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ECONOMICS

COVID-19: Economic Implications and Policy Response

05/07/2020

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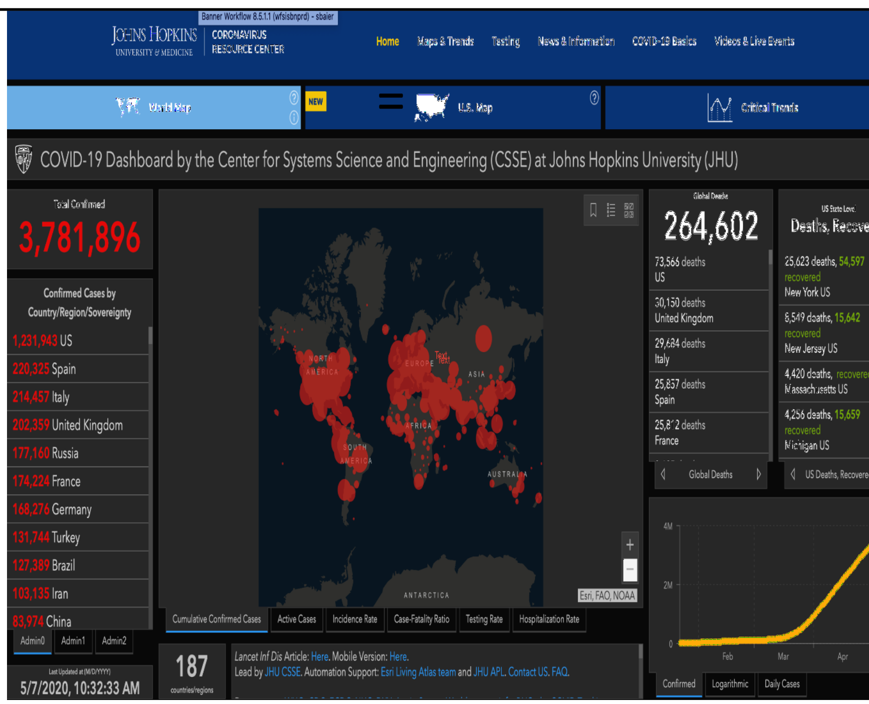

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Early COVID-19 Timeline

Dec 31
First case detected
In Hubei Province

Jan 20
First case outside China (Thailand, Japan, and South Korea)

Jan 31
White House limits International travel

Feb 9
Death toll in Mainland China exceeds SARS

Feb 11
WHO names new coronavirus COVID-19

At this point, most believed that the coronavirus would largely be contained within a few countries.

The impact on the economy would most likely come through the disruption of supply chains.

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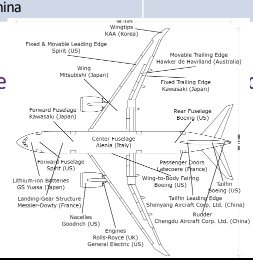
GDP and Supply Chains

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%



Supply Chain Effect

These ... or about 60 of world GDP.

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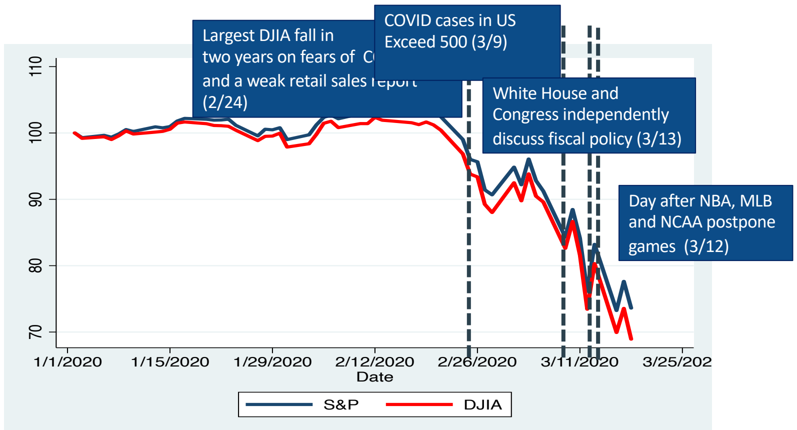
Dow Jones and S&P 500



At this point, it was clear the impact on the economy would be larger than the disruption of supply chains and "social distancing" would become part of our everyday vocabulary.

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From Supply Chains to a Sudden Drop in Demand

Countries	Share of World GDP	Manufacturing as a Share of GDP	Services as a Share of GDP
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Supply Chain Effect Sudden Demand Stop

The most vulnerable industries include entertainment, food, recreation, health and beauty, education, social assistance and manufacturing. These industries account for more than 50% of GDP.

