Reading the Macroeconomic Tea Leaves:
Seismic Policy Changes and the Need for New Narratives

Deborah Lucas, MIT

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- How have governments' policy toolkits, and policy actions, changed since the GFC in 2008?

- How have those changes affected the link between policy and macroeconomic outcomes?

- **In particular, what was the impact of credit policies?**

- What are the implications of pandemic-era fiscal, credit and monetary policies for the outlook on inflation, real growth, and credit markets?

- *How have governments' policy toolkits and actions changed since the GFC?*

- Powers and responsibilities of central banks have expanded vastly
  - These have further blurred the line between monetary and fiscal policies

- The pandemic triggered a surge in expansionary policies globally
  - Fiscal policies were extremely aggressive in many advanced countries
  - **Unprecedented use of credit support and forbearance policies globally**

- *How have those changes affected the link between policy and macroeconomic outcomes?*
- *In particular, what was the impact of credit policies?*
- *What are the implications of pandemic-era policies for the outlook on inflation, real growth, and credit markets?*

The **very aggressive fiscal and credit support** policies, **accommodated by monetary policy and regulatory forbearance**, help to explain:

- Why the post-COVID recovery was so rapid in advanced economies
- The COVID savings glut
- Why inflation shot up and has persisted, but why it may yet prove to be transitory
- Why credit markets may be less healthy than they superficially appear to be, and why cracks are appearing now
- Major risks: continued fiscal dominance; ineffective/over-aggressive monetary tightening; excessive reliance on credit policies in future downturns

Monetary Policy: The popular narrative

- It is the central bank's job to keep inflation at the target rate (e.g., 2%)
- It attempts to do that through interest rate policy
  - If inflation is too high, central bank raises rates to discourage demand
  - Potential for short-term pain, but long-term gain

Fortune

'Inflation is a monster that we need to knock on the head':

- How exactly does raising the central bank's policy rate knock inflation on its head?

Monetary Policy 101

- The Quantity Theory of Money

$$M \times V = P \times Y$$

M is the money supply

V is the velocity of money

P is the price level

Y is real GDP

"Helicopter money"

If central bank increases M and the economy is at full employment, then P will go up. Hence, excessive growth in the money supply causes excessive inflation

"Monetary policy has long and variable lags" – Milton Friedman

Monetary policy via interest rate policy

- A less direct mechanism
  - Raise rates => less borrowing => less demand for goods and services => less upward pressure on prices (and vice versa if lower rates)

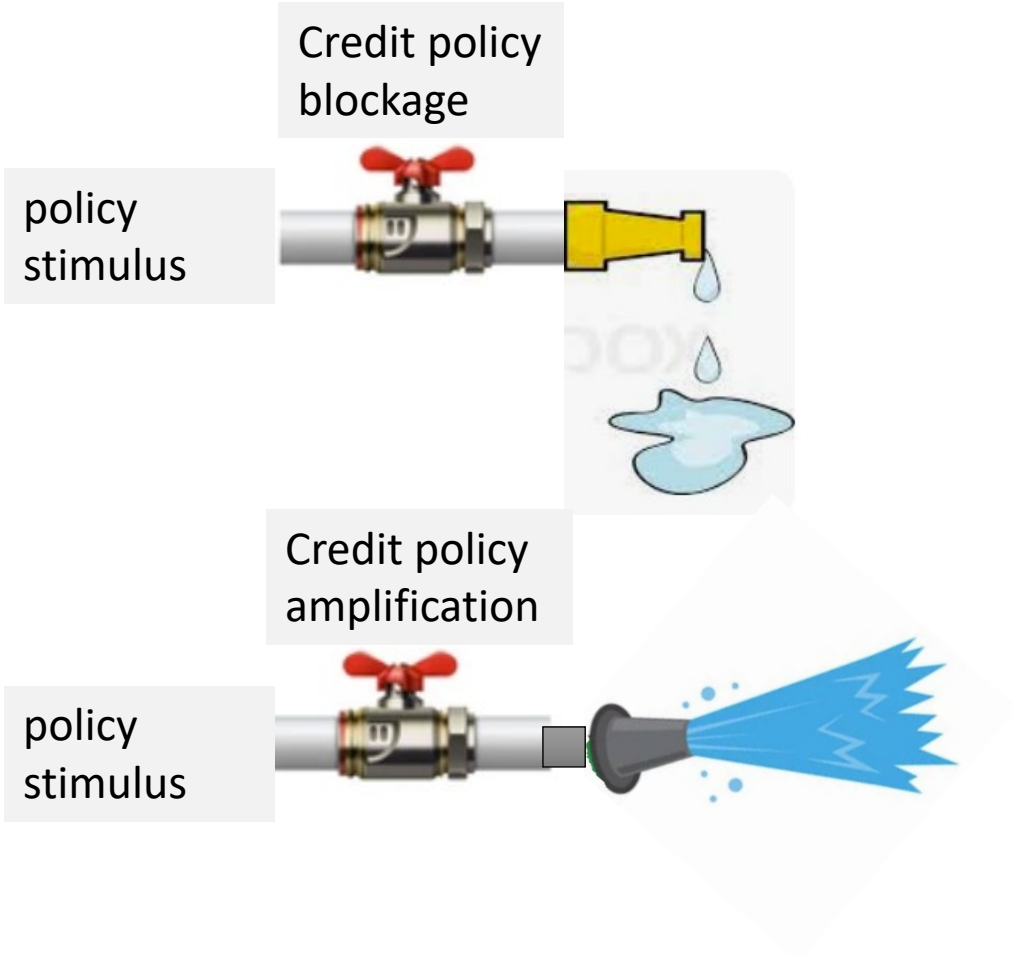
- Poorly understood; hard-to-predict size and timing of effects
  - Only a portion of firms or individuals will want to borrow, or be able to, even at very low rates
    - Contrast loans that must be repaid with helicopter drop of “free” money
    - During COVID, even though interest rates were low, most firms avoided capital investments because of demand uncertainty and supply chain issues
  - How much do changes in an overnight policy rate--which have little immediate effect on borrowing rates or on access to credit market—really matter?

