

ECON 2106 - Microeconomics
Chapter 2

Lecture Outline

1. Circular Flow of Income Model
 - a. Households
 - b. Firms
 - c. Government

2. Specialization and Trade
 - a. Division of Labor
 - b. Comparative Advantage

3. Production Possibilities
 - a. Production Possibilities Frontiers
 - b. Diminishing Returns
 - c. Increasing Opportunity Costs

4. Economic Growth
 - a. Technological Advances
 - b. Expansion of Resources
 - c. International Trade

5. Allocative Mechanisms
 - a. Market System
 - b. Brute Force
 - c. Queuing
 - d. Tradition
 - e. Government

6. Economic Systems in Transition
 - a. Roots of Capitalism
 - b. Central Planning Techniques in Command Economies
 - c. Convergence as an Economic Phenomenon

1. Circular Flow of Income

The circular flow of income model is used to illustrate how income and resources flow between households and businesses in the economy. The initial model we examine in this chapter centers on the flow of income between private economic agents and excludes the role of government. Using this simplified model, we can examine the basic concepts that we covered in Chapter 1.

In the circular model, as illustrated in your book, there are two types of economic agents and two types of markets. Households and businesses (agents) interact in the resource and product markets.

Households are the centers for consumption and ultimately own all wealth in the economy, including resources that they make available to firms in the resource market in exchange for income. A household can consist of one or many individuals.

Labor is the principal asset of most households. If one examines the income flows and asset structures of most households, this assumption does hold true.

Households allocate labor resources to the resource market where firms pay wages for the use of these labor resources. Households also allocate land, capital, and entrepreneurial resources, which results in flows of rent, interest, and profits to the households for the use of these resources.

Households use the income generated from the resource market to purchase goods and services in the product market. Not all the income must be used, for some can be saved for future consumption or some may flow to the government as taxes.

Firms complement households in the circular flow model in that households provide resources in return for income (resource market), which firms use with technology to produce goods and services for sale to households (product market) which use a portion of their earned income to purchase the goods and services.

Note how that in the circular model, as households demand a certain product, the relative price of the product will increase, thus creating the incentive for firms to produce the good. Firms

will then demand from households the resources necessary to produce the good, and sell the good in the market to consumers, and the cycle continues.

2. Specialization and Trade

“Specialization is for insects” - Robert Heinlein, 1942

The foundation of a modern society is its ability to specialize. Labor is specialized to the point that, in some factories, it is the job of one person to thread a certain bolt and the job of another person to tighten the bolt.

Capital is specialized. Examples for physical and financial capital specialization.

Land and Entrepreneurship also contain examples of specialization. Examples?

Without specialization, each of us would have to be self-sufficient. Instead of attending class, you would have to forage/hunt for food, seek/build shelter, find clean water, and so on. This would not leave much time for other pursuits.

In economics, we observe (positive economics) how specialization results in gains in efficiency (productive efficiency), and decreases resource costs in production. Society has answered this basic economic question by increasing the rewards to specialized labor.

2.1 Division of Labor

The **division of labor** entails dividing the work required to produce a given product or to accomplish a given task into separate elements. As the task at hand is divided into ever smaller sub-tasks, each worker’s ability to perform their task increases due to greater familiarity. Efficiency increases, resource costs decline, and production increases for a given set of resources.

The question is then, can labor become too specialized?

Note that while labor specialization results in productivity gains, specialization does not

address the root economic question as to what should be produced; by whom it shall be produced; and for whom it shall be produced.

2.2 Comparative Advantage

In order to reap the full benefits of labor specialization, a society should produce those goods which it can produce at lowest cost and trade with other societies for other, more costlier goods.

The **law of comparative advantage** states that mutually beneficial exchange is possible whenever relative production costs differ prior to trade.

First, let us examine what the term ‘relative production costs’ means. Recall the concept of opportunity costs, that the cost of a decision take is the value of the best alternative forgone. We now can apply this concept to the exchange process.

