Thinking Like an Economist

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Learning Objectives ◁

In this chapter, you will be able to answer the following:

- What are economists' two roles? How do they differ?
- What are models? How do economists use them?
- How is the **Production Possibilities Frontier (PPF)** related to opportunity cost? How does it help us understand gains from trade?
- What is the difference between positive and normative statement?
- Circular flow diagram (Might be deferred to other chapters)

What do Economist Do?

- The two main roles of Economists:
  - Scientists: they try to explain the world
  - Policy advisers: try to improve the world
- As scientists, economists employ the scientific method, objective development and testing of theories about how the world works.
- Unlike the natural sciences, economists use mainly historical or survey data and less on lab experiments, which is difficult if not impossible in economics– especially for the macroeconomy
- As policy advisers, economists fight poverty, inflation, unemployment, etc.

Economists as Scientists: Assumptions & Models

- As scientists, economists build ***models*** to understand the world
- ***Model***: a highly simplified representation of a reality.
- we use ***assumptions*** to simplify the complex world, make it easier to understand.
  - Example 1: To study int'l trade, we will assume two countries and two goods. Unrealistic, but simple to learn and gives useful insights about the real world.
  - Example 2: To understand relationship between two variables, it is often assumed that all other relevant factors remain unchanged, or "other things equal" or ceteris paribus in latin.

Our 1st Model: The Circular-Flow Diagram

- The **Circular-Flow Diagram:** a visual model of the economy, shows how dollars flow through markets among households and firms
- Two types of "actors' ': households & firms
- Two markets: the market for goods and services & the market for "factors of production' '

The Circular-Flow Diagram: Set Up ◁

Households:
- Own the factors of production, sell/rent them to firms for income
- Buy and consume goods & services

Firms

Households

Firms:
- Buy/hire factors of production, use them to produce goods and services
- Sell goods & services

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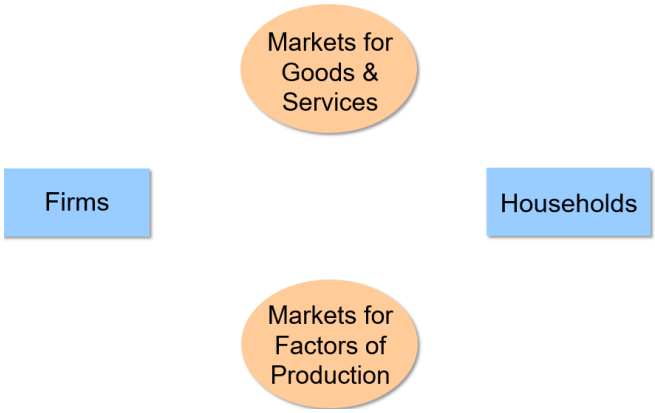
Fig 1. The Circular-Flow Diagram ◁



Our 2nd Model: The Production Possibilities Frontier

- The Production Possibilities Frontier (PPF): a graph that shows the combinations of two goods the economy can possibly produce given the available resources and the available technology
- Example:

Two goods: computers and wheat

One resource: labor (measured in hours)

Economy has 50,000 labor hours per week available for production.

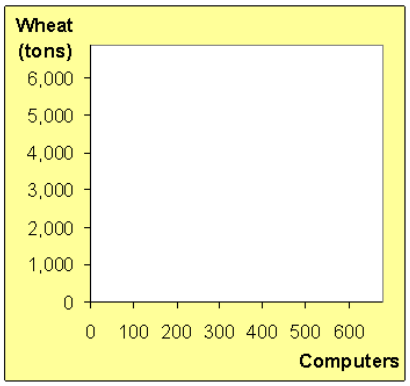
PPF Example: Complete the table ◁

- Producing one computer requires 100 labor hours.
- Producing one ton of wheat requires 10 labor hours.

	Employment of labor hours		Production	
	Computers	Wheat	Computers	Wheat
A	50,000	0		
B	40,000	10,000		
C	25,000	25,000		
D	10,000	40,000		
E	0	50,000		

PPF Example: Translate to graph ◁

Point on graph	Production	
	Com-puters	Wheat
A		
B		
C		
D		
E		



Exercise: Points on the PPF?

a. On the graph, find the point that represents (100 computers, 3000 tons of wheat), label it **F**. Would it be possible for the economy to produce this combination of the two goods? Why or why not?

b. Next, find the point that represents (300 computers, 3500 tons of wheat), label it **G**. Would it be possible for the economy to produce this combination of the two goods?

The PPF and Opportunity Cost

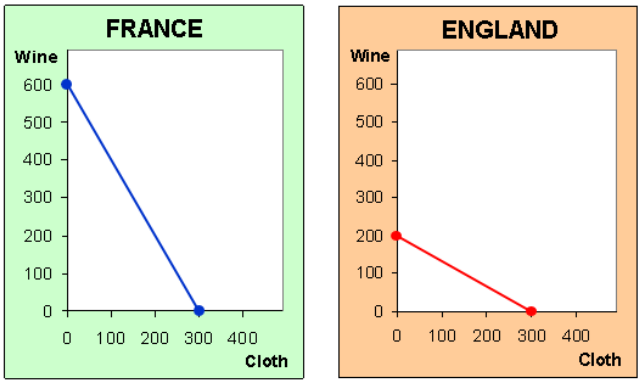
- The Opportunity Cost of good X

$$= \frac{\textit{Additional amount of Y given up}}{\textit{Additional amount of X Obtained}} = |\frac{\Delta Y}{\Delta X}| = |\textit{slope}|$$

- Exercise: What is the Opportunity cost of producing Wheat for the previous PPF? and of Computer?

