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ICADE International
Fall 2023
Financial Markets

L2 – Monetary Policy

September 21st, 2026

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What are we going to do this week?

- **Talk about money**
  - Monetary policy before 2008
  - Monetary policy after 2008
- **Monetary policy in practice:**
  - Black swans
  - Interest rates evolution: 2001 – 2008
  - Lehman Brothers bankruptcy

L2. Monetary policy and central banks

For next day:
I will ask you to write, at the beginning of the class:
What was the problem with Lehman Brothers?
15 minutes – The shorter the better.

And next week… since 2008 till now:
- Iceland breakdown
- Greek crisis

Evolution of the financial system

We are going to talk during this classes:

- 1921-1924 German hyperinflation
- 1944-1971 Bretton Woods. Gold standard (fixed exchange rates). Stability
- 1979-1998 European Monetary System. 1992 Soros and the pound.
- 2001 The Federal Reserve's Response to the Sept. 11 Attacks
- 2001-2008 Low interest rate period with the “recovery” from 2006.
- **Sept 2008 – Lehman Brothers Bankrupcy**
- 2009 Iceland Bankruptcy
- 2009 – 2013 Euro debt crisis (Greek crisis)
- 2020 – Covid Crisis

What is money?

Three principal uses:

- As payment method. Medium of Exchange. It has to be accepted by people (divisibility, difficulty of forgery, ease of handling and transportation among others...)
- Store of value
- Money as a unit of account.

Interest rates

Inflation

Economical activity

Financial markets

Forms of money:

- Commodity money
- Metallic money
- Paper money
- Obligations
- Gold standard

How much money there is?

All of the World's Money and Markets in One Visualization

What is money?

By controlling the monetary base…

Currency. Notes and coins in circulation (outside CBS)

Central banks reserves not physically present in banks

Demands deposits and equivalent

Saving deposits and equivalent

Large time deposits and equivalent

M0 — **Monetary base.** Controlled by the central bank

M1 — **Liquid money**

M2 — **M1 and Near money**

M3 — **M2 and money in the shadow**

$$\frac{M2}{M0} = money\ multiplier$$

Reserve requirements (Basilea)

Central banks can control money circulating… and inflation, and economy growth… in theory.

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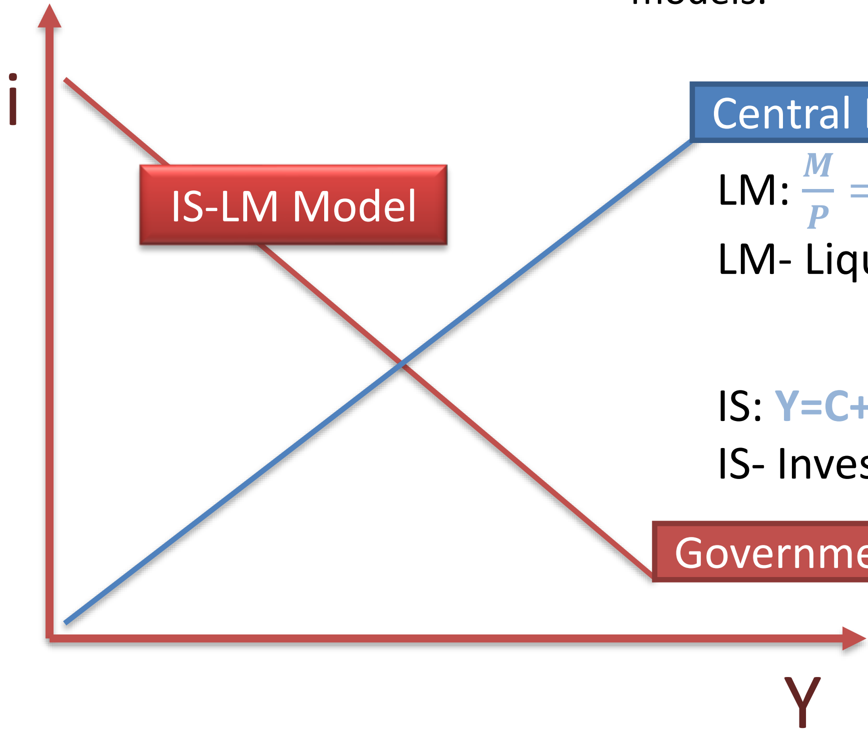
How does it works?

THEORY

$$\frac{M2}{M0} = money\ multiplier$$

Yesterday we talk about dynamic systems. Also we saw the contrast between theory and practice regarding equilibrium models.