Individuals, groups, societies, nations; all gain by producing goods at relatively low costs and exchanging these goods for different goods produced by others at relatively low cost.

We can examine the concept of relative production costs by using the same methodology we used to explore the relative prices of economic goods. For example, let us assume the following example applies to the countries of the United States and Mexico.

We assume that two goods are produced, computers and cars. Before specialization, assume that the following distribution of production and consumption applies.

United States	20 hours labor = 10 computers 20 hours labor = 1 car
Mexico	20 hours labor = 1 computer 20 hours labor = 2 cars

Thus, before specialization and trade, the United States produces (10 computers, 1 car) and Mexico produces (1 computer, 2 cars).

ECON 2106 - Microeconomics
Chapter 2

Now, let us assume that Mexico and the United States can trade with each other. It is in each country's interest to specialize in the production of the good that is relatively cheaper for them to produce. What will each country produce?

Let us calculate relative production costs:

United States: 1 car = 10 computers

Mexico: 1 car = 1/2 computer

Thus, in the United States is more efficient in producing computers than cars, and conversely, Mexico is more efficient in producing cars than computers. Thus, if the United States produces only computers, it will produce 20 computers and have 10 computers free for trade. If Mexico produces only cars, it can produce 4 cars, with 2 cars free for trade.

	Pre-Specialization	Post-Specialization and Trade
United States	10 computers 1 car	10 computers 2 cars
Mexico	1 computer 2 cars	10 computers 2 cars

The question: Does this result still hold if the United States holds an **absolute advantage** in the production of all products? Assume that instead of 20 hours of labor = 1 car for the United States, 20 hours of labor = 4 cars. What is the result of specialization and trade?

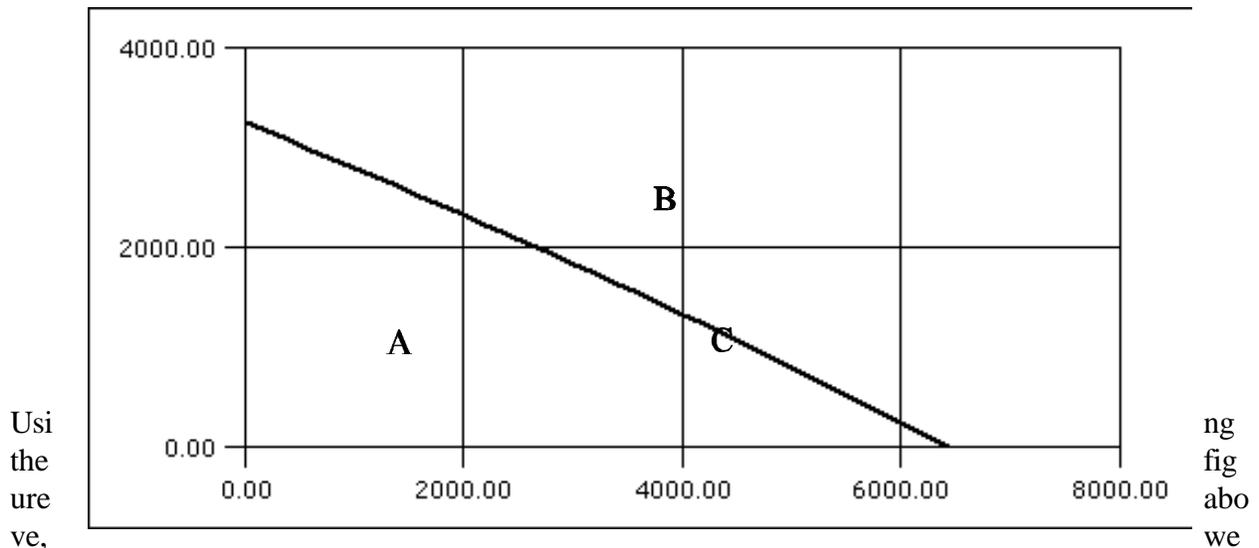
3. Production Possibilities

A Production Possibilities Frontier (PPF) depicts the maximum combinations of goods a society can produce in a given period, given fixed total resources and a constant state of technology.

