Global Financial Systems
Chapter 5-b
The Central Bank and Monetary Policy

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To accompany

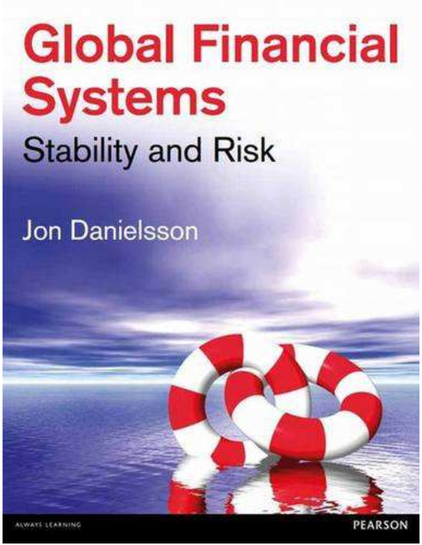
Global Financial Systems: Stability and Risk

`www.globalfinancialsystems.org/`

Published by Pearson 2013

Version 12.0, August 2025

Book and slides



- Updated versions of the slides can be downloaded from the book web page www.globalfinancialsystems.org

Hyperinflation

Hyperinflation

- *Hyperinflation* — over 50% per month
- Most of the important episodes occurred in
  - Europe after WWI and WWII
  - Latin America in the 1980s and 1990s
  - Former Soviet Union in the 1990s
- All-time record: Hungary 1945-1946, prices tripled daily
- Now Venezuela
- Large costs of inflation

Causes

1. Governments resort to financing themselves by printing money — *seignorage*
   - War
   - Inability to tax enough
2. It can be a political decision
   - Vladimir Lenin: "The best way to destroy the capitalist system is to debauch the currency, "
   - Germany, in part, created hyperinflation in the early 1920s to avoid paying reparations
3. As countries continue printing money, their ability to raise taxes diminishes, making governments increasingly dependent on seignorage
4. Sometimes hyperinflation only stops when the government can no longer afford to buy paper — Zimbabwe
5. However, nowadays, money usually created electronically — Venezuela

World record

Country	Highest month	Highest monthly inflation rate	Prices double
Hungary	Jul 1946	4.19×10^{16}%	15.0 hours
Zimbabwe	Nov 2008	8×10^{10} %	24.7 hours
Yugoslavia	Jan 1994	3×10^{8}	1.4 days
Germany	Oct 1923	29,500 %	3.7 days
Greece	Oct 1944	13,800 %	4.3 days
China	May 1949	2,178%	6.7 days

The Weimar republic (Germany) 1921–1923

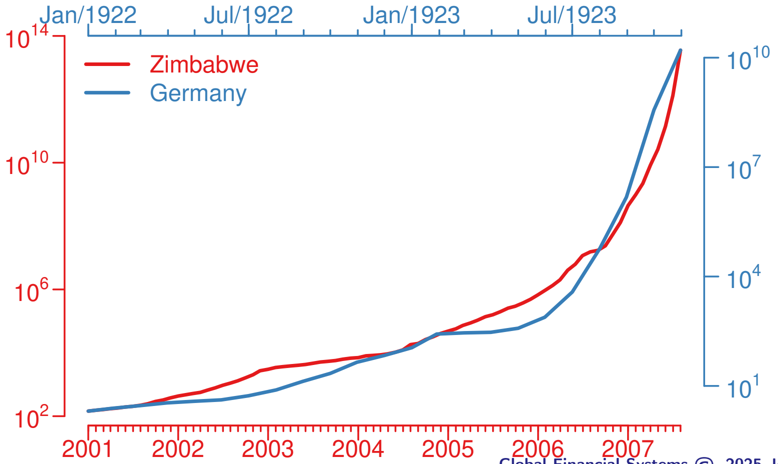
- First *well documented* economic behaviour of hyperinflation
- First recorded in China in the 13th century
- Dramatic increases in prices and interest rates, redenomination of the currency, flight from cash to hard assets, etc.
- The main cause was the Treaty of Versailles and war reparations
- 60 marks per dollar in 1921 to 8000 end of 1922
- Ended with the introduction of the Rentenmark

