MIAMI HERBERT BUSINESS SCHOOL

ECO212 Principles of Macroeconomics

Chapter 1

Ivy Yang

August 25, 2022

Overview

1. Introduction

2. The Scope of Economics

3. Three Principles of Economics

Introduction

Syllabus

Self Introductions:

Instructor's Name: Xueqing (Ivy) Yang
Email address: xxy350@miami.edu
Lecture schedule: Tue&Thu, 6:35 pm–7:50pm
Lecture location:Whitten LC 182
Office Location Jekins 517
Office Hours: By appointment (Calendly in Blackboard) on Fri 8:00am—10:00am
Zoom Link: `https://zoom.us/s/97002288360#success`
This schedule may change according to our process.

This course is fully in person

Syllabus

About attendance

About tests

About the purpose of this course

General Introduction

- **Social science research basics:**
  - Modeling
  - Verifying
- **Where you can use Economics?**
- **Definition of Economics: Economics is the study of how agents choose to allocate scarce resources and how those choices affect society.**
- **How to study Economics?**

The Scope of Economics

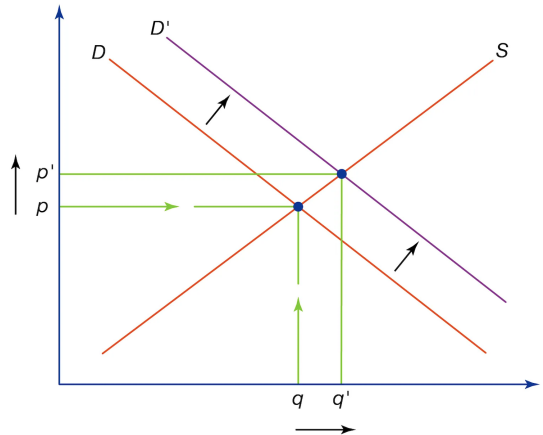
The Scope of Economics

Demand and Supply:

The Scope of Economics

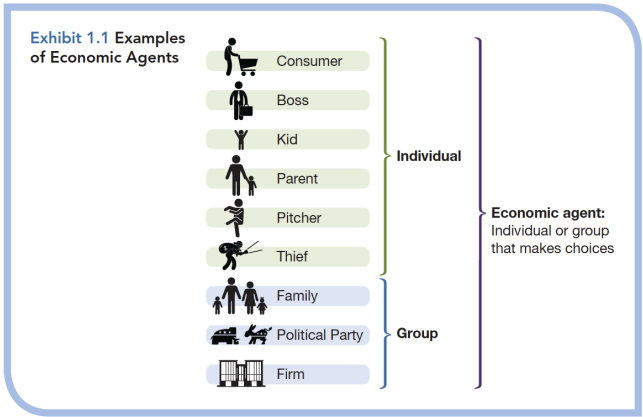
Demand and Supply:

A shift in demand



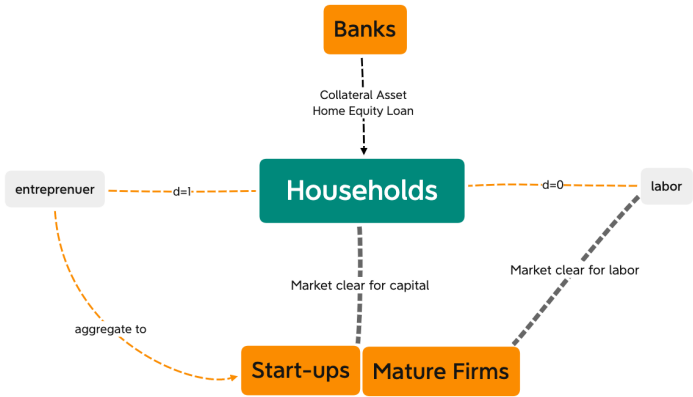
The Scope of Economics

Definition of economic agent: An economic agent is an individual or a group that makes choices.



The Scope of Economics

An example in macroeconomics:

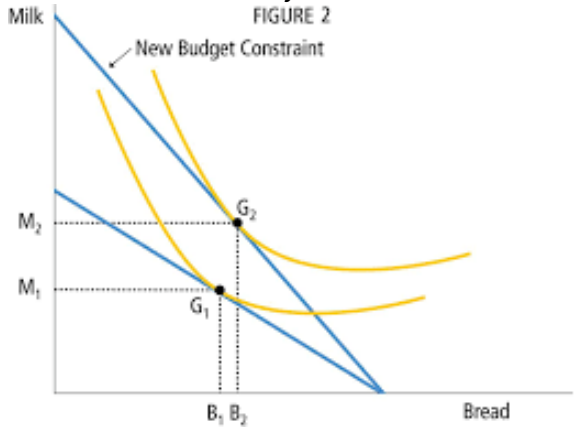


The Scope of Economics

Scarce resources: Scarcity exists because people have unlimited wants in a world of limited resources.

