

Scarcity and the Factors of Production

Preview

Objectives

After studying this section you will be able to:

1. **Define** economics and describe why individuals must make choices.
2. **Compare** the concepts of scarcity and shortage.
3. **Identify** land, labor, and capital as the three factors of production, and identify the two types of capital.
4. **Explain** the role of entrepreneurs.

Section Focus

People, businesses, and governments must choose among limited or scarce resources. Economics describes how people seek to satisfy their needs and wants by choosing among many alternatives.

Key Terms

need
want
economics
goods
services
scarcity
shortage
factors of production

land
labor
capital
physical capital
human capital
entrepreneur

As you begin your study of economics, consider three scenes: In the first scene, members of a household work together to do the laundry, purchase groceries, make meals, earn money, decide how to spend their money, and decide who gets to hold the TV remote.

In the second scene, the leaders of a large corporation sit at a table for their monthly meeting. They discuss whether to add a new product to their product line and advertising options on television and the Internet.

In the third scene, senators in the United States Congress gather to debate the important issues of the day: How can we ensure that people are well fed and have access to health care? What limits should the government place on businesses and international trade? Who gets to control the Internet? Economists look at the decisions made in each of these scenes and study those decisions in greater detail.

Choices and Decision Making

The study of economics begins with the idea that people cannot have everything they **need** and **want**. A need is something like air, food, or shelter that is necessary for survival. A want is an item that we desire

but that is not essential to survival. Because people cannot have everything they need or want, they must consider their options and decide which choice will fill their needs best.

To look at the world economically, we can focus on the decisions that people make. You, for example, have to decide what to do with your time—go to a movie or study for a test. Businesses have to decide how many people to employ and how much to produce. A city government may have to decide whether to spend its budget to build a school or a park.

Economics is the study of how people seek to satisfy their needs and wants by making choices. Because people act individually, in groups (such as businesses), and through governments, economists study each of these groups. But why must people make such choices? The reason is scarcity.

Scarcity

Living in a relatively wealthy country, many Americans may find it hard to understand the idea of scarcity. Store shelves brim with goods. **Goods** are physical objects such as shoes and shirts. We have access to countless services. **Services** are actions or activities that one person performs for another. Haircuts, dental checkups, and tutoring are

need something like air, food, or shelter that is necessary for survival

want an item that we desire but that is not essential to survival

economics the study of how people seek to satisfy their needs and wants by making choices

goods physical objects such as clothes or shoes

services actions or activities that one person performs for another

scarcity *limited quantities of resources to meet unlimited wants*

shortage *a situation in which a good or service is unavailable*

factors of production *land, labor, and capital; the three groups of resources that are used to make all goods and services*

land *natural resources that are used to make goods and services*

labor *the effort that people devote to a task for which they are paid*

capital *any human-made resource that is used to create other goods and services*

physical capital *all human-made goods that are used to produce other goods and services; tools and buildings*

all services. Indeed, we see ads everywhere urging us to purchase goods and services. Yet scarcity exists in all places, at all times.

Defining Scarcity

All of the goods and services we produce are scarce. **Scarcity** implies limited quantities of resources to meet unlimited wants. While one person might be able to buy hundreds of basketballs or pencils or pianos, no one can have an endless supply of everything. Sooner or later, a limit is always reached. At its core, economics is about solving the problem of scarcity.

Scarcity Versus Shortages

Scarcity is not the same as a **shortage**. A shortage occurs when producers will not or cannot offer goods or services at the current prices. Shortages can be temporary or long-term. During the holiday season, a customer may see an empty shelf on Tuesday, but return on Friday to find that same shelf filled to overflowing. Wars and droughts can also create shortages that last for many years.

Scarcity, in contrast, always exists because our needs and wants are always greater than our resource supply. Goods and services are scarce because they are all made from resources that are scarce.

Land

Economists call the resources that are used to make all goods and services the **factors of production**, or factor resources. The factors of production are land, labor, and capital.

Economists use the term **land** to refer to all natural resources used to produce goods and services. Natural resources are materials found in nature. They include fertile land for farming and products that are in or on the land, such as coal, water, and forests.

Labor

Another factor of production is **labor**. Labor is the effort that a person devotes to a task for which that person is paid. Labor includes the medical aid provided by a doctor and the tightening of a clamp by an assembly line worker. It is an artist's creation of a painting or the repair of a television.

Capital

Capital is any human-made resource that is used to produce other goods and services. The two categories of capital are physical capital and human capital.

Physical Capital

Human-made objects used to create other goods and services are called **physical capital**. (The term *capital goods* is a synonym for *physical capital*.) Physical capital includes buildings and tools. A shoe factory building and all of the sewing machines and other specialized machinery for making shoes make up part of the shoe company's physical capital.

Physical capital is an important factor of production because it can save people and companies a great deal of time and money. A building is physical capital because it helps workers do their work by providing protection and space. Similarly, tools such as tractors, conveyor belts, and pencils are physical capital because they, too, help workers produce a good or a service.