PPF model assumptions:

- A. Land, labor, capital, and entrepreneurship are constant. Different combinations of these resources can be used among different types of production.
- B. Technology, which includes physical, financial, and human capital, is constant.
- C. All scarce resources are fully and efficiently employed along the boundary of the PPF.

3.1 Constant Cost Production Possibilities



can examine the PPF model. Let us return to the classic example of guns and butter, where the production of guns is displayed on the **X** axis and the production of butter is displayed on the **Y** axis.

The PPF is represented by the bold line. Along the PPF line, resources are fully utilized. Thus, for example, point **C** which lies on the PPF line, represents a full utilization of resources in the

economy.

Points above the PPF line are unattainable (**B**). There is no combination of resources, production, and technology that can produce such a combination of goods. Finally, if the economy is producing a combination of goods below the PPF (**A**), the economy can reallocate resources to move to the PPF.

This PPF model assumes constant returns to production. Note that as we move along the PPF, we are giving up 1 gun for 1 pound of butter. Thus, relative prices are constant, that is, one gun produced has an opportunity cost of 1 pound of butter foregone.

Now, while the constant returns to production PPF is helpful in illustrating the trade-offs between goods, it is not entirely practical in that it fails to incorporate the concept of diminishing returns.

3.2 Diminishing Returns

The law of diminishing returns states that as any activity is extended, it eventually becomes increasingly difficult to pursue the activity further.

What does this mean? The law of diminishing returns is grounded in the realization that the benefits to consumption and/or production do not always increase. As you add successive units of a resource to production, or consume successive units of an economic good, past some point the benefit derived from adding an additional unit will decline.

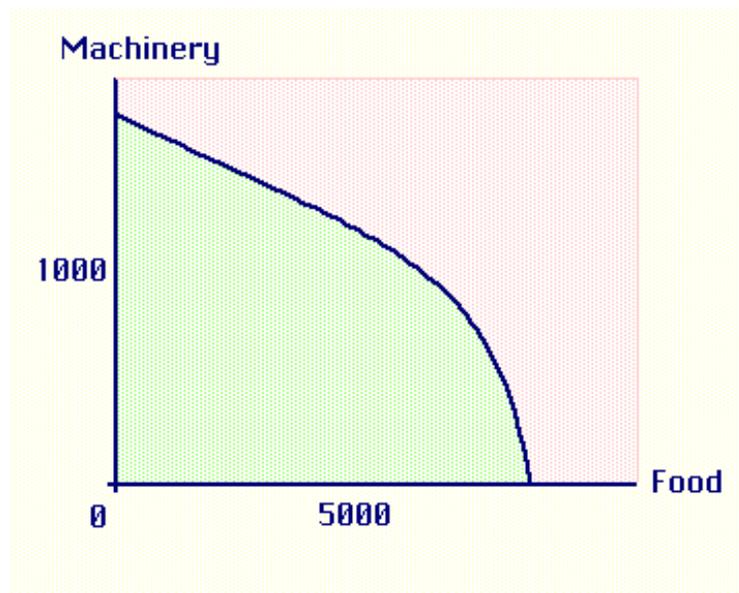
How does this principle manifest itself in reality? Let's say you decide to eat lunch at an 'all you can eat' restaurant and that you missed the previous two meals because you were studying for this class. From the first plate, you will undoubtedly derive a great deal of satisfaction. The second plate may give somewhat less satisfaction as the first plate.. Now, the third plate probably won't taste as good as the second plate and the fourth plate won't taste as good as the third plate and so on.

We can apply the same concept with respect to production. As one adds more labor, for example, to the production process, beyond some point there will be too much labor in the factory/office for efficient production to occur.

3.3 Increasing opportunity costs

The principal of increasing opportunity costs is a result of the law of diminishing marginal returns.

The principal: Repeatedly increasing output by some set proportion ultimately requires more than proportional increases in resources, and thus, higher costs.



