

# Introduction to Macroeconomics

Vivaldo Mendes  
Instituto Universitário de Lisboa (ISCTE-IUL)  
vivaldo.mendes@iscte-iul.pt

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## 1. The Practice of Macroeconomics

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### Macroeconomics *versus* Microeconomics

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#### ***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

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- 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

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- 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?

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## 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

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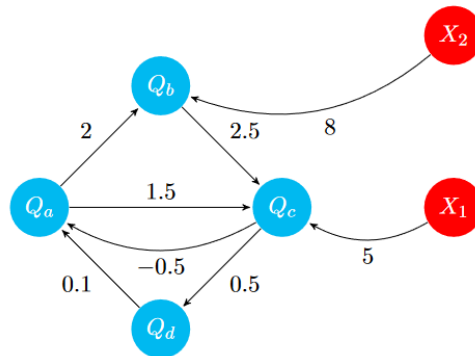
- **Experiments are impossible.** It is simply impossible to “see” what is happening in the tremendous complexity beneath a modern economy.

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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:**  $\{2, 0.1, -0.5, 8, 1.5, \dots\}$
- **Outputs:**  $\{Q_a, Q_b, Q_c, Q_d\}$

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## 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

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### Main Macroeconomic Variables

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

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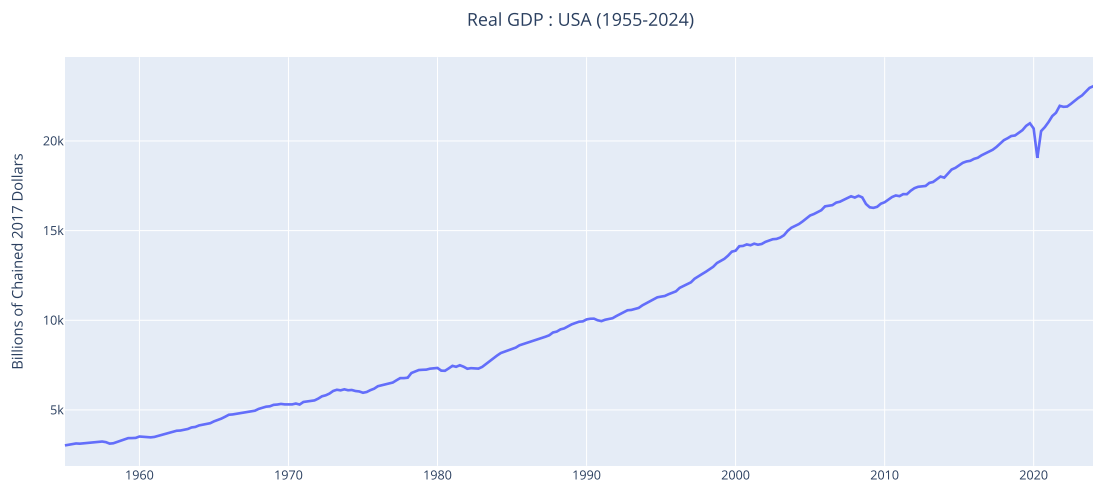
Excellent sources of macroeconomic data:

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

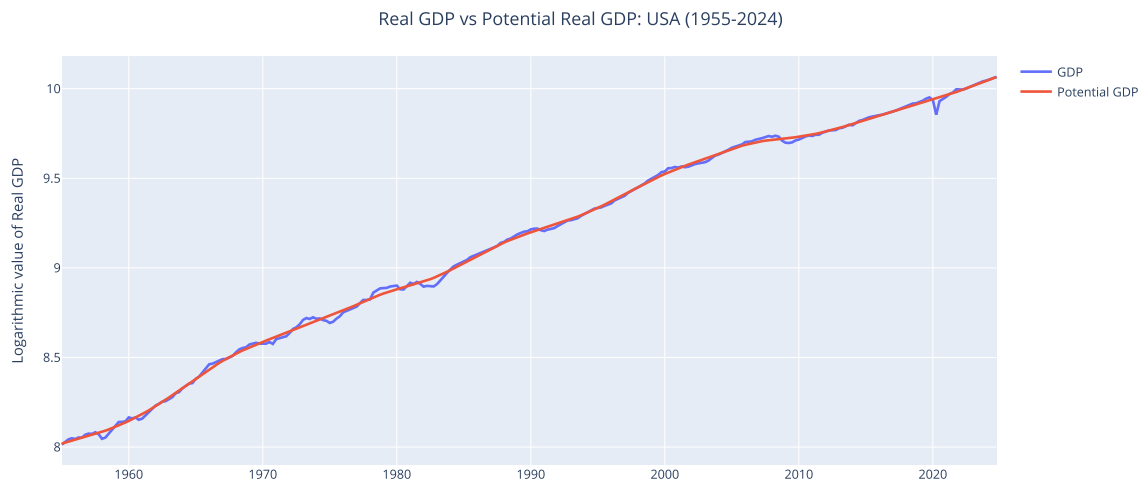
The previous figure does not provide much information by itself. Why?