Zimbabwe from 1980

- Chronic hyperinflation since independence in 1980
- 1 Zimbabwe dollar was worth about USD 1.25
- Inflation 624% in 2004, 1,730% in 2006
- August 2006 revalued currency at 1,000:1
- Inflation 11,000% 2007, issue of larger denomination notes
- 100m, 250m, 500m, 25b, then 100b between May and July
- November 2008, inflation 516 quintillion per cent
- On 16 January 2009, issued a ZWD 100 trillion bill
- Redenomination on February 2009 removing 12 zeroes (and ten zeros in August 2008)

Hyperinflation in Germany and Zimbabwe

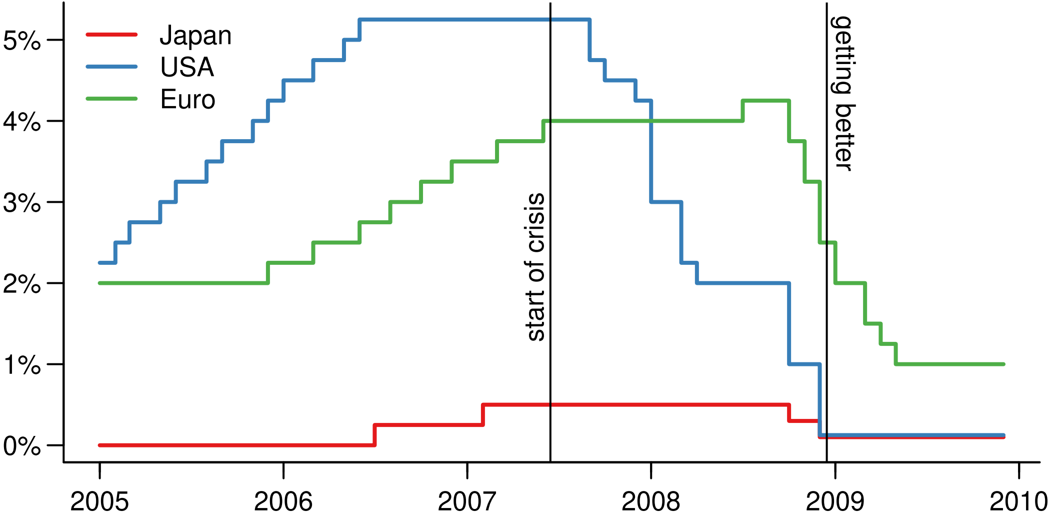
- Notice the similar course of price growth
- Consistent with Cagan's 1956 empirical model