- **Credit policies are critical to the monetary transmission mechanism…**

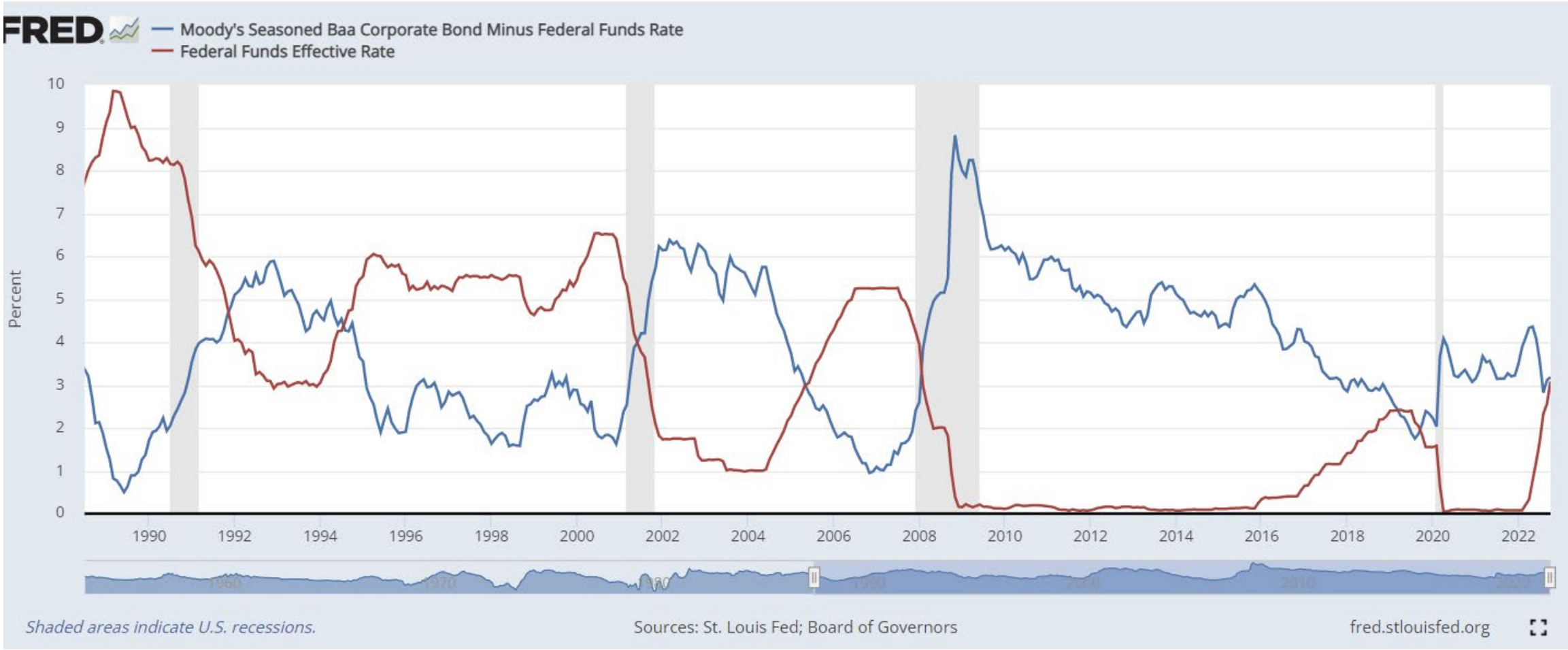
Where do credit policies fit in?

- Credit policies can block or amplify the effects of monetary policy

- Three examples:
  - During Great Recession, federal mortgage policies blocked monetary policy
  - During Covid-19, credit policies amplified monetary policy
  - Most recently SVB failure cited as causing contractionary pressures from tightened credit market conditions