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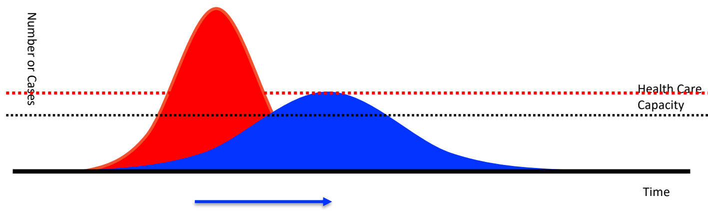
Flattening the Curve



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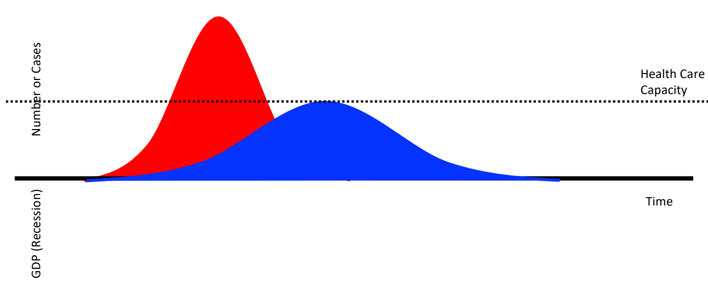
Flattening the Curve May Deepen and Lengthen the Recession



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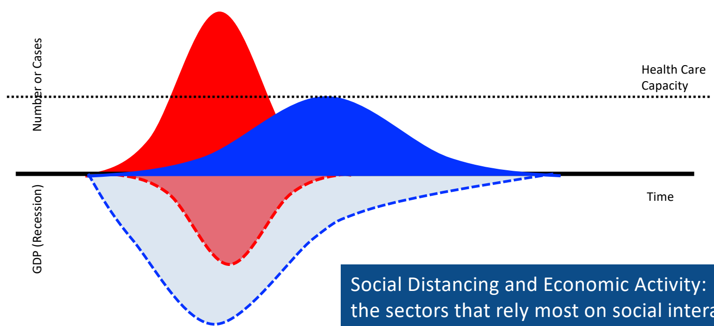

Social Distancing and Economic Activity:
the sectors that rely most on social interaction will the hardest hit

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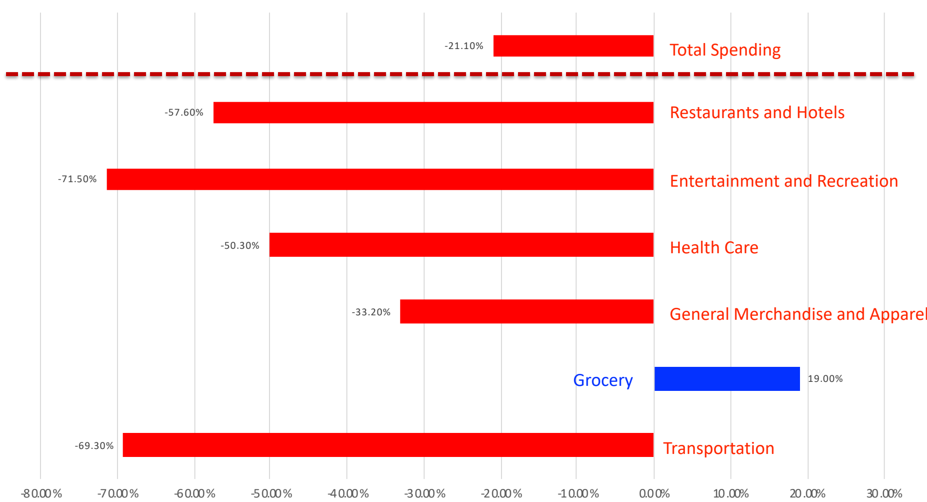
Estimates of Changes in Consumer Spending



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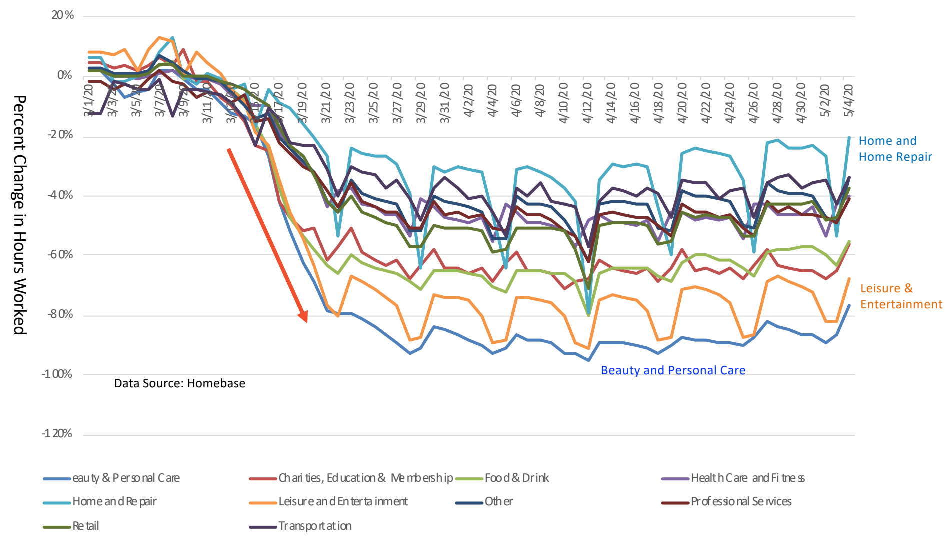
Percent Change Hours Worked



