

Microeconomics - Econ 2106
Lecture Notes - Chapter 1

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1. Scarcity

Economics is the study of how individuals, working collectively and individually, allocate limited resources to satisfy their unlimited wants.

Scarcity, or the lack of resources to fulfill all of our desires, is the foundation of the science of economics. In essence, we must make choices: what products to produce, how to produce them, and who receives them. All this results due to the fact that relative to our demands, our resources and our ability to turn those resources into products to fulfill those demands are limited.

We can classify resources into **economic goods and bads**. An economic good is any item or service that adds to human happiness (satisfaction); conversely an economic bad is any item or service that detracts from human happiness (satisfaction).

There is a class of goods that are not scarce, that is, these goods are available in unlimited supply at no cost to the individual. These **free goods** only incur a time cost in consumption, that is, you do not pay for the consumption of these goods, except in the amount of time it takes you to consume them. Classic examples of free goods: air, sunlight.

At this time we will limit our study to scarce goods. We can observe that these goods have two types of uses: **value in use** and **value in exchange**.

Value in use, as the name suggests, is the use of a economic good that results in an improvement of an individual's satisfaction.

Value in exchange is the exchange value of the economic good relative to other economic goods that when exchanged for another economic good results in an increase of an individual's satisfaction.

2. Production and Resources

Resources consist of those items that we may draw upon to create goods to fulfill our demands. Production uses technology to apply energy to resources to make those resources more valuable to fulfill the human wants.

Productive resources come in four broad categories: **land, labor, capital, and entrepreneurship**.

Land, simply put, is a broad category that encompasses all natural resources, to include

actual land, minerals, forests, water, etc. Land is primarily a raw resource input into the production process.

Labor consists of the physical and mental resources that individuals can contribute to the production process. A steelworker may contribute 8 hours of physical labor, while a manager's labor may be more cerebral in nature. What each earns depends on the value of their contribution to the product(s) being produced and the value society places on those products.

Capital consists of those resources that are man-made, to include physical (Buildings, machinery) and financial (bonds, stocks) capital. *Depreciation* occurs as capital 'wear-out' over time through use and/or obsolescence. *Interest* is the financial payment for the use of capital.

Entrepreneurship is a human resource in which individuals combine land, labor, capital with their human knowledge to produce products for a profit. Since human wants are changing, entrepreneurs face substantial risk. If they are right, they reap a profit. If wrong, loss and potential bankruptcy and other penalties.

3. Unlimited Human Wants (demands)

As previously noted, resources and time are limited. The other element of the scarcity equation is unlimited human wants.

Coupled with the ideas of limited resources and unlimited wants is the idea of rational self interest. This idea, developed by Adam Smith, is that individuals act so as to maximize their individual satisfaction given the limited resources at their availability.

Markets occur because suppliers (those with a good) wish to sell a good to those who desire the good (demanding individuals). Each is acting in their own self-interest to sell (purchase) a good, an action through which they will gain satisfaction (by gaining resources to purchase another good or consuming the purchased good).

4. Basic Economic Questions

Given that most economic goods are not free goods, and that resources and time are limited, a society must address the basic economic questions to determine what economic goods will be produced, how they will be produced, and who will consume the economic goods.

4.1 What gets produced

The decision to produce X instead of Y or a mixture of X and Y can be decided by a variety of mechanisms (voting, force, market demand and supply, altruism).

4.2 How is the good produced?

How goods are produced is a result of the technological state of the society in question and the priority of resources in the economy. Recall that production occurs through the use of technology and resources, which type of production (hand-labor, mixed automation and labor, or automation) and resources (bricks, stone, asphalt) is used to build a road is a question that must be answered.

4.3 Who gets to consume what is produced?

Probably the most contentious of the decisions a society must make. In the United States, we have, on whole, decided that money will be used to determine who gets to consume what is produced (for private market goods). As an individual's wealth increases, their ability to consume more goods likewise increases. In other society's the government, or the village council, may decide who consumes what goods are produced.

5. Opportunity Costs

One of the core concepts of economics is the realization that every decision entails a cost, and that every decision can be valued in terms what you have foregone.

For example, instead of going to college, you may can go to work full-time, earning an income of \$25,000 a year. Therefore, the opportunity cost of your decision to attend college is not only the immediate monetary costs that you incur but also the foregone income.

Opportunity cost is the value best alternative surrendered when a choice is made.