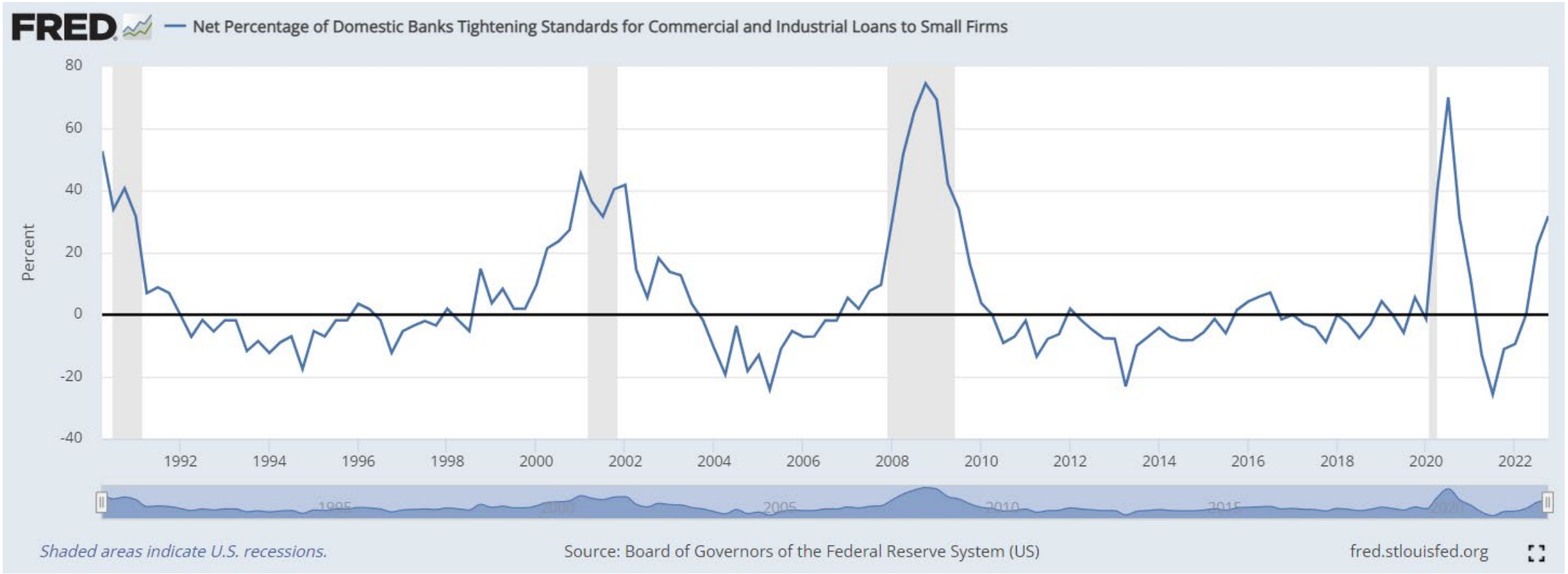


Transmission of Fed rate cuts in recessions is impeded by credit spread increases



Credit guarantees reduce credit spreads, increasing the impact of monetary easing.

Transmission of Fed rate cuts in recessions is impeded by tighter lending standards



Credit policies can offset tighter lending standards, increasing the impact of monetary easing.

Credit policy

- ***Definition:*** A credit policy affects the terms or availability of credit to households, firms, or sub-national gov't entities
  - Loan guarantees (e.g., mortgages, SMEs, student loans, agriculture)
  - Direct lending (e.g., airlines & critical industries)
  - Loan moratoria or forbearance (e.g., Italian SMEs, U.S. student loans)
  - Regulations (e.g., gov't credit program eligibility; risk-based capital requirements)
- **What were the consequences of pandemic credit policies?**
  - Hong, Gee Hee and D. Lucas (2023), "Evaluating the Costs of Government Credit Support Programs during COVID-19: International Evidence," IMF Working Paper 2023/014
  - Hong, Gee Hee and D. Lucas (2023), "COVID Credit Policies Around the World: Size, Scope, Costs and Consequences," forthcoming in Brookings Papers on Economic Activity
- **Pandemic credit policies were a channel for fiscal, monetary and regulatory stimulus**
  - ***Fiscal aspect:*** Gov't loans and loan guarantees were subsidized
  - ***Regulatory aspect:*** Banks given incentives to lend to firms of questionable credit quality
  - ***Monetary aspect:*** Passthrough of lower central bank rates via credit programs that avoided tightened lending conditions in fully private market

Credit policy surge in 2020 was unprecedented and global

- Policies included
  - New credit programs to support private firms
  - Forbearance on bank loans, mortgages, etc.
  - Relaxation of regulatory requirements (e.g., waiver of write-down of loans in forbearance)
  - Reopening of central bank liquidity facilities invented for GFC
  - Central bank purchases of private sector debt securities

- Largest programs
  1. **Loan guarantees** for firms
  2. **Forbearance measures**: payment holidays (on existing home mortgages, business loans, student loans, rent, etc.)

