Introduction to Macroeconomics

Week 01

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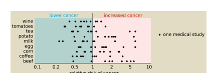
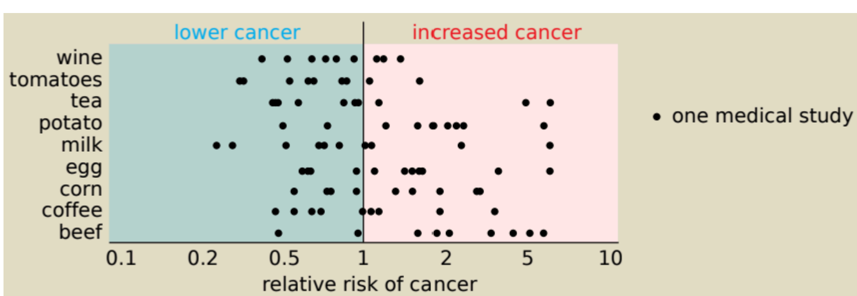
0. Be Gentle with Economics

More like Physics, Medicine ... please!

- Physics: two incompatible fields (main theories):
  - General relativity
  - Quantum mechanics
  - Only one universe ... two theories that are incompatible
- Medicine: anything goes
  - Some theories work
  - Some theories can not be confirmed by experiments
  - Some empirical results ... are just crazy (click on any key) 

More like Physics, Medicine ... please!

Each dot is a publication in a major scientific journal.



- Not much scientific rigor here!

Schoenfeld JD, Ioannidis JP. (2013). Is everything we eat associated with cancer? A systematic cookbook review. *American Journal of Clinical Nutrition*, 97(1),127-34.

In economics … be aware of:

- ignorance, imbecility, dishonesty.
- In Macroeconomics there is an extremely important equation:

$$Y = C + I + G + Exp - Imp$$

- Y is the GDP, C is the consumption, I is the investment, G is the government spending, Exp is the exports, Imp is the imports
- Does an increase in Imports reduce GDP?

1. The Practice of Macroeconomics

Macroeconomics *versus* Microeconomics

. . .

Microeconomics:

- Studies the optimal decision making process of a household, a firm, one market.
- Usually, this process is considered free from any political interference (trade-unions, business confederations, lobbying processes)

. . .

Macroeconomics :

- Studies the working of an economy as a whole (all households, all firms, all markets)
- Usually, the economic policies designed by public decision making institutions (Government, Central Bank) to manage the performance of the economy are not free from political influence and lobbying processes

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Macroeconomics *vs* Microeconomics: Examples

- The interest rate that Maria pays for her mortgage is a “micro” variable
- The interest rate that the European Central Bank (ECB) sets for the entire EuroZone (EZ) is a “macro” variable
- The increase in the price of electricity is a “micro” variable
- The rate of inflation (of all goods and services) is a “macro” variable
- Can you come up with another example?

Why Macroeconomic "Models"?

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- **Complexity**. The structure of an entire economy is extremely complex:
  - millions of consumers, firms by the hundreds of thousands
  - huge number of goods and services, and prices as well
  - huge number of monetary and financial instruments

...

- **Experiments are impossible**. It is simply impossible to "see" what is happening in the tremendous complexity beneath a modern economy.

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- **Simplify**. We need to simplify that huge complexity: that is the task of building an (abstract) economic model
- **Model**: a simplification ... not a falsification of economic reality

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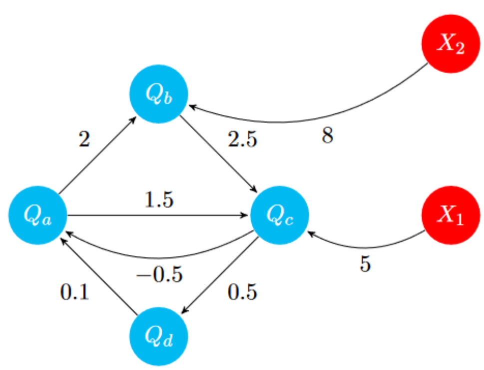
A Graphical Example of a Model



