

# **The Economics of Covid-19 and the Post-Covid Economy**

**ISEO Summer School**

**Joseph E. Stiglitz**

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# Outline

- I. **The Economics of Pandemics**
- II. **Economic Impacts of the Pandemic**
- III. **Cross-Country: Markedly Different Patterns of Disease and Death and Economic Impacts**
- IV. **Build Back Better**

# I. The Economics of Pandemics

- Controlling contagious diseases is a **global public good**
- Actions of individuals and countries can generate **large externalities**
- Market solutions often generate suboptimal results because individuals/firms don't take account of externalities
  
- Sick individuals may not self-quarantine
- Public health – externalities are enormous
- Employers don't take into account social benefits of providing paid sick leave
  - That's why there needs to be either government provision or mandate
- Public health – externalities are enormous
  - That's why it is important to have a good health care system—dangers of relying excessively on private markets
  
- Price interventions hard to design (Pigouvian interventions)
- Need to take 2nd best measures—lock downs
- Economic downturn caused by disease, not lockdown (one of key controversies)
- Hard to design more targeted lockdowns (Swedish model)

# Global externalities

- **National governments don't take into account global externalities**
  - Associated with health policies
    - The world won't be safe until the pandemic is controlled everywhere
  - Associated with economic policies
    - There won't be a strong global recovery until there is a global recovery almost everywhere
- **Knowledge is a global public good**
  - Private production supported by patent system may lead to suboptimal outcomes
    - Problems have been exacerbated by restrictions on exports of vaccines, medicines, and their ingredients
  - Particular dangers associated with “vaccine nationalism”: **one of key policy issues facing world today**

# Implication of global externalities

- Needs to be a global response
- Important role of multilateral institutions
  - WHO—focusing on health
  - IMF and MDB—focusing on economic recovery
    - Developing countries do not have the fiscal space
    - That's why new issuance of SDR's was so important
    - But also need to recycle SDR's from countries that don't need them to countries that do

# IPR waiver is critical at this moment

- US now supporting waiver
- There is real urgency
- Principle has already been accepted
- Arguments against the waiver have all been refuted—drug companies simply want to make monopoly profits
- Not a question of *either/or* but of *both/and*
  - Support for COVAX
  - Eliminating export restrictions
  - The waiver
  - Supporting transfer of technology

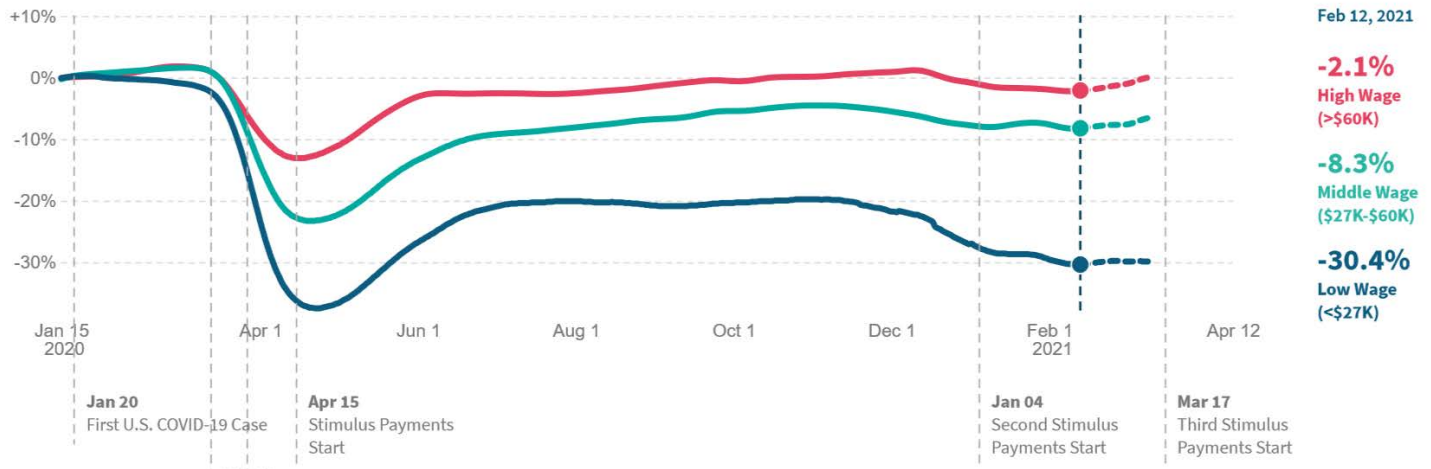
# Debt

- Pandemic will make debt unsustainable for many countries
  - Further curtailing their fiscal space
- Debt stay will not suffice
  - Needs to be deep debt restructuring—and quick
  - And it needs to be comprehensive
- China has become one of largest creditors
  - Imperative that China participate actively in debt restructurings
- Over the long run

# II. Economic Impacts of the Pandemic

## Percent Change in Employment\*

In the United States, as of February 12 2021, employment rates among workers in the bottom wage quartile **decreased** by 30.4% compared to January 2020 (not seasonally adjusted).



data source: Earnings, Intuit, Kronos, Paychex

\*Change in employment rates (not seasonally adjusted), indexed to January 4-31, 2020. This series is based on payroll data from Paychex and Intuit, worker-level data on employment and earnings from Earnings, and timesheet data from Kronos. The dotted line is a prediction of employment rates based on Kronos and Paychex data.

last updated: April 12, 2021 next update expected: April 20, 2021



# More on the economics of pandemics: market failures

- Can't buy insurance against economic and health risks
- Those who thought they had insurance (e.g. for business interruption) are being told doesn't apply
  - Turn to government for protection
- Workers are left uninsured for being sick
  - Most countries provide mandatory paid sick leave
  - Not US—facilitated spread of disease

# Bargaining power/social protection

- Role of government in protecting workers—OSHA
- Failed to require protective gear, face masks, social distancing
- But also failure of compensating differentials for essential workers.
- No evidence that wages for essential workers went up during pandemic -> role of outside options.