Assessing fiscal and macro effects of credit policies

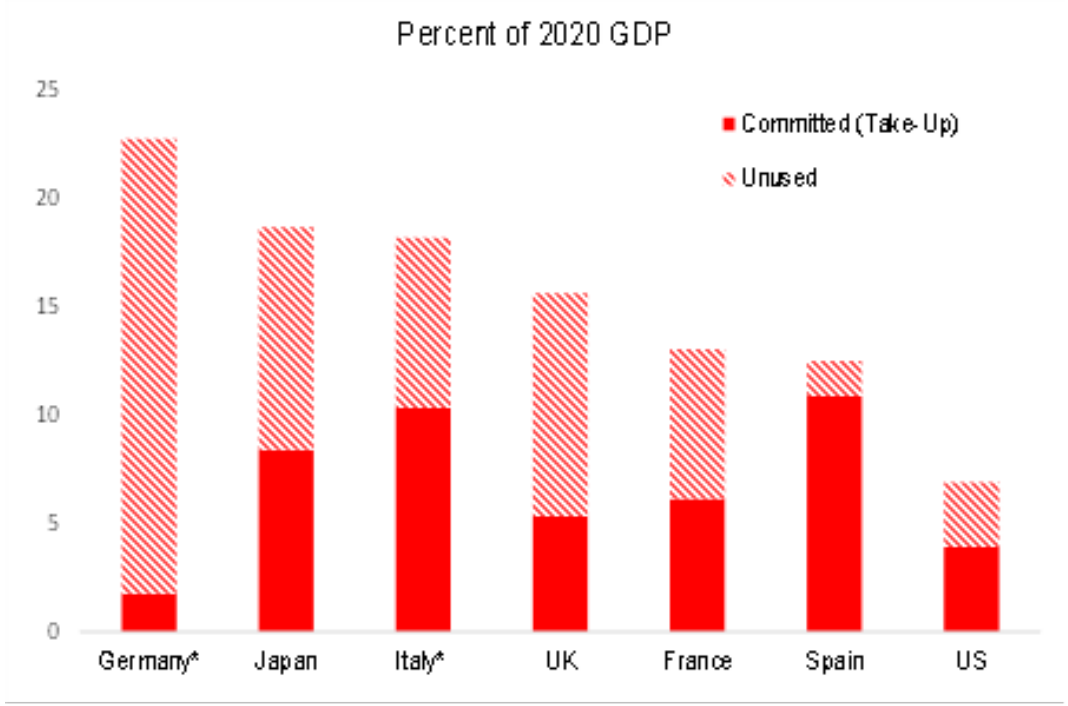
- How to measure subsidy (fiscal/budgetary) costs?
  - At market or fair value of loan concessions from gov't
- How to size credit policies to be comparable to fiscal policies for macroeconomic analysis?
  - Unifying concept of "incremental resources provided"
  - Focus on extensive margin effects: relaxation of borrowing constraints
- How should governments account for credit support? How does that compare to current practices?
  - Budgetary cost recognition upfront at fair value; subsequent tracking of take-up, performance, etc.
  - Often off-balance-sheet with no upfront cost recognition; inconsistent reporting of ex post outcomes

Major Credit Support Programs (> $5 trillion authorized; most loan guarantees)

Country	Scheme	Envelope (LCD)	Envelope (USD)	Borrower Types
US	US Paycheck Protection Program (PPP)	799 Billion USD	799 Billion USD	Small Enterprises
	Main Street Lending Program	600 Billion USD	600 Billion USD	SMEs
	Credit Support for Airlines and Critical Industries	46 Billion USD	46 Billion USD	Airlines and Critical Industries
Japan	Special Interest Program (実質無利子・無担保融資等)	99 Trillion Yen	937 Billion USD	SMEs
	Safety Nets for Financing Guarantees No.4 and No. 5			SMEs
Germany	KfW Instant Loans	357 Billion euro	407 Billion USD	SMEs
	KfW Entrepreneur loans			Firms older than 5 years
	KfW Direct Participation Syndicated Loans			Medium-sized and large firms
	KfW ERP Start-up Loan			Firms younger than 5 years
	WSF	400 Billion euro	457 Billion USD	Large firms
UK	Coronavirus Business Interruption Loan Scheme (CBILS)	330 Billion pound	424 Billion USD	SMEs
	Coronavirus Large Business Interruption Loan Scheme (CLBILS)			Large firms
	Bounce-Back Loan Scheme (BBL)			SMEs
	Covid Corporate Financing Facility (CCFF)			Large investment grade firms
France	PGE	300 Billion euro	342 Billion USD	All firms affected by COVID-19
Italy	Fondo Centrale di Garanzia PMI	>100 Billion euro		Self-Employed, SMEs
	Public Guarantee for Debt Moratorium	No limit (155 Billion Euro maximum take-up in March 2020)		
	SACE Garanzia Italia	200 Billion Euro	228 Billion USD	Medium and large companies
Spain	ICO loan guarantees	140 Billion Euro	160 Billion USD	SMEs

Government Loan Guarantees and Direct Loans to Firms

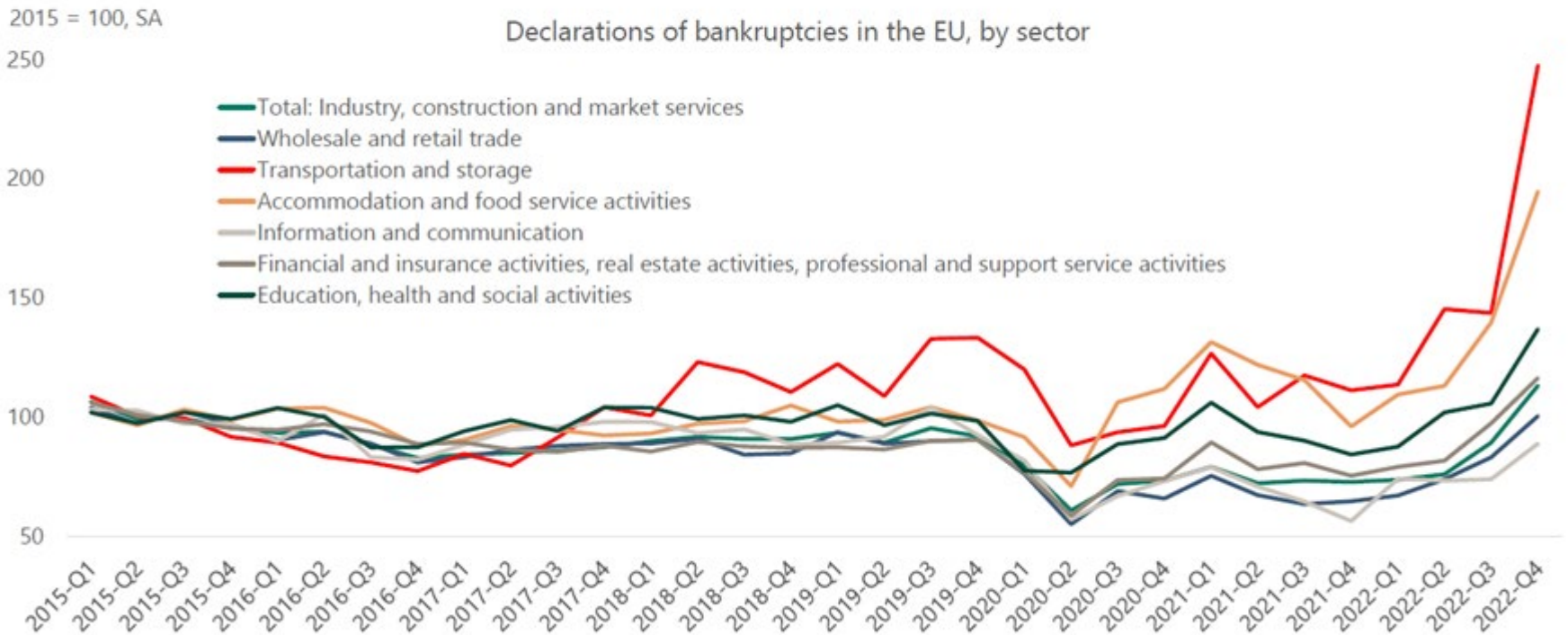
- "Incremental resources provided" measured by principal take-up (Hong & Lucas, 2023)
- Predominantly loan guarantees, many to SMEs
- 80% to 100% guaranteed
- Typical maturities of 3 to 7 years
- Authorized "Envelope" often far exceeded "take-up"



