1

1.1 Goals of this class

Goals of this class

- Learn what economics is.
- Learn the difference between microeconomics and macroeconomics.
- Understand scarcity and opportunity cost.
- Learn the different factors of production.
- Understand the relationship between opportunity cost and production possibilities.

2 Intro to Economics

2.1 What is Economics

What is economics?

- Milton Friedman: "There ain't no such thing as a free lunch."
- Economics is the study of the allocation of scarce resources.
- **Scarcity**: a good is scarce if there is not enough available to satisfy everyone's wants at a zero price.
- Different ways to allocate scarce resources:
  - Private ownership and free markets.
  - Private ownership and regulated markets.
  - Government ownership and benevolent distribution.

Microeconomics vs. Macroeconomics

- **Microeconomics** is the study of how individual consumers and individual producers make decisions, and what the outcome of all these decision are.
- **Macroeconomics** is the study of the performance of an economy as a whole.

2.2 Factors of production

Factors of production

- A **factor of production** is something that is used to produce a good or service.
- Land: includes natural resources such as oil, coal, water, air, etc.
- Labor: number of people and the time they spend working.
- Capital: Tools, machines, buildings and any other good used in the production of other goods.
- Human capital: Knowledge and skill of the labor force obtained through education, training, experience, and even the collected experience of the entire economy.

2.3 Opportunity cost

Opportunity cost

- Factors of production are scarce.
- Suppose a country is using all its factors of production efficiently.
- To produce more of one good, a country must move factors of production away from another good.
- **Opportunity cost**: the highest value alternative that is given up when making an economic decision.
- Examples of economic decisions: A country produces another automobile. A person attends Econ 102.

3 Production Possibilities Frontier

3.1 Definition of the PPF

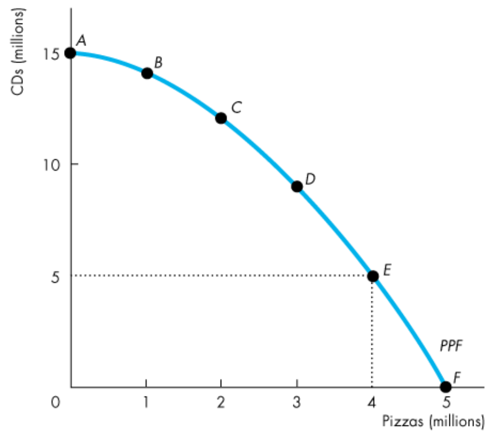
Production Possibilities Frontier

- **Production Possibilities Frontier (PPF)**: The maximimum amount of goods and services that can be produced when all factors of production are used efficiently.
- **Trade-off**: Since factors of production are scarce, to produce more of one good a country must produce less of another good.
- **Law of increasing opportunity cost**: as you increase production of a good, the opportunity cost of the good increases.
- So that we can graph the PPF, assume a country produces only two goods.

3.2 Graphing the PPF

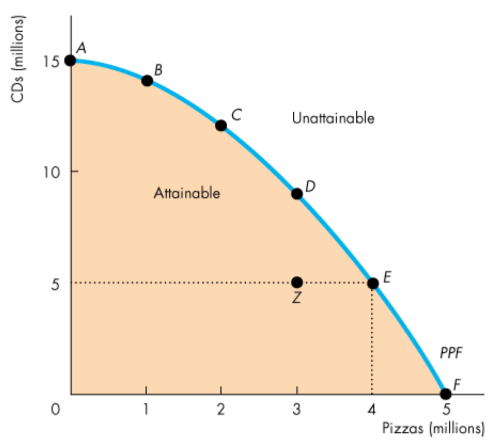
Production Possibilities Frontier

- Suppose a country produces only CDs and Pizzas.
- The PPF shows what quantities of each can be produced.
- What is the opportunity cost of producing the 1st, 2nd, and 3rd pizza?
- The *slope* of the PPF is the opportunity cost of Pizza.



Production Possibilities Frontier

- Producing *on the PPF* is most efficient.
- Producing *inside the PPF* is possible, but inefficient.
  - This would be the case when there is unemployment.
- Producing *outside the PPF* is impossible.



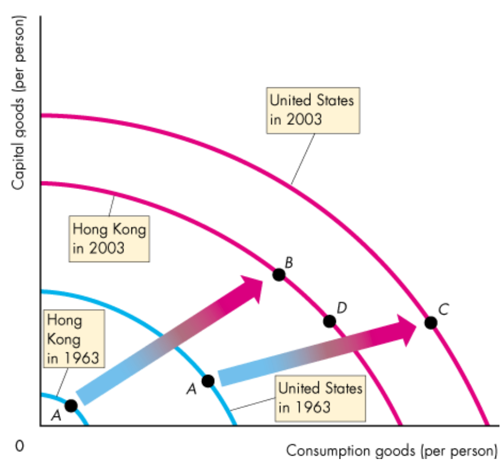
3.3 Future PPFs

Future PPFs

- If technology or quantity of resources change, the PPF will shift.
- Improvement in technology.
  - Shift PPF outwards.
  - Changes in technology can also change opportunity cost (and therefore the slope).
- Accumulation of capital.
  - Higher investment rates in new capital leads to higher capital stocks in the future.
  - More can be produced with higher levels of capital → Shift PPF outwards.
- Destruction of resources (eg: natural disasters, war).
  - Shift PPF inwards.
  - May change opportunity cost.

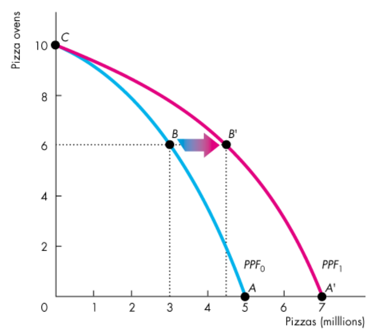
Example of capital accumulation

- Both Hong Kong and the United States have grown since 1963 due to increases in technology and capital accumulation.
- While the U.S. still has greater production possibilities.
- Hong Kong invested more in capital, achieved higher growth.



Change in opportunity cost

- Suppose an improvement in technology affected production of only one of the goods.
- Intercept for the good unaffected remains the same.
- Intercept for the good with improved technology shifts out.
- What happened to the opportunity cost of pizza?
- Now it is possible to produce more pizzas *and* CDs.



4

Summary of what we've learned

- We now know what economics is.
- We have learned a useful tool to describe a country's production possibilities.
- We have learned how PPFs demonstrate country's tradeoffs.
- We have learned how changes in technology and growth can effect production possibilities and tradeoffs.