When we create or buy physical capital to accomplish a job, we usually become more productive. Imagine doing dishes for

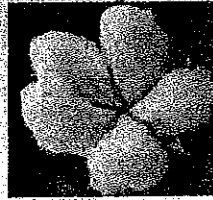


▲ While people's needs and wants are unlimited, the resources available to meet those wants are limited, or scarce. Which scarce resources were used to produce the fruits and vegetables shown here?

Figure 1.1 The Factors of Production

Land

All of the natural resources that are used to produce goods and services



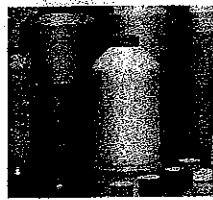
Labor

Any effort a person devotes to a task for which that person is paid



Capital

Any human-made resource that is used to create other goods and services

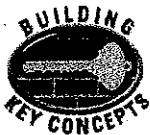
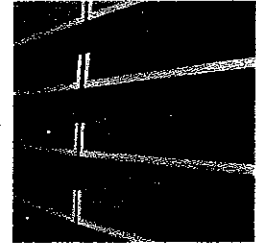


Entrepreneur

A person who assembles the factors of production to create new goods and services



Goods and Services



Land, labor, and capital, also known as the factors of production, are the "inputs," or resources, used to create all goods and services.

Entrepreneurs What role do entrepreneurs play in producing goods and services?

a family of six people after breakfast, lunch, and dinner every day. After every meal, the family members must scrape, stack, wash, rinse, dry, and put the dishes away. It takes the family thirty minutes after each meal. That's 1½ hours per day that each family member could have spent on other more productive activities.

Suppose that the family decides to buy a dishwasher that costs \$250. The time spent cleaning up after meals falls to just thirty minutes per day. The benefits each person reaps from the free time will quickly cover the costs of the new dishwasher, which provides the typical benefits of physical capital:

1. *Extra time* The family no longer has to spend an hour and a half each day cleaning up the kitchen. They gain an extra hour each day to use as they wish.
2. *More knowledge* By learning how to prepare the dishes for cleaning, family members learn more about appliance use in general. They can apply that knowledge to the use of other appliances, like

washing machines, dryers, microwaves, and other devices.

3. *More productivity* Because family members now have extra time and extra knowledge, they can use their resources and labor to do additional chores or other activities that are beneficial to the family.

Human Capital

In addition to producing physical capital, people can invest in themselves. **Human capital** is the knowledge and skills a worker gains through education and experience.

An economy requires both physical and human capital to produce goods and services. Doctors use stethoscopes and their medical school training to provide their services. Assembly line workers use equipment and skills acquired through training and practice to produce goods.

human capital the skills and knowledge gained by a worker through education and experience

**THE WALL STREET JOURNAL
CLASSROOM EDITION**

In the News As this excerpt from a Wall Street Journal Classroom Edition article shows, the need for **human capital** increases as technology becomes more sophisticated.

Chrysler's manufacturing chief "has raised educational requirements for plant managers, demanding at least a bachelor's degree and prompting veterans [with only a high-school diploma] to go to night school."

FAST FACT

After fishing in sub-zero temperatures in Labrador during 1912, a man named Clarence Birdseye was astounded that his frozen fish was tasty when he thawed and cooked it weeks later. This entrepreneur soon patented a "quick-freeze machine" and started his own seafood company. The result? An entire frozen foods industry was born.

Audrey

Entrepreneurs

If land, labor, and capital are the essential ingredients for creating all goods and services, who pulls these resources together? The answer is entrepreneurs. **Entrepreneurs** are ambitious leaders who decide how to combine land, labor, and capital resources to create new goods and services. They are the individuals who take

risks to develop original ideas, start businesses, create new industries, and fuel economic growth.

You need not be Bill Gates of Microsoft or Henry Ford to be considered an entrepreneur. An individual who opens a corner food store and transforms it into a 10-store supermarket chain is an entrepreneur.

Scarce Resources

Economists say that all goods and services are scarce because the land, labor, and capital used to create them are scarce. Consider French fries. A typical portion of French fries starts as a potato in a field in

Idaho. Seven and one-half gallons of water irrigated the half-foot plot where the potato grew. Nurtured with fertilizers and protected by pesticides, the potato was harvested, processed, frozen, and then transported to Seattle. In Seattle, it was fried in corn oil from Nebraska, sprinkled with salt from Louisiana, and eaten in a restaurant.

All of the economic resources, or factors of production, that were used to create the French fries are scarce. First, the quantity of the land and water needed to grow potatoes is limited. Second, the labor needed to grow the crop and to process and transport the potatoes is limited by the size, time, age, and energy of a population. Finally, because land and labor are limited, the amount of physical capital available to create the French fries, such as farm equipment, is also limited.

While we have been talking about French fries, we could easily have been talking about a pair of blue jeans or a new space shuttle. No matter what good or service we were to look at, we would discover that the supplies of land, labor, and capital used to produce it are scarce, and that each resource has many alternative uses.

entrepreneur

ambitious leader who combines land, labor, and capital to create and market new goods and services

Audrey