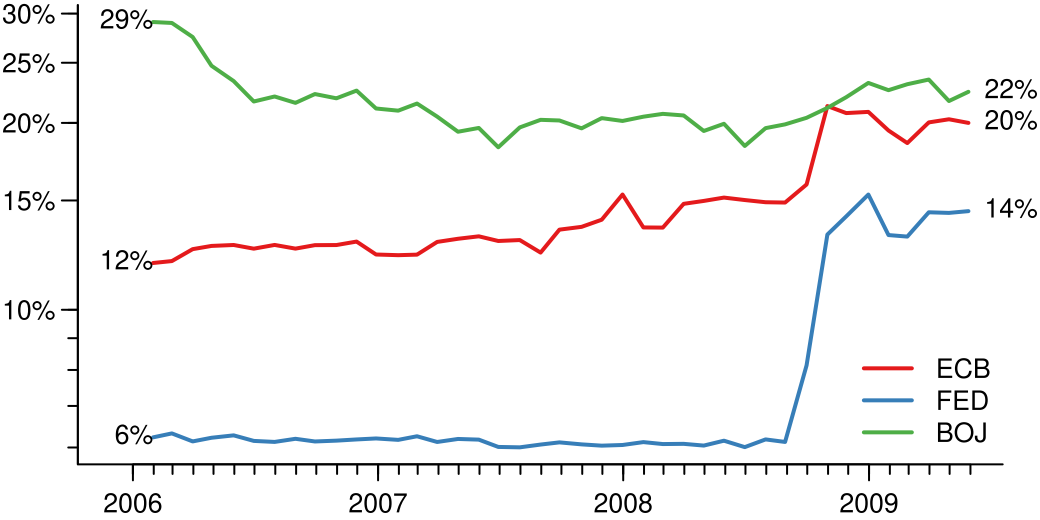
2008 crisis — Central bank response

- Did not want to repeat mistakes from the Great Depression
- "I looked at the portrait of my predecessor in our main meeting room from the Great Depression and opted to do the opposite"
- We discuss bailouts in Chapter 14
- Bail out banks
- Massive liquidity injection
  1. quantitative easing
  2. low interest rates
- Note how slow the ECB is to react
- And how little BoJ reacts

Central-bank interest



Central-bank assets



Effectiveness

- Did prevent 2008 from becoming another Great Depression
- However, fostered the idea of the central banks being responsible for growth
- Affected inequality — see later section
- Created moral hazard — discussed later

Quantitative easing — QE

Quantitative easing — QE

- Used when there is a danger of deflation and interest rates are close to zero
- Traditional monetary policy tools become ineffective
  - Interest rates cannot be significantly below zero, and banks hoard central bank balances
- Involves buying securities — typically government bonds but can be anything — from the public
- The difference between QE and open market operations is *scale*, *scope* and *motivation*
- More efficient might be *helicopter drops of money* (next slide)

Helicopter drops of money

- The central bank directly increases the money supply

  > *"Let us suppose now that one day a helicopter flies over this community and drops an additional $1000 in bills from the sky, ... Let us suppose further that everyone is convinced that this is a unique event which will never be repeated,"*
  >
  > *Milton Friedman 1969*

- Friedman suggested that a monetary authority can escape a liquidity trap by bypassing financial intermediaries to give money directly to consumers or businesses
- This is referred to as a money gift or as helicopter money

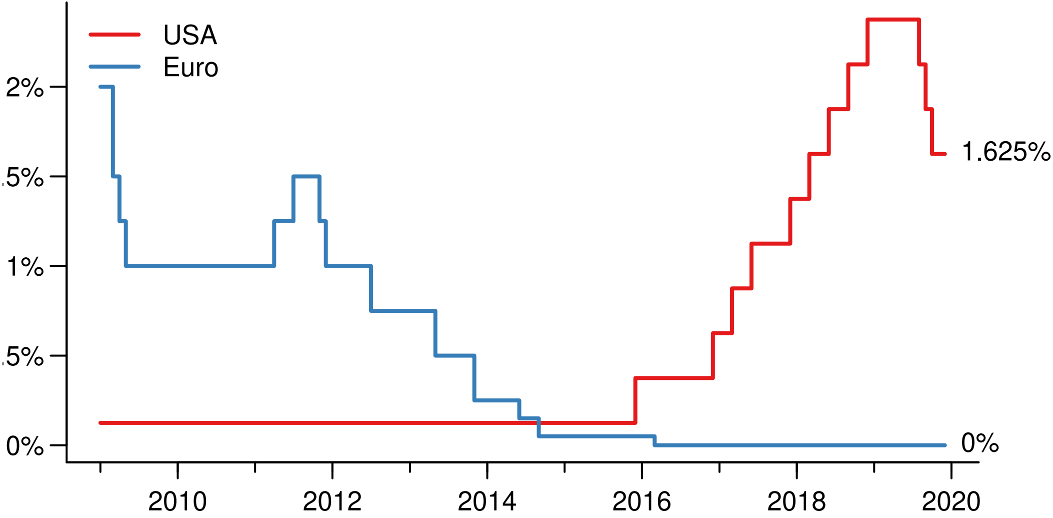
Biden's helicopter drops

- $1.9 trillion Covid relief bill
- Direct $1,400 payments to each American sent immediately to their bank accounts
- "Monetised" by QE
- See connection to MMT (modern monetary theory)

