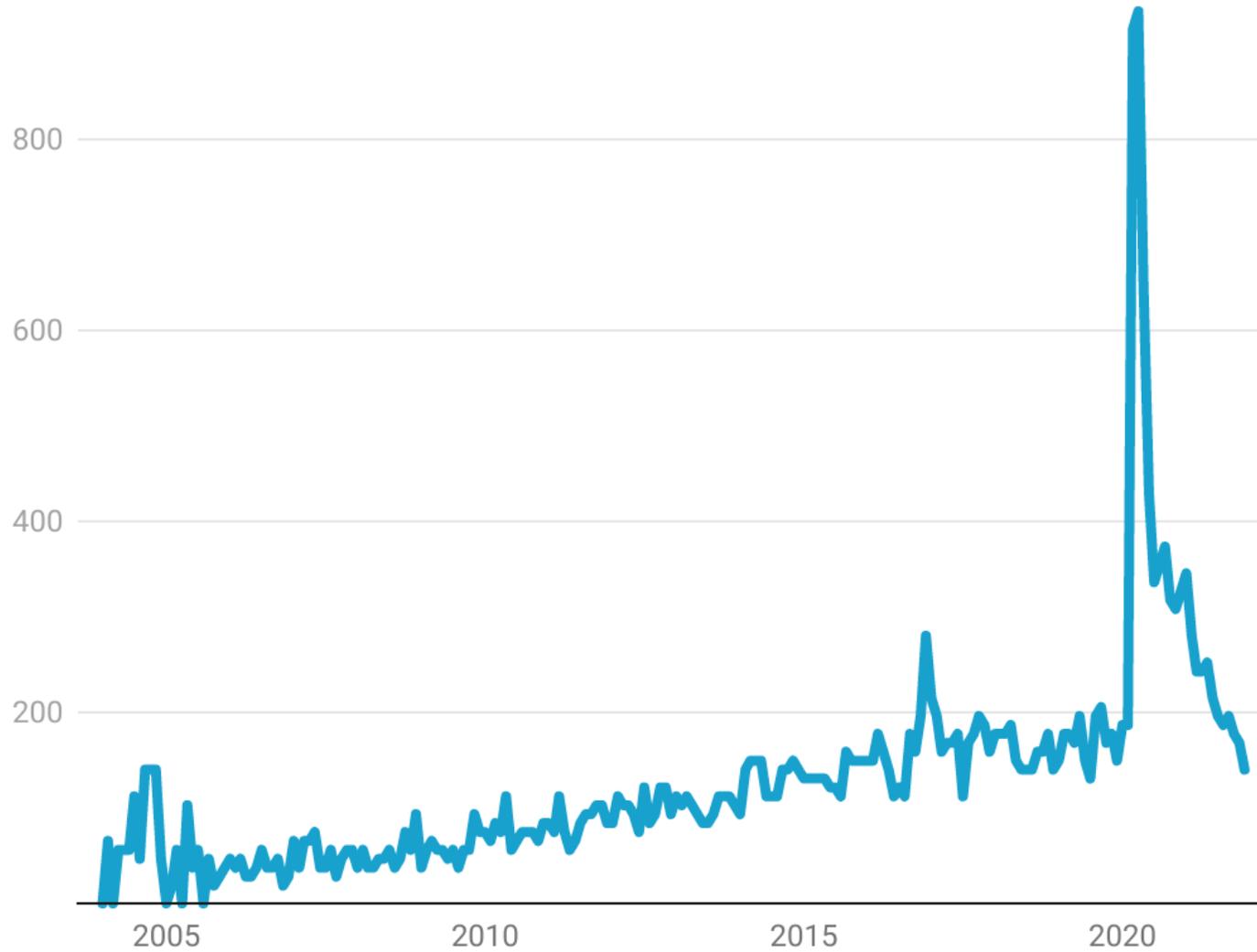


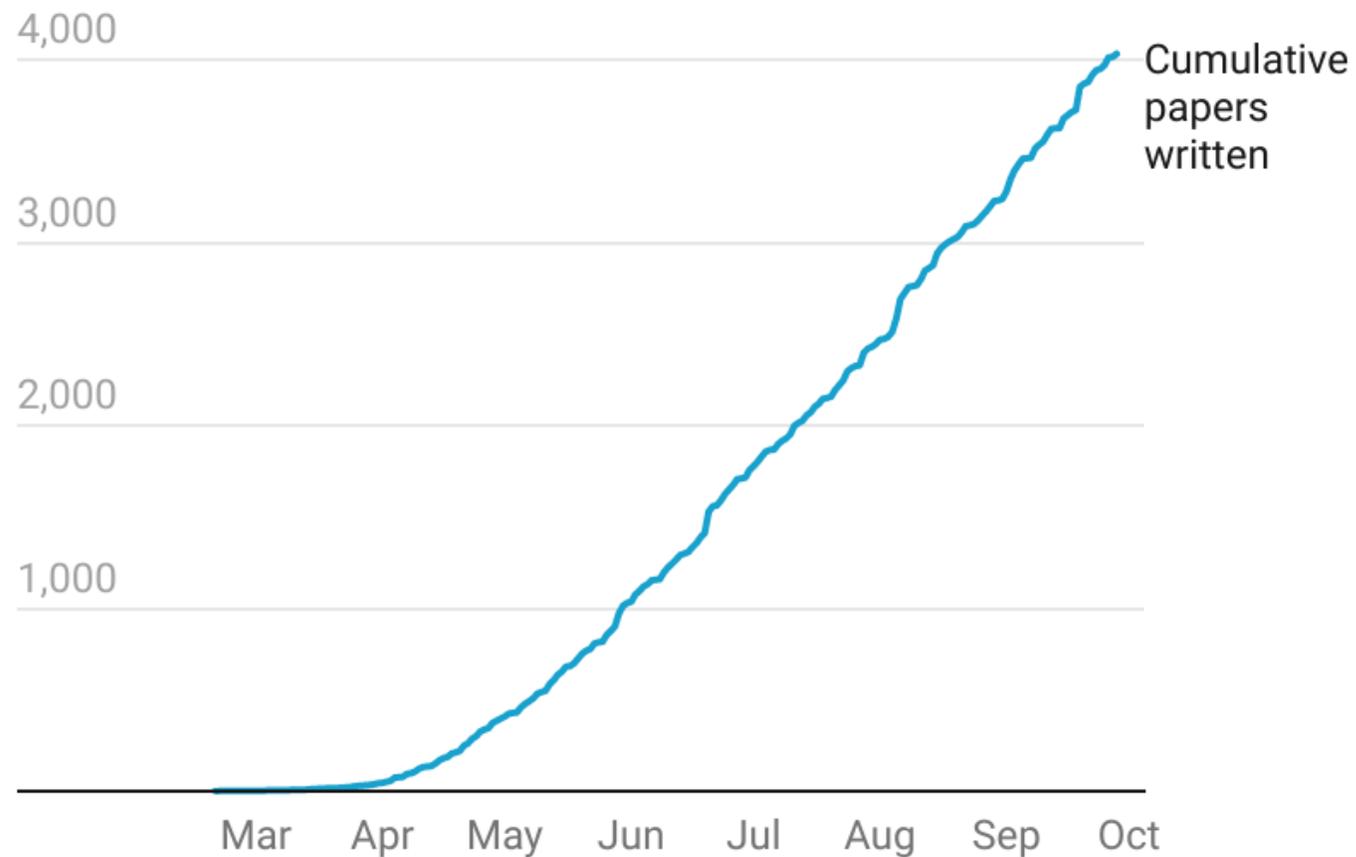
These are unprecedented times

Global Google searches for the word "unprecedented"

Index: Pre-2020 average = 100



The number of economics papers written about COVID-19 has risen dramatically



Source: Data from Alberto Cavallo, based on data from RePEc •
Created with Datawrapper

How the Pandemic Has Changed Economics ...And How It Will Change Economics Teaching