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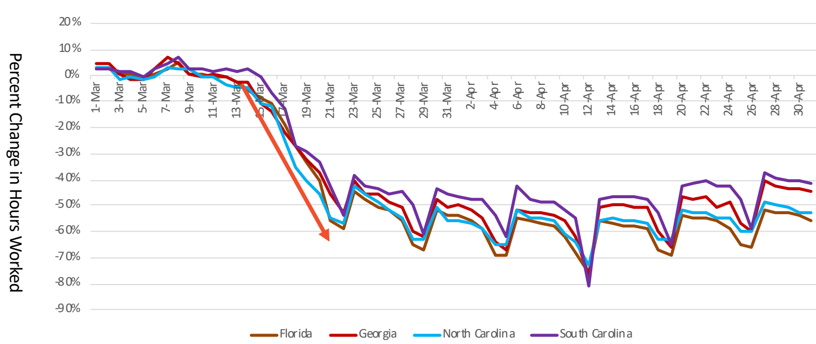
Percent Change Hours Worked: State



Data Source: Homebase

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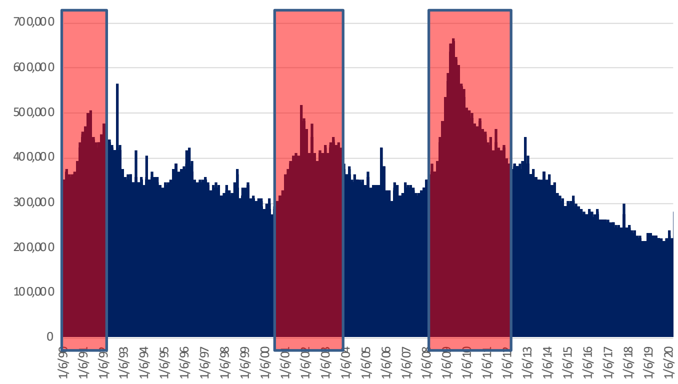
Weekly Unemployment Claims (UIC): 1/6/1990 – 3/18/2020



When the economy is doing well, initial claims for unemployment average about 280,000 to 340,000.

During recessions, initial claims typically increase to about 400,000 --the biggest increase had 665,000.

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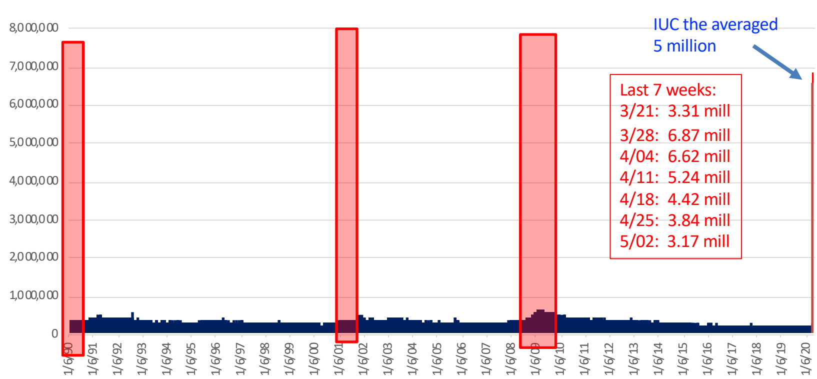
Weekly Unemployment Claims:
1/6/190 – 3/25/2020



Over the last seven weeks over 33 million have filed to receive unemployment compensation

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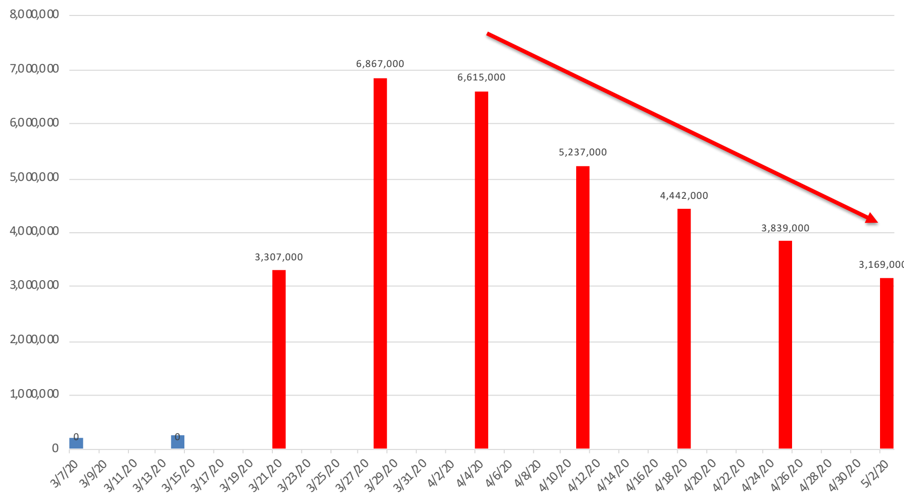
Weekly Unemployment Claims