ECON 2106 - Microeconomics
Chapter 2

What does this mean? As noted previously, as you increase resources to production, past some point, the additional benefits to adding that resource will decline. Thus, to have the same additional benefits as the last input, you will have to add more than the last input.

	Guns	Butter	Opportunity Cost
A	5000	0	----
B	4800	400	
C	4000	800	
D	3000	1200	
E	1200	2000	
F	0	2400	

Using the above example, we can mathematically and graphically illustrate the concept of increasing opportunity costs and its impact on the PPF.

Note that what we are concerned with are the costs in the margin, not the absolute amounts. We are concerned with the additional benefit derived from a unit of change, that is, for each gun we give up at point C, how much butter is produced in return?

The increasing opportunity costs are reflected in the concave slope of the PPF. As we move along the PPF, we must relinquish ever increasing amounts of one good to produce the other good.

Additional example?

4. Economic Growth

If we hold resources and technology constant, a society can not 'grow'. As illustrated by the PPF used in the previous section, with a fixed endowment of resources and constant state of technology, we can only allocate resources to achieve the maximum possible output for each combination of goods, but we can not exceed the boundary of the PPF.

Economic growth, on the other hand, occurs as the result of a technological advance, an

increase in the availability or quantity of resources, or an increased value in exchange for the goods which a nation produces.

As economic growth occurs, the boundary of the PPF shifts outward. How it shift is dependent upon what is fueling economic growth.

4.1 Technological Advance

Most of us link economic growth with technological change. This is readily apparent due to the impact that technology has had upon our lives in the past twenty years.

Discuss

4.2 Increases in the availability or quantity of resources

By increasing the overall quantity of the resource base, a society can allocate more resources to production, thereby increasing the amount of goods that can be produced and consumed. This same effect is possible is the quality of resources increases, meaning that by using the same production technology, the higher quality of the input resource allows more production to occur.

Discuss: Brown Coal in E. Germany, Education Impact on Labor

4.3 International Trade

International Trade is often referred to as the engine of economic growth. Recall from the previous section on comparative advantage how specialization and trade can increase the consumption possibilities of a society.

We can use the comparative advantage example to develop PPFs for the United States and Mexico. If we assume that each country is operating efficiency along their respective PPFs, we can draw a tangential line to each of the PPFs to illustrate the consumption possibilities of the United States and Mexico due to international trade.

We will discuss international trade in the following chapter.

5. Allocative Mechanisms

5.1 Market System - Price decides

ECON 2106 - Microeconomics
Chapter 2

- 5.2 Brute Force -
- 5.3 Queuing -
- 5.4 Random Selection
- 5.5 Tradition
- 5.6 Government
 - 5.6.1 Equal Shares - Everyone gets the same share
 - 5.6.2 Need - Those who need, receive
 - 5.6.3 Centralized Planning - Called Misallocation by the book...really this means that the government decides a uniform provision of goods and services, discuss how local tastes and preference and centralized provisions results in allocative inefficiency
- 6. Economic Systems in Transition
 - Discuss
 - 6.1 Roots of Capitalism
 - 6.2 Central Planning Techniques in Command Economies
 - 6.3 Convergence as an Economic Phenomenon

ECON 2106 - Microeconomics
Chapter 2

Man walking along a road in the countryside comes across a shepherd and a huge flock of sheep. Tells the shepherd, "I will bet you \$100 against one of your sheep that I can tell you the exact number in this flock." The shepherd thinks it over; it's a big flock so he takes the bet. "973," says the man. The shepherd is astonished, because that is exactly right. Says "OK, I'm a man of my word, take an animal." Man picks one up and begins to walk away.

"Wait," cries the shepherd, "Let me have a chance to get even. Double or nothing that I can guess your exact occupation." Man says sure. "You are an economist for a government think tank," says the shepherd. "Amazing!" responds the man, "You are exactly right! But tell me, how did you deduce that?"

"Well," says the shepherd, "put down my dog and I will tell you."