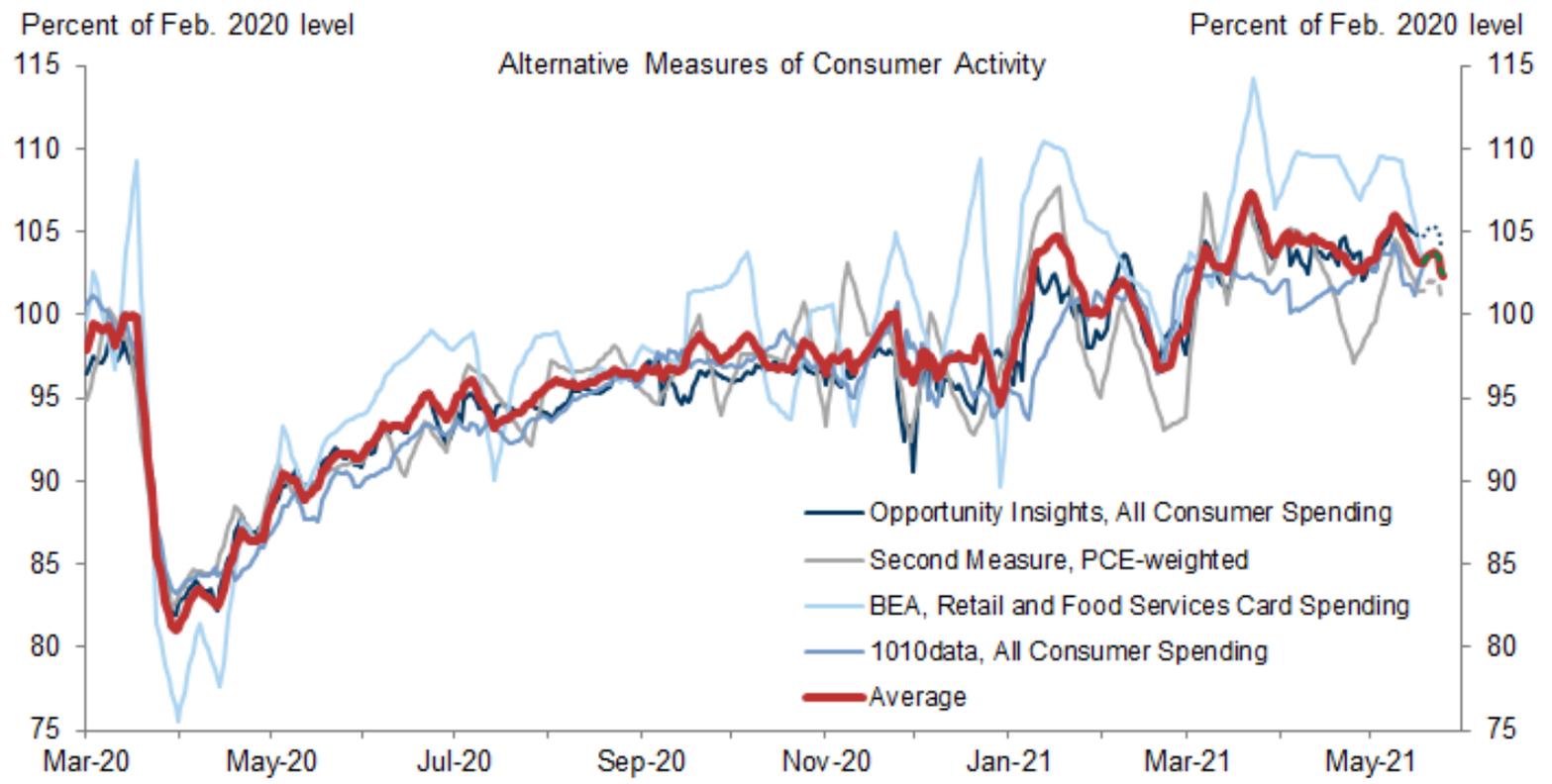
Justin Wolfers, University of Michigan
CIES Annual Conference, Peru (via Zoom), December 2021.

7 ways the Pandemic has transformed Economics

1. The era of **big data** has arrived
2. Economics must extend **beyond the market**
3. **Interdependence** is pervasive
4. The distinction between **aggregate supply and aggregate demand** has become blurry
5. **Unconventional monetary policy** is now conventional
6. The economy is **resilient**, yet **flawed**