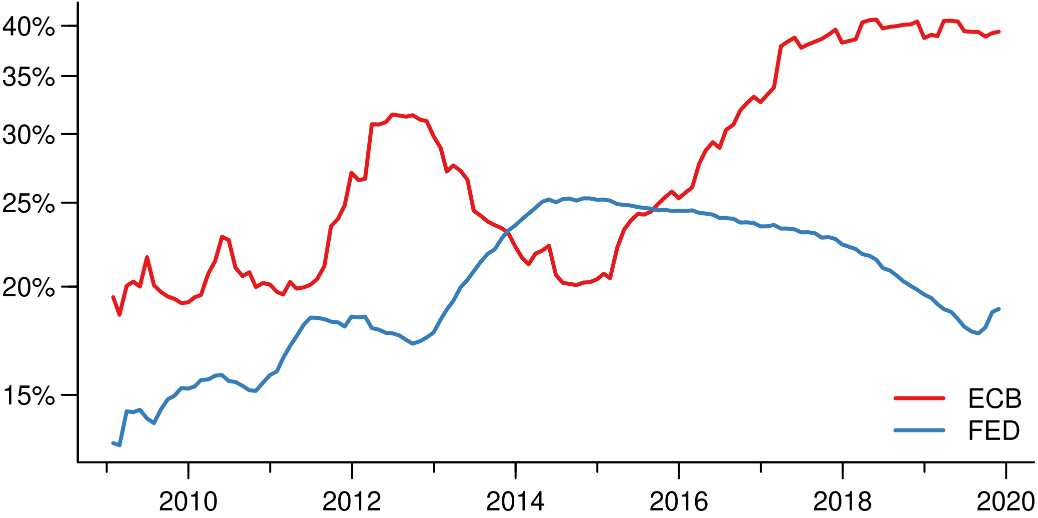
Assets — QE

- BOJ did not react to 2008, and ECB reacted less than Fed
- The Fed reacted quicker and more forcefully than ECB to Covid-19
- The US got out of 2008 much better than Europe
- But, a question for later is what is the appropriate reaction to Covid-19

Central-bank interest



Central-bank assets



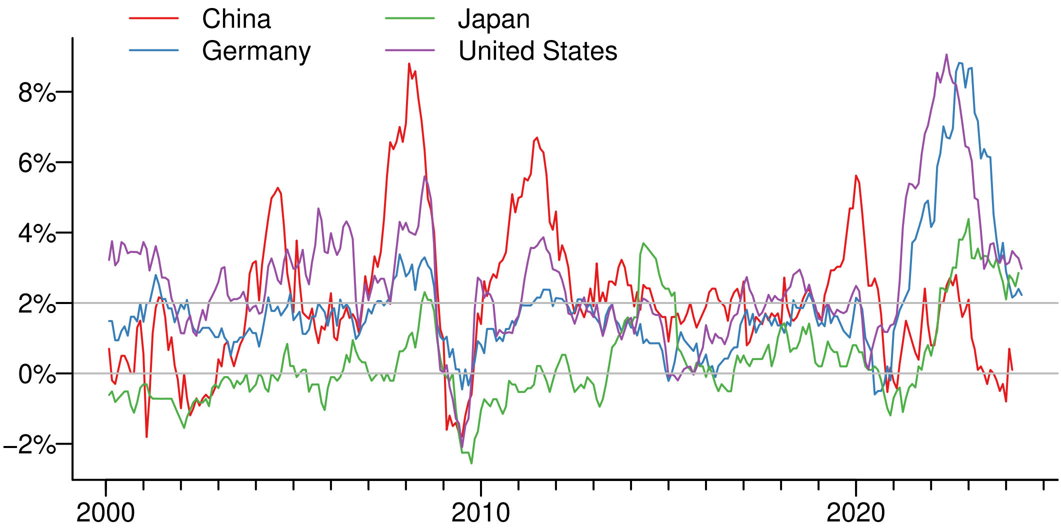
Post 2008

- The immediate reaction to the crisis in 2008 was
  - sharp reduction of central bank interest rates to almost 0
  - massive QE
  - direct liquidity assistance (discussed in a later chapter)
- Since then, interest rates have remained very low
- Some countries, especially the EU, continue to do QE
- Is this a permanent structural break?
- What are the dangers?

