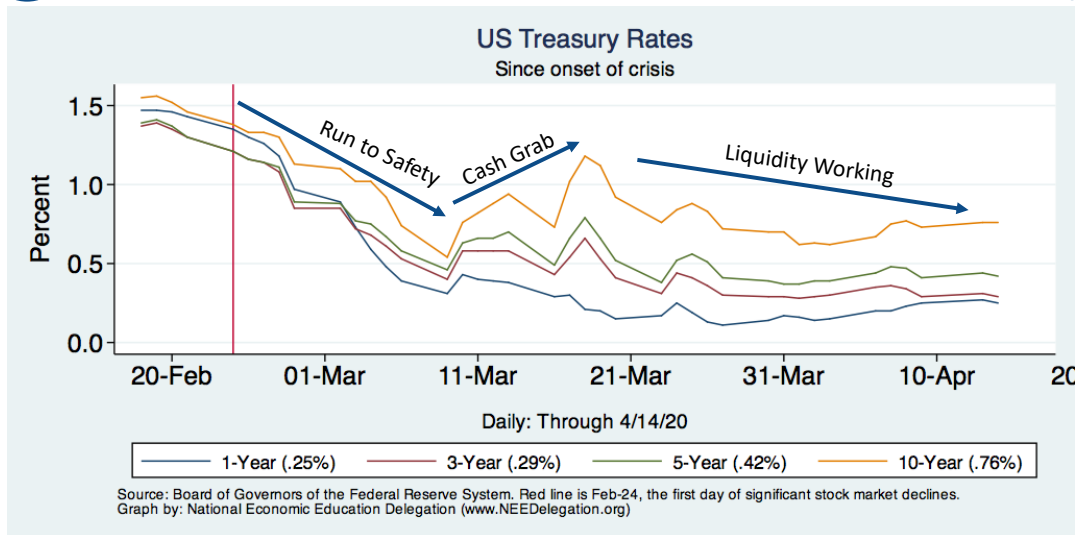
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## Federal Reserve: Ensure Financial Market Stability

- In mid-March, Treasury and Mortgage Backed Securities markets began behaving irregularly as the demand for liquidity increased.
  - **Securities Purchases (Quantitative Easing):** Fed Response: purchase treasuries and mortgage backed securities (3/15).
  - Re-launched the **Primary Dealer Credit Facility (PDCF)** in order “smooth market functioning and facilitate the availability of credit to businesses and households (3/17).
  - Re-instituted the **Money Market Mutual Fund Liquidity Facility (MMLF)** to “assist money market mutual funds in meeting demands for redemptions by households and investors enhancing overall market function and credit provision to the *broader economy*.”
  - Increased liquidity in the **repo market**. The repo market is where firms borrow and lend cash and short-term securities. The Fed was offering \$100 billion in overnight loans and \$20 billion in two-week loans.
    - o The Fed increased the offerings to \$1 trillion (from \$100 bn) in overnight repos, and
    - o \$500 billion in one month **and** three-month repos (from \$20bn 2/wks).

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## US Treasury Rates: A Safe Haven?



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## Federal Reserve: Support Corporations and Business

In 1932 section 13(3) was added to the Federal Reserve Act, which has permitted emergency lending to bank and nonbank companies by the Board of Governors of the Federal Reserve System (the Federal Reserve).

- Created the **Primary Market Corporate Credit Facility (PMCF)** allows the Fed to lend directly to corporations by buying new bond issuances and providing loans (3/17).
- Instituted the **Commercial Paper Funding Facility (CPFF)** the Fed can purchase commercial paper from firms at a given interest rate – effectively, the Fed is lending directly to firms. (3/17)
- **Main Street (Expanded) Loan Facility:** Through the CARES Act these two programs offer four-year loans to US businesses with up to 10,000 employees or revenues less than \$2.5 billion. (4/9)
- **Paycheck Protection Program Facility:** Facilitates loans under the Small Business Administration Paycheck Protection Program



## Federal Reserve: Other Support

### • Support for Households and Consumers:

- Re-instituted Term Asset-Backed Securities Loan Facility (TALF) by which the Fed lends to holders of asset backed securities that are collateralized by new loans. Extended this program to include existing commercial mortgage-backed securities and newly issued collateralized debt obligations.

### • Support for States and Municipalities

- The municipal bond market exhibited signs of stress in March it was becoming increasingly hard to borrow in the Muni-market. The Fed created the Municipal Lending Facility to lend directly to state and local governments.
- Also expanded eligible collateral to include municipal debt in the MMLF and CPFF market.