# Macroeconomics

Can't model this is an ordinary technology shock; stationary stochastic processes—***disequilibrium analysis***

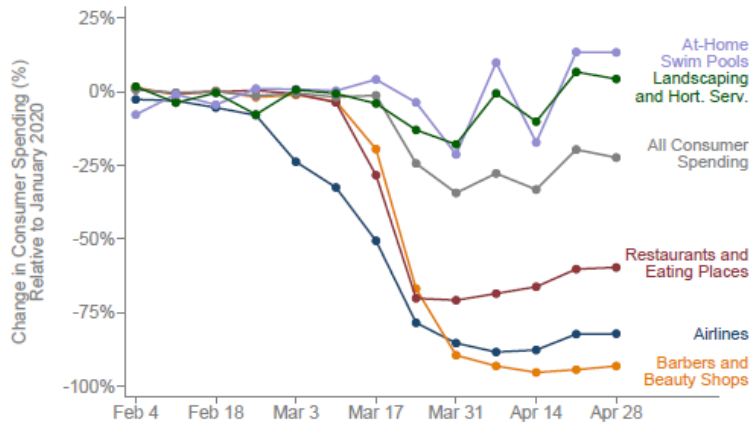
- There is a **high level of uncertainty** about the course of the disease *and* its economic implications
  - **Flexibility, adaptability** are essential
  - **“Indexed programs”**—expenditures linked to outcomes, the evolution of the economy—are better than repeatedly going to the trough
- Huge increase in **precautionary savings (analysis of risk central)**
  - And large differentials in MPC
  - Highlighting inadequacies of representative agent model
- Disease affects some sectors more than others
  - Limited value of aggregate model
  - Resources are imperfectly mobile
  - Downturn in afflicted sectors generate macroeconomic externalities to others

# Some key macroeconomic policy issues

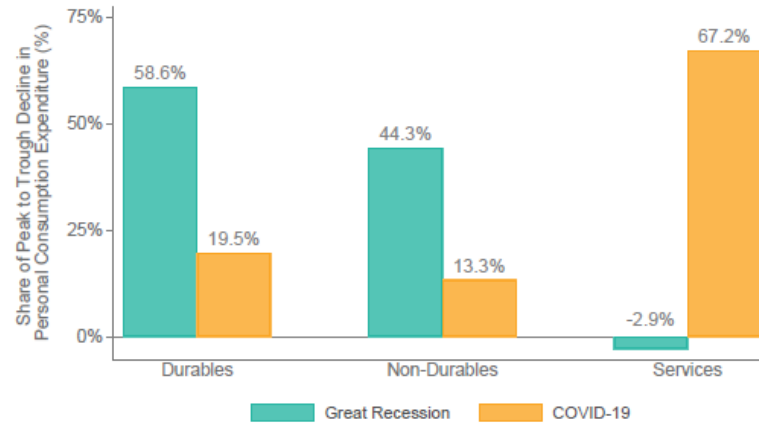
1. What is source of economic downturn—health or lockdown?
2. Would a more targeted lockdown policy limited macroeconomic fallout?
3. What is the effect of extended UI program—too little search?
4. Building in automatic triggers into UI program
5. Consequences of failure to provide assistance to state and local governments—automatic stabilizer
6. Design of programs to keep workers linked with jobs—US failed; was this a good thing or bad?
7. What will be consequences of extended eviction protection—high levels of indebtedness of those at the bottom?
8. Do we need to be worried about debt? About inflation?