- **Fiscal costs (from Hong & Lucas, 2023) totaled $330 billion ($1.1 trillion including the U.S. PPP)**
- Dividing total fiscal cost by total take-up, the **average subsidy rate is 37 percent (67 percent including PPP)**
- Subsidy rate varies widely across programs as a function of riskiness of target borrowers; size of rate concessions; loan maturity; fees; and other features

APOLLO

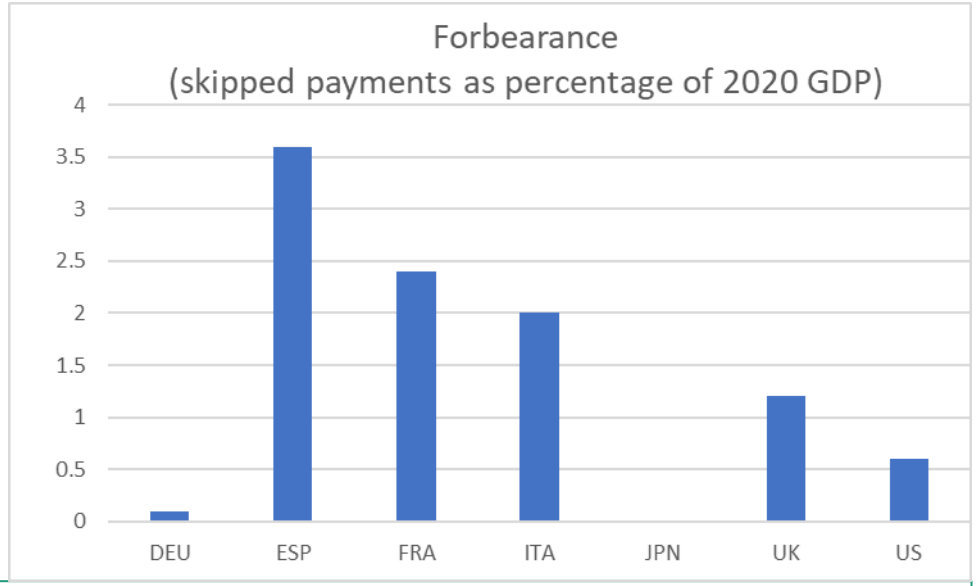
Bankruptcies rising in Europe



Pandemic forbearance policies

- Gov't-mandated payment holidays
  - For a specified time period; most < 1 year
  - Main transmission channel is through relaxation of borrowing constraints by amount of skipped payments
  - Intermediaries bore some costs, but regulatory easing reduced the impact on banks

- Examples:
  - Italian moratorium for all SME bank loans
  - US moratorium on student loan payments
  - Spanish mortgage moratorium



We use an estimate of total skipped payments to answer the question, how much incremental money did these loan guarantee put into the pockets of households and firms?

Pandemic regulatory accommodations

To encourage participation in forbearance and loan guarantee programs, certain rules and regulations were temporarily relaxed.

- E.g., in EU application of qualifying moratoria did not automatically trigger forbearance classification or non-performing status of the exposure.