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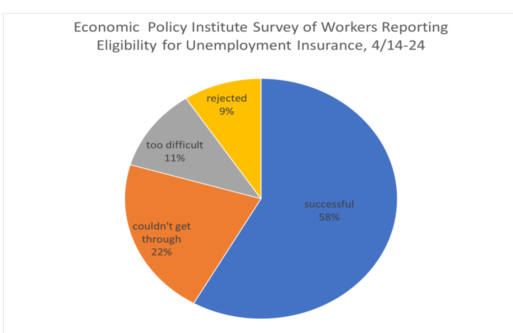
Unemployment may be notably higher



Unemployment could be as high as 40 million!

Friday's unemployment Release probably will not will not capture all the job Losses because the survey was done April 12.

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ADP/Moody's Job Report: Services

Service-providing Sector
↓ –16,007,000

↓ –3,440,000 Trade, Transportation & Utilities	↓ –971,000 Education & Healthcare
↓ –309,000 Information	↓ –8,607,000 Leisure & Hospitality
↓ –216,000 Financial Activities	↓ –1,298,000 Other Services
↓ –1,167,000 Professional & Business	

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ADP/Moody's Job Report: Goods

Goods-producing Sector
↓ –4,229,000

↓ –78,000 Natural Resources & Mining	↓ –1,674,000 Manufacturing	↓ –2,477,000 Construction

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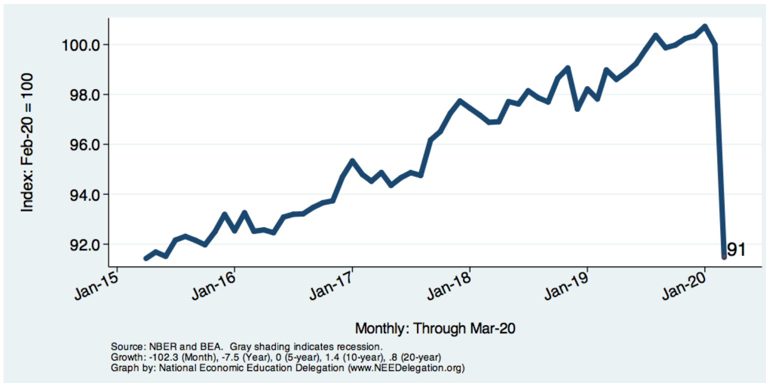
Other Market Indicators: Retail Sales



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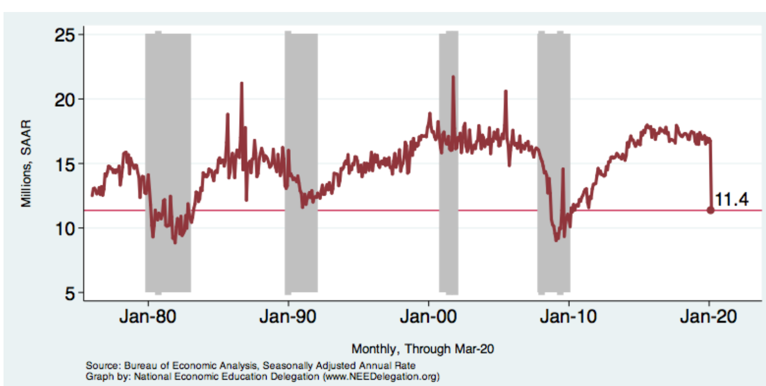
Automobile and Light Truck Sales



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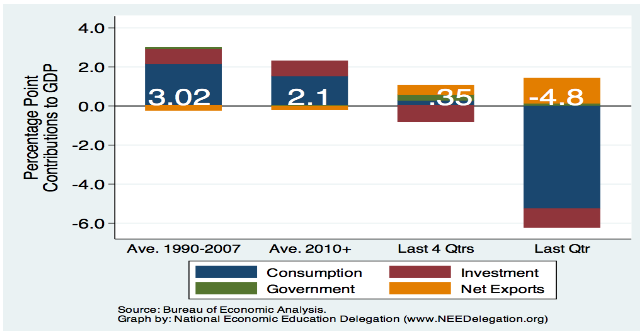
GDP 2020:Q1



Contributions from different expenditure components :

- Consumption: -5.26
- Investment: -0.96
- Government: 0.13
- Net Exports: 1.30

Note: The economic impact of COVID-19 likely only had an impact the last two to three weeks of of 2020:Q1 GDP