7. Economics has never been more **useful**

Claim #1: The Era of **Big Data** Has Arrived

Exhibit 1: Consumer Spending Moderated to 102.4% of the Pre-Virus Level Over the Last Couple Weeks



Note: Dotted lines denote projections based on growth of other series. All measures rescaled to actual real PCE spending.

Source: Opportunity Insights, Second Measure Data Points Blog, Department of Commerce, 1010data, Goldman Sachs Global Investment Research

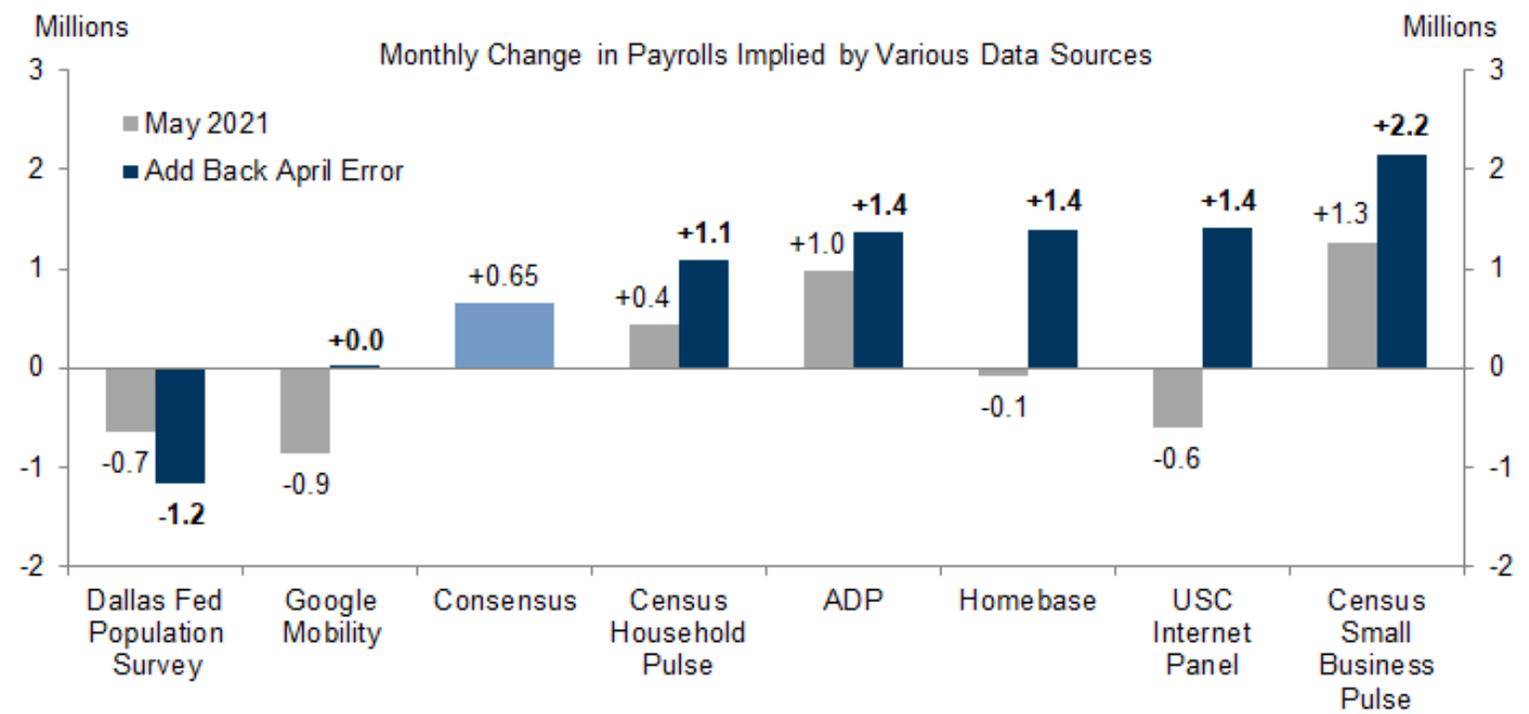
Claim #1:

The Era of **Big Data** Has Arrived

- ▶ “Weekly and sometimes daily snapshots of human behavior—restaurant reservations, pedestrian traffic, mobile phone data, airport checkpoint volume, retail activity, and even nighttime images of Earth from space—are now closely scrutinized. Embedded within these high-frequency data are clues that may paint a picture of the impact of the crisis on the outlook for women, young people, and minorities and possibly foretell changes for years to come. The use of real-time data for decision-making was growing rapidly even before the pandemic, mostly because of progress in digitalization and the emergence of big data. The COVID-19 pandemic, however, has brought its usefulness into sharp relief.”

Claim #1: The Era of **Big Data** Has Arrived

Exhibit 2: Big Data Signals Suggest that the April Jobs Report Was an Outlier



Note: Homebase is partial-month data. Census Household Pulse and Dallas Fed are adjusted for excess volatility relative to nonfarm payrolls. Census Small Business Pulse reflects linear fit of employment-weighted responses to "Re-opening previously closed location" and "Increasing paid employment"

Source: Department of Labor, Bloomberg, Department of Commerce, Google Mobility Report (Accessed 5-31-2021), ADP, Homebase, University of Southern California, Federal Reserve, Goldman Sachs Global Investment Research

Implication #1:

The Era of **Big Data** Has Arrived

- ▶ A shifting role for economic theory
 - ▶ Previously: A way to “fill in” when data was missing
 - ▶ Today: A framework for interpreting data
- ▶ Using theory to inform measurement

The New York Times

ECONOMIC VIEW

G.D.P. Doesn't Credit Social Distancing, but It Should

A better measure of economic growth would count our efforts to protect public health and refocus the debate about how to “reopen the economy.”

By Justin Wolfers

Inflation Is Higher Than the Numbers Say

While government statistics say inflation is low, the reality is that the cost of living has risen during the pandemic, especially for poorer Americans.