# The first service-sector recession?

C. Spending Changes by Category



D. Spending Changes by Sector: COVID vs Great Recession

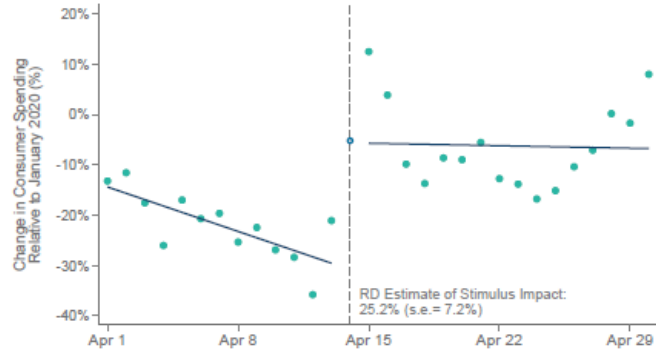


# Real-time policy evaluation

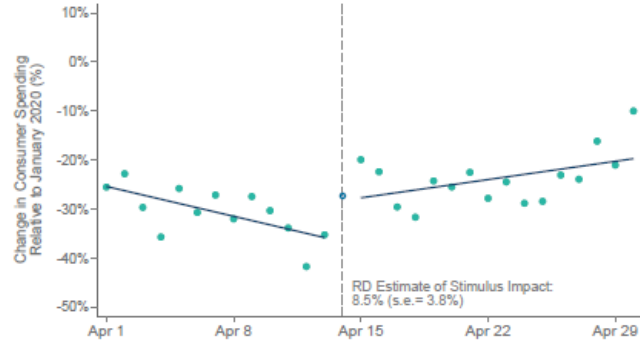
1. Digital infrastructure of modern economy generates huge amounts of data.
2. Companies often partner with individual researchers on bespoke datasets with confidentiality agreements. E.g. JP Morgan Chase transaction-level data.
3. Early days of COVID + 40 staff -> [tracker.opportunity.org](https://tracker.opportunity.org).
4. Innovation: get publically available version of many private administrative datasets, aggregated to state/county/zip level X week/month level.
5. E.g. paycheck data from Intuit/Earnin/Paychex, expenditure data from Earnin, vacancy data from Burningglass, COVID data from NYT, mobility data from Safegraph, small-business revenue data from Womply.
6. Builds on privacy-preserving aggregation (see NBER lectures on differential privacy or Aaron Roth's book "The Ethical Algorithm").
7. Can evaluate the various components of CARES: Stimulus checks, PPP, and UI.

# Stimulus Checks April 15<sup>th</sup> RD

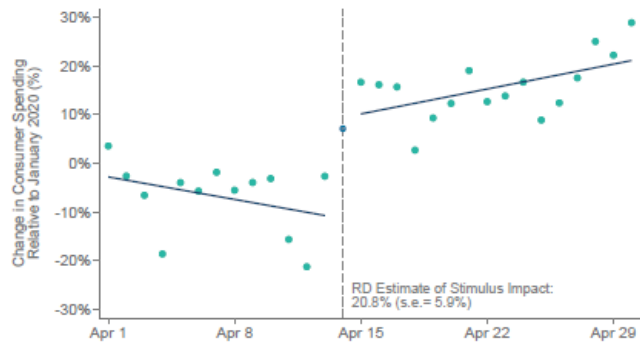
## A. Spending in Lowest Income Quartile ZIP Codes



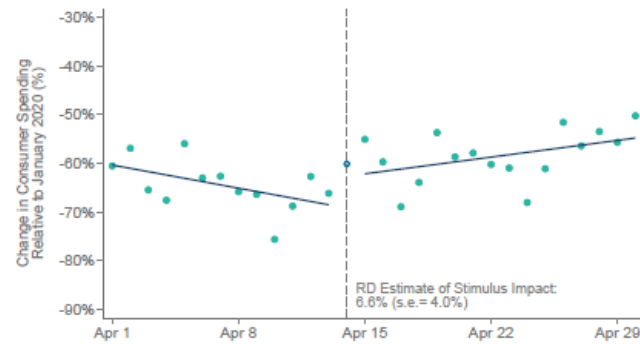
## B. Spending in Highest Income Quartile ZIP Codes