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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	GDP Growth
United States	24%	11%	77.4%	1,215,457	70,129	-5.9
Canada	2%	10%	66.7%	60,772	3,854	-6.2
UK	3%	9%	71.0%	190,584	28,734	-6.5
Germany	5%	20%	61.8%	166,304	6.993	-7.0
France	3%	10%	70.3%	169,462	25,201	-7.2
Italy	2%	15%	66.3%	211,938	29.079	-9.1
Spain	2%	11%	67.7%	250,561	25,613	-8.0
Japan	6%	21%	69.1%	15,078	536	-5.2
China	16%	29%	52.2%	82,881	4,633	1.2

US GDP growth in 2009 -2.54%

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

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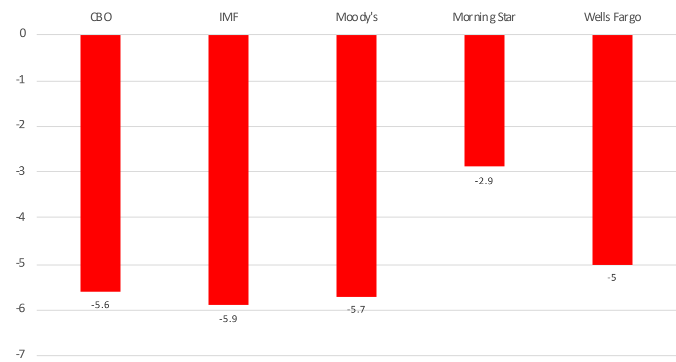
GDP Growth Projections for 2020



Most forecasts predict GDP growth will be between 4.0% to 5.0% In 2021

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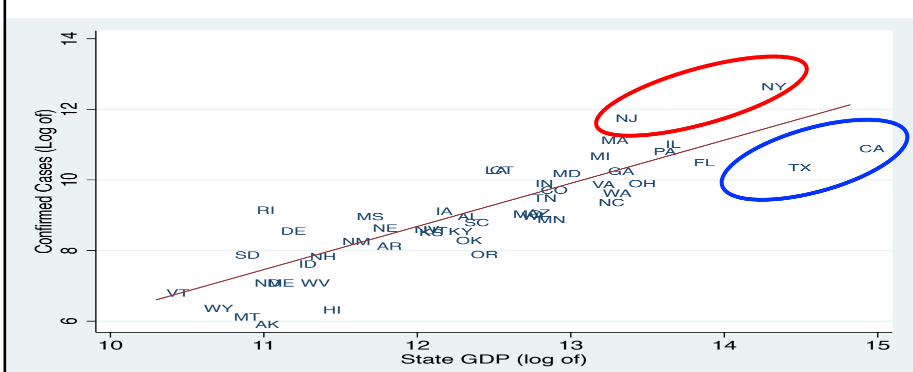
Confirmed Cases by State



For every one percent increase in state GDP # cases increases by 1.22%

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Government Response: This Shock is Different

- This economic shock is a "health shock" that has (large) macroeconomic consequences.
- The initial 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". We hope that structurally things will be the same; therefore, we would like to preserve employment-employer matches.

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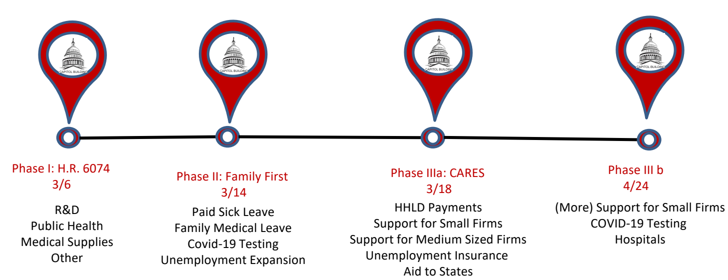
Fiscal Policy Timeline



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

- Free testing for anyone whose doctor recommends testing.
- Expand family and medical leave
- Paid emergency sick leave
- Additional unemployment benefits
- Food assistance: Supplemental Nutrition Assistance Program (SNAP) and Home-Delivered Nutritional Services

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

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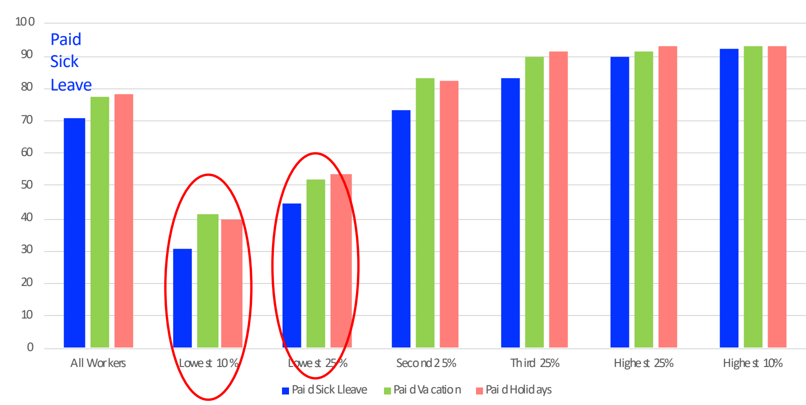
Paid Leave by Income Category



