Chapter 1: What is Economics?

Lesson 3  Using Economic Models

ESSENTIAL QUESTION

In what ways do people cope with the problem of scarcity?

Reading HELPDESK

Academic Vocabulary

mechanism—process or means by which something can be accomplished
assumption—something taken for granted; something we think is true

Content Vocabulary

economic growth increase in a nation’s total output of goods and services over time
productivity measure of the amount of output produced in a specific time period with a given amount of resources; normally refers to labor, but can apply to all factors of production
human capital sum of people’s skills, abilities, health, and motivation
division of labor division of work into a number of separate tasks to be performed by different workers
specialization assignment of tasks to the workers, factories, regions, or nations that can perform them most efficiently
economic interdependence mutual dependence of the economic activities of one person, company, region, or nation and those of another person, company, region, or nation
market meeting place or mechanism through which buyers and sellers of an economic product to come together; may be local, regional, national, or global
factor market market in which productive resources are bought and sold
product market market in which goods and services are bought and sold
economic model graph, figure, equation, or diagram used to describe how the economy is expected to perform in the future
cost-benefit analysis comparison of the cost of an action to its benefits
free enterprise economy market economy in which privately owned businesses have the freedom to operate for a profit with limited government intervention
standard of living quality of life based on ownership of necessities and luxuries that make life easier

Key Ideas and Details

Use a graphic organizer like this one to identify six characteristics that affect economic growth.
Economic Growth

Guiding Question  Why is economic growth important?

Economic growth occurs when a nation’s total output of goods and services increases over time. Economic growth is important for two reasons. First, because of scarcity, everybody wants more goods and services in the future than they already have. Second, if the population is growing, there will be even more people wanting goods and services in the future.

Economic Growth Requires Risks and Sacrifices

Investing in new resources can increase future productivity and consumption. However, investments like these may mean that we must limit our current consumption. This is the problem of opportunity costs that we all face. Not consuming today so that we can consume tomorrow can be risky. For example, are businesses making the right investment decisions today to meet future consumer demands? Have you picked the right major (main topic of study) in college? Will the field you are studying still be necessary by the time you graduate?

No one knows the exact answers to these questions. This is why there is an element of risk. However, we do know what will happen if nothing is done today—there will be very little growth or progress. You probably already know people who have wasted time by living for today without planning for tomorrow. As with all choices, there are risks and costs to that approach.

Describing Economic Growth

Economists have a number of ways to describe economic growth. The easiest way to explain it is with the production possibilities curve (frontier). The production possibilities curve shows the total range of possible economic output at a given point in time. Over time, however, changes may cause the production possibilities frontier to become greater (or wider). The population may grow or the stock of capital may expand. Technology may improve or productivity may increase. If any of these happen, then our mythical country of Alpha will be able to produce a little more of everything.

The effect of economic growth is shown in Figure 1.7. When economic growth is due to more resources or increased productivity, the production possibilities frontier moves outward. Economic growth will eventually allow Alpha to produce at point d, which it could not do earlier.

Increases in Productivity

Everyone in a society benefits when limited resources are used efficiently. This is described by the term productivity. Productivity is the amount of goods and services produced with a given amount of resources in a specific amount of time.

Productivity goes up whenever more can be produced with the same amount of resources. For example, suppose a company produced 5,000 pencils in an hour. Then, it produced 5,100 in the next hour with the same amount of land, labor, and capital. So, productivity went up in the second hour. Productivity is often discussed in terms of labor, but it applies to all factors of production.

The Importance of Human Capital

A major part of productivity comes from investments in human capital. This is the sum of people’s skills, abilities, health, knowledge, and motivation (desire to achieve). Individuals can invest in their own education by completing high school, going to technical school, or attending college. Businesses can invest in training and other programs that improve their workers’ skills. Government can invest in human capital by providing financial aid for education and healthcare costs.
Figure 1.8 shows that investments in education can have excellent payoffs. According to the table, high-school graduates earn a great deal more money than non-graduates. College graduates earn even more than high-school graduates. Also, higher levels of education generally lead to lower levels of joblessness. Educational investments mean that we make a sacrifice today for a better life in the future. Few investments give higher returns.

**Division of Labor and Specialization**

Division of labor and specialization can also improve productivity. **Division of labor** is when each worker or work group does a separate part of the overall task. A worker who performs a few tasks many times a day is likely better at it than a worker who performs several different tasks in the same period.