The best alternative surrendered is key to the concept of opportunity costs. If you are going to college and you are foregoing working at McDonald's at minimum wage or working for Microsoft for \$75,000 a year, then your true opportunity cost includes the value of the salary foregone at Microsoft and not McDonald's since the job at Microsoft was your best alternative.

5.1 Absolute vs Relative Prices

We can examine individual's decisions in terms of two types of prices: absolute and relative prices.

Absolute prices are prices in terms of monetary units. Simply put, the monetary price of a cup of coffee, bagel, gas, etc.

Relative prices are prices of economic goods in terms of each other. Economic decisions

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are based not on monetary but on relative prices, that is, how much of one good must you give up to consume another good. Relative prices encapsulate opportunity costs.

For example, assume that a gallon of gas costs \$1. \$1 is the absolute (monetary) price of a gallon of gas. Now, assume that a gallon of milk costs \$2.

Monetary Prices: \$1 for gallon of gas, \$2 for gallon of milk
Relative Prices: 1 gallon of milk = 2 gallons of gas

In this example, to consume one gallon of milk you must forgo 2 gallons of gas.

Now, assume that the price of gas increases to \$2 a gallon and the price of milk increases to \$4 a gallon. What happens?

Monetary Prices: \$2 for gallon of gas, \$4 for gallon of milk
Relative Prices: 1 gallon of milk = 2 gallons of gas.

In this example, you must still forgo 2 gallons of gas for 1 gallon of milk. Relative prices have not changed even though monetary (absolute) prices have doubled.

5.2 Prices as Information

Think of the information contained in the preceding example. We know that prices for milk and gas have doubled but their value relative to each other has remained the same. As relative prices change, then our consumption of goods changes.

5.3 Prices as Incentives

Prices not only convey information on the relative value of a good, but prices also spur action with respect to a good. As the relative price of a good increases, the incentive for individuals to produce the good increases, likewise as the relative price of a good declines, the incentives to produce the good decrease.

What examples are there currently of changes in relative prices that affect individual's decisions?

5.4 Prices as rationing devices

Rationing occurs due to the limited nature of resources and the unlimited nature of human wants. Scarce goods will be valued more relative to other goods, and thus only those willing to forgo the consumption of many other goods will be able to consume the highly valued goods.

6. Economic Efficiency

How resources are utilized in production, how resources are allocated in society, how goods are produced and consumed, how efficiently these processes occur is critical to the operation of a society.

Economic efficiency is achieved when production of goods using scarce resources results in the highest attainable value of output. Efficiency can be broken down into three types: allocative, productive, and distributive.

Note that economic efficiency is closely tied to the basic economic questions.

Allocative efficiency is related to the demands of a society. As what is produced more closely mirrors what is demanded by society, allocative efficiency increases,

Productive efficiency requires minimizing opportunity cost for a given value of output.

Distributive efficiency requires that specific goods be used by individuals who place the highest relative value on the specific goods.

For example, let us assume that society wants to produce the classic example of guns and butter. Let us assume that society wants 1 million guns and 1 million pounds of butter and that the relative price of 1 gun is 1 pound of butter.

If we produce 2 million guns and no butter, allocative efficiency is not met. We can increase allocative efficiency by decreasing the production of guns, and using the freed resources to produce butter.

Since relative prices are 1 gun for 1 pound of butter, if we chose to hand craft each gun instead of using automated processes, we might only produce 20,000 guns and 1 million pounds of butter. By more efficiently using technology and scarce resources, we could increase gun production without needing more resources.

Finally, we should distribute goods to those who value them the most. If we gave the army butter and each household a gun, we might be able to increase distributive efficiency by reallocating the produced goods.

7. Economic Analysis

7.1 Common Sense vs Theory - Read

7.2 Positive vs Normative Economics

Positive economics addresses the current state of economic agents and production and predicts observable and testable tendencies in economic relationships.

Normative economics depends on value judgements about what should be the state of economic agents and productive decisions.

For example, we observe that a college education increases lifetime income, an observance which we can test (Positive Economics). We then state that increased education should be compulsory (Normative Economics).

Both positive and normative economics drive policy decisions. We often state that there should be less crime (normative), we then study society to determine the factors that influence crime (positive), and then make policy recommendations on how to reduce crime (positive).

7.3 Macroeconomics vs Microeconomics - Read and Discuss