- **Inputs**: $\{X_1, X_2\}$
- **Structure**: $\{2, 0.1, -0.5, 8, 1.5, \ldots\}$
- **Outputs**: $\{Q_a, Q_b, Q_c, Q_d\}$

The Elements of a Macroeconomic Model

- **Inputs**: the values of the exogenous variables
- **Structure**: set of impacts given by the parameters values
- **Outputs**: values of the endogenous variables
- **Agents**:
  - **Private agents**: consumers, firms, commercial banks, financial firms, foreign agents
  - **Public agents**: government, central bank (they have the power granted by law to implement policy measures)
- **Markets**: Goods & Services (G&S), labour, money, foreign currencies

2. The Purpose of Macroeconomics

Main Macroeconomic Variables

- Real GDP (Gross Domestic Product)
- Unemployment Rate
- Inflation rate
- Interest rate

Excellent sources of macroeconomic data:

- For the US economy go here: *FRED Economic Data*
- For the EU economy go here: *EUROSTAT Data*
- For World economic data: *TED Data*

Real GDP

Next week, we will define with rigor what "Real GDP" is all about. The next figure shows the evolution of Real GDP for the US economy.

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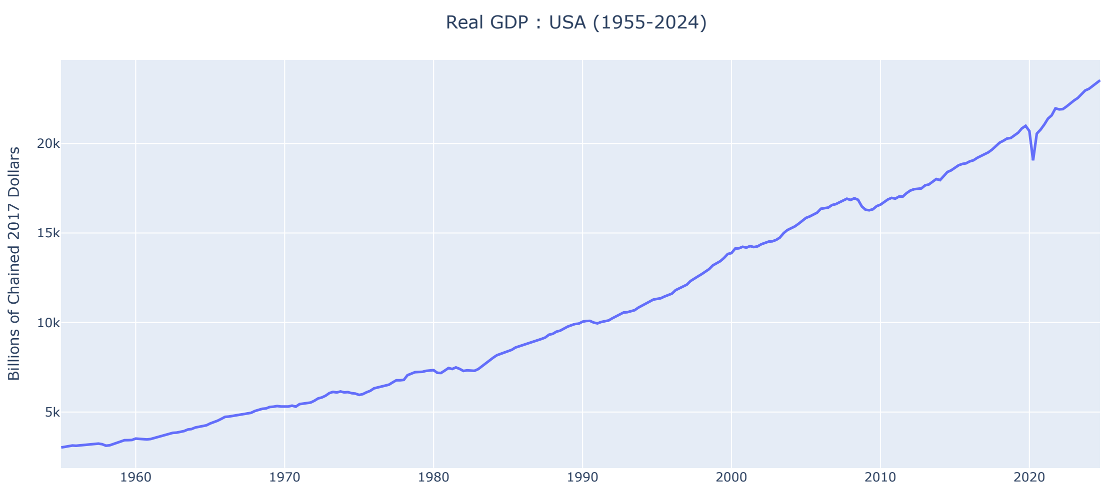

Real GDP vs Potential GDP

The previous figure does not provide much information by itself. Why?

- In which periods GDP grew at higher rates?
- In what periods the US economy was performing above/below its potential GDP level?
- This raises to the surface another crucial aggregate: **Potential Real GDP**.
- Business cycles consist of short-term variations in macroeconomic activity and comprise booms & recessions.

- An economic recession: Real GDP is much smaller than Potential Real GDP.
- An economic boom: ???