Division of labor has another advantage. It makes specialization possible. **Specialization** takes place when factors of production do only tasks they can do better or more efficiently than others. For example, the assembly of a product may be broken down into separate tasks. These tasks can be performed by different workers (division of labor). When each worker is assigned to perform the specific task he or she does best, division of labor becomes specialization.

One example of the advantages of division of labor and specialization is Henry Ford’s use of the moving assembly line. Ford developed the assembly line for car manufacturing in 1913. Having each worker add one part to the car, rather than a few workers assembling the whole vehicle, cut the assembly time of a car from a day and a half to just over two and a half hours. It also lowered the price of a new car by more than 50 percent.

**Economic Interdependence**

In the United States, rises in productivity due to division of labor and specialization has yet another effect. It creates a surprising degree of **economic interdependence**. This means that we rely on others, and others rely on us, to provide most of the goods and services we consume. As a result, events in one part of the world often have a dramatic impact elsewhere. This does not mean that this reliance on others is bad. The gains in productivity and income that result from this connection are almost always balanced by the costs associated with the loss of independence.

Also, economists know that economic interdependence makes the world a safer place. Most of the time, hostile (angry) conflict or war takes place between countries with the least amount of economic cooperation. Conversely, countries with the most economic interdependence, such as the United States and Japan, have the strongest political relationships.

**Reading Progress Check**

**Analyzing** What role does specialization play in the productivity of an economy?
Circular Flow of Economic Activity

Guiding Question  How do businesses and individuals participate in both the product market and the factor market in an economy?

Another popular economic model is the circular flow diagram. This diagram is used to show how markets connect people and businesses in the economy. The key feature of this circular flow is the market. The market is a location or other mechanism that allows buyers and sellers to exchange a specific product. Markets may be local, national, or global. They can even exist on the Internet.

There are many markets in an economy as large as ours. Certainly among the most important are the markets that make up our financial system. Because they are so important, and because they are discussed in a separate chapter, they are not shown in the simple circular flow diagram in Figure 1.9. Instead, it helps to think of financial markets as the “lubrication” (something that makes machine parts work smoothly) in the economic “engine” of capitalism. The financial markets help all parts of the economy work together more smoothly.

Factor Markets

As shown in Figure 1.9, individuals earn their incomes in factor markets, where all the factors of production are bought and sold. This is where entrepreneurs hire labor for wages and salaries. They also acquire, or obtain, land in return for rent and put capital to work to make income. The concept of a factor market is a simpler but realistic version of the real world. For example, you take part in the factor market when you sell your labor to an employer in exchange for the wages the employer pays you.

Product Markets

After individuals receive their income from the resources they sell in a factor market, they spend it in product markets. These are markets where producers sell their goods and services. Thus, the wages and salaries that people receive from businesses in the factor markets are spent on products and services provided by businesses in the product markets. Businesses then use this money to produce more goods and services, repeating this cycle of economic activity.

Products are sold almost everywhere you look. For example, you are taking part in the product market when you put money into a soft-drink (soda) machine. The money goes in, and the soft drink comes out. The money doesn’t go back to the producer immediately, of course. It probably won’t be picked up until the machine is refilled. When your money does get back to the producer, it will be used to buy more factors of production to make new drinks for the soft-drink machine.

Many markets are becoming more electronic. Some major cities, for example, now have parking meters that accept credit cards. Gas stations and soft-drink machines also take credit cards. The electronic transfer of funds is quicker and more efficient for the producer. The producer gets the money immediately and without any theft or other losses.

The Role of Markets

The circular flow diagram has no starting or ending point. You can start with the people going to work or with businesses taking their final products to the product markets to sell. In fact, you can start anywhere you want to. It is a circle, so it has no beginning and no ending.

The important thing to realize is that people and businesses are connected by markets. For example, you probably never have visited the factory that made your athletic shoes (sneakers) or your
car. The makers of those two products probably have never met you. Even so, you and the producers are connected through markets. These markets are the places where they sold, and you bought, the shoes and the car.

**Thinking Like an Economist**

**Guiding Question**  How can simple models help us understand a complex economy?

Economists study how people satisfy unlimited and competing wants through the careful use of scarce resources. Economists also study and evaluate strategies that will help people make the best choices.