Active Learning 2: PPF and Opprtunity Cost ◁

In which country is the opportunity cost of cloth lower?

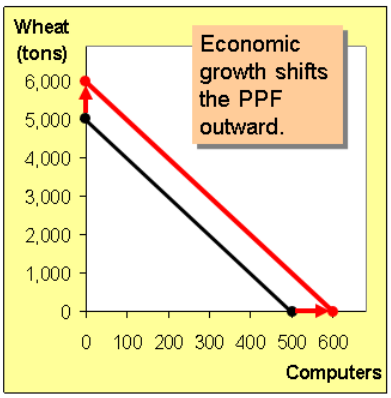


Economic Growth and the PPF

With additional resources or an improvement in technology, the economy can produce more computers,

more wheat,

or any combination in between.



Two Graph Rules ◁

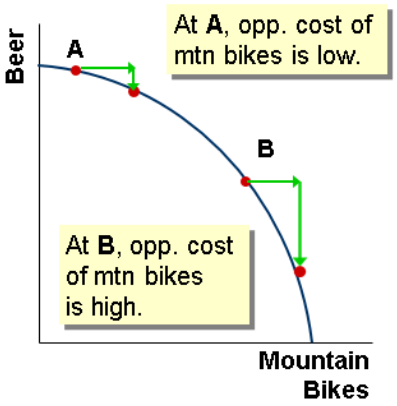
- **Rule 1:** When an independent variable changes and that variable appears on the graph (amount of computers for example), it causes a movement along the curve. It doesn't shift the curve.
- **Rule 2:** When an independent variable changes and that relevant variable doesn't appear on the graph (e.g., the amount of resources or technology in our example), it causes the entire curve to shift.

(For More on graph read the Appendix to Chapter 2 on the textbook. Self study)

The Shape of the PPF

- The PPF could be a straight line, or bow-shaped
- Depends on what happens to opportunity cost as economy shifts resources from one industry to the other.
  - If opp. cost remains constant, PPF is a straight line.
  - (In the previous example, opp. cost of a computer was always 10 tons of wheat.)
  - If opp. cost of a good rises as the economy produces more of the good, PPF is bow-shaped.

Why the PPF Might Be Bow-Shaped ◁



Why the PPF Might Be Bow-Shaped

- So, PPF is bow-shaped when not all resources are equally suitable in the production of all G & S (resulting in increasing opportunity cost):
  - different workers have different skills
  - different types of land suited for different uses.

EXERCISE: Bow-Shaped ◁

- Mrs. A can produce either 3 cars or 1 house
- Mrs. B can produce either 2 cars or 2 houses
- Mrs. C can produce either 1 car or 3 houses

Based on this information, complete the table and Draw the PPF for this team

Employment		Production	
in Cars	in Houses	of Cars	of Houses
A,B,C	None	6	0

The Economist as Policy Advisor

- As scientists, economists make **positive statements,** which attempt to describe the world as it is.
- As policy advisors, economists make **normative statements,** which attempt to prescribe how the world should be.
- Positive statements can be confirmed or refuted, normative statements cannot.

ACTIVE LEARNING: Identifying positive vs. normative ◁

Which of these statements are "positive" and which are "normative"? How can you tell the difference?

a. Prices rise when the government increases the quantity of money.

b. The government should print less money.

c. A tax cut is needed to stimulate the economy.

d. An increase in the price of burritos will cause an increase in consumer demand for video rentals.

Why Economists Disagree

Economists sometimes give conflicting policy advice.

- They sometimes disagree about the validity of alternative positive theories about the world.
- They may have different values and, therefore, different normative views about what policy should try to accomplish.

Yet, there are many propositions about which most economists agree.

Propositions about Which Most Economists Agree (and % who agree)

- A ceiling on rents reduces the quantity and quality of housing available. (93%)
- Tariffs and import quotas usually reduce general economic welfare. (93%)
- The United States should not restrict employers from outsourcing work to foreign countries. (90%)
- The United States should eliminate agriculture subsidies. (85%)

FYI: Who Studies Economics?

- Tiger Woods, Golfer
- Ronald Reagan, President of the United States
- Barbara Boxer, U.S. Senator
- Sandra Day-O'Connor, Former Supreme Court Justice
- Anthony Zinni, Former General, U.S. Marine Corps
- Kofi Annan, Former Secretary General, United Nations
- Meg Witman, Chief Executive Officer, eBay
- Steve Ballmer, Chief Executive Officer, Microsoft
- Arnold Schwarzenegger, Governor of California, Actor
- Ben Stein, Political Speechwriter, Actor, Game Show Host
- Mick Jagger, Singer for the Rolling Stones
- John Elway, NFL Quarterback
- Diane von Furstenburg, Fashion Designer

CHAPTER SUMMARY

- As scientists, economists try to explain the world using models with appropriate assumptions.
- Two simple models are the Circular Flow Diagram and Production Possibilities Frontier.
- As policy advisers, economists offer advice on how to improve the world.