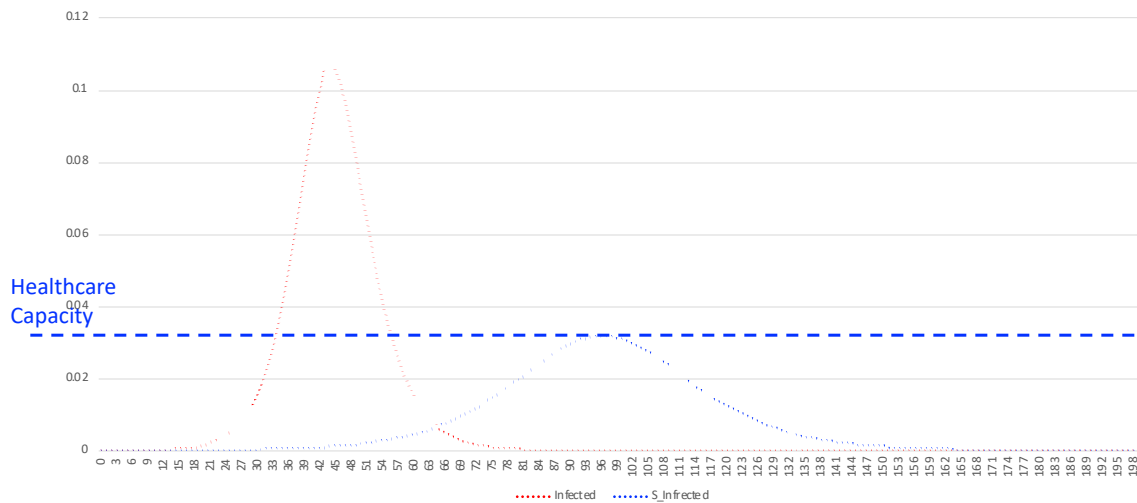


# What is Next?

- Key: Depends on the progress made on testing and treatment
- Depends on flattening the curve and society's view of trade-offs

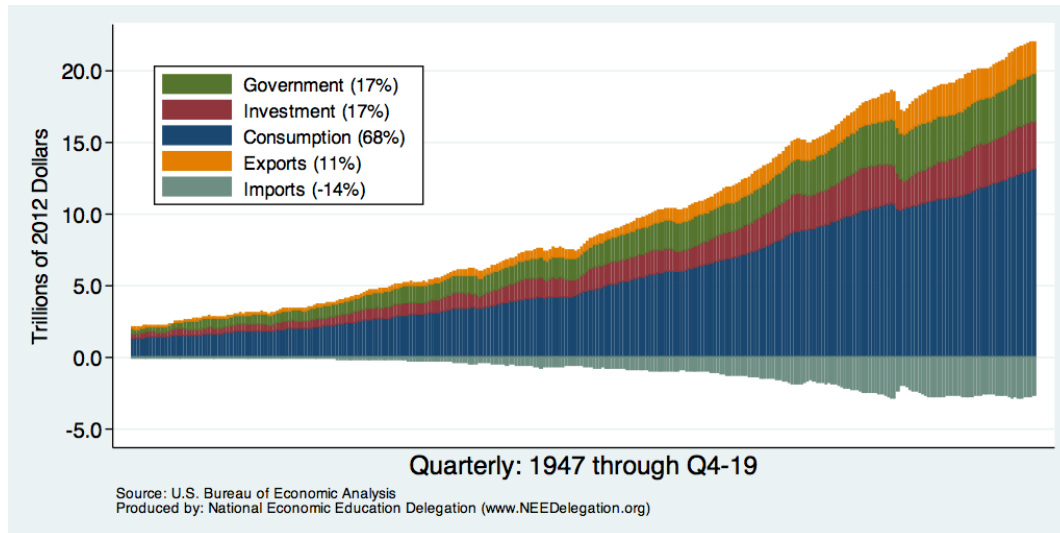
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# Social Distance and Healthcare Capacity



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## Composition of Real GDP



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## What is Next?

