Economics – Fundamentals Domain

SSEF1 Explain why limited productive resources and unlimited wants result in scarcity, opportunity costs, and tradeoffs for individuals, businesses, and governments.

a. Define scarcity as a basic condition that exists when unlimited wants exceed limited productive resources.

Scarcity should be defined as a basic condition that exists when unlimited wants exceed limited productive resources. The scarce productive resources (factors of production) are land, labor, capital, and entrepreneurship. Things that are scarce are both limited AND desirable. For example, crude oil is a land resource that is limited because there is only so much of it that can produced and made available to society at any given time. It is also desirable because it is used to produce goods and services. In market economies, things that are scarce are usually allocated by price. Items that are more relatively scarce (more limited and/or more desirable) will usually carry a relatively high price. In some cases, something that was once considered not scarce can become so. For example, there was a time when restaurants had to pay companies to haul away used cooking oil (undesirable). Now used cooking oil is often purchased by biofuel companies because it can be used in production. The cooking oil has become both limited AND desirable. There are also a small number of "free" goods that are desirable but not limited. For example, we can enjoy the sunshine outside or breathe the oxygen around us without paying for it.

Not everything that is scare is tangible. A good example of this phenomenon is time. At some point, all of us wished that we had more time for something like studying, working, spending time with friends/family, etc.

However, you must recognize the difference between scarcity and a shortage. Scarcity always exists while a shortage is temporary. **Shortages** occur when a resource, good, or service becomes unavailable for a period of time due to circumstances affecting the market. For instance, if a gasoline pipeline is damaged and has to be shut down for repair, geographic areas that get fuel from that pipeline may find their gas stations temporarily out of fuel. Gasoline is always scarce (limited and desirable). However, in this example, the market for gasoline is experiencing a temporary shortage until the pipeline is repaired.

Is it scarce?

Example	**Is it limited?**	**Is it desirable?**	**Is it scarce?**
Time			
Water			
Garbage			
Air We Breathe			

b. Define and give examples of productive resources (i.e. factors of production): natural resources (i.e. land), human resources (i.e. labor and human capital), physical capital and entrepreneurship.

Productive resources, also known as **factors of production**, are scarce items used in the production of goods and services in an economy. The four factors of production are land, labor, capitol and entrepreneurship. **Natural resources**, also known as **land** resources, are the gifts of nature we use to produce goods and services. For example, a tree is a natural resource used in the production of goods like lumber or paper. **Human resources** are the people

involved in the production of goods and services. People offer their time to production as well as their physical abilities, knowledge, and skills. The abilities each person brings to the production process is known as their **human capital**. Producers of goods and services need physical capital too. **Physical capital** refers to tools, machines, and structures used over and over again in the production of goods and services. While natural, human, and capital resources are essential to production, we rely on the fourth productive resource, **entrepreneurship**, to bring the resources together in innovative ways to produce a product. An entrepreneur is a person who takes risks such as using one's own financial resources to make a prototype of a product or buy the capital resources required to start the business.

c. Explain the motivations that influence entrepreneurs to take risks (e.g., profit, job creation, innovation, and improving society).

Becoming an **entrepreneur** usually involves taking risks such as using one's own financial resources to make a prototype of a product or buy the capital resources required to start the business. Some entrepreneurs may have to quit jobs from which they receive a relatively secure, predictable income in order to have enough time to invest in their new enterprise. In most cases, entrepreneurs begin new businesses because they believe the potential rewards of success outweigh the potential costs associated with the risks. The motivations of entrepreneurs include profit, job creation, innovation, and improving society. Traditionally, the field of economics sees the **profit motive** as the primary driver of entrepreneurship. Those who start private firms believe they can operate the business in a way that the revenues (price times the quantity of goods/services sold) they receive will be greater than the costs (costs of production plus the income they gave up to start the business). In very basic terms, profit is equal to a firm's revenue minus its costs. Entrepreneurs may also be motivated by the opportunity to create a successful business that can **provide jobs** for people in the industry. According to a 2015 report by the Kauffman Foundation, new businesses accounted for ALL net new job creation and 20 percent of gross job creation. **Innovation** is another key motivation. Many successful entrepreneurs work as employee experts in their industry before venturing out on their own. During their time as employees, they often see ways companies could improve efficiency or production. They may apply their expertise to new products during their non-working hours. At some point, the desire to put their ideas to the test may become greater than their need for the security of a regular salary. Finally, some entrepreneurs start for-profit companies or non-profit organizations because they believe their product or service will **improve society**. For example, there are microfinance companies linking individual lenders to individual borrowers. This service provides financial resources to people who would be unlikely to qualify for traditional bank loans and a return to lenders who would like to see their money help grow the businesses of others.

d. Define opportunity cost as the next best alternative given up when individuals, businesses, and governments confront scarcity by making choices.

The study of economics is all about the choices made by individuals, businesses, and governments. From an economist's view, all choices involve both benefits and cost. The value of one's next best alternative given up when a choice is made is called **opportunity cost**. For example, if you have the choice of going to the movies with your friends or studying for your economics quiz tomorrow. Since you choose to study, because you care about your grade very much and wouldn't want to disappoint me, the opportunity cost of your decision is going to the movie. However, do note, that opportunity cost is only between two items. If you have more than two options the opportunity cost is ONLY between the two most desirable options, not any of the other ones. Opportunity cost can also be in monetary form. For example, if your choice is between mowing your neighbors lawn for $25 or going fishing and you choose fishing, then the opportunity cost of that decision is $25. Additionally, the cost could include the cost of what option you choose. For instance, if the choice is between mowing your neighbors yard, again for $25, or going to buy a new fishing pole for $50. If you chose to buy the pole, your opportunity cost is $75 because you must add the cost of the pole to what you would have gained by mowing the lawn.