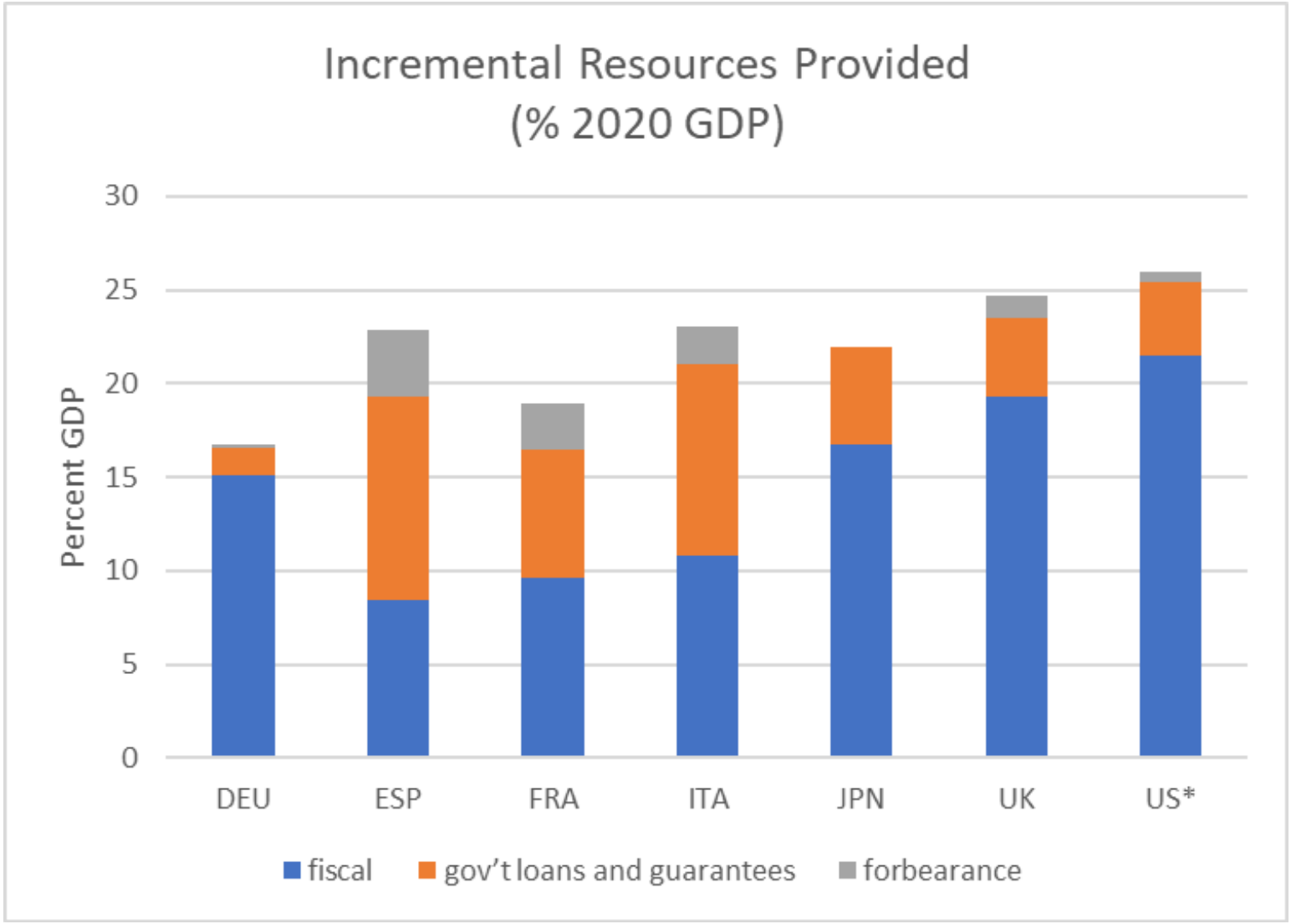
Despite influx of risky borrowers in guarantee programs, banks' reported risk-weighted-assets fell

- EU banks reported average RWAs to be 18% of the exposure value for loans made under public guarantee schemes, whereas the average RWA was 54% for banks' loans to non-financial corporations.

Reduction in risk weights was appropriate from a bank regulatory perspective because the guaranteed loans were in fact low-risk for the banks

However, a naïve reading of bank health metrics could have given some policymakers the false impression that credit risk in the economy was much lower than it actually was.

- Sharply rising default rates now reported in EU
- Inflated credit scores in US from student loan moratorium