- **Key:** Depends on the progress made on testing and treatment
- Depends on flattening the curve and society's view of trade-offs
- "Opening Back Up" will likely need Federal and State guidelines and likely to vary across region.
- Private sector will factor into determining how the economy opens back up



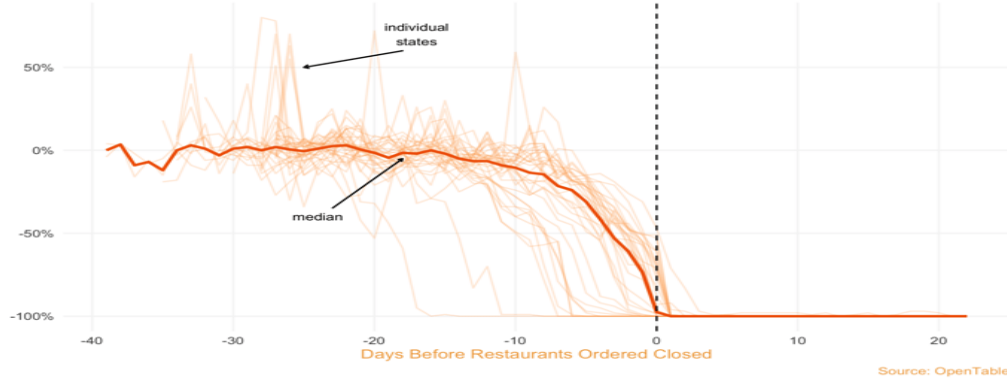
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## Reservations: Open Table

The Day Before Closures, Restaurant Reservations Had Fallen 73 Percent on Average  
Percent change in 2020 OpenTable reservations in 37 states compared to same day 2019



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Source: David Boaz

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## Other Events Canceled

- March 6 — SXSW canceled
- March 10 — Ivy League cancels its basketball tournament
- March 11 — March Madness will be played without fans
- March 11 — Cato Institute cancels live events
- March 12 — March Madness canceled
- March 12 — Cato Institute and Brookings Institution shift to mandatory telework
- March 13 — Masters and Boston Marathon postponed
- March 15 — CDC recommends cancellation of events involving 50+ people
- March 16 — Kentucky Derby postponed
- March 19 — California becomes the first state to issue a stay-home and business-closing order



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Source: David Boaz

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## Conclusion

- COVID-19 is health crisis that has macroeconomic implications.
- The macroeconomic effects are derived from supply-chain disruptions and "sudden-demand" stops.
- The IMF has downgraded its growth forecast for the US to -5.9% in 2020 and the forecast is for economic growth to resume in 2021.



## What have we learned? Positive Take-Aways

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



## Private Sector Response

- Some firms have committed to maintain employment and continue to pay hourly workers.
- Some firms and individuals have committed to use resources to help support the health crisis.



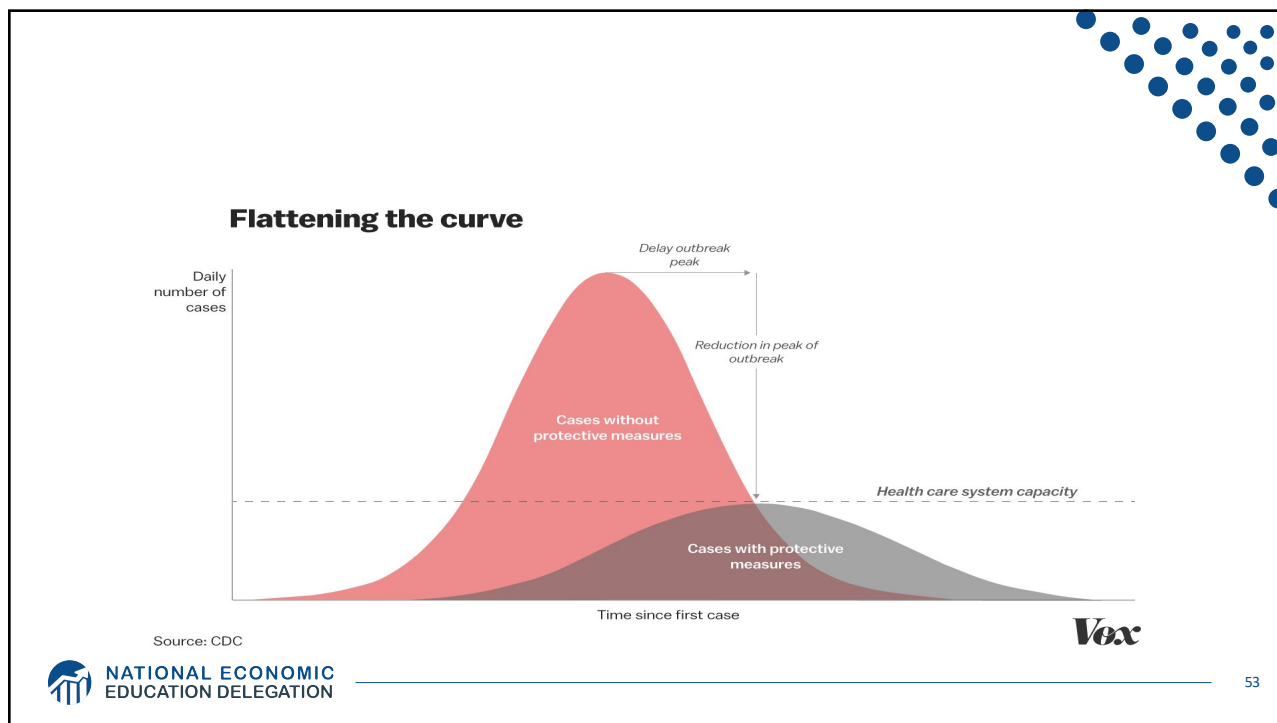
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## What is next and what else can be done?