## C. Durable Goods Spending

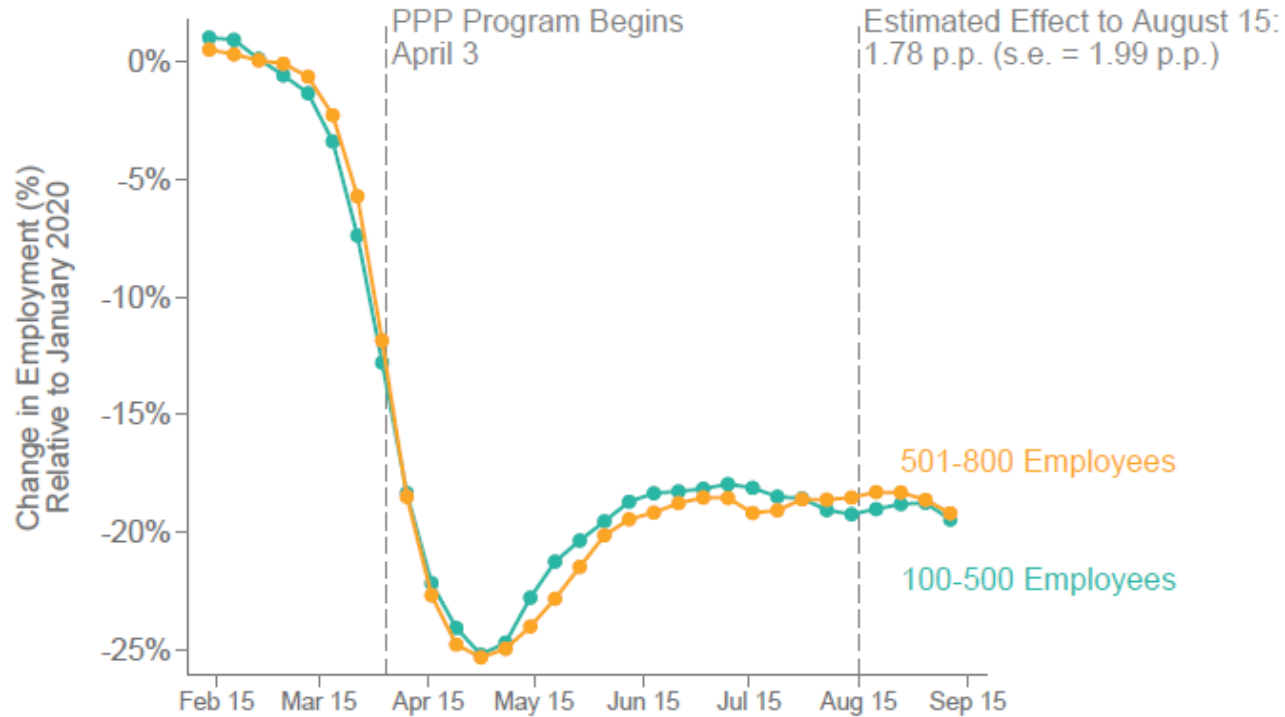


## D. In-Person Services Spending



# Payroll Protection Program at $\leq 500$ .

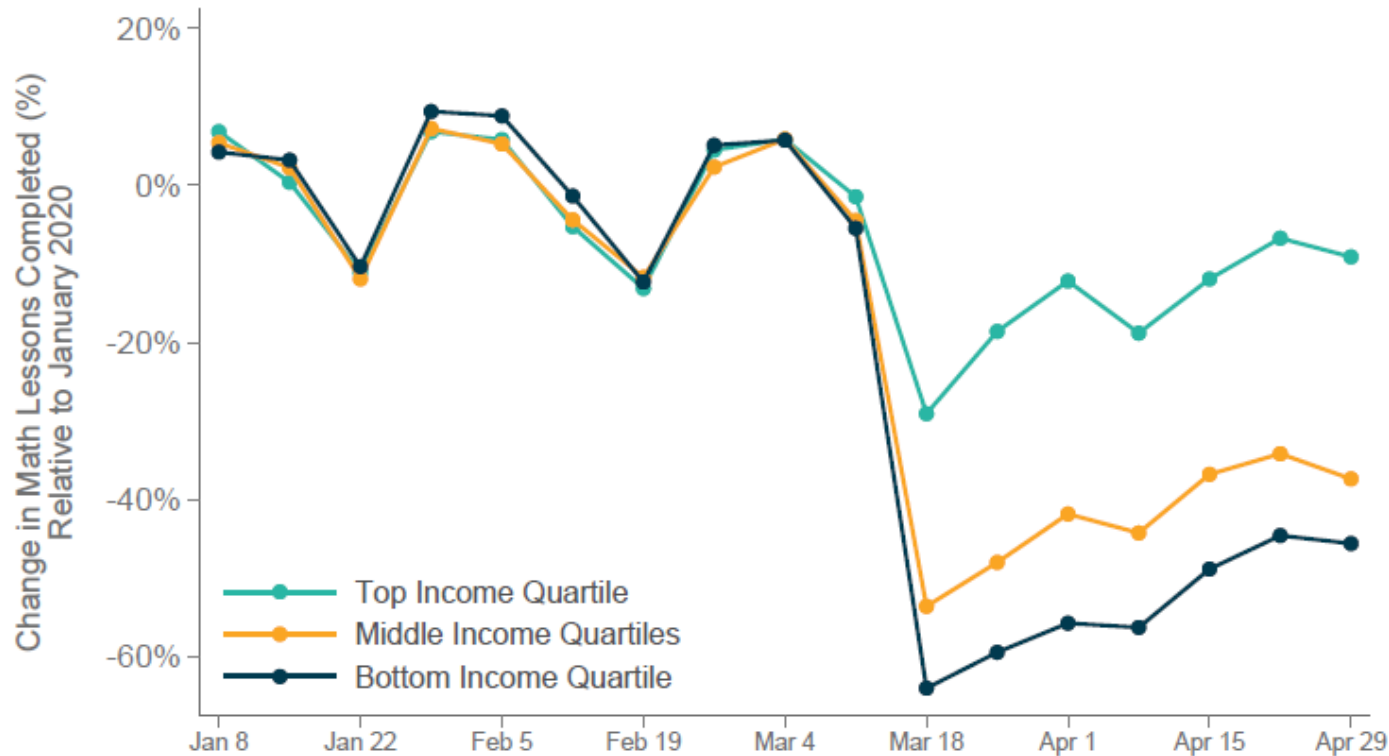
A. Change in Employment by PPP Eligibility, All Industries Excl. Food Services





# Online Math Coursework Completed

FIGURE 16: Effects of COVID on Educational Progress by Income Group

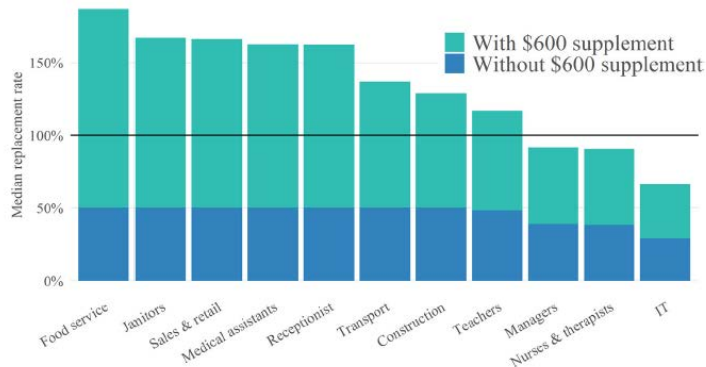


# Real Hero of CARES: UI expansion + 600 increase

(a) Across the Earnings Distribution



(b) Common Occupations



UI interesting mix of federal and state policy: lots of variation.