Debate about QE and low interest rates since 2008

have to, else depression	depression when it ends
save the banking system from collapse	encourages reckless behaviour moral hazard
without it economic activity would collapse	excessive debt was the cause of the crisis
creates jobs for the poor	benefits the super wealthy
there is deflation	inflation will happen
structural reforms too hard	prevents structural reforms
bad for savers	lifeline for borrowers

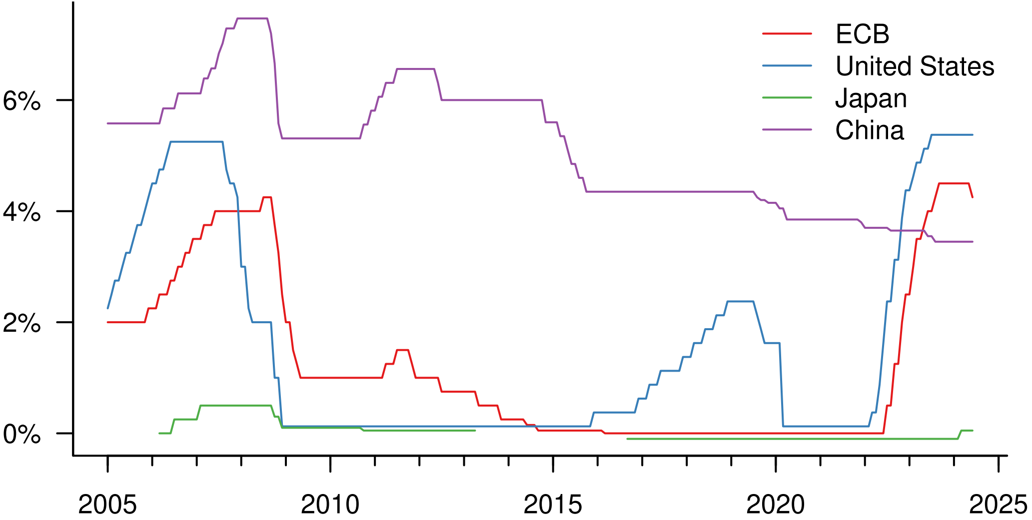
CPI inflation since 2000



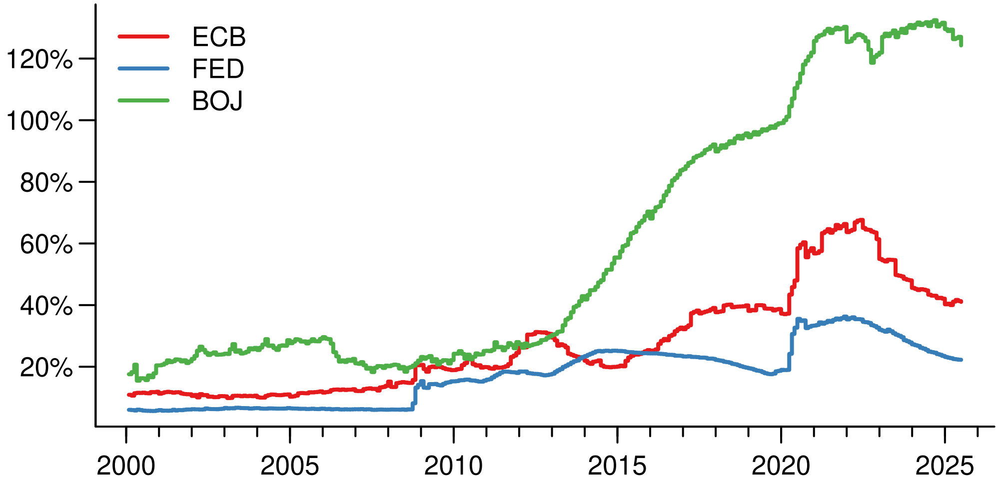
Where did the inflation go between 2009 and 2021?