...

- 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: ???

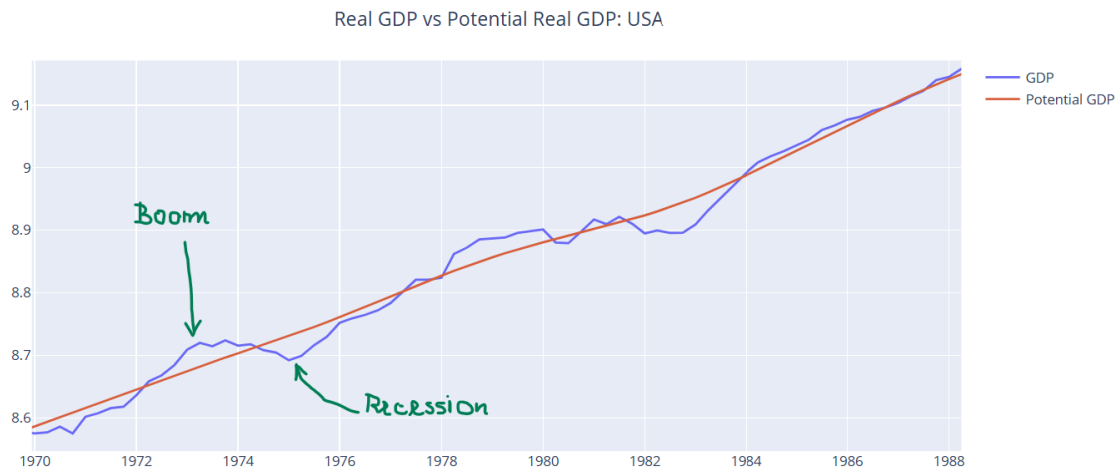
## Real GDP vs Potential GDP: USA (1955-2024)