Central Banks: expansionary monetary policy

LM: $\frac{M}{P} = L(i, Y)$ – Money market

LM- Liquidity preference-Money supply

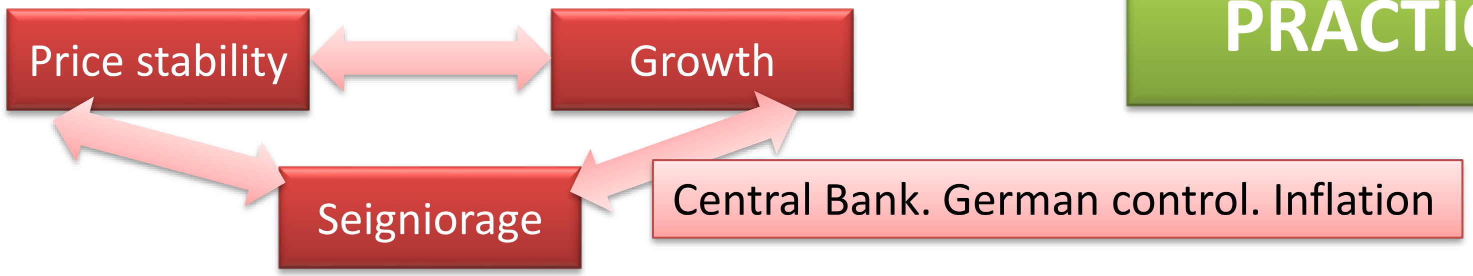
IS: Y=C+c(Y-T)+I(i)+G – Goods market

IS- Investment / Saving

Government: expansionary fiscal policy **(↓T↑ G)**

How does it works?

PRACTICE



1) The agreement reached at Bretton Woods at the end of the Second World War.
   - gave birth to the IMF and the World Bank
   - **established the gold-dollar parity**
   - fostered free trade and discarded protectionism

Longest period of stability

2) US economic imbalances at the end of the 60's meant the end of Bretton Woods:
   - **Floating exchange rates were introduced**
   - **The risk associated to floating rates and more global capital markets led to a higher degree of financial innovation: hedging products and derivatives**

3) 1979 the European Economic Community introduced the European Exchange Rate Mechanism:
   - The snake in the tunnel (link)

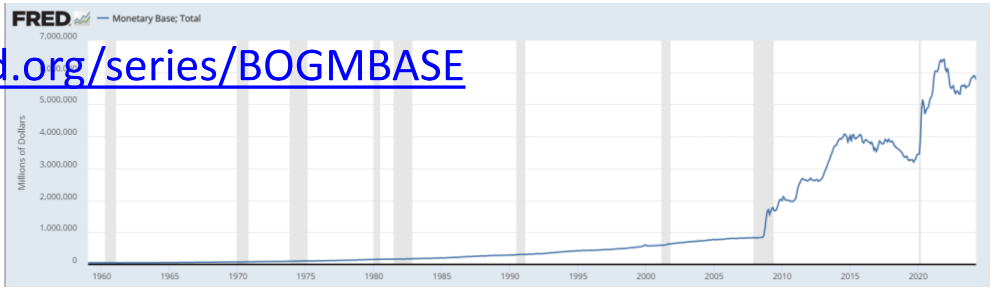
16 September 1992: Bank of England increased interest rates from 10 to 15%

Monetary policy

Entendiendo la política monetaria:

Interest rates: https://fred.stlouisfed.org/series/FEDFUNDS

Monetary base: https://fred.stlouisfed.org/series/BOGMBASE



Money supply (M2): https://fred.stlouisfed.org/series/WM2NS

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Monetary policy

People who do not know their history are doomed to repeat it.

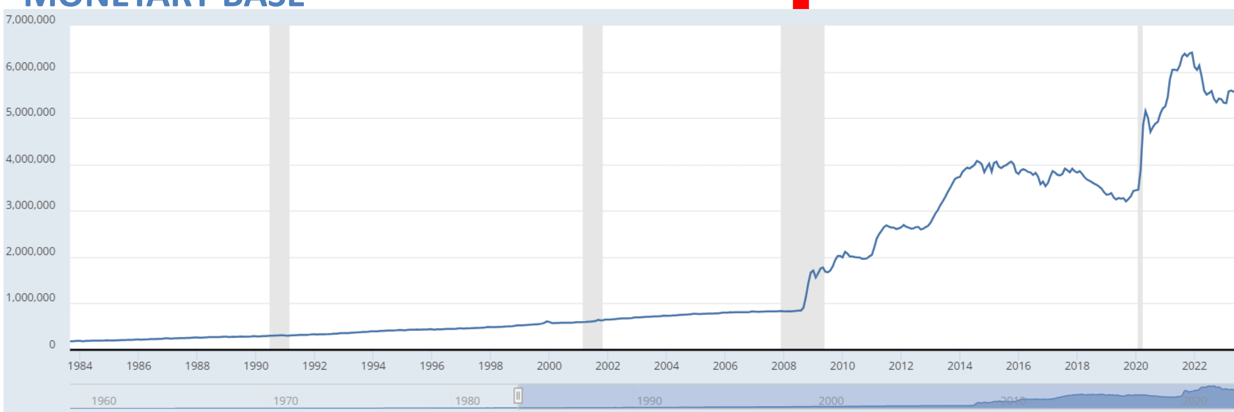
Some historical events that are worth knowing:

- 1921-1924: German hyperinflation
- 1944-1971: Bretton Woods. Gold standard (fixed exchange rates). Stability
- 1972: End of the Vietnam War and start of the oil crisis
- 1979-1998: European Monetary System
- 1992: Soros and the British pound
- 2001: The September 11 attacks
- 2001-2008: Period of low interest rates
- **September 2008: Lehman Brothers bankruptcy**
- 2009: Bankruptcy of Iceland
- 2009-2013: Euro debt crisis (Greek crisis)
- 2020: Covid crisis

Monetary policy

INTEREST RATES

MONETARY BASE



BEFORE 2008

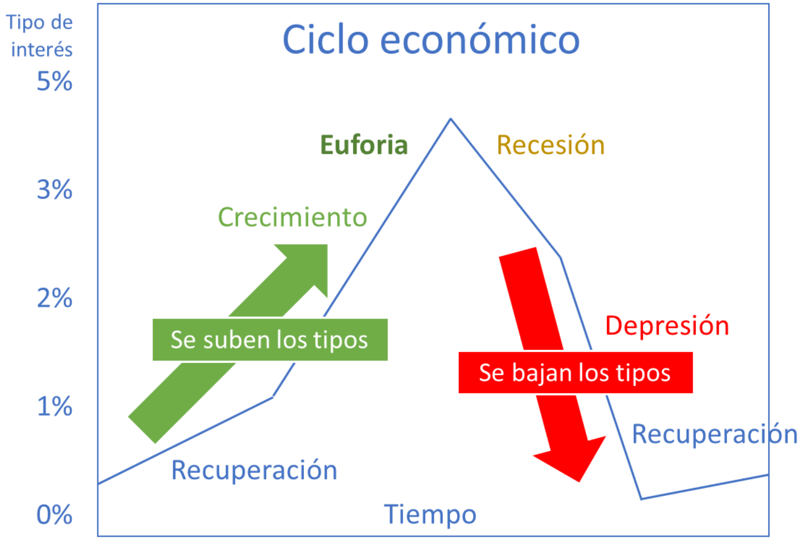
AFTER

Monetary policy – Before 2008

- **Interest rate cuts in response to a crisis:** Central Banks would lower interest rates to stimulate the economy during recessions. Lowering rates made credit cheaper and more accessible, encouraging consumption and investment.

- **Interest rate hikes to control inflation:** In periods of strong economic growth and significant increases in inflation, Central Banks would raise interest rates. This increase made loans more expensive, reducing consumption and investment, which helped control inflation and prevent the economy from overheating.

- **Economic cycle and monetary policy:** This cycle of lowering and raising interest rates was a common practice for managing the economic cycle. During a crisis, rates were lowered to stimulate the economy, and once the economy recovered and began to heat up, rates were raised to prevent excessive inflation, until a new crisis required lowering rates again.



Monetary policy – Before 2008

Evolution of the Federal Reserve's interest rate from 1954 to 2010

While the gold standard is maintained, there is relative

STABILITY

After the breakdown of the Bretton Woods agreement,

CHAOS

Internet appears, the change

IS COMING

The chart can be viewed at the following link: https://fred.stlouisfed.org/series/FEDFUNDS

Monetary policy – Before 2008

Before 2008, the different crises could be analyzed by examining the evolution of interest rates. Each peak in the curve precedes a crisis.

1971 – Breakdown of Bretton Woods

1973 – 1st Oil crisis
1979 – 2nd Oil crisis

1989/92 – US recession and Iraq war

1999 .com crisis

2008 – Financial crisis

Monetary policy – Before 2008

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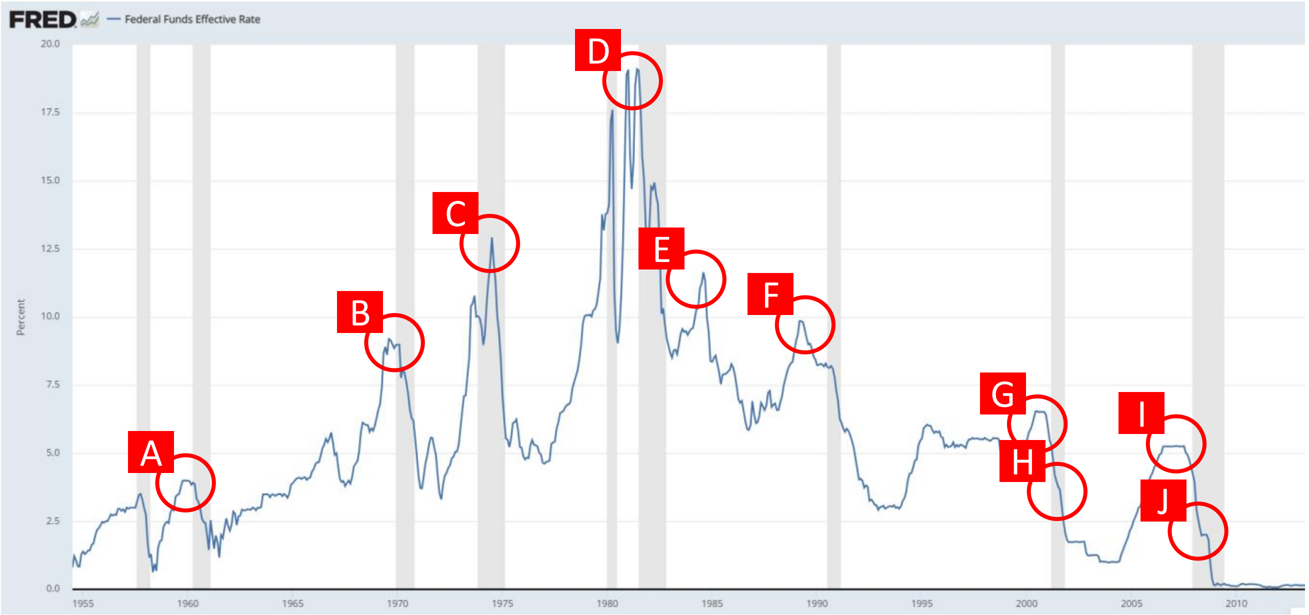


A – Recession of 1960-1961

B – Recession of 1969-1970

C – 1973 oil crisis

D – Recession of 1980-1982

E – Latin American debt crisis

F – Savings and loans crisis

G – .Com crisis and H –11S attack

I –2008 financial crisis and J – LB bankruptcy

Searching on Google for each of these events will provide extensive information that elaborates on each point.

9/11 changed the world

The internet has transformed the world in less than 30 years.

Internet 1.0: Real-time news. We all watched 9/11 live.

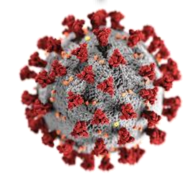
Internet 2.0: Social networks, the concept of prosumer.

Internet 3.0: Telecommuting, video calls, online training...

2001 – 9/11

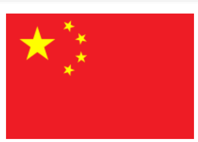
2008 – Financial crisis

2020 – Covid 19



INTERNET — Media — Financial system — Governments

CHINA — Developing (the factory of the world) — Fully developed

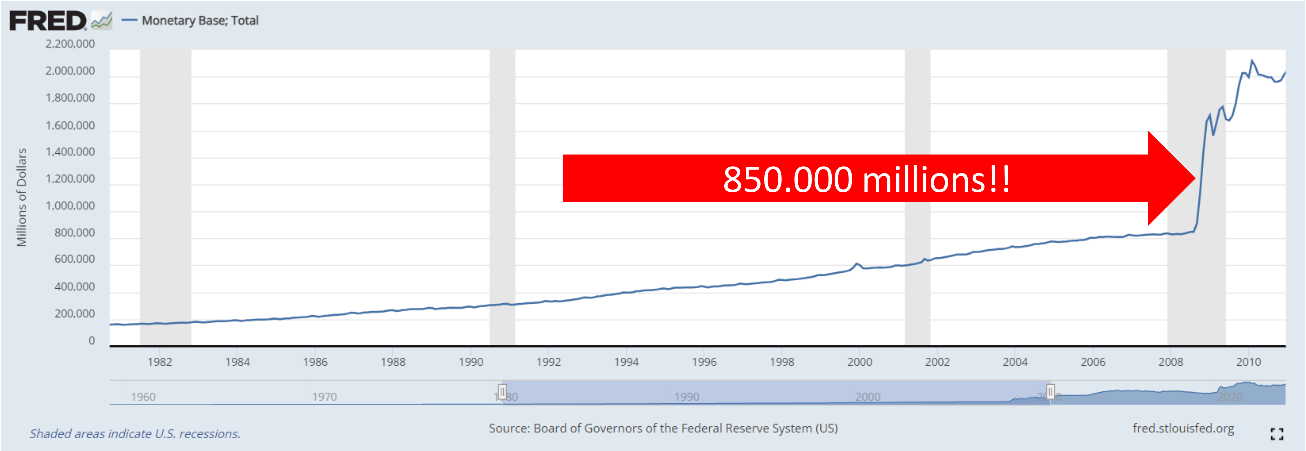


Lehman Brothers bankruptcy

- After the **dot-com** crisis and the **9/11 attacks**, interest rates were lowered.
- **Mortgages** and derivative products began to be granted as if there were no tomorrow.
- **The Fed raises interest rates**, thinking we have recovered.
- The **subprime crisis** is fully set in motion.
- **Everything culminates in the collapse:** Lehman Brothers bankruptcy.

Lehman Brothers bankruptcy

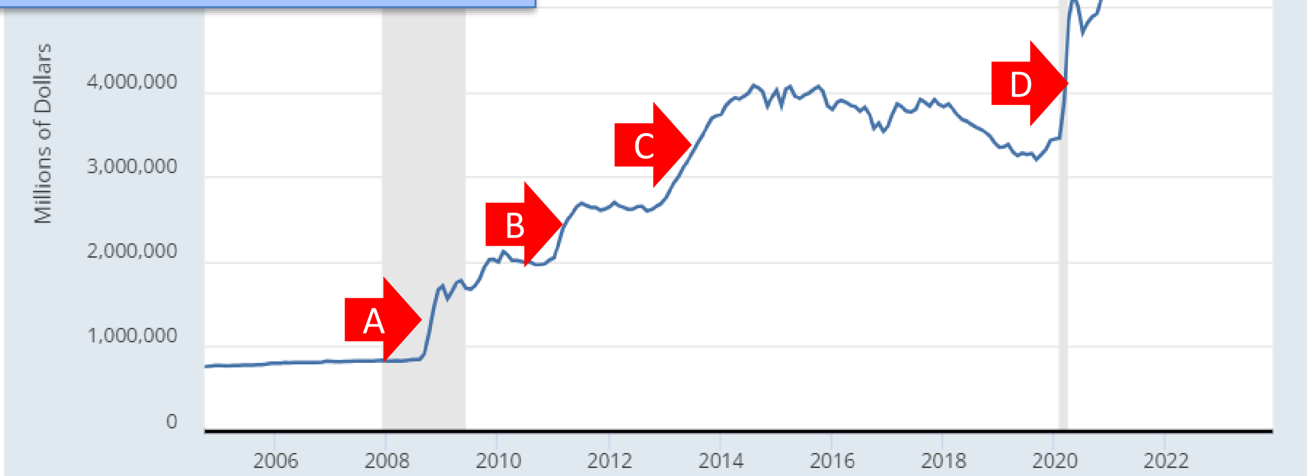
- **The interest rate cut** following the Lehman Brothers bankruptcy in 2008 **was insufficient** to restore confidence in the financial system; the interbank market froze due to widespread distrust among financial institutions.
- **Federal Reserve intervention:** The Federal Reserve had to intervene aggressively, injecting large sums of money using various tools such as asset purchases and providing direct liquidity to banks, to stabilize the financial system.
- **Change in monetary policy:** Since then, monetary policy has focused on continuous liquidity injection through programs like Quantitative Easing (QE) to maintain credit flow and support economic recovery.



LB bankruptcy – Liquidity injections

Since 2008, crises can be seen in the chart of the monetary base. Until 2008, it had remained stable, but what was exceptional with the Lehman Brothers bankruptcy began to become routine.

A – Lehman Brothers bankruptcy (September 2008)
B – Greek sovereign debt crisis
C – Spanish and Italian sovereign debt crisis
D – Coronavirus lockdown
E – Oil crisis during the lockdown



Thanks