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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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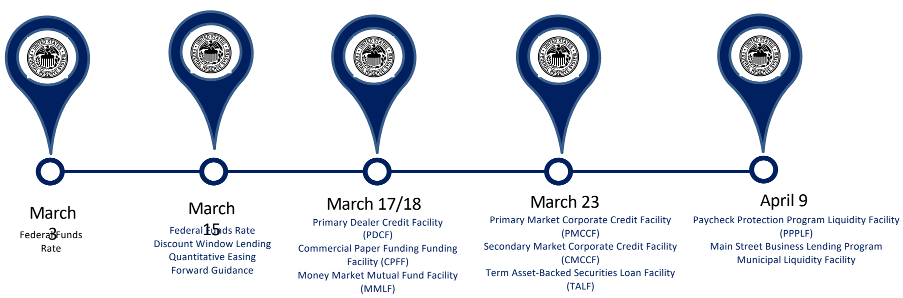
Federal Reserve Timeline



Federal Reserve Response:
(1) Standard Operating Procedures,
(2) Liquidity Provision,
(3) Direct Support to businesses.

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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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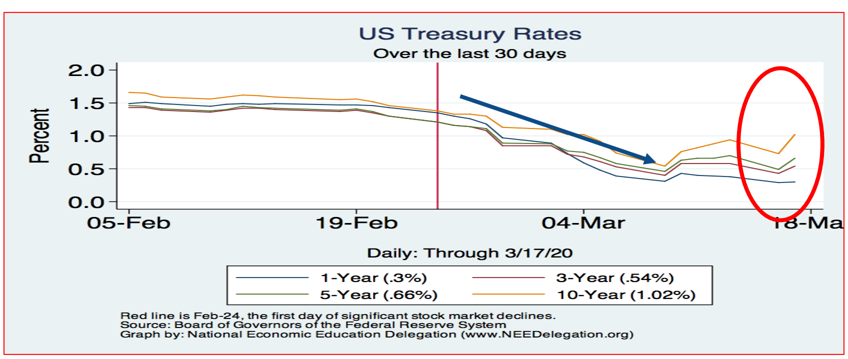
US Treasury Rates: A Safe Haven?



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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.
    - The Fed increased the offerings to $1 trillion (from $100 bn) in overnight repos, and
    - $500 billion in one month **and** three-month repos (from $20bn 2/wks)

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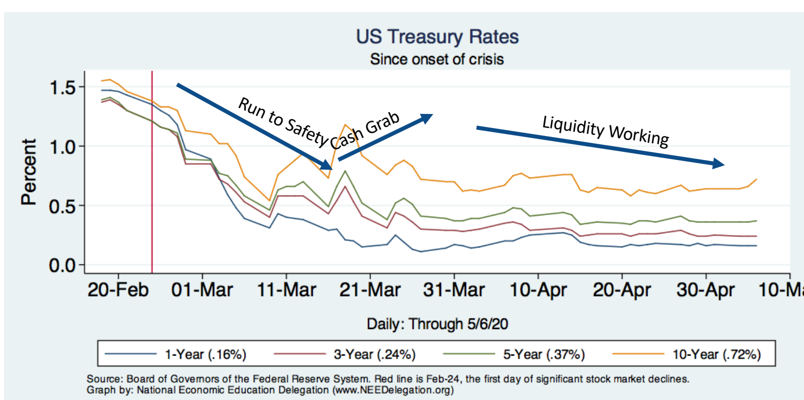
Federal Reserve: Providing Liquidity



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Federal Reserve: Support Corporations and Business

- 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

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PPP Major Recipients By Industry

Industry	Amount (Billions)	Percent of Loans
Construction	$44.9	13.1
Professional, Technical and Scientific, Services	$43.3	12.7
Manufacturing	$40.9	12.0
Health Care and Social Assistance	$39.9	11.7
Accommodation and Food Service	$30.5	8.9
Retail Trade	$29.4	8.6
Wholesale Trade	$19.5	5.7

These seven (7) industries account for nearly 75% of the PPP loans

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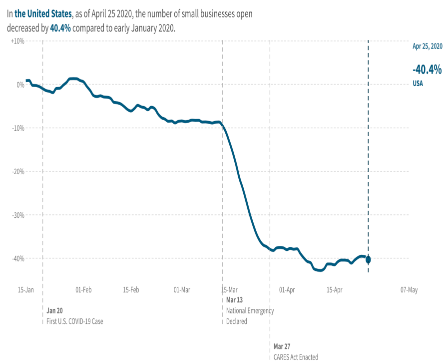
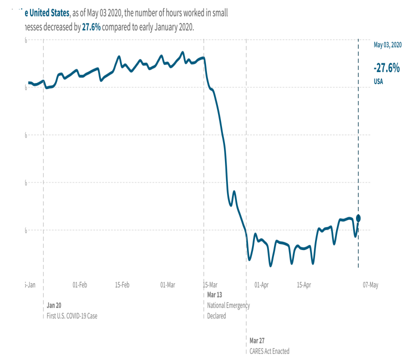
Small Businesses



