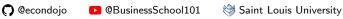
#### Lecture 0 What is Economics

#### Fei Tan





Macroeconomics 201 July 12, 2025

The Road Ahead...

1 What is Economics

2 Understanding the Market

#### What Is Economics About?

- ➤ A subject about how people make choices to attain their goals, given scarce resources
  - e.g. study economics midterm or go to party tonight?
- Why an important subject
  - basic fact of life: we face trade-offs because we live in a world of scarcity
- ► Main references
  - ► HO: Hubbard & O'Brien, "Macroeconomics", 8th Edition (required)
  - ▶ BJ: Blanchard & Johnson, "Macroeconomics", 6th Edition (optional), see my lecture notes

### Three Key Ideas

- ► People are rational
  - ▶ use all available information to make best decision possible
- People respond to economic incentives
  - e.g. few banks take costly security measures against not so costly robberies
- Optimal decisions are made at margin
  - optimality occurs when marginal cost (MC) equals marginal benefit (MB)

#### Three Fundamental Questions

- What goods and services to produce
  - opportunity cost: highest-valued alternative given up
  - e.g. funding for space exploration or cancer research
- ► **How** to produce goods and services
  - e.g. use more workers or more machines
- Who receive goods and services produced
  - e.g. people with higher incomes obtain more
  - changes in tax/welfare policy redistribute income

#### **Economic Models**

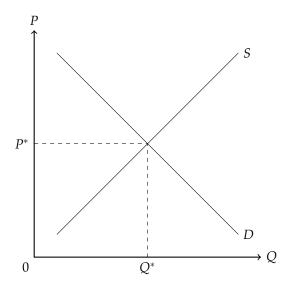
- What is a model
  - probabilistic characterization for what we observe
  - help guide our decision-making
- Steps to build economic models/theories
  - decide on assumptions/simplications
  - formulate testable hypothesis
  - use data to test hypothesis
  - revise or retain model
- Micro models study individual choices; macro models study economy as a whole

The Road Ahead...

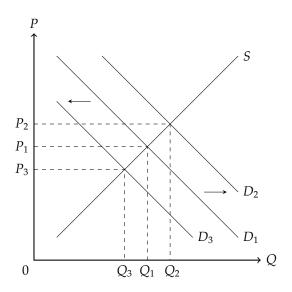
1 What is Economics

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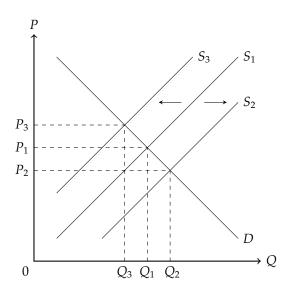
### What Is Market?



### Shifts in Demand



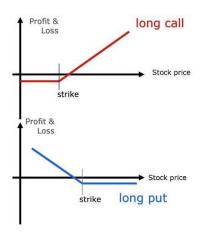
# Shifts in Supply

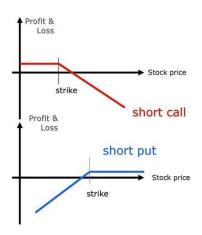


### Bid-Ask Spread

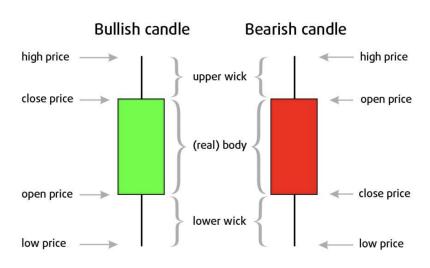


### **Options**

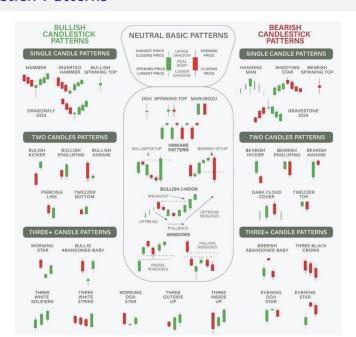




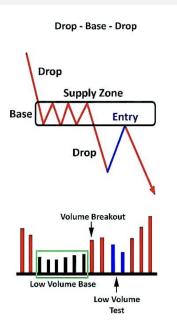
### Japanese Candlestick

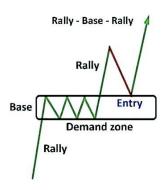


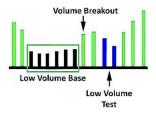
#### Candlestick Patterns



# Supply & Demand Zones







# /ES Weekly Chart



# **UNG Daily Chart**



# **UNG Hourly Chart**



#### **Useful Tickers**

- Stocks
  - ► S&P 500: SPX, /ES, /MES, SPY, UPRO
  - Nasdaq: NDX, /NQ, /MNQ, QQQ, TQQQ
  - Dow Jones: DJI, /YM, /MYM, DIA, UDOW
  - Russell: RUT, /RTY, /M2K, IWM, URTY
- ► Bonds: TNX, /TN, /10Y, TLT
- Commodities: gold (/GC, /MGC, GLD), crude oil (/CL, /MCL, USO)
- Currencies: forex (/6E, /M6E, /6J, /M6J, /6B, /M6B), crypto (/BTC, /MBT, GBTC)

### Readings & Exercises

- Readings
  - ► HO: chapter 1
  - Japanese Candlestick Charting Techniques, by Steve Nison
  - Reminiscences of a Stock Operator, by Edwin Lefèvre & Roger Lowenstein
  - Principles for Dealing with the Changing World Order: Why Nations Succeed or Fail, by Ray Dalio
- Exercises
  - ► HO: problem 1.3, 1.4, 3.3