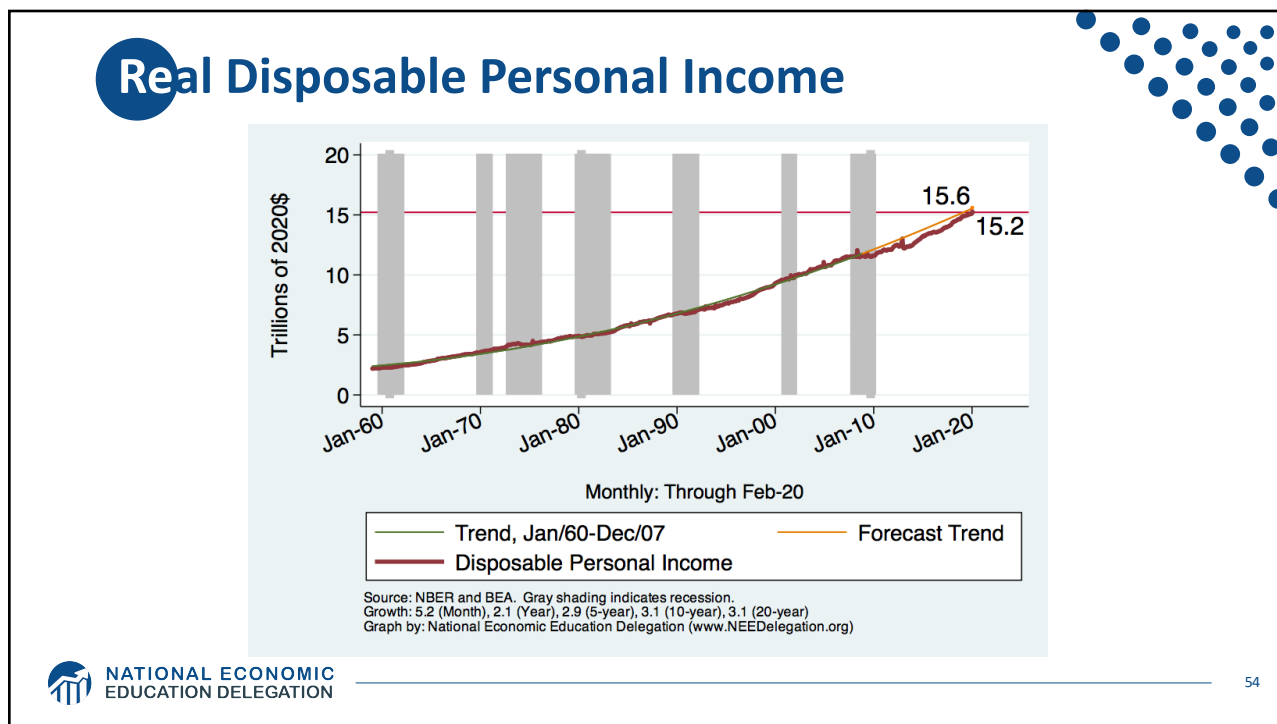
- **How do we pay for it?**
  - Run larger deficits
  - Run the printing press MMT
  - Firms and/or individuals borrow through Treasury (Cochrane)
- **Additional fiscal measures**
  - Buyer of last resort (Piketty and Zucman)
  - Employer of last resort (MMT)
- **Additional cash disbursements**