Not eligible for UI if voluntarily quit or fired for misconduct.

Also taxable income after 1986.

CARES: expands eligibility (PUA and PEUC) and includes \$600 top up.

# Replacement rates > 100%

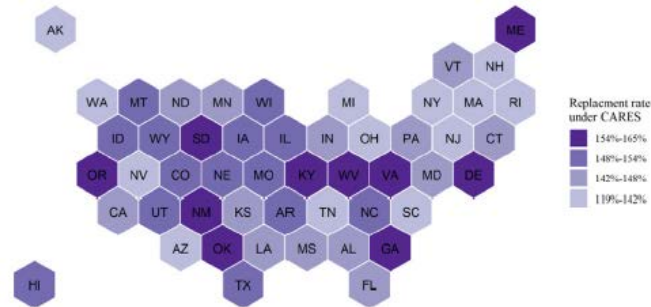


Fig. A-3. Median statutory replacement rates by state. Notes: see notes to Table A-1 for details.

**Table 1**  
Changes in income distribution. (a) By pre-job loss earnings. (b) By occupation.

(a)					
Earnings quintile	Weekly earnings	Unemployment rate		Median change in income	
		2019	2020	Without FPUC	With FPUC
Bottom quintile (<\$490)	\$372	2.6%	19.9%	-9.3%	19.5%
Second quintile (\$491-\$760)	\$592	1.5%	12.8%	-6.1%	5.0%
Third quintile (\$761-\$1060)	\$886	1.5%	8.0%	-3.4%	1.1%
Fourth quintile (\$1061-\$1630)	\$1,280	0.9%	6.2%	-3.5%	-1.0%
Top quintile (\$1631+)	\$2,323	0.8%	3.8%	-2.5%	-1.6%

(b)					
Occupation	Weekly earnings	Unemployment rate		Median change in income	
		2019	2020	Without FPUC	With FPUC
Food service	\$491	6.0%	36.8%	-18.5%	18.9%
Janitors	\$591	4.3%	15.2%	-5.9%	6.6%
Medical assistants	\$591	3.2%	12.7%	-5.2%	5.2%
Receptionist	\$591	7.4%	19.4%	-6.1%	9.8%
Sales & retail	\$689	4.2%	17.9%	-7.7%	4.7%
Transport	\$827	2.5%	17.0%	-8.5%	1.0%
Construction	\$853	5.3%	16.3%	-6.0%	3.2%
Teachers	\$984	1.3%	10.2%	-5.6%	-0.8%
Nurses & therapists	\$1,280	1.6%	3.4%	-1.1%	0.2%
Managers	\$1,477	1.4%	5.0%	-2.6%	-1.0%
IT	\$1,713	1.2%	3.1%	-1.3%	-0.5%

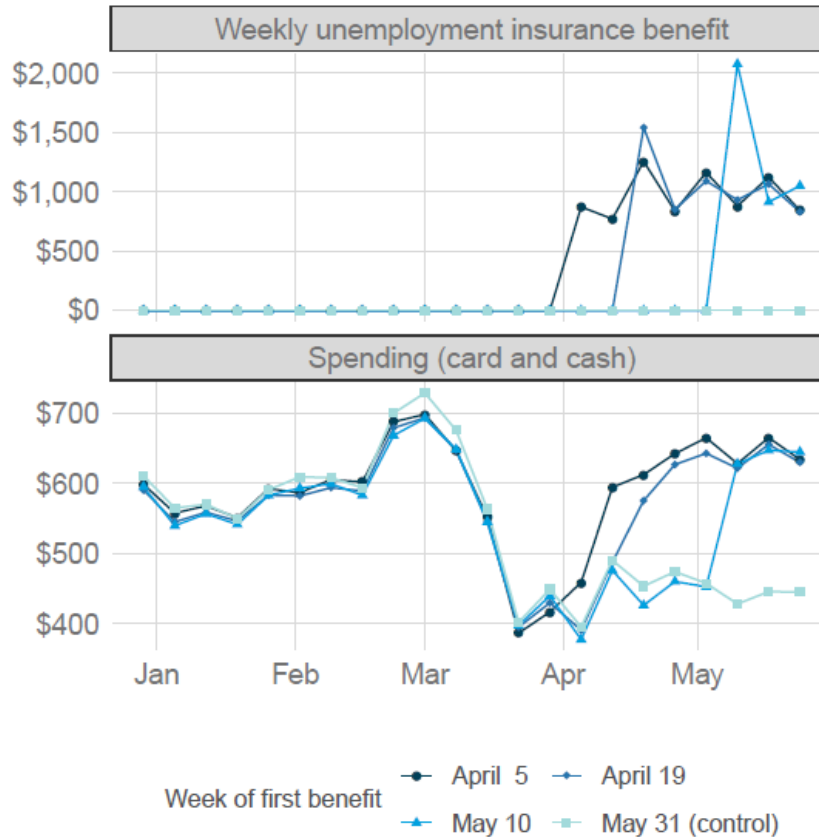
# JPMCI transactions data Ganong et al. (2021)

- Have detailed transactions and bank balance data from Chase banking accounts
- Can tag paychecks, UI payments, and many (not all) expenditures.
- Compare spending and re-employment patterns in response to UI variation from:
  - Variation in time from last paycheck (for workers laid off at end of March 2020) to first UI check.
  - Expiration of \$600 benefit in August 2020.
  - Comparison group employed people matched on 2019 income and stimulus check date.
  - \$300 LWA benefit paid on different schedules by states (mostly NJ [Oct.] vs other 8 states early).

