What is economics?
Economics is the study of allocating limited resources to satisfy unlimited wants.

Example:
- You have a couple of hours to spend on studying economics and/or psychology.
- You have $1000 to spend on food, clothes, vacation, and/or tuition.
- You have three months in the summer to take courses, get a job, and/or nap, bike, swim, etc.

#1: People have to choose.

- You can spend all of your time studying economics, you can spend all of your time studying psychology, or you can divide your time between the two subjects.

- Society faces an important tradeoff between *efficiency* and *equity*.

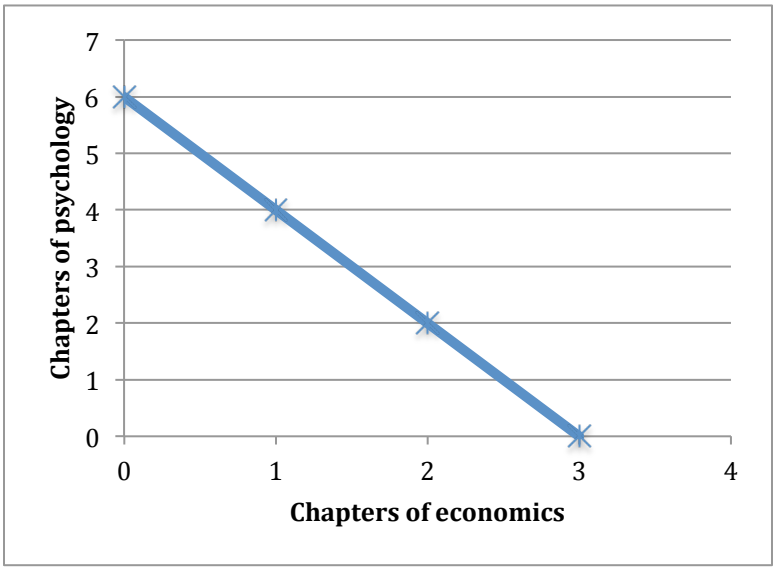
    - Efficiency means getting the most possible from the scarce resources. It is also known as the economic pie. Higher efficiency results in a bigger pie.
    - Equity means dividing the benefits of those resources fairly among people.
    - When government policies are designed, these two goals often conflict. In other words, when the government tries to divide the economic pie into more equal pieces, the pie gets smaller.

#2: Choices are always costly.

- Making decision requires comparing the costs and benefits of alternative choices.
- The cost of some actions is not as obvious as it might first appear.
- If you choose to spend all your time studying economics, you will not be able to study psychology. Then, what is the cost of studying economics? Not being able to study psychology.
- What is the cost of spending $1000 on vacation? Not being able to register at university.
- What is the cost of studying? Not having a vacation. Not having a job and income.
- It is called ***opportunity cost***: the opportunity cost of an item is what you give up to get that item.
- The opportunity cost of studying in the summer is not having a vacation, not having a job and/or not having income.

Numerical example #1:

Assume that you have a fixed numbers of hours (say 10 hours) to spend reading a few chapters of economics and/or psychology. The table and the graph below show the number of chapters you can read spending all your time on both courses.



Chapters of economics	Chapters of psychology
0	6
1	4
2	2
3	0

What is the opportunity cost of studying one more chapter of economics?

Answer: 2 chapters of psychology

What is the opportunity cost of studying one more chapter of psychology?

Answer: 0.5 chapters of economics

Numerical example #2:

Assume that Sarah gives up a job that pays $30,000 per year to go to university. Her costs are $4000 for tuition and $16,000 for food and rent. What is the opportunity cost of spending one year at university?

Answer:
Sarah is losing $30,000 by choosing to go to university.
Sarah also has to pay $4000 as tuition.

The opportunity cost of going to university for Sarah is $30,000 + $4000 = $34,000.

Production Possibility Frontier (PPF)

- A curve that shows the maximum combinations of two outputs that an economy can produce, given its available resources and technology.
    - Technology is a body of knowledge and skills applied to how goods are produced.
    - All the points on the PPF are efficient because each point represents a maximum output capacity.
    - All the points on the PPF are also called full capacity output or full employment output.
    - All points outside the curve are unattainable. (Economic boom)
    - All points inside the curve are attainable but not efficient. (Recession)
    - PPF is concave to the origin because the suitability of resources declines as greater amounts are transferred from producing one output to producing another output.

Growth and the PPF

- An increase in one or some of the economic resources (ex. labour, capital goods, technology) shifts the PPF outward. (Also called economic growth)

- In an economic recession, output falls below the economy's capacity output.

- A boom is a period of high growth that raises output above normal capacity output.

#3: Rational people think at the margin.

