

# UNIT

# 1

# An Introduction to Economics

## Chapter 1

*What Is Economics?*

## Chapter 2

*Economic Systems and the American Economy*




### In this unit, read to FIND OUT . . .

- what role economics plays in your life.
- what role you play in the economic system of the United States.
- the various kinds of economic systems in the world.

**You—and every consumer around the world—face trade-offs among your economic choices.**

CONTENTS





**Your decisions as a consumer determine how many goods and services will be produced.**

**The United States and Japan have market economies—also known as free enterprise.**

**The “gears” that run every nation’s economy are the factors of production—land, labor, capital, and entrepreneurship.**

**The basic problem facing every type of economy is the presence of scarcity.**



# CHAPTER

# 1

# What Is Economics?

## Why It's Important

*How do scarce resources—including time—affect you and everyone around you? How do economists simplify the world to help us better understand it? This chapter will explain what economics is, and how it is part of your daily life.*



*To learn more about scarcity and how it forces you to make choices, view the **Economics & You** Chapter 2 video lesson: **What Is Economics?***



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**Chapter Overview** Visit the *Economics Today and Tomorrow* Web site at [ett.glencoe.com](http://ett.glencoe.com) and click on **Chapter 1—Chapter Overviews** to preview chapter information.

**CLICK HERE**

**CONTENTS**

# The Basic Problem in Economics

## COVER STORY

THE COLUMBUS DISPATCH, DECEMBER 7, 2002



Although kids know better than anyone what should be on Santa's list, this year they can't seem to agree on which toy should be at the top.

Many trendy toys are expected to do well, too. They include Bratz merchandise, *Dora the Explorer*, Hot Wheels, anything Spiderman, Harry Potter toys and PlayStation2 items, according to the National Retail Federation.

## READER'S GUIDE

### Terms to Know

- economics
- scarcity
- factors of production
- land
- labor
- goods
- services
- capital
- productivity
- entrepreneurship
- technology

### Reading Objectives

1. How do wants and needs differ?
2. Why does scarcity face all people at all times?
3. What are the four factors of production?

Starting at a very young age, many Americans use the words *want* and *need* interchangeably. How often do you think about what you “want”? How many times have you said that you “need” something? When you say, “I need some new clothes,” are you stating a want, or a real need? As you read this section, you’ll find that economics deals with questions such as these.

What, exactly, is economics? **Economics** is the study of how individuals, families, businesses, and societies use limited resources to fulfill their unlimited wants.

**economics:** the study of how individuals and societies make choices about ways to use scarce resources to fulfill their wants





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## FIGURE 1.1

### Wants Versus Needs