- Puzzle: massive QE since 2007 and very low interest rates
- Yet inflation remained low despite tight labour markets
- Key insight: QE money didn't circulate as expected
- Banks held excess reserves rather than lending them out
- Next slides show the data on CB assets and policy rates

Central bank interest (policy rate)



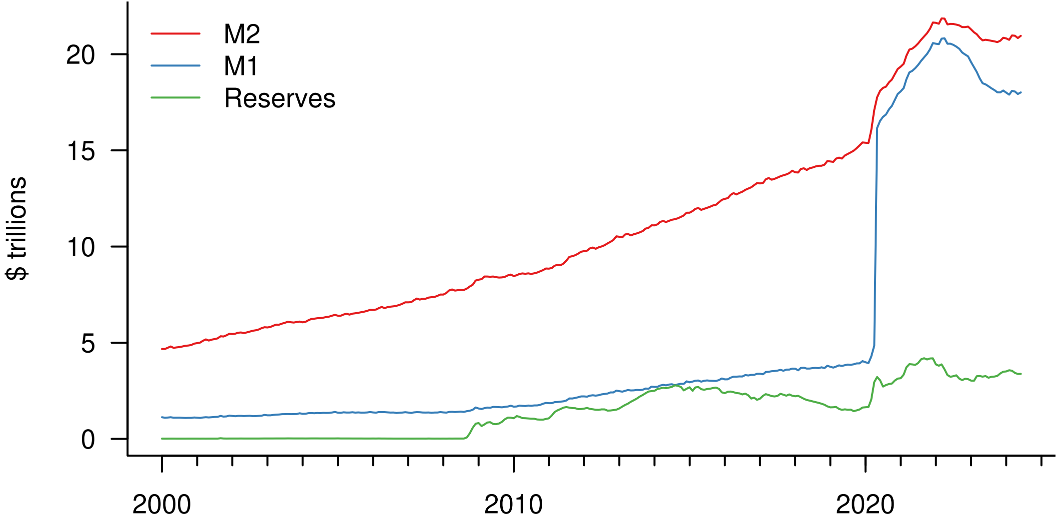
Central-bank assets to GDP



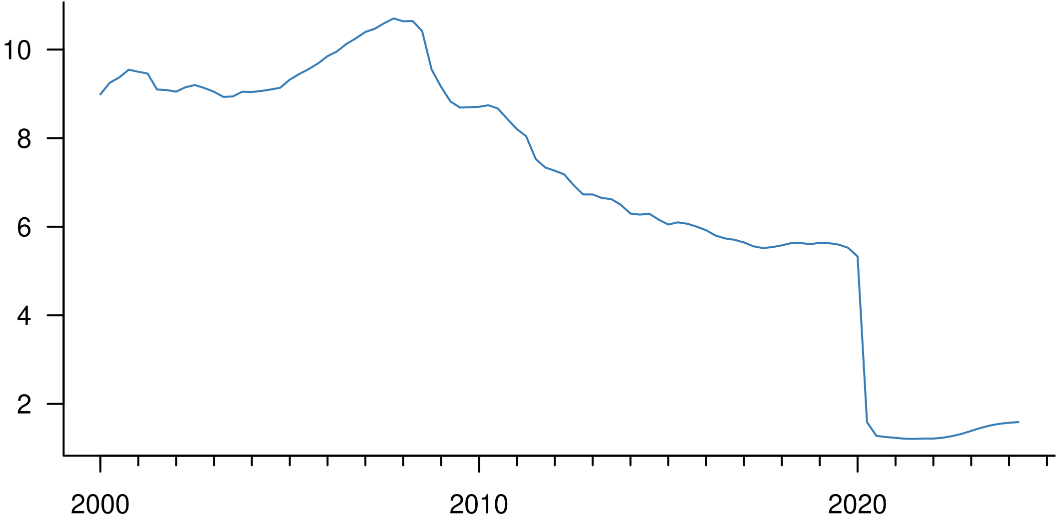
Why QE didn't create inflation: the broken transmission

- Traditional theory: CB buys bonds → banks get reserves → banks lend more → inflation
- Reality was different: QE broke this transmission mechanism
- Step 1: Central banks bought government bonds from pension funds and insurers
- Step 2: These institutions deposited the cash proceeds in bank accounts
- Step 3: Banks parked this money as excess reserves with the central bank
- Result: money never entered the real economy to drive inflation
- Next slides show the US data illustrating this process