- Economists usually assume that people are rational.
- Rational people do the best they can to achieve their goals, given the opportunities they have.
- Rational people know that decisions in life are barely black and white.
- People's decision about having food is not usually between fasting and eating like a pig. You make a decision whether you should have one more slice of pizza or not.
- Your decision during the exam period is usually not between studying 24 hours and sleeping 24 hours. You decide whether you should spend one extra hour studying instead of sleeping.
- Similarly, a company may decide whether they should hire one more person or not.
- Marginal changes are used to describe small incremental adjustments to an existing plan.
- More in chapter 6 and 8.

#4: People respond to incentives.

- An incentive is something that induces people to act.
- For example:
    - When the price of Coke increases, people buy more Pepsi.
    - When the tax on imported beer increases, people consume less imported beer.

#5: Trade can make everyone better off.

- Instead of being isolated and self-sufficient, people can be better off by specializing in producing one good and exchanging it for other goods.
- Each side can specialize in the production of a good that has a lower opportunity cost.
- More in chapter 12.

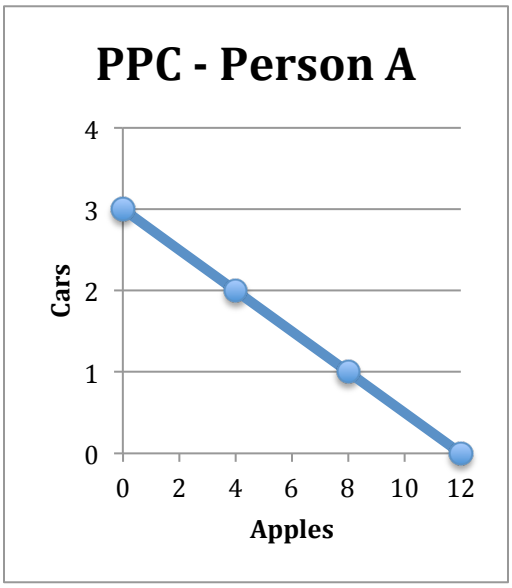
- Example:

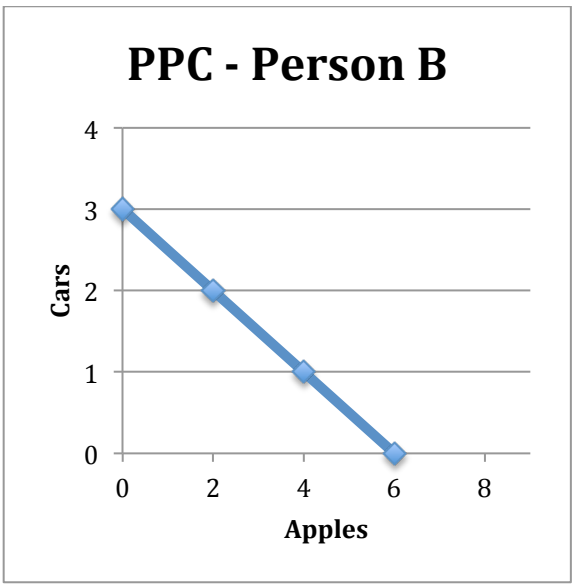
The following are production possibility tables for person A and person B.

Person A	**a**	**b**	**c**	**d**
Apple	0	4	8	12
Cars	3	2	1	0

Person B	**a**	**b**	**c**	**d**
Apple	0	2	4	6
Cars	3	2	1	0

a) Plot the PPC for each person.





b) What is each person's cost ratio of producing apples – cars?

Answer: Person A: 1 Cars – 4 Apples
Person B: 1 Cars – 2 Apples

c) Who should specialize in which product?

Answer: Person A → Apples, Person B → Cars

d) Suppose they specialize but A prefers to consume at least (4A, 2C) and B prefers to consume at least (4A, 1C) on their PPC. Therefore, they need to start trading. Also assume that the terms of trade is 1 car to 3 apples. How many apples and cars does each person have after trade?

Answer: Person A trades 6 apples for 2 cars. Person B trades 2 cars for 6 apples. After trade, person A has (2C, 6A) and B has (1C, 6A).
However, before trade A had (2C, 4A) and B has (1C, 4A). Therefore, trade made both of them better off.

e) What is the total production of apples and cars?

Answer: After specialization, person A only produces apples and B only produces cars, then we have total of 12 apples and 3 cars in this world.

f) Plot the PPC for each person after trade.

Answer: back on the graph

#6: Markets are usually a good way to organize economic activity.

- Markets are the interaction of many households and firms.
- As a result of this interaction, important decisions such as the price and quantity of products are made in markets. (Chapter 3)
- In a market, no one is taking care of the economic well-being of society as a whole.
- However, market economies have proven a very successful performance in organizing economic activity and improving overall economic well-being. (Chapter 5)

#7: Governments may have a role in improving the market outcome.

- If the market works perfectly, why do we need government?
    - To enforce the rules so that markets work properly. Example: Property rights.
    - Sometimes markets do not work efficiently. In these cases government intervenes to increase efficiency. Example: externality, market power. (Chapter 5 & 10)