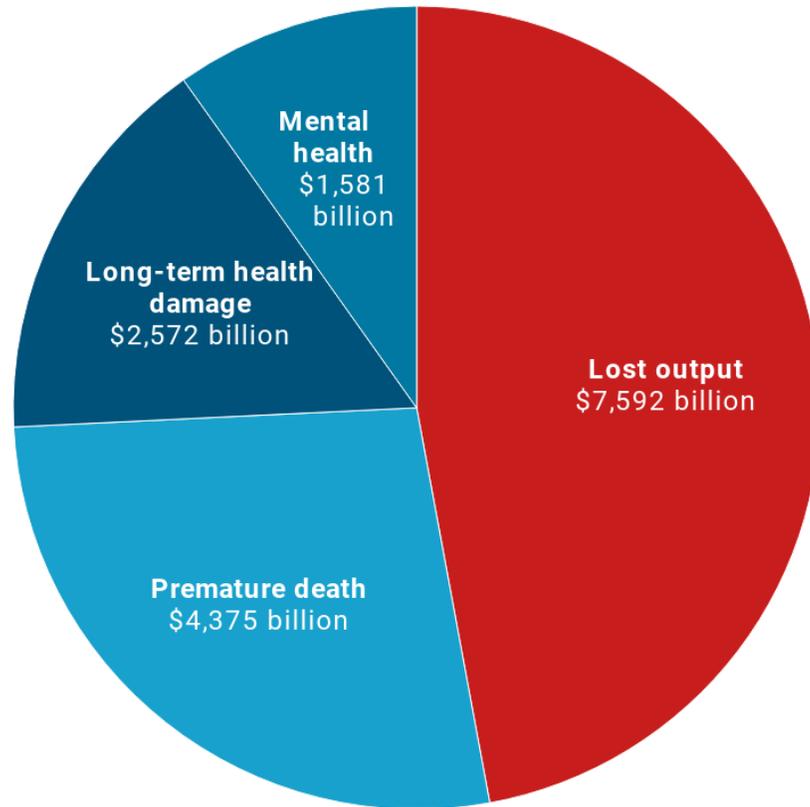
By Justin Wolfers

Claim #2:

Economics must extend **beyond the market**

Costs of the COVID-19 Crisis

Total cost of the pandemic in the United States is estimated to be \$16 billion, or nearly \$50,000 per person



Implication #2:

Economics exists **beyond the widget factory**

- ▶ Every decision is an economic decision

- ▶ Non-market choices are central to economics
 - ▶ Childcare
 - ▶ Work from home
 - ▶ Health
 - ▶ Education
 - ▶ Home production as a substitute for market production

Claim #3:

Interdependence is pervasive



Implication #3:

Teaching should emphasize **interdependence**

Some of the key (micro-)economic ideas for understanding the pandemic:

1. Externalities
2. Network and congestion effects
3. Asymmetric information
4. Game theory

Claim #4: Aggregate demand and aggregate supply shocks are not so distinct

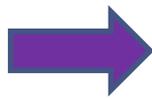
Macroeconomic Implications of COVID-19: Can Negative Supply Shocks Cause Demand Shortages'

Veronica Guerrieri
Chicago Booth

Guido Lorenzoni
Northwestern

Ludwig Straub
Harvard

Iván Werning
MIT

 Is it time to retire Aggregate Demand and Aggregate Supply as cornerstones of teaching macro?

We present a theory of *Keynesian supply shocks*: supply shocks that trigger changes in aggregate demand larger than the shocks themselves. We argue that the economic shocks associated to the COVID-19 epidemic—shutdowns, layoffs, and firm exits—may have this feature.