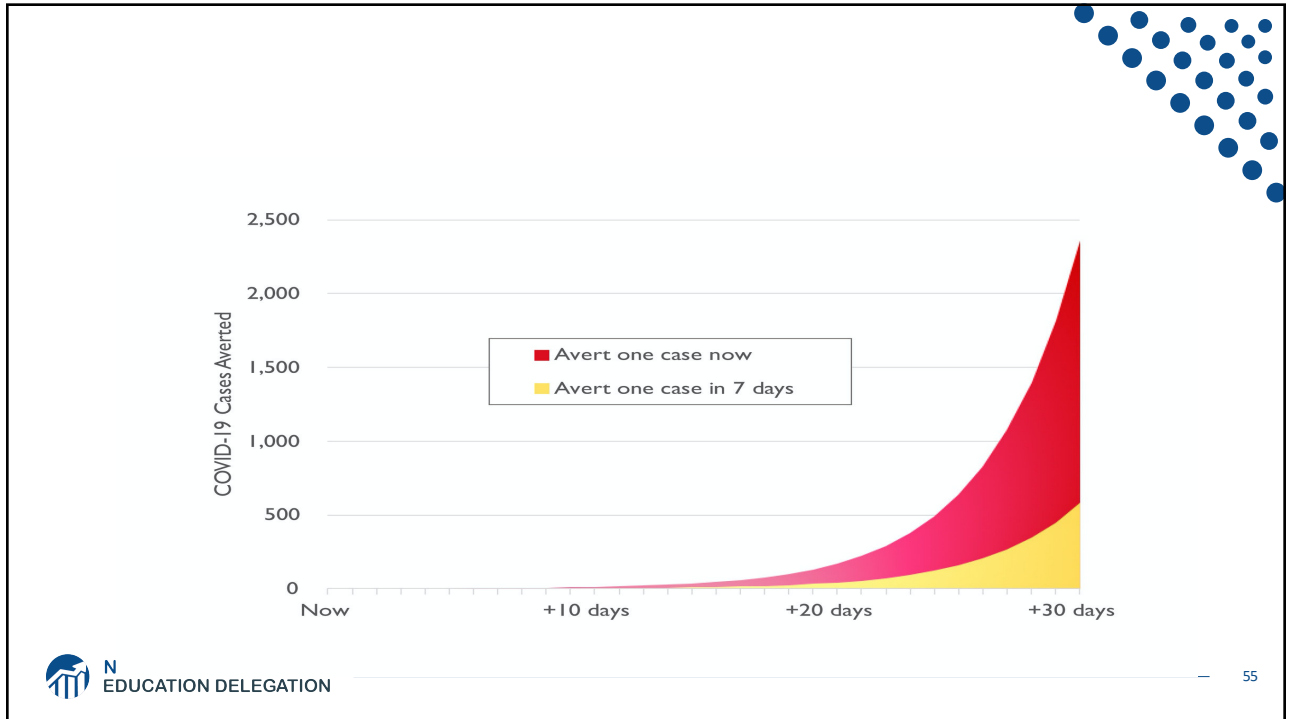
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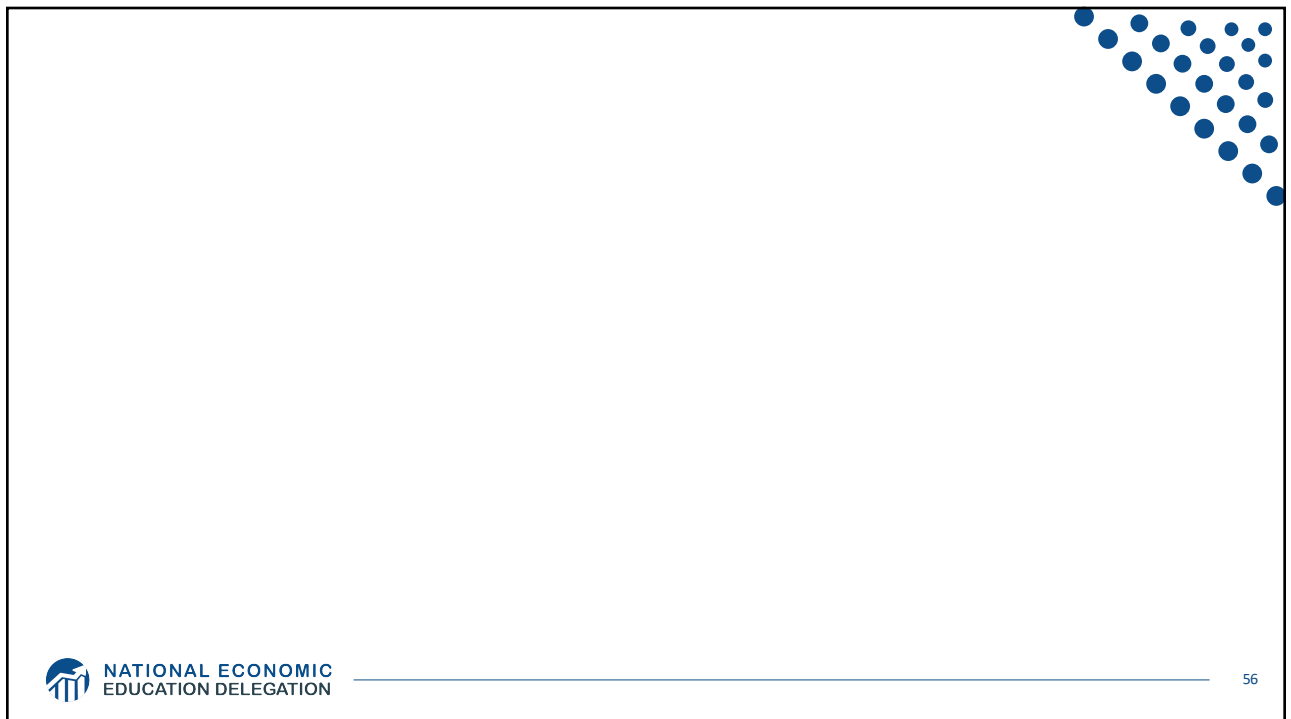
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