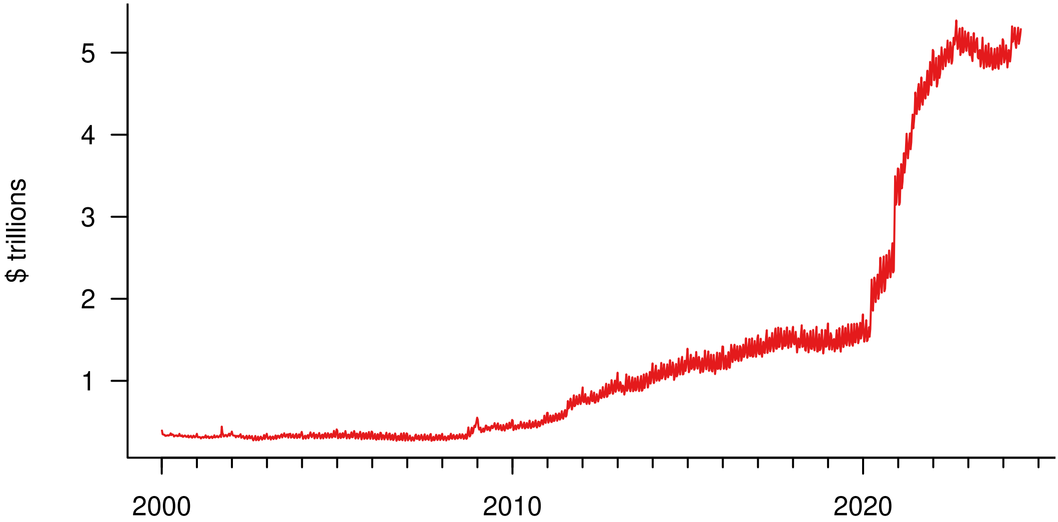
US money



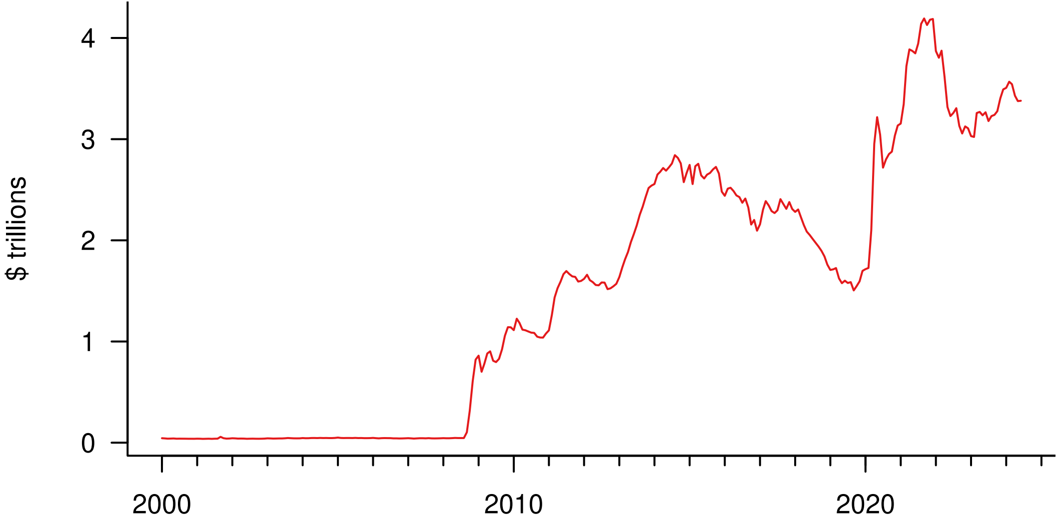
US money M1 velocity



Demand deposits



Bank reserves at Fed



Issues

- It's clear from the figures why inflation did not emerge
- A look at the scale of QE in March 2020
- This massive expansion became a central factor in current debates about inflation

Bibliography I