Figure 2: Spending of Unemployed Versus Employed

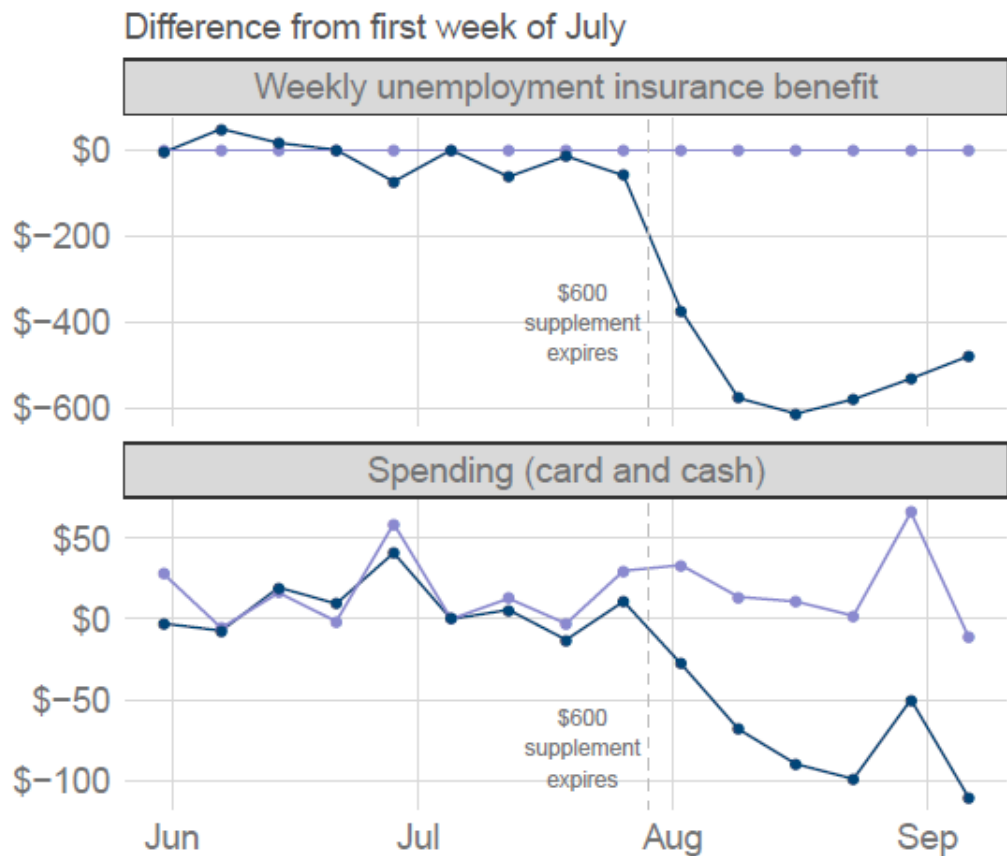


Figure 3: Impact of Delays in Unemployment Benefits on Spending



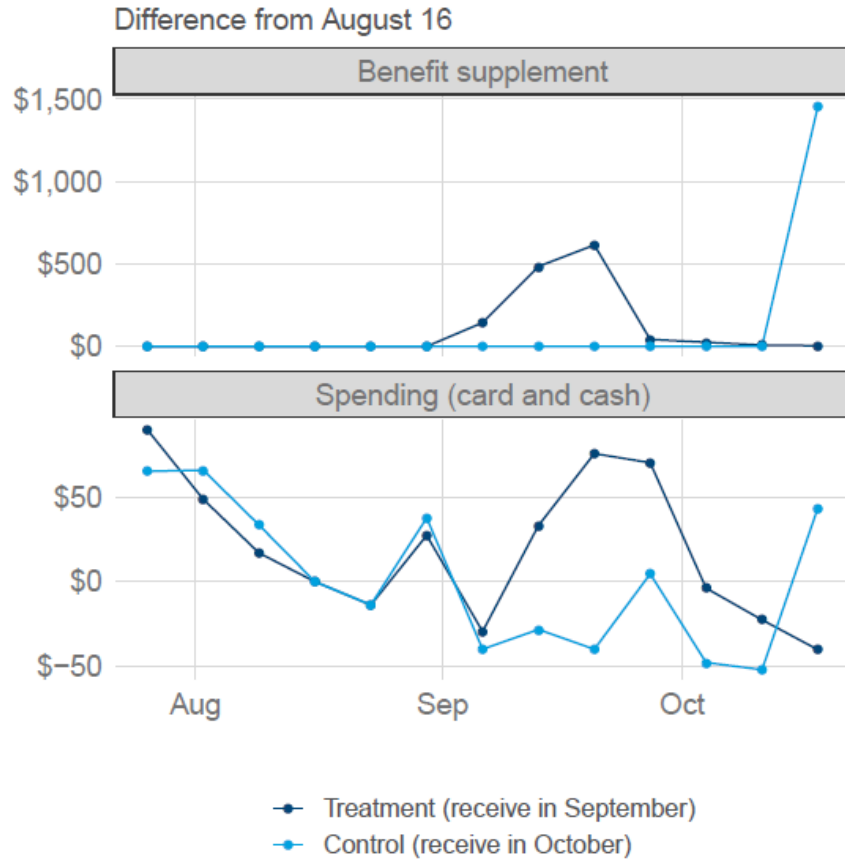
Notes: This figure measures the causal impact of a delay in unemployment benefit receipt on spending using JPMCI data. We select workers who separate from their jobs at the end of March and begin to receive unemployment benefits in different weeks. The dependent variables are mean benefits and mean spending. See Section 4.2.1 for details.