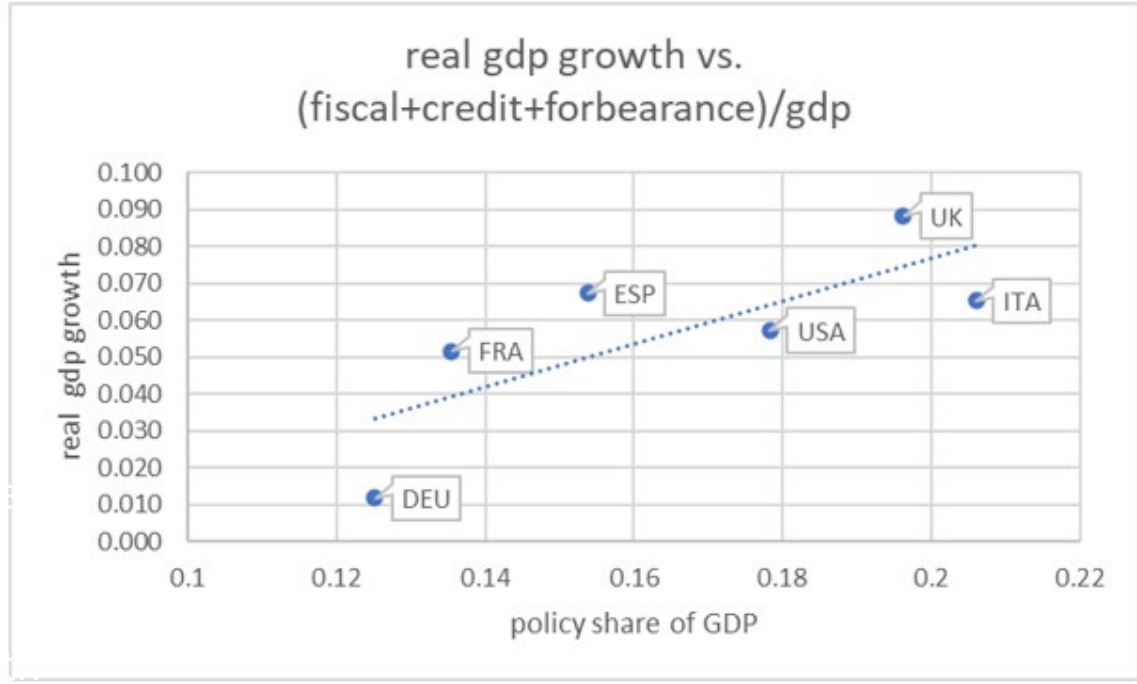


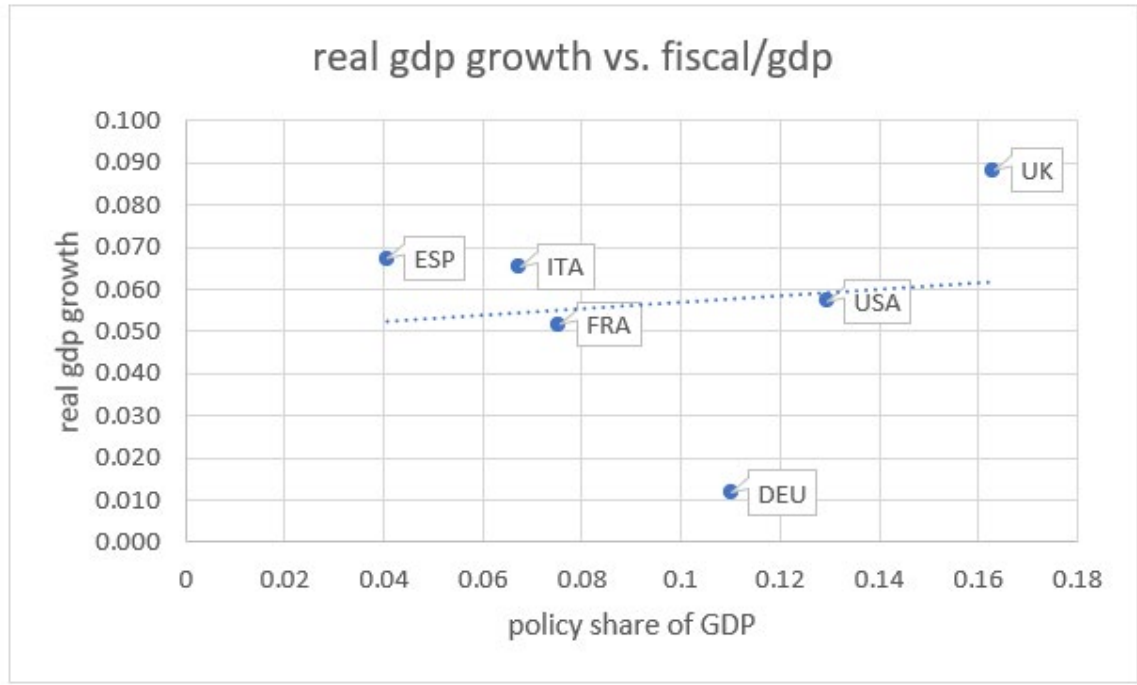
Average Fiscal	14.5%
Average Fiscal+credit+forbearance	22.0%

Incremental fiscal spending alone averaged 14.5% of GDP, whereas adding credit brings average to 22%

Much more uniformity across countries in the combined policies than in their individual components

Some evidence of macro effects: Combined policies better explain cross-country differences in real GDP growth and saving rates than does fiscal policy alone, with the caveat of small sample size


real gdp growth vs.
(fiscal+credit+forbearance)/gdp
real gdp growth
0.100
0.090
0.080
0.070
0.060
0.050
0.040
0.030
0.020
0.010
0.000
0.1
0.12
0.14
0.16
0.18
0.2
0.22
policy share of GDP
UK
ESP
ITA
USA
FRA
DEU