Claim #5: Unconventional monetary policy is now conventional

Federal funds rate

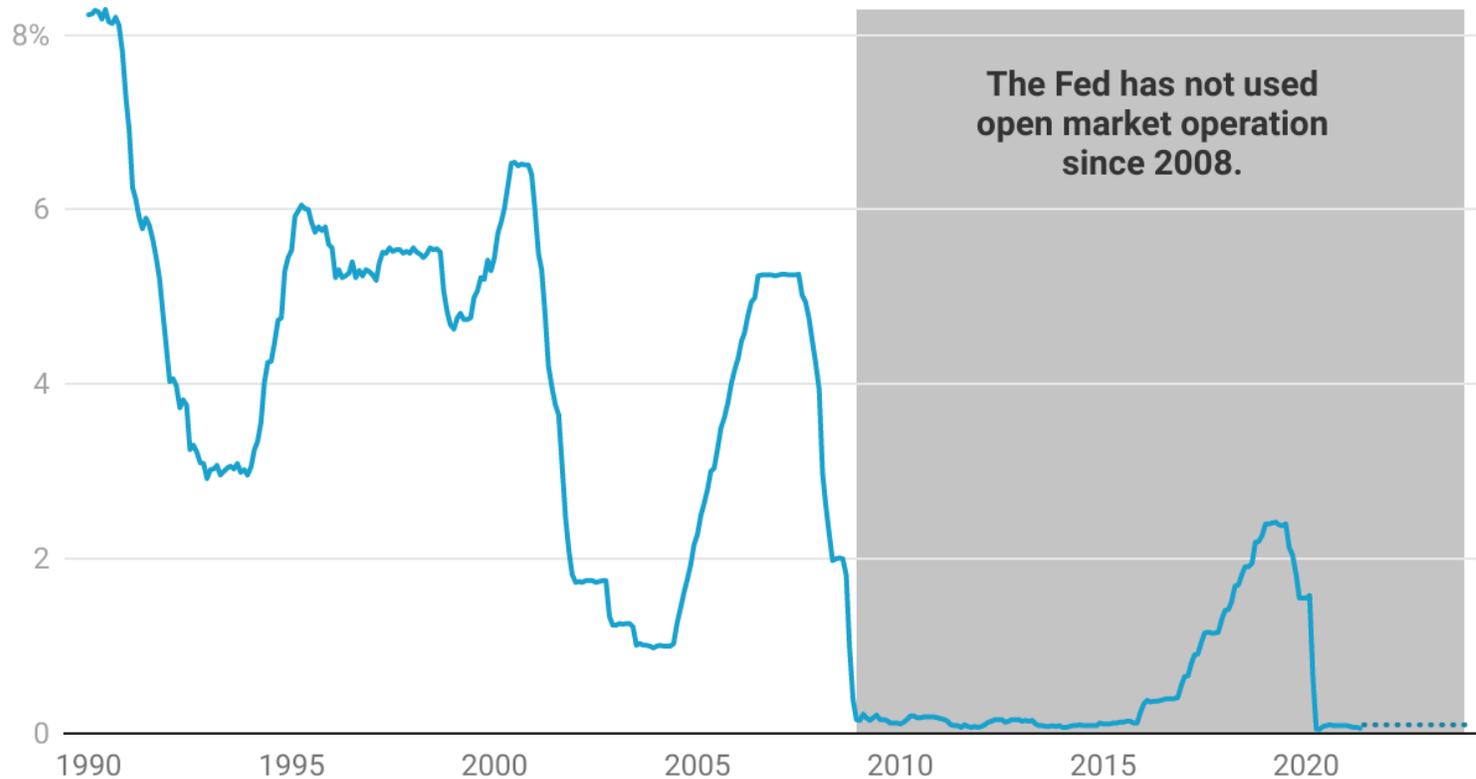


Chart: Justin Wolfers • Source: Federal Reserve data and projections • Created with Datawrapper

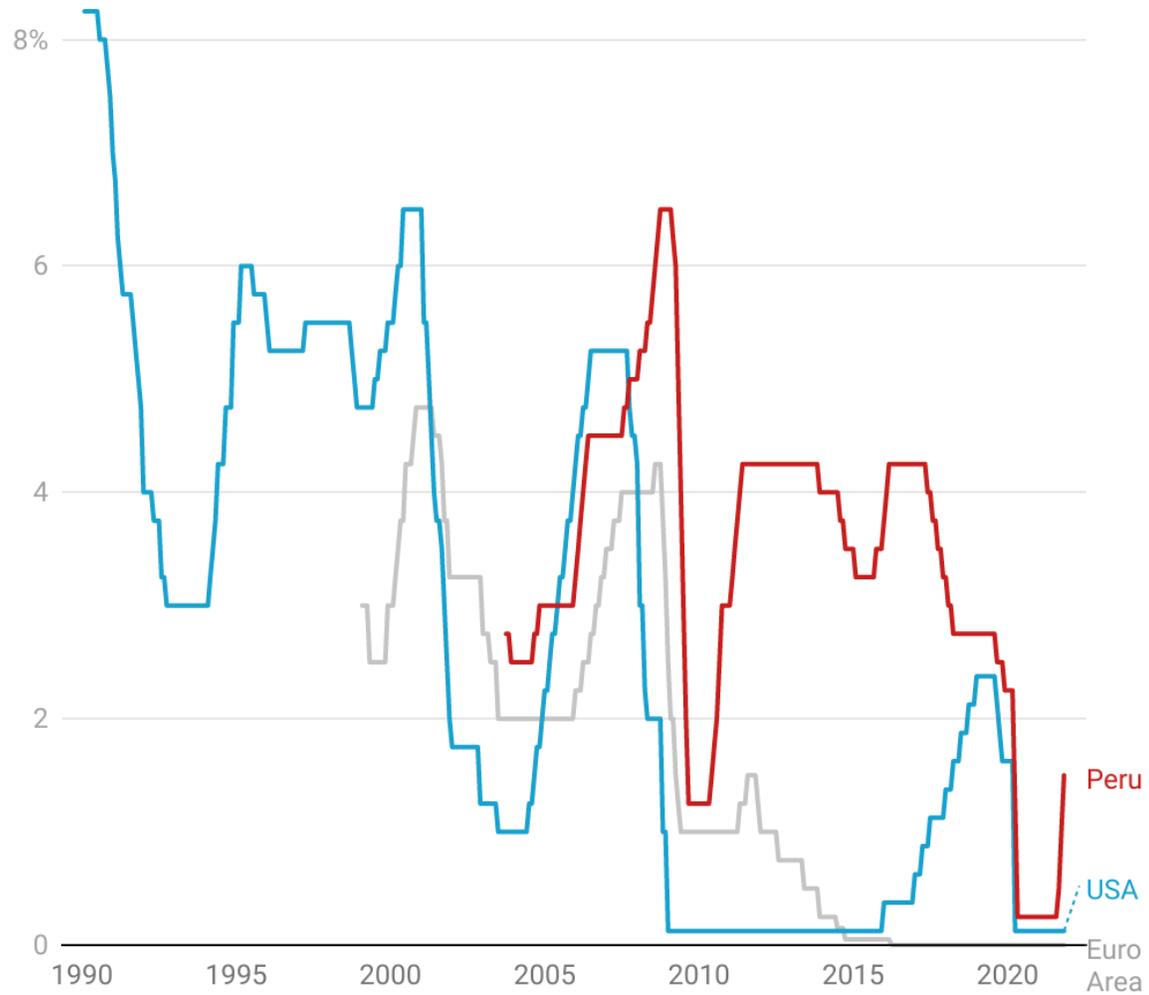
ECONOMY | U.S. ECONOMY

Fed Signals Low Rates Likely to Last Several Years

Central bank also sets high hurdles for raising rates going forward

Claim #5: Unconventional monetary policy is now conventional

Official monetary policy interest rates



Implication #5:

Update how we teach **monetary policy**

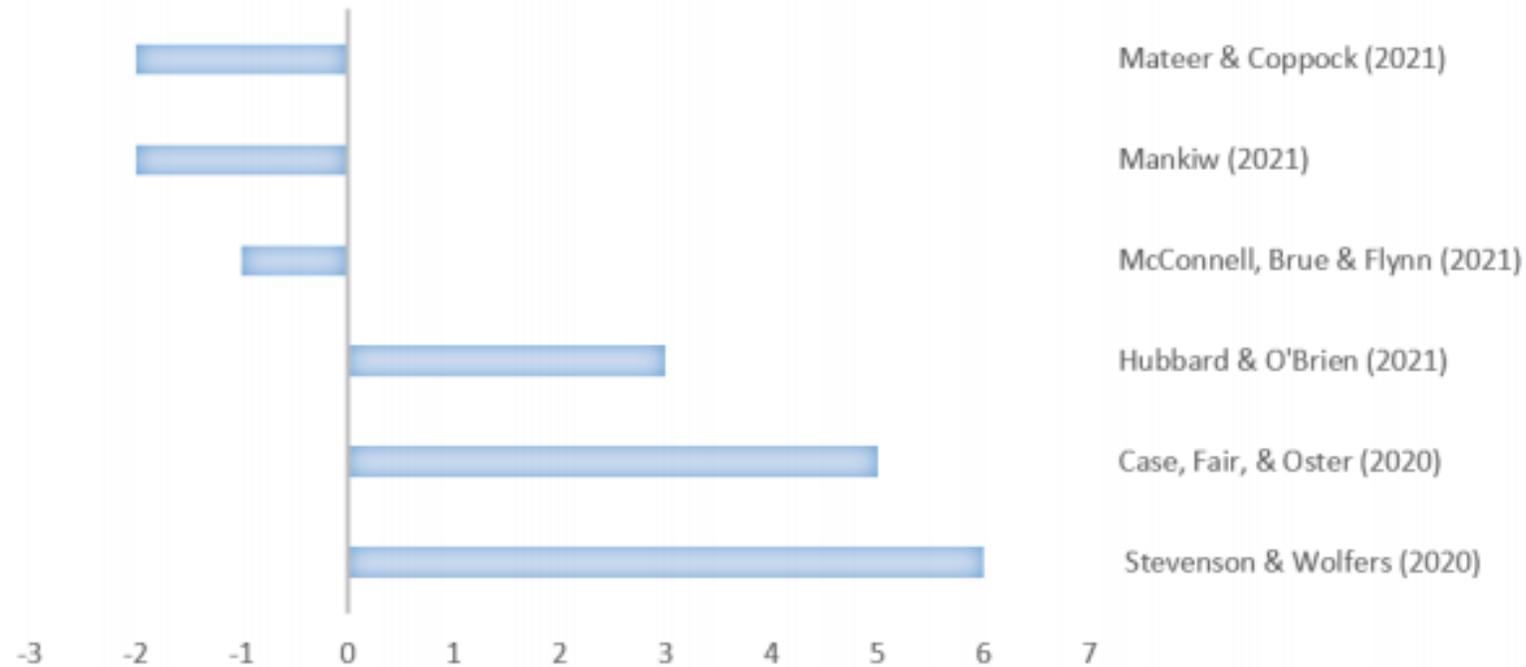
- ▶ Target range (“floor framework”) for interest rates
 - ▶ No longer use open market operations
- ▶ Quantitative easing
- ▶ Forward guidance
- ▶ Lender of last resort (and liquidity provider)
- ▶ Direct lending and other tools
 - ▶ Main Street Lending Program

(Most) econ textbooks aren't keeping up...

Let's close the gap: Revising teaching materials to reflect how the Federal Reserve implements monetary policy

Jane Ihrig and Scott Wolla

Figure 8 – Scoring Principle Textbooks for Content on Monetary Policy Implementation