Small Businesses Opened Decreased by 40.4%



Hours Worked at Small Business Decreased By 27.6%

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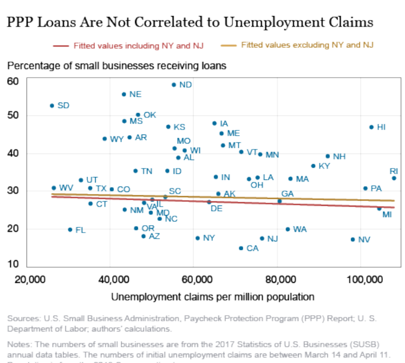
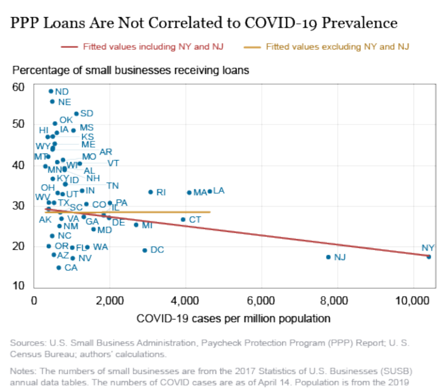
PPP Loans: Concerns





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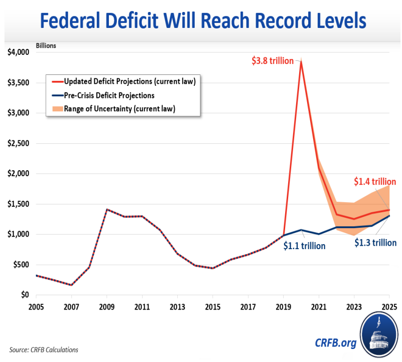
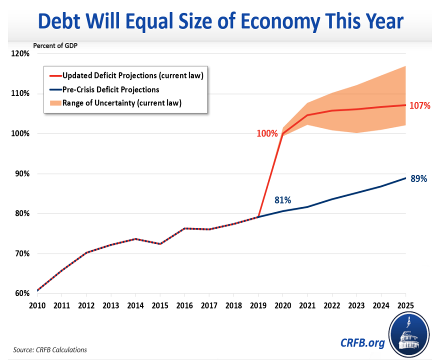
Federal Budget Implications



Deficit may be nearly 20% of GDP



Debt will likely equal GDP this year

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US GDP growth in 2009 -2.54%

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:
  - \$5 million/life and 600,000 lives saved (\$3.0 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

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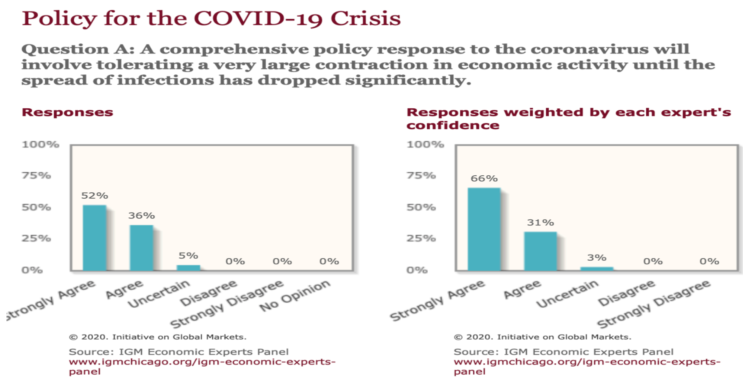
University of Chicago – Experts Poll



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Conclusion

- COVID-19 is health crisis that has macroeconomic implications.
- The macroeconomic effects that have impacted both the supply and demand.
- GDP will likely contract between 5.0 and 6.0 percent this year.
- Positive growth will likely return in 2021 as long as there are preventative medicines and treatments.
- No easy answers – trade-offs are between bad outcomes.
- How do we plan for the next pandemic?
- Find the silver lining.

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Opening the Economy

- Concerns about opening the economy too soon and we have another outbreak.
  - Question: What was the purpose of social distancing?
    - Is it so the health care system is not overwhelmed?
    - Is it to ”eradicate” COVID-19?
    - Is it someplace in between?
- How much pent-up demand is out there?
  - States can be “open for business”
  - It does not mean businesses will be open
  - It does not mean consumers will come back

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Before SIP: Events Canceled

- March 6 — SXSW canceled
- March 10 — Ivy League cancels its basketball tournament
- March 11 — March Madness will be played without fans
- 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
- Early March: Clemson University began discussions of our contingency plans and canceling “non-essential” events that could potentially put individuals at risk.