**Economic Models**

One strategy is to build an economic model. This is a simplified equation, graph, or figure showing how something works. Simple models can often make complex situations easier to understand. The possibility curve in this chapter and the circular-flow diagram (Figure 1.9) are examples of how complex economic activities can be explained by a simple model.

In reality, economies represented by a production possibility curve are able to produce more than two goods or services. However, the trade-offs and opportunity costs are easier to show for only two products. As a result, simple models are sometimes all economists need to analyze or describe an actual situation.

Keep in mind that models can be improved. If an economic model helps us make a prediction that turns out to be right, the model can be used again. If the prediction is wrong, the model might be changed to make a better prediction next time.

It is also important to realize that models are based on assumptions, or things we think are true. In general, the quality of a model is no better than the assumptions on which it is based. A model with reasonable assumptions is usually easier to understand. In the case of the production possibilities curve, we assumed that only two goods could be produced. This made the model easier to understand and still allowed us to discuss trade-offs and opportunity costs.

**Cost-Benefit Analysis**

The second strategy is to use cost-benefit analysis. This is a way of comparing the benefits of an action to the expected costs. Cost-benefit analysis can be used to decide on a single course of action or to make a choice between two different ideas.

For example, suppose that you are trying to choose a single course of action. It might be whether or not to go to a basketball game. In this case, you would simply compare all of the benefits to the expected cost. The benefits might be enjoyment, time with friends, and cheering on your team. The
cost might be time away from studying, the price of admission (getting in), and loss of sleep. If the benefits are greater than the costs, you would go to the game. If the benefits don’t outweigh the costs, you would choose to do something else.

Or suppose that you have to choose between two video games, A and B. You like both games equally. If B costs less, it would be the better choice because you would get more satisfaction per dollar spent. However, if the benefits of A and B were different, you could still compare the benefits with the costs and then choose based on the comparison.

Take Small Steps
No matter what the model is, it often helps to take small, slow steps toward the final goal. This is especially true when we are unsure of the exact cost. If the cost turns out to be higher than we thought, then the resulting decision can be reversed without too much being lost.

The Road Ahead
Guiding Question How does the study of economics help you make better choices?
The study of economics does more than explain how people deal with scarcity. Economics is also the study of how things are made, bought, sold, and used. It provides insight (a look inside) about how incomes are earned and spent, how jobs are created, and how the daily economy works. The study of economics also gives us a better understanding of the way a free enterprise economy works. A free enterprise economy is an economy in which consumers and privately owned businesses, not the government, make most of the WHAT, HOW, and FOR WHOM decisions.

Topics and Issues
The study of economics will give you a working knowledge of the economic incentives and laws of supply and demand. It will help you understand the price systems, economic institutions, and property rights that make our economy work. Along the way, you will learn about topics such as unemployment, the business cycle, inflation, and economic growth. You will examine the role of business, labor, and government in the U.S. economy. You will also learn about the relationship between the U.S. economy and the global community.

All these topics have an effect on our standard of living. This is our quality of life based on the ownership of the necessities and luxuries that make life easier. As you study economics, you will learn how to measure the value of our production and how productivity helps determine our standard of living. You will find, however, that the way the American people make economic decisions is not
necessarily the only option available. Economists have identified three basic economic systems. In another chapter, we will analyze these systems and how their organization affects decision making.

Economics for Citizenship
The study of economics helps us become better decision makers—in life and in the voting booth (during elections). Economic issues are debated during elections. We need to understand the issues before deciding which candidate to support.

Most of today’s political issues have important economic aspects. For example, is it important to balance the federal budget? How can we best keep inflation down? How can we strengthen our economy? The study of economics will not provide you with clear-cut answers to all these questions. However, it will give you a better understanding of the issues involved.

Understanding the World Around Us
The study of economics helps us understand our complex world. This is especially useful because the world is not as orderly as your economics textbook. Your book is neatly divided into sections for study. The information in the sections stays the same. In contrast, society changes, and technology and other innovations (new ideas or ways of doing things) always lead the way.

Economics provides a framework for analysis, or a structure that helps explain how things are organized. Because this framework describes the factors that influence behavior, it helps us understand why and how the world changes.

In practice, the world of economics is complex and the road ahead is bumpy. As we study economics, however, we will gain a much better idea of how we affect the world and how it affects us.

Reading Progress Check

Determining Cause and Effect How do you think our society would be different if citizens did not study economics?

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