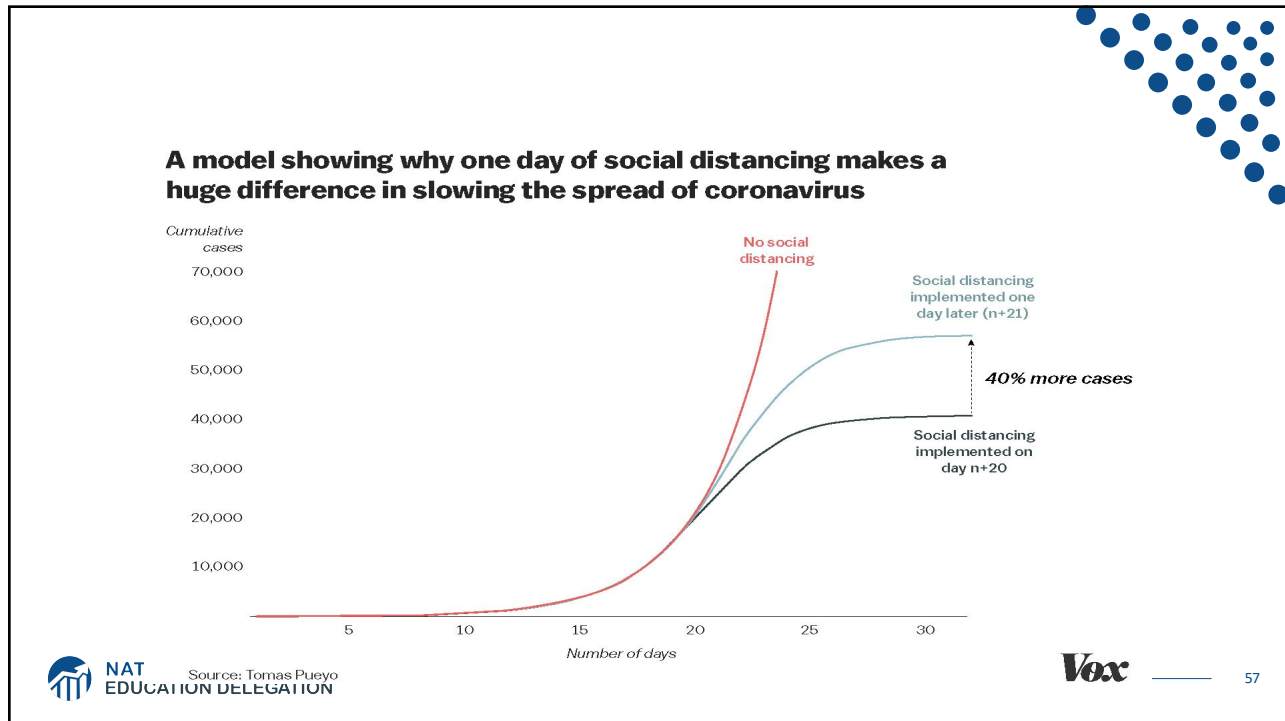
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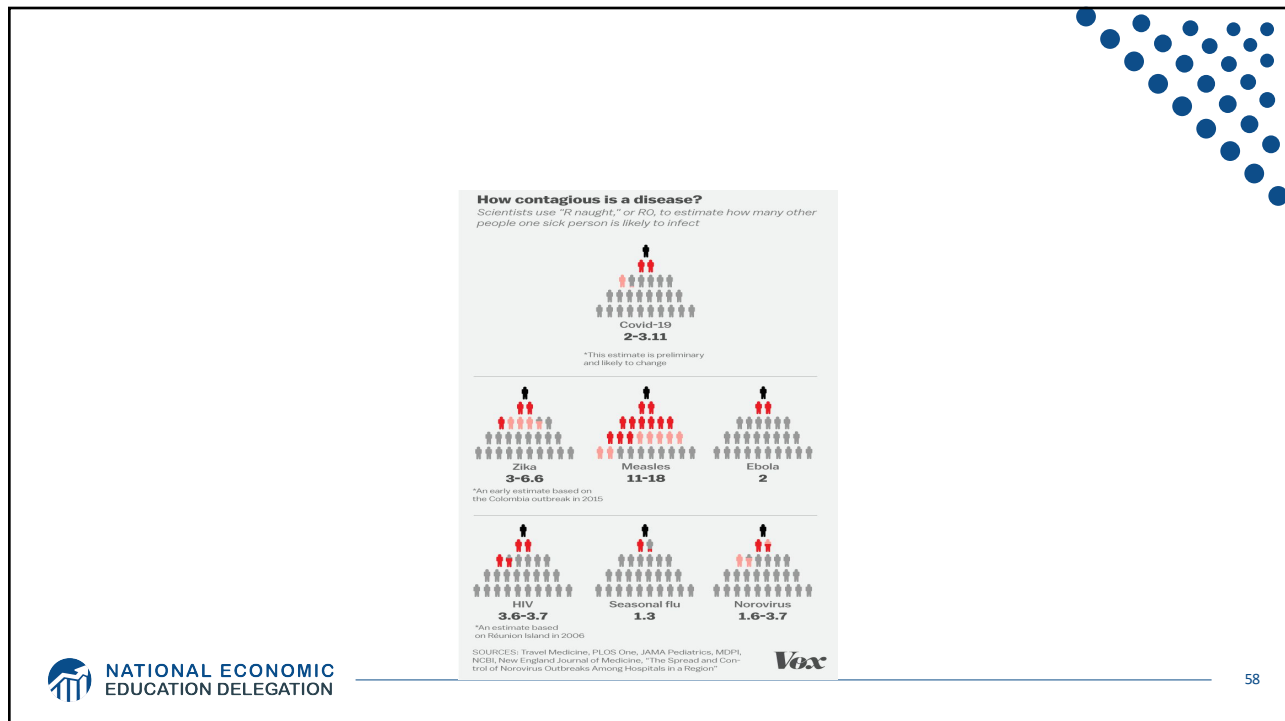