Source: David Boaz and Author

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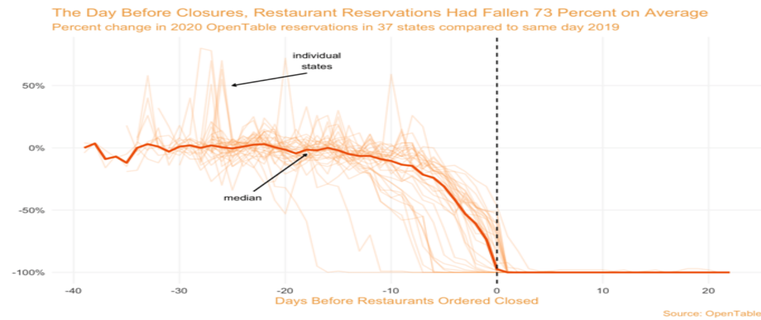
Reservations: Open Table



Source: David Boaz

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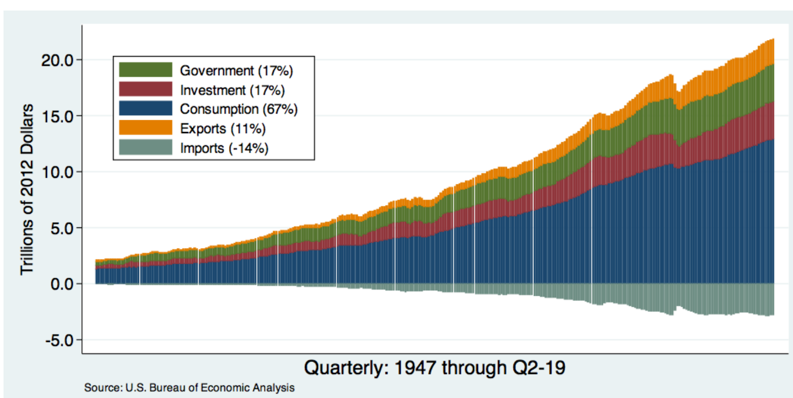
Composition of Real GDP



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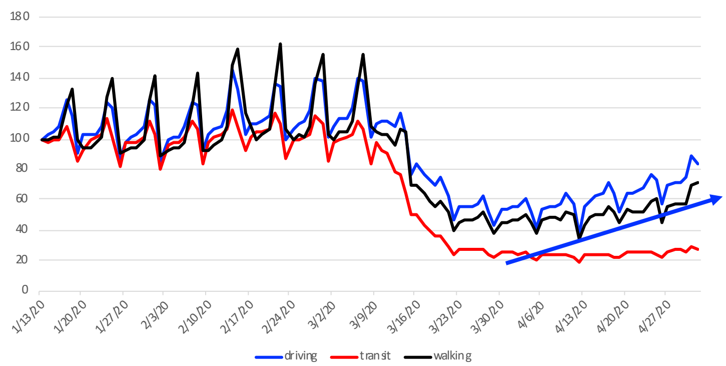
Apple Mobility Trends



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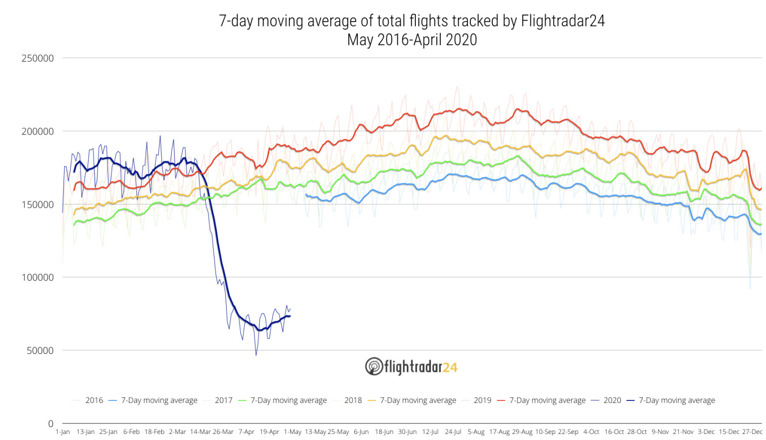
Commercial Air Traffic: 2016-2020



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COVID-Economics in Real Time

Unlike the updates that we receive from the CDC, John Hopkins COVID- Dashboard and other sources, standard economic data are not released with the same frequency.

However, there are new data sources that have helped economists understand the initial impacts on the economy and tell the story.

Beginning with last week's GDP report, the (standard) economic data releases are providing additional information on the impacts.

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PPP Major Recipients By Industry

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Health Care and Social Assistance	$39.9	11.7
Accommodation and Food Service	$30.5	8.9
Retail Trade	$29.4	8.6
Wholesale Trade	$19.5	5.7

These seven (7) industries account for nearly 75% of the PPP loans