Figure 4: Impact of Expiration of the \$600 Supplement on Spending



- Unemployed (get benefits from June through end of August)
- Employed

Figure 5: Impact of Receipt of Temporary \$300 Supplement on Spending



Notes: This figure measures the causal impact of the temporary \$300 supplement on spending. The supplement was paid at different times in different states. The treatment group is eight states which paid the supplement in September. The control group is New Jersey, which paid the supplement at the end of October. The dependent variables are mean benefits and mean spending, measured as a change relative to the third week of August. See Section 4.2.3 for details.



# Using UI system variation to get MPC

Table 2: Marginal Propensity to Consume out of Unemployment Benefits

Research Design	Total Spending MPC
Waiting for benefits	0.43 (0.03)
Expiration of \$600	0.29 (0.01)
\$300 supplement	0.42 (0.03)

Notes: This table shows estimated one-month total spending MPCs for three different unemployment benefit changes using the diff-in-diff research designs discussed in more detail in Section 4.2. The waiting for benefits design compares unemployed households receiving benefits to those who face benefit delays in March and May, the expiration design compares unemployed households to a sample of employed households who have income similar to the pre-separation income of the unemployed in July and August and the \$300 supplement design compares unemployed in states that get \$300 LWA payments early vs. late. Standard errors are clustered by state.