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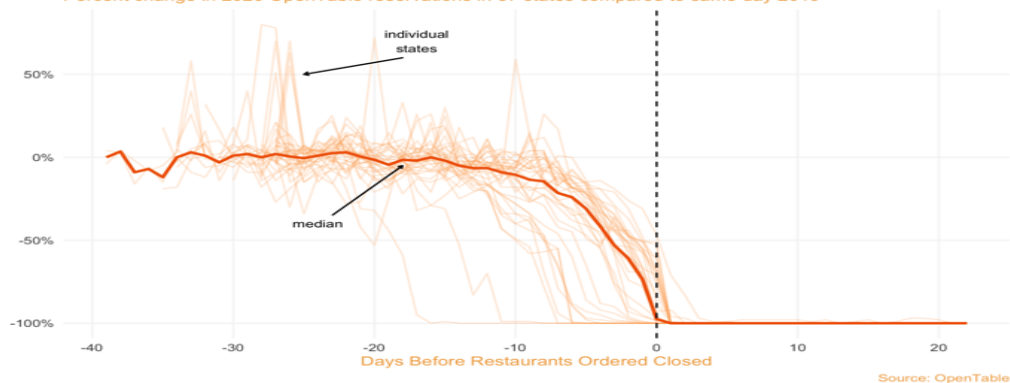
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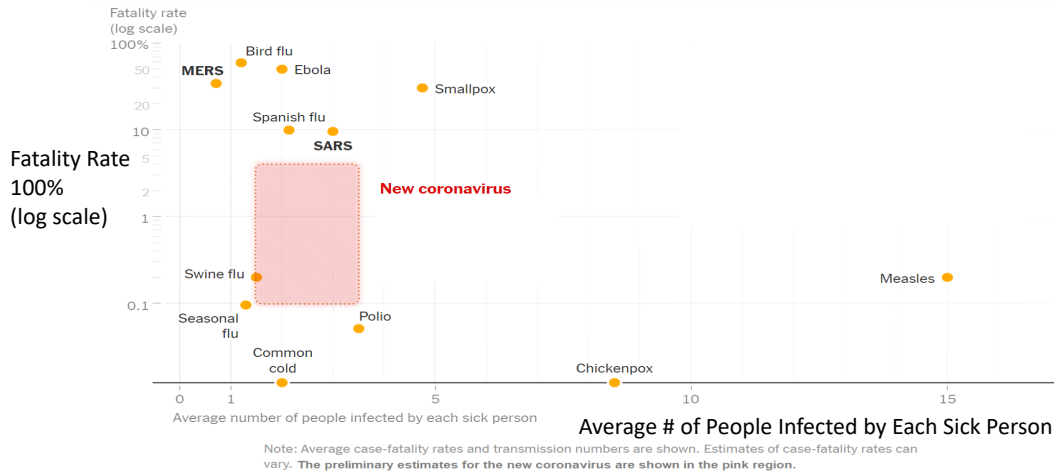