Data source: *FRED Economic Data*

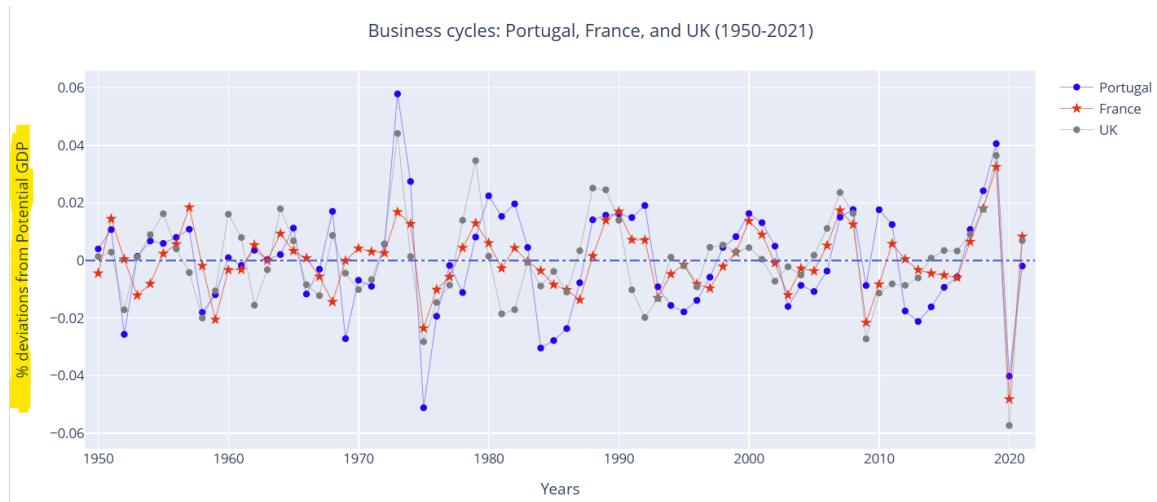
## Real GDP vs Potential Real GDP: USA

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



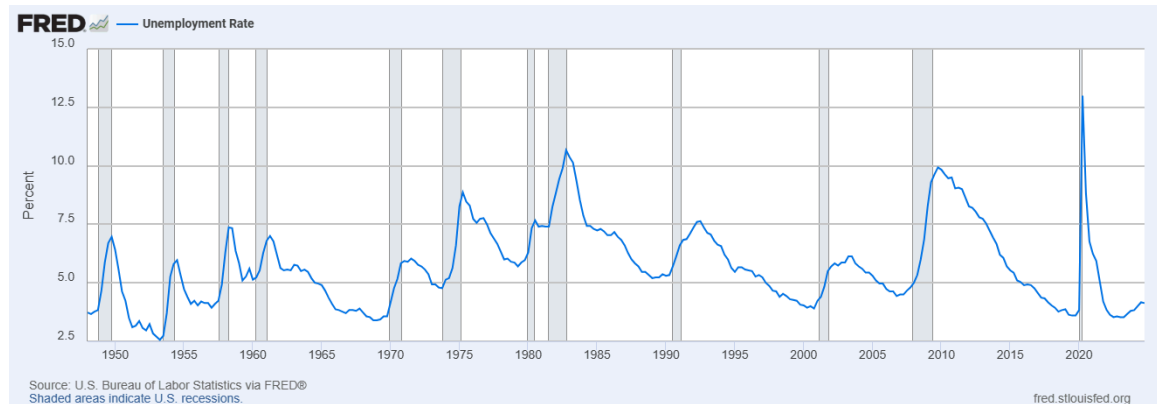
## Business cycles

Percentage deviations of real GDP from Potential GDP



## The Unemployment Rate: USA 1947-2024

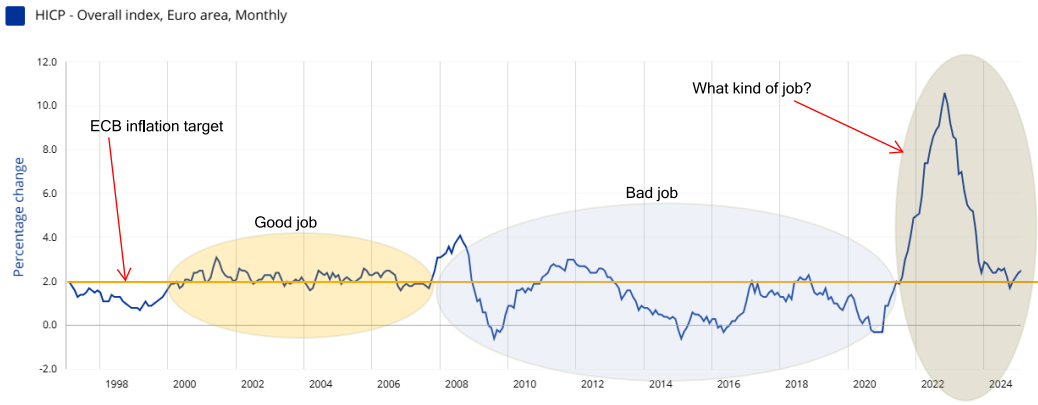
The % of the labor force that does not have a job



Data source: *FRED Economic Data*

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

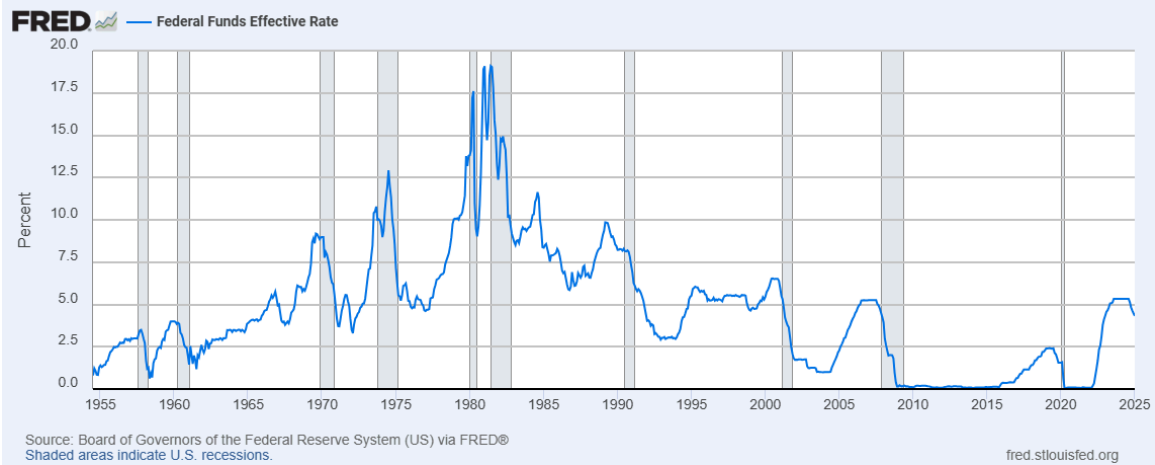
The inflation rate is, normally, taken as the percentage change in the CPI (Consumer Price Index). Central banks have a target level: 2% per year.



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## The Interest Rate in the USA (FFR)

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.