real gdp growth vs. fiscal/gdp
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0.18
policy share of GDP
UK
ESP
ITA
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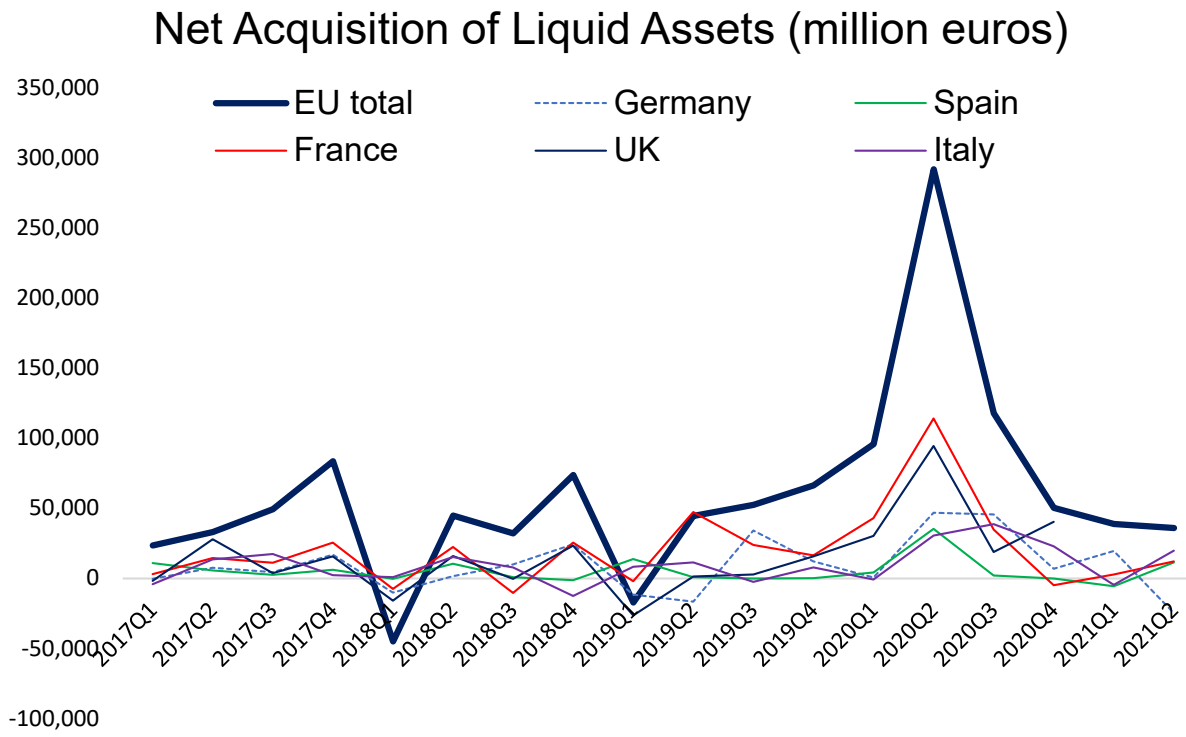
DEU

Was the incremental cash spent or saved?
Is the savings glut prolonging inflation?

- Surveys and financial stability reports by central banks suggest that liquid asset holdings of Non-Financial-Corporations increased sharply in 2020 => a large proportion of incremental borrowing was saved.



Source: ECB sectoral accounts

  - E.g., according to the British Business Bank, 23 percent of SMEs had spent all their facilities, and 19 percent had not spent any by 2020Q3

A little U.S. monetary policy history

The effective Fed Funds Rate from 1955 to Feb. 2023

- Zero lower bound hit during Great Recession
- Left Fed with no room to use traditional interest rate policy tool to spur demand
- **Prompted 2008 policy change by Congress: Fed allowed to pay interest on bank reserves!**
- That enabled Quantitative Easing (QE); a policy aimed at lowering long-term rates
- It also accommodated massive purchases of U.S. Treasury debt by the Fed during Covid

A little U.S. monetary policy history

Assets held by the Federal Reserve 2002 to March 1, 2023

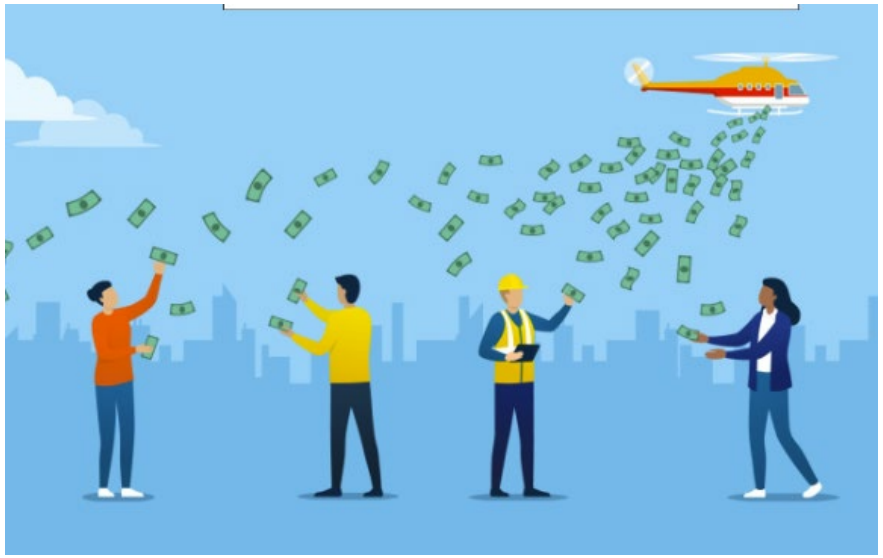
- Primarily Treasury securities, but since 2007 some MBS and recently some private sector securities
- Unprecedented growth during Great Recession
- Even larger growth during pandemic
- What are the implications?
  - Much expanded Federal Reserve footprint in credit markets
  - Is this monetizing the debt?

The evidence suggests QE isn't equivalent to a helicopter drop of money… but pandemic fiscal and credit policies likely were

$$M \times V = P \times Y$$

"M" can come from fiscal and credit policies, not just monetary policies.

The specter of "fiscal dominance"



Concluding remarks

The combined effect of very aggressive fiscal and credit policies, accommodated by monetary policy and regulatory forbearance, help to explain:

- Why the post-COVID recovery was so rapid in advanced economies
- Why inflation shot up and is persisting, but why it may yet prove to be transitory
  - The COVID savings glut is still contributing to inflation
- Why credit markets may be less healthy than they superficially appear to be

- Continuing risks from fiscal dominance, over-emphasis on monetary policy, over-looking the effects of and over-reliance on credit policies

Thank you!