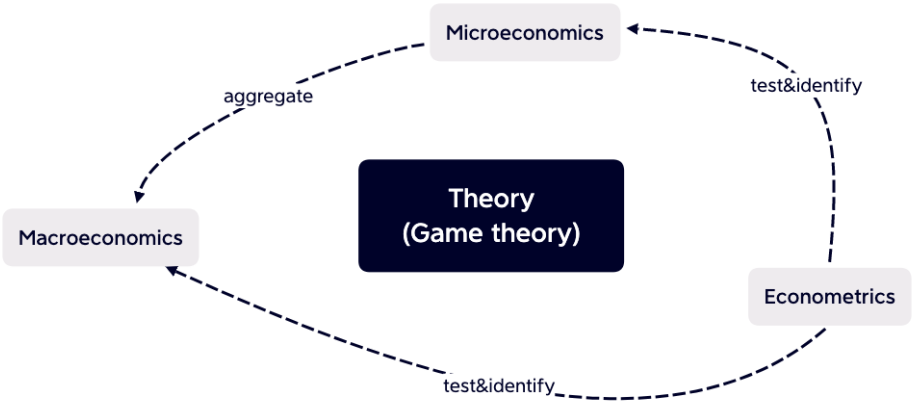
The Scope of Economics

Budget constraint: This is a resource scarcity in the form of economic computation.



The Scope of Economics

What are the main branches of economics study?



The Scope of Economics

Micro vs Macro Economics:

Microeconomics: Explains a small piece of the overall economy.

- Explains a small piece of the overall economy.
- e.g., Principal agent problem, contract theory, industrial organization, household finance...

The Scope of Economics

Micro vs Macro Economics:

Macroeconomics: Explains a small piece of the overall economy.

- Better called aggregate economics
- Focus on dynamic and intertemporal nature of economic decision-making
- Economics is “micro”: “macro” studies issues at aggregated (country) level.
- e.g., General equilibrium, partial equilibrium.

The Scope of Economics

Key questions in macroeconomics:

- Why does the economy grow over time?
- Why are some countries rich and others poor?
- Why do economies experience recessions?
- What is the role of government?
- More recently: What the heck happened in 2007-2009?
- Optimal recovery policies after the pandemia shock.

The Scope of Economics

Typical demand & supply examples in Economics

- **In Microeconomics**
- **In Macroeconomics**

The Scope of Economics

Positive Economics vs Normative Economics:

- Positive Economics describes what people actually do.
- Normative Economics recommends what people ought to do.
  - Model set up.
  - Prediction - with shocks. (Tool for policy analysis.)

Thoughts: Usually, our normative economics analysis needs to be built on positive economics.

Three Principles of Economics

Three Principles of Economics

- **Optimization:**
  Economic agents try to choose the best feasible option given their information. In other words: making the best choice possible with given information.
- **Equilibrium:**
  The economic system is in equilibrium when agents feel they cannot do better by picking another course of action. In other words: when everyone is optimizing, no one would be better off with a different choice.
- **Empiricism** (not covered in this class):
  Analysis that uses data or analysis that is evidence-based. Economists use data to test theories and to determine what is causing things to happen in the world.

The First Principle

Economic agents try to choose the best feasible option given the information that they have.

$$5 \text{ Hours} = \text{Hours surfing the Web} + \text{Hours working at part-time job}$$

Exhibit 1.2 Possible Allocations of 5 Free Hours (Round Numbers Only)

Each row reports a different way that a person could allocate 5 free hours, assuming that the time must be divided between surfing the Web and working at a part-time job. To keep things simple, the table only reports allocations in round numbers.

Budget	Hours Surfing the Web	Hours at Part-Time Job
5 hours	0 hours	5 hours
5 hours	1 hours	4 hours
5 hours	2 hours	3 hours
5 hours	3 hours	2 hours
5 hours	4 hours	1 hours
5 hours	5 hours	0 hours

The First Principle

Feasible options: Feasible options are those that are available and affordable Financial budget and many other different constraints.

Trade-offs and budget constraints:

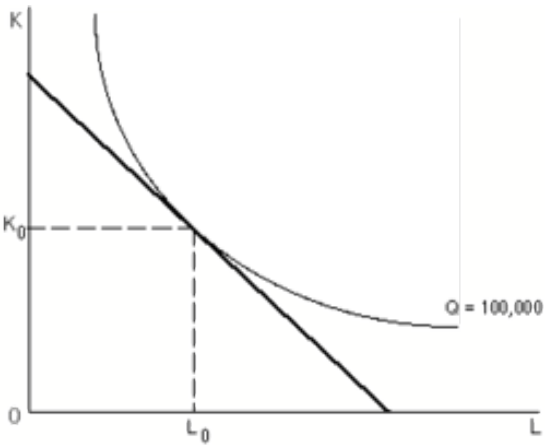
- Trade-offs arise when some benefits must be given up to gain others
- A budget constraint is the set of things that a person can choose to do (or buy) without breaking her budget.