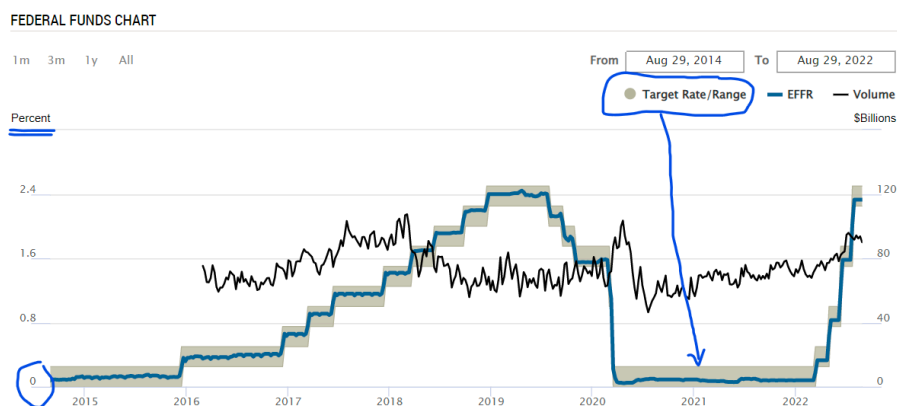


Data source: *FRED Economic Data*

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## Target Interest Rate in the USA

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

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#### 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

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+ 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

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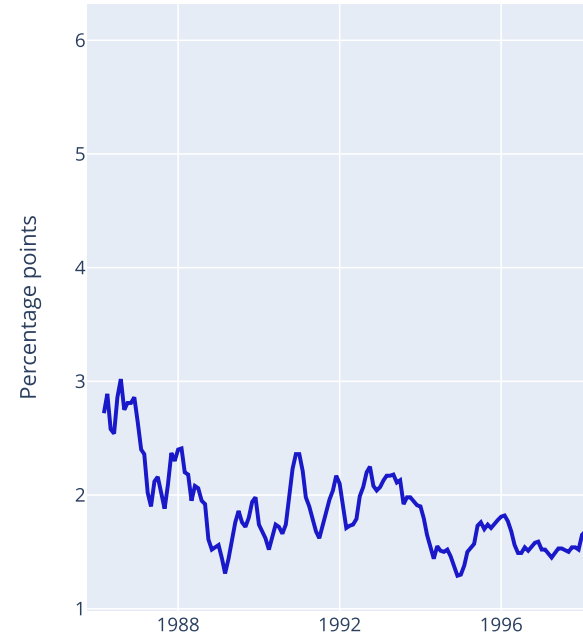


Last month US inflation reached 8.5 per cent. Eurozone inflation hit 8.9 per cent. Citigroup now forecasts UK inflation will hit 18.6 per cent in January — nine times the Bank of England's 2 per cent target © FT montage/Getty Images/Reuters/Bloomberg

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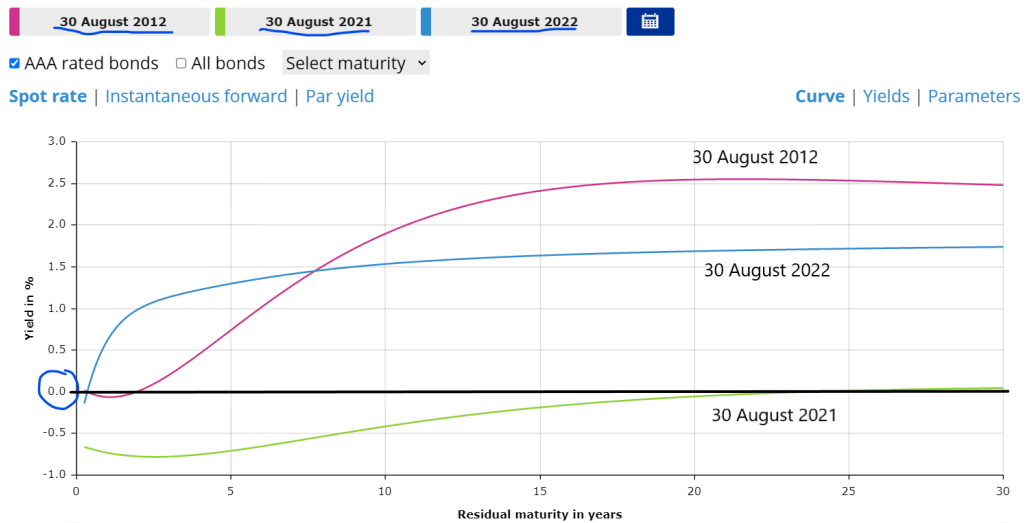
## Financial Crisis and Spread Volatility



Financial crisis lead to large jumps in spreads in the financial markets.  
Data source: *FRED Economic Data*

## Macroeconomic Instability and Yields

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



Data source: *European Central Bank*

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## How Active Should Stabilization Policy Be?

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- 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?

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- **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 Classical):
  - 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?

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- The two fundamental macroeconomic policies 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 may come.

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- Rules are good but sometimes they may put policymakers in a straitjacket.

## 4. Readings

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### Readings

Read *Chapter 1* of the adopted textbook:

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

### Bibliography