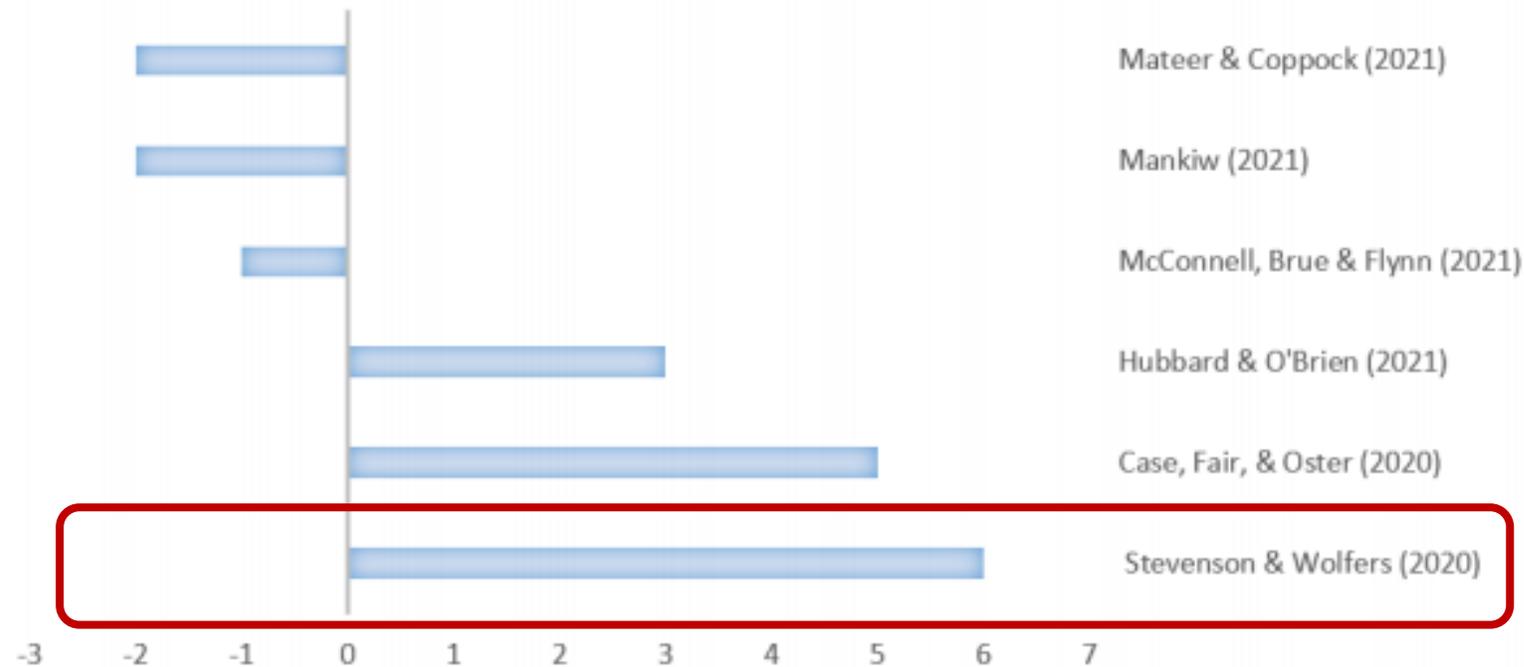
*The higher the score, the more the textbook covers current concept; maximum value +12.

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Let's close the gap: Revising teaching materials to reflect how the Federal Reserve implements monetary policy

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Figure 8 – Scoring Principle Textbooks for Content on Monetary Policy Implementation



*The higher the score, the more the textbook covers current concept; maximum value +12.

Claim #6:

The economy is **resilient**, yet **flawed**

- ▶ The economy has been far more **resilient** than many imagined
 - ▶ Food supply has been remarkably robust
 - ▶ Whole sectors shifted from offices to homes
 - ▶ Production lines have been repurposed

- ▶ The economy remains more **flawed** than many imagined
 - ▶ Prosperity is fragile
 - ▶ Insurance is imperfect
 - ▶ Shocks are frequent

Implication #6:

We should teach a **realistic** version of economics

- ▶ Stylized frictionless models will simply fail to resonate with our students
- ▶ Teach about the economy they **actually observe**
 - ▶ People adapt. Businesses adapt.
 - ▶ Market imperfections aren't a deviation, but the central case
 - ▶ Behavioral biases are pervasive
- ▶ Much as the economy has **adapted** to changing circumstances, so should our teaching methods
 - ▶ Rapid adaptation and technological innovation
 - ▶ Some of these changes (which ones?) will persist

Claim #7:

Economics has never been more **useful**

- ▶ Basic economic principles guided the policy debate
- ▶ Economics has helped each of us make sense of the world
- ▶ Our students will graduate into a fragile economy
- ▶ They are hungry
 - ▶ To track the policy debate
 - ▶ To understand the disruption to their lives
 - ▶ To make savvy choices

Implication #7:

We should teach useful economics

- ▶ **Useful economics** speaks to the roles that our students will play in the economy
 - ▶ How economic tools can help them make better decisions
- ▶ The stakes have never been higher
- ▶ What we do really matters
- ▶ We can transform our students lives

Teaching **Post-Pandemic Economics**

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5. **Unconventional monetary policy** is now conventional
6. The economy is **resilient**, yet **flawed**
7. Economics has never been more **useful**

And a bonus point...