Real GDP vs Potential GDP: USA (1955-2024)

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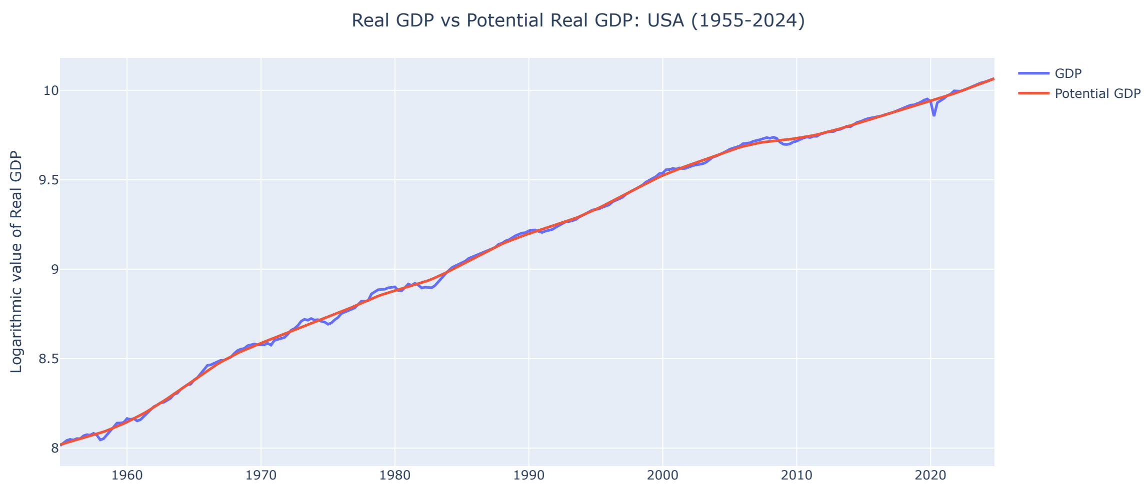

Data source: *FRED Economic Data*

Real GDP vs Potential Real GDP: USA

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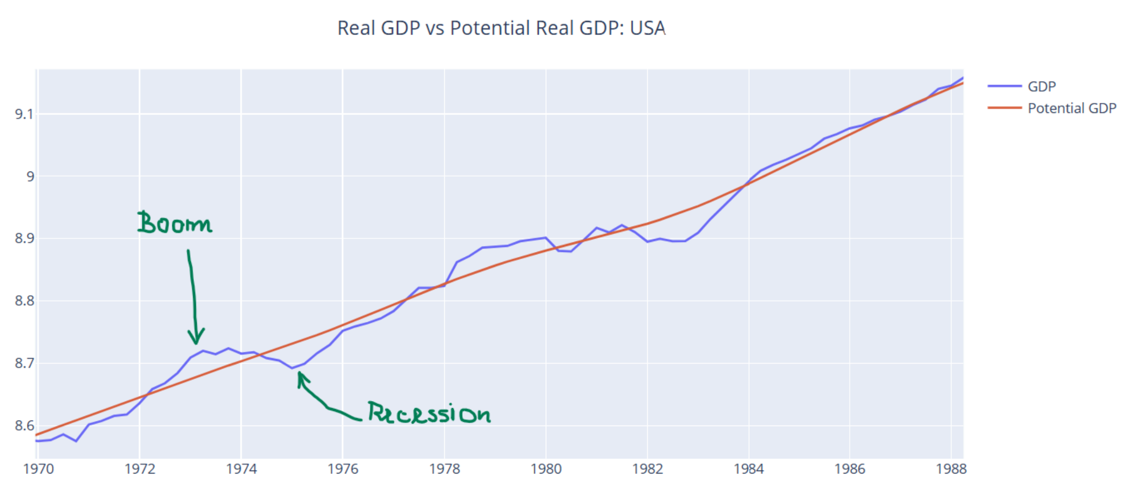
A closer view: we can zoom in ***between 1970 and 1988***