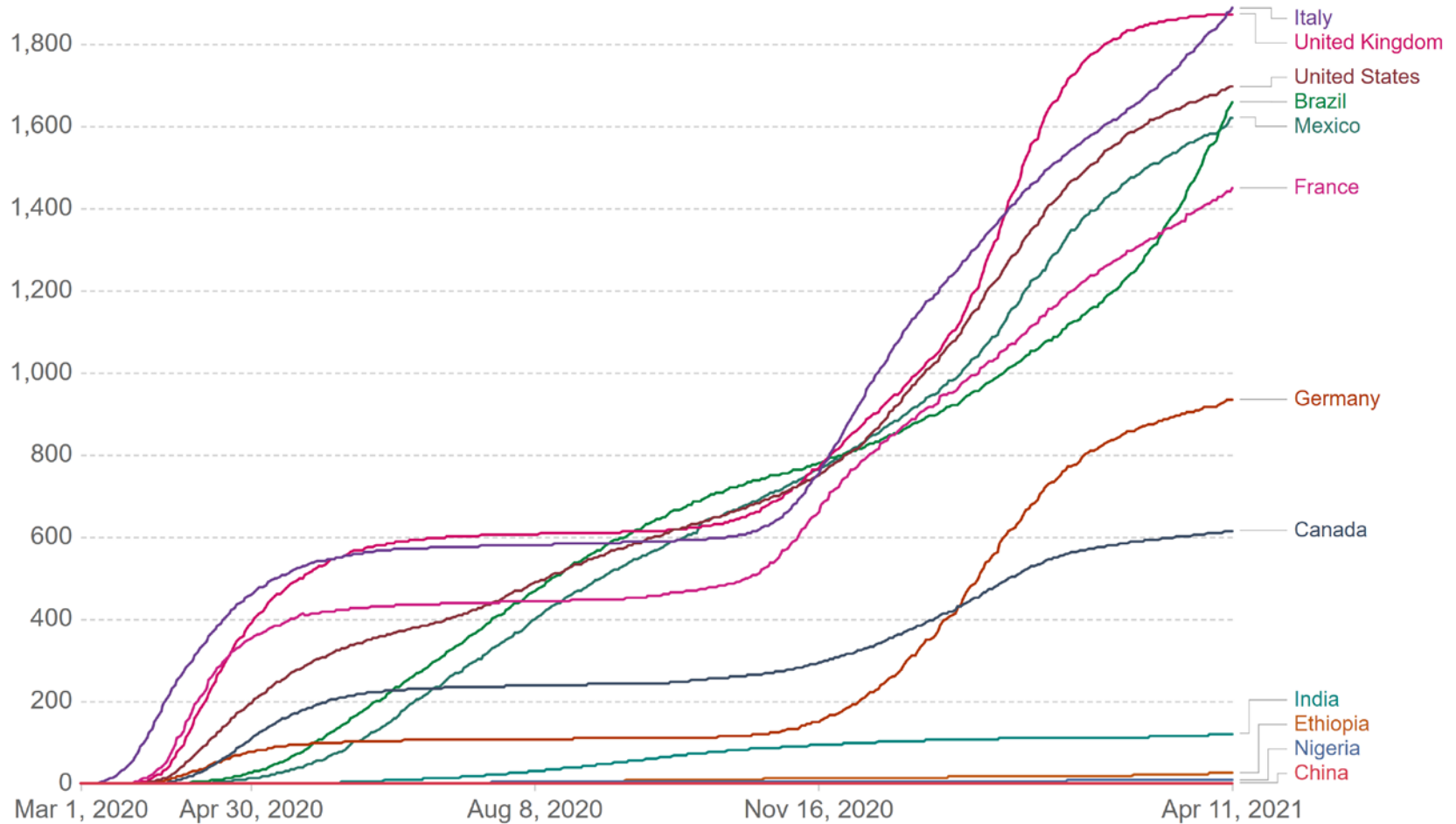


# III. Cross-Country: Markedly different patterns of disease and death

- Some countries have done much better than others in containing disease and death (Vietnam, Taiwan, South Korea, New Zealand, Germany, China)
- Some countries have done much more poorly than others (US, Brazil)
- Some countries have not contained disease in spite of seemingly tough lockdown (India)
- Much we do not know about every aspect of this disease, including long-term effects

# Cumulative confirmed COVID-19 deaths per million people

Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true number of deaths from COVID-19.



# Why poor US performance

- **Poorer pre-existing conditions**

- More health inequalities
- Poorer health than other advanced countries
- Poorer system of social protection—paid sick leave
- Less resilient health care system—less excess capacity
- Less social cohesion
- Less respect for science

# Poor performance: pre-existing conditions

- Needed public response: less trust in government
- Needed public response: less competence in government
- Poorer preparedness
  - Disbanding White House Office that worked to prevent pandemics (the National Security Council Directorate for Global Health Security and Biodefense)
  - Depleting stockpiles
  - Defunding CDC's
- Less trust in private sector
  - Producing unreliable tests
- Less **resilience** in private sector
  - Incapable of producing even masks

# Why poor US performance: poor response

- Needed to have quick **recognition of risks**: Leadership in Washington denied risk
- Needed to explain **science**: Leadership in Washington attacked science
- Needed to explain **externalities**: Leadership in Washington still doesn't seem aware of full extent of externalities
  - Needed to provide paid sick leave: Congress recognized importance, but big companies acted in usual short-sighted and selfish way, opposing
  - Needed stronger OSHA response

# What made for a good response

- Need to build **sense of cohesion** for enhancing voluntary response to externalities: Leadership in Washington didn't do this
  - Importance of **trust** in others and trust in institutions
  - Important for growth and economic performance more generally
  - Large divides impede building up trust
- Needed **coordinated supply** response (e.g. tests): Leadership in Washington refused
- Still opposition to providing support needed for hospitals, tests, providing protective gear, helping schools, etc.
- Some democratic governments did all of these things better
- Many democratic governments were better at one moment of pandemic but then faltered at others



# The economic and social consequences of COVID-19 have differed greatly across countries

- Some are having much larger decreases in GDP
- Some are having much larger increases in unemployment
  - But there may be hidden unemployment
- Some are having larger increases in unemployment relative to GDP
- In some countries, suffering is much worse than others
- In US, rates of alcohol use, domestic violence, up sharply.
- Non-COVID health problems not being addressed

# Why US response failed

Poorly designed, poorly implemented

- Lack of prioritization
- Lack of vision of what kind of economy we want post pandemic
- Lack of understanding about what would be required to achieve strong recovery
- Blind faith in short downturn, followed by V-shaped recovery
- Programs that were too short, not comprehensive enough
- Lacked awareness of underlying economics
  - Both a demand and a supply side shock
  - Downturn not caused by lockdown but by disease

# Why US response failed

- Large inequalities in impacts and responses
  - For bottom: live paycheck-to-paycheck, highly vulnerable
  - For top: assistance goes into savings
  - Savings rate hit high as large parts of country face large stress
- Lack of awareness of difficulties in administering in US
  - Limited capacity of UI system
- PPP program administered by banks—costly, funds didn't go where most needed, lack of trust in government forgiveness
- Lack of long-run assurances of support contributed to high savings rate
- **Size of US economic response made up for poor design—part of explanation for why economic downturn smaller in US**

# Why US response failed – too much civil liberty?

- Alternate hypothesis: Democratic countries with citizens attached to civil liberties were less willing to implement drastic lockdowns and test-trace-isolate.
- Alsan et al. (2020) evidence from large-scale, cross-country survey experiment.
- Measures preferences towards democracy across countries, across Covid health-risk levels (i.e. comorbidities + age X local Covid incidence), and response to experimental manipulation making public health benefits or civil liberties costs of Covid policies salient.

# IV. Build Back Better

- Recognition can't/shouldn't go back to pre-Covid world
  - Pandemic has exposed and aggravated externalities
  - Problems of climate change and structural transformation have only worsened
  - Exposed lack of resilience in both the private and public sectors
- Making funds do double, triple duty
  - Address inequality, climate, economic transformation
  - Projects that can do all simultaneously, and have large multiplier

# An exciting and challenging time for economics

- Response to pandemic was unprecedented—and succeeded in forestalling what might have been a far worse economic calamity
- The pandemic and experiences of the past four years have exposed some limits of standard models and policies
  - Redirecting our attention to surprises and disequilibrium events and how we do and should respond
  - Encouraging a reformulation of thinking about transitory and permanent policy changes, and the benefits, costs, and limitations of commitments
- And once again moving inequalities, externalities, and market failures to the center of attention