SSEF2 Give examples of how rational decision making entails comparing the marginal benefits and the marginal costs of an action.

a. Define marginal cost and marginal benefit.

Marginal is defined in economics as small or incremental change. **Marginal benefit** refers to the additional positive value one receives from undertaking one more unit of an action. For example, the marginal benefit of running one more mile after running the previous two miles could be the additional calories burned. **Marginal cost** refers to the additional amount of effort, expense, or time one incurs from undertaking one more unit of an action. For example, the marginal cost of running one more mile after running the previous six miles could be eight minutes of time one could have devoted to another pursuit such as studying for an exam or reconsidering why you decided to run cross country in the first place.

b. Explain that rational decisions occur when the marginal benefits of an action equal or exceed the marginal costs.

Rational actors in the economy will only select a choice if the **marginal benefits** of it are equal to or greater than the **marginal costs** of the action. In microeconomics, one benefit a firm receives from selling a product is the revenue (price times the quantity). One cost associated with producing a product is the cost of the human resources required to make the product. A rational firm wants to know how many workers it should hire to maximize its profit. Profit is revenue minus costs. An economist would tell the firm to hire the number of workers at which the marginal revenue generated by the human resource is equal to the marginal cost of hiring the human resource. Consider an example in which the wage for each worker you hire is $10.00 an hour and the price of your product is $2.50. In the table below, the marginal revenue (benefit) of each additional worker is equal to the marginal cost of each additional worker when the firm hires worker #3. A rational firm would not hire the 4th worker because the marginal cost of that worker is greater than the marginal benefit.

Number of Workers	Total Units Produced	Marginal Number of Units Produced	Price of Each Unit Produced	Total Revenue for the Units Produced	Marginal Revenue for Generated by Each Additional Worker	Marginal Cost of Hiring Each Additional Worker
0	0	_____	$2.50	0	_____	_____
1	6	6	$2.50	$15.00	$15.00	$10.00
2	11	5	$2.50	$27.50	$12.50	$10.00
3*	**15**	**4**	**$2.50**	**$37.50**	**$10.00***	**$10.00***
4	18	3	$2.50	$45.00	$7.50	$10.00
5	20	2	$2.50	$50.00	$5.00	$10.00
6	21	1	$2.50	$52.50	$2.50	$10.00

c. Explain that people, businesses, and governments respond to positive and negative incentives in predictable ways.

In the study of economics, an **incentive** motivates individuals, businesses, and/or governments to undertake an action or avoid an action. Incentives are positive when these actors in the economy choose an option associated with a perceived benefit or gain. Incentives are negative, sometimes called disincentives, when actors in the economy avoid a particular option because they associate it with a cost that is too high. Traditionally, the field of economist believes individuals, businesses, and governments will respond predictably to positive and negative incentives.

SSEF3 Explain how specialization and voluntary exchange influence buyers and sellers.

a. Explain how and why individuals and businesses specialize, including division of labor.

Specialization is can be observed when individuals or businesses concentrate on a single activity or an area of expertise when producing a good or service. In economics, **specialization** is important because it boosts the overall productivity of a business or country. For example, a firm might use specialization by creating **division of labor** in the production of a good or service. An example of division of labor at a fast food restaurant might be when one employee takes drive-thru orders while another employee makes the food. Both employees get better at their tasks through repetition and can do the task more quickly with fewer errors. The fast food restaurant which has chosen to specialize in convenient, ready-made meals would probably not try to offer gourmet, fine dining at the same time and lets other restaurants specialize in this type of cuisine.

Specialization can also be observed when students choose to pursue a particular major in college. The farther into their college years, the more specialized their classes become. A business major may start out taking courses in economics, marketing, and management, but ultimately focus in the field of accounting and become an accountant. The student with specialized training in accounting will often be able to perform accounting tasks more quickly and with fewer errors than someone trained in another field. The accountant can then voluntarily exchange his or her labor for payment and use the money earned to purchase the goods and services produced by individuals and businesses specializing in other areas.

b. Explain that both parties gain as a result of voluntary, non-fraudulent exchange.

Voluntary exchange occurs when two economic actors willingly trade one item for another because the value of the item they are receiving is greater at the time than the item they are giving up to receive it. While voluntary exchange can happen through barter, trading one good or service for another good or service, it is usually facilitated through money. Buyers can be household consumers, firms or governments while sellers can also be household consumers, firms or governments. The chart below gives some examples of gains from voluntary exchange.

Type of Voluntary Exchange	**Party One**	**Party Two**	**Party One Gain**	**Party Two Gain**
Exchanging an Apple for a Cookie at Lunch	Person with the Cookie	Person with the Apple	A healthier snack	A tasty dessert
Exchanging $5.00 for a Combo Meal at a restaurant	Buyer with $5.00	Seller with the Combo Meal	The satisfaction of consuming a meal and no longer being hungry	The additional revenue the restaurant gains from selling the meal
Exchanging one hour of labor for $8.00 of wages	Seller of one hour of labor	Buyer with $8.00 to pay for labor	Wages to use to pay for other goods and services	A labor hour to help produce a good or service
Exchanging $8.58 million for an Abrams tank	Buyer (the U.S. government) with $8.58	Seller (Lima Army Tank Plant) with a tank	The U.S. gains a weapon for National Defense	The Lima Army Tank Plant receives revenue