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Percent change in 2020 OpenTable reservations in 37 states compared to same day 2019



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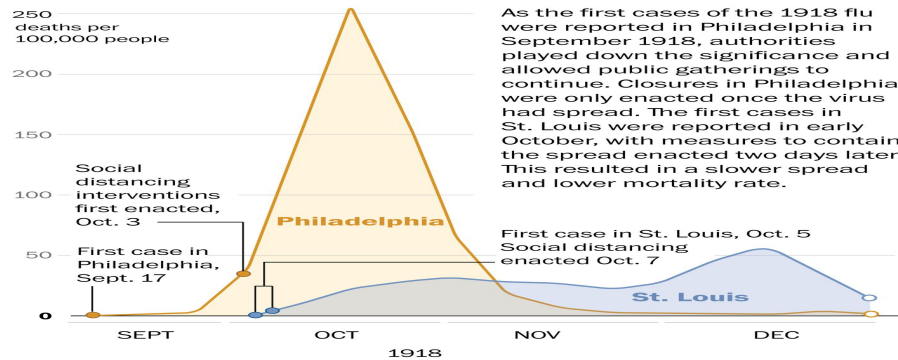
# Comparison of COVID-19: Fatality an R0



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# Effective Social Distancing

## Effects of social distancing on 1918 flu deaths

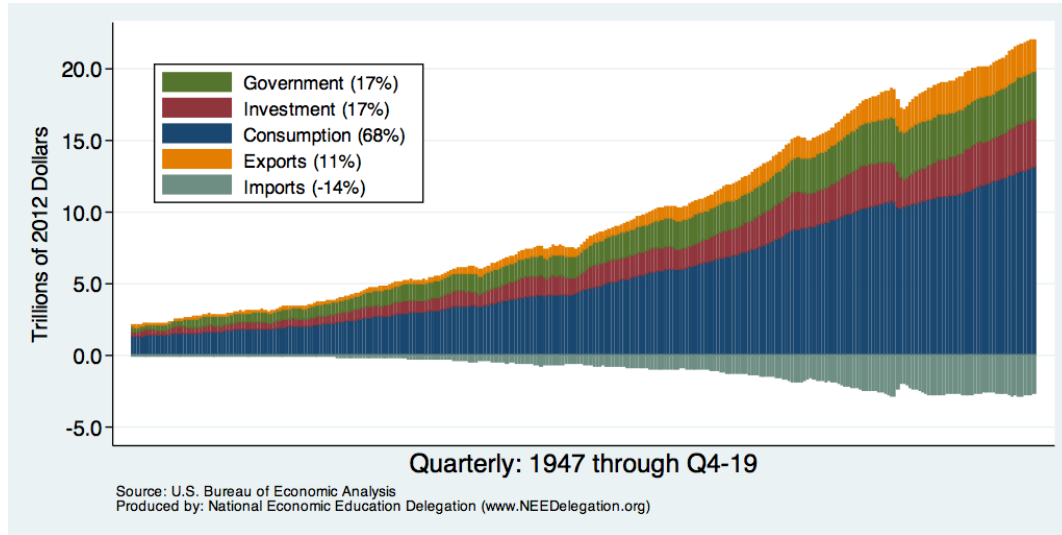


Sources: "Public health interventions and epidemic intensity during the 1918 influenza pandemic" by Richard J. Hatchett, Carter E. Mecher, Marc Lipsitch, Proceedings of the National Academy of Sciences May, 2007. Data derived from "Public health interventions and epidemic intensity during the 1918 influenza pandemic" by Richard J. Hatchett, Carter E. Mecher, Marc Lipsitch, Proceedings of the National Academy of Sciences May, 2007.

TIM MEKO/THE WASHINGTON POST

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# Composition of Real GDP



# Thank you!

## Any Questions?

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