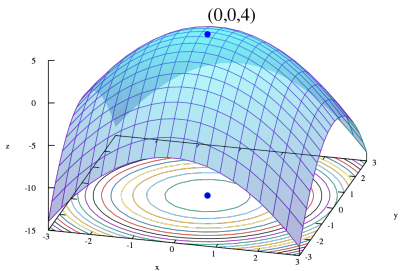
Definition of opportunity cost: It is the cost in terms of the best alternative that you are sacrificing.

Example: Drive to New York vs. fly to New York - on page 21.

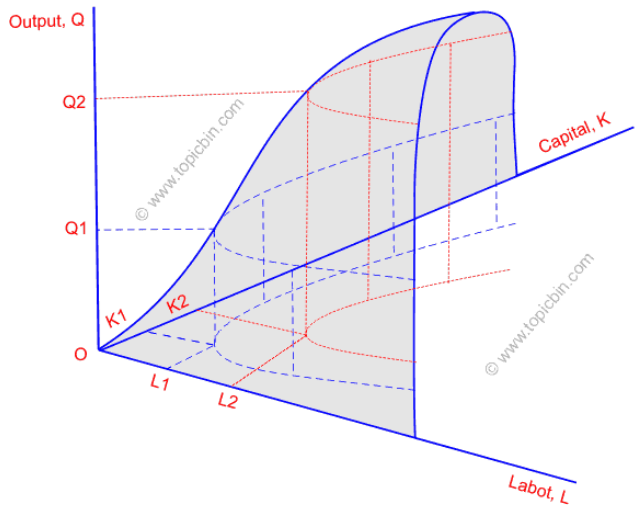
What is true optimization? - take all possible risks (cost) into account.

The First Principle





The First Principle



The First Principle

Cost-Benefit analysis:

Example 1: Suppose that you and a friend are going to NYC from Miami for summer vacation. The only question is whether you should drive or fly. Your friend argues that you should drive because splitting the cost of a rental car and gas “will only cost $200 each." He tries to seal the deal by pointing out “ that’s much better than a $300 plane ticket."

Information:

- from the benefit perspective: driving saves you $100.
- from the cost perspective: driving costs you an extra 40 hours. (50 hours driving, 10 hours flying). Suppose $10 opportunity cost per hour.

Then, if you drive to New York City:

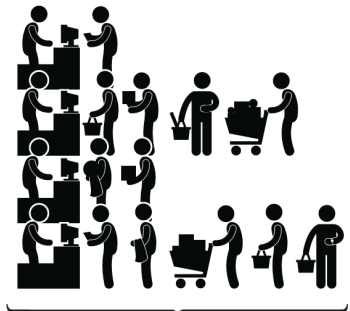
$$(\$100 \text{ Cost savings}) - (40 \text{ extra traveling hours}) \times (\$10/\text{hour}) = \$100 - \$400 = -\$300$$

The Second Principle

Definition:

The economic system is in equilibrium when agents feel they cannot do better by picking another course of action.

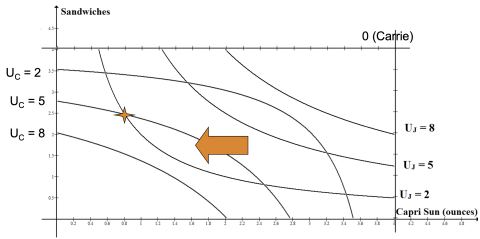
In equilibrium



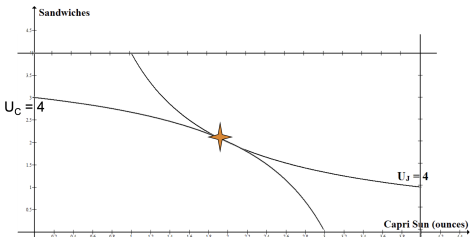
Out of equilibrium

The Second Principle

An Example - Edgeworth box:



The area between the indifference curves $U_J = 2$ and $U_C = 5$ are allocations where both consumers have higher utility than they do initially.



The star is one allocation where both consumers' utilities are maximized.

The Second Principle - extended

Pareto Efficiency:

Pareto efficiency is when an economy has its resources and goods allocated to the maximum efficiency level, and no change can be made without making someone worse off.

The fundamental (first) welfare theorem:

In economic equilibrium, a set of complete markets, with complete information and perfect competition, will be Pareto optimal.

The second welfare theorem:

any Pareto optimum can be supported as a competitive equilibrium for some initial set of endowments.

The Second Principle - extended

Free-rider problem:

Exists when an individual or group can enjoy the benefits of a situation without incurring the costs.

Equilibrium analysis explains why individuals often fail to serve the group's interest and how the incentive structure can be redesigned to fix these problems.

This is a type of externality problem. It is a failure of the second principle for groups - equilibrium is reached from the perspective of individuals.

- Roommates example.
- why punishment in subways.