Business cycles

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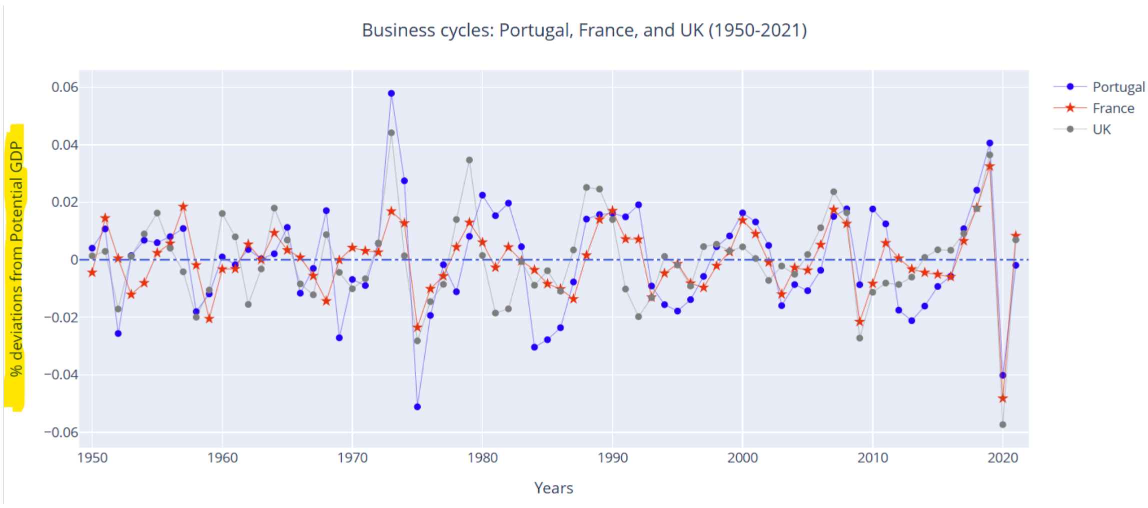
Percentage deviations of real GDP from Potential GDP



The Unemployment Rate: USA 1947-2024

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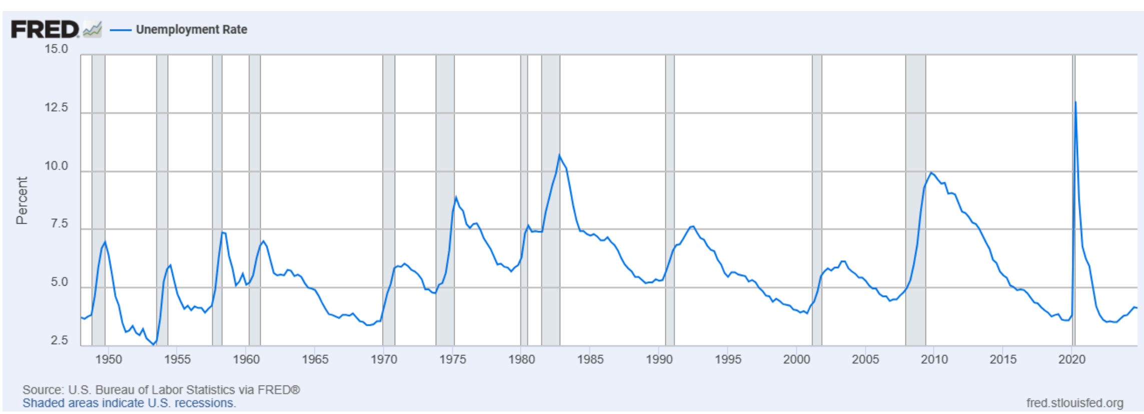
The % of the labor force that does not have a job



Data source: *FRED Economic Data*

Inflation in the Euro Zone (EZ): 1997-2025

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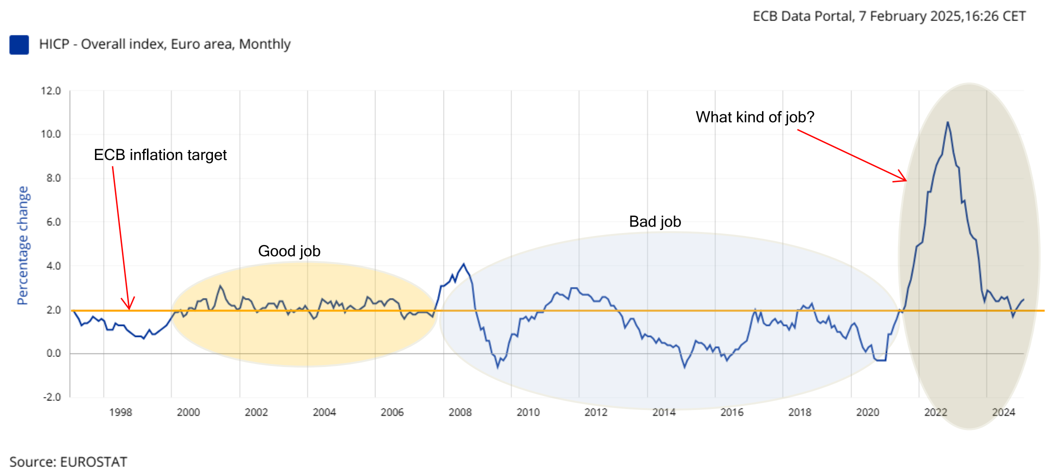
The inflation rate is, normally, taken as the percentage change in the CPI (Consumer Price Index). Central banks have a target level: 2% per year.



The Interest Rate in the USA (FFR)

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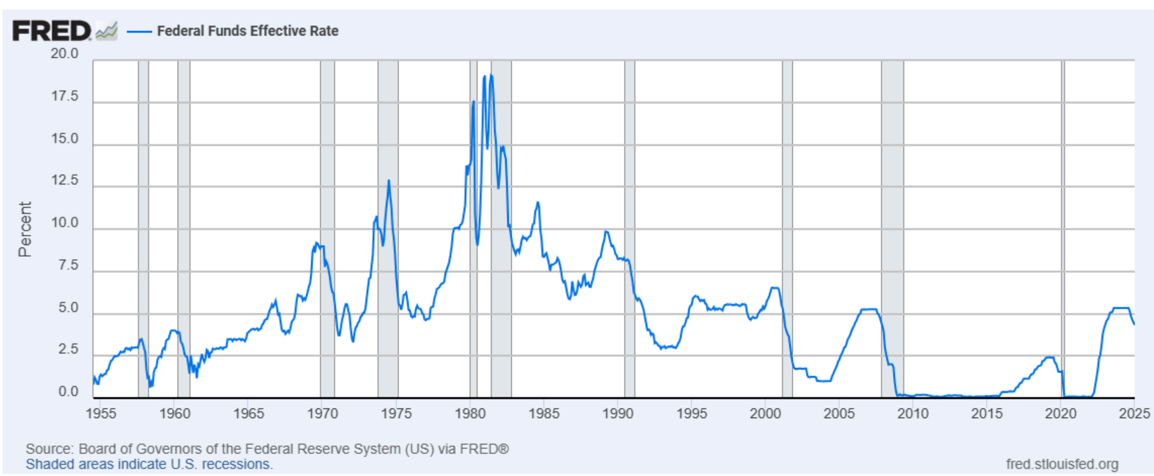
The Federal Funds Rate (FFR) is the most important ***short-term*** interest rate in the US. In week 6 we will learn more about it.



Data source: *FRED Economic Data*

Target Interest Rate in the USA

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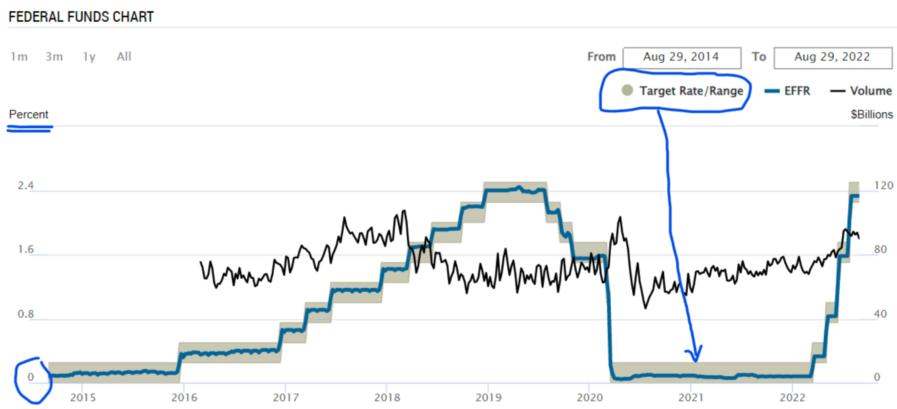
The central bank of the USA (Federal Reserve Board, or simply ***Fed***) sets the range of the target rate for trading in the federal funds market.



Source: *FRB of New York*

3. Macroeconomic Policy

What is Macroeconomic Policy?

- It is the intervention of public institutions (the Government and the Central bank) in the functioning of the economy.
- Is it necessary?

What is Macroeconomic Policy?

Yes, for several reasons:

- **Exogenous shocks**. The economy may be hit by shocks that have dramatic impacts on the entire economy (like Covid, war in Ukraine, a large increase in oil prices, etc.)
- **Market failures**. Some sectors have to be regulated because they are prone to market failures (like natural monopolies, collusion, externalities)
- **Dishonest behavior**. Some private agents may behave dishonestly (moral hazard) and may lead to a dramatic collapse of an entire sector in the economy (like bankruptcies)
- **High volatility**. The economy is very volatile ... even in the short term

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The Summer 2021´s Big Problem: DEFLATION

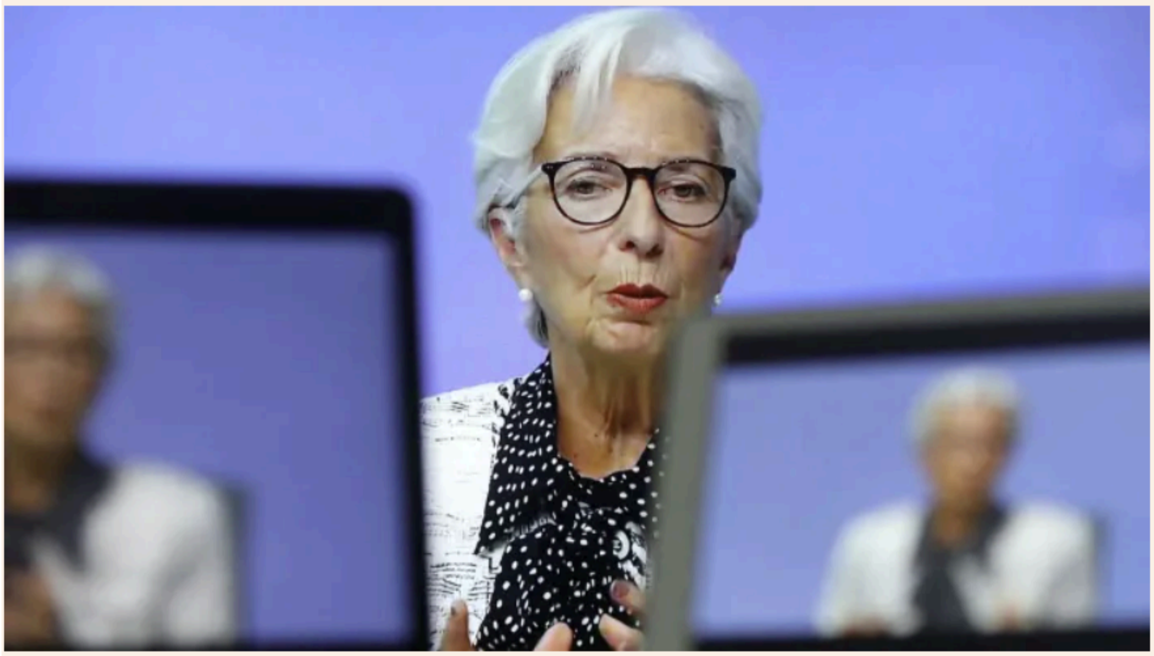
- Everybody was concerned about deflation (negative inflation rates)
- One FT's editorial applauded the move by the ECB to review its policy strategy in July 2021
- Keep interest rates at 0% or even negative if necessary

Opinion **The FT View** + Add to myFT

ECB's new strategy is a welcome update

Dovish shift marks break with the traditional stance of the Bundesbank

THE EDITORIAL BOARD + Add to myFT



Christine Lagarde said new, unconventional tools such as QE will remain part of the ECB's armoury © Chris Ratcliffe/Bloomberg

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Summer 2022´s Big Problem: PACY INFLATION

- Suddenly, in 12 months, inflation increased around 6 or 7 percentage points in most Western economies
- Central banks were forced to increase interest rates very aggressively
- Another FT's editorial applauded the courage of central banks in July 2022

Opinion **The FT View** + Add to myFT

A pivotal moment for central banks

Jackson Hole is a time to reflect on where policymakers made mistakes

THE EDITORIAL BOARD + Add to myFT

Last month US inflation reached 8.5 per cent. Eurozone inflation hit 8.9 per cent. Citigroup now forecasts UK inflation will hit 18.6 per cent in January — nine times the Bank of England's 2 per cent target © FT montage/Getty Images/Reuters/Bloomberg

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Financial Crisis and Spread Volatility

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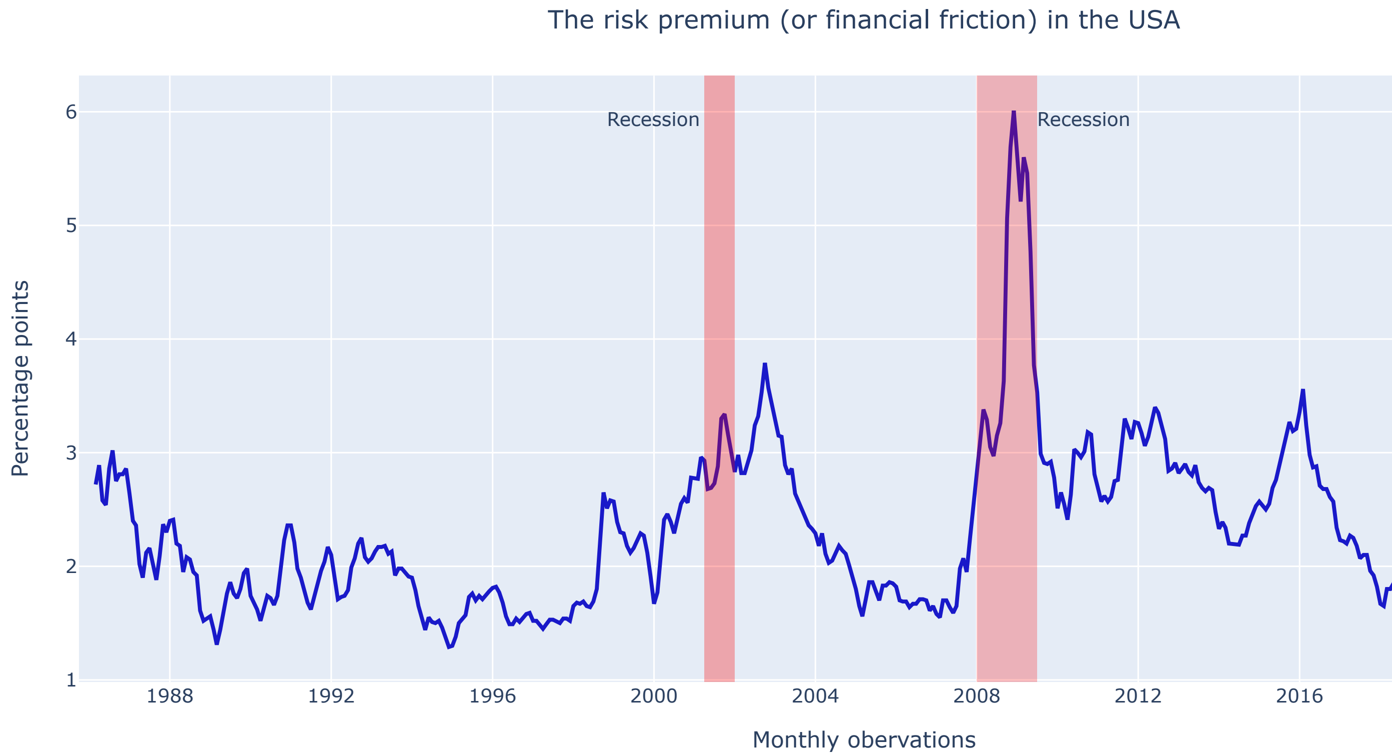
Financial crisis lead to large jumps in spreads in the financial markets.



Data source: *FRED Economic Data*

Macroeconomic Instability and Yields

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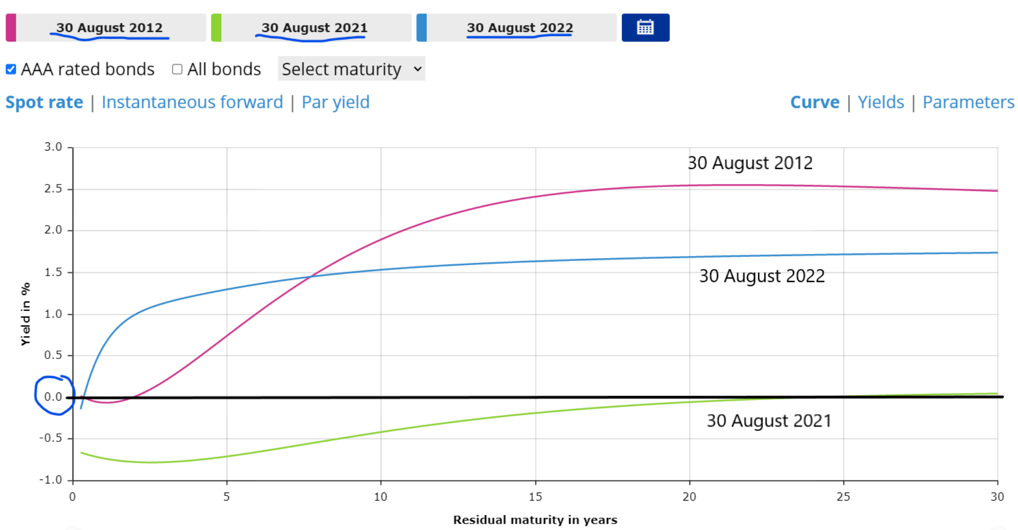
Macroeconomic instability leads to large and abrupt changes in the yields of financial assets.



Data source: *European Central Bank*

How Active Should Stabilization Policy Be?

- Economic activity is highly volatile and the Government and the Central Bank should intervene to stabilize economic activity … when needed
- How often and with what intensity should those institutions intervene?

- **Activists** (also known as Keynesians):
  - They favor regular and extensive use of such interventions
  - Booms and recessions are bad for social and economic reasons
- **Non-activists** (also known as Classicals):
  - They are against those interventions
  - Booms and recessions are the "natural" reactions of markets to shocks that hit the economy

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Should Macroeconomic Policy Follow Rules?

- The two fundamental macroeconomic polices are:
  - Fiscal policy (Government)
  - Monetary Policy (Central bank)
- Should those policy-making institutions conduct their policies according to:
  - **Discretion**: no rules previously announced; decide as you consider best, given the circumstances
  - **Commitment to rules**: announce rules and show commitment to such rules no matter the circumstances that my come.
- Rules are good but sometimes they may put policymakers in a straitjacket.

4. Readings

Readings

Read ***Chapter 1*** of the adopted textbook:

Frederic S. Mishkin (2015). *Macroeconomics: Policy & Practice*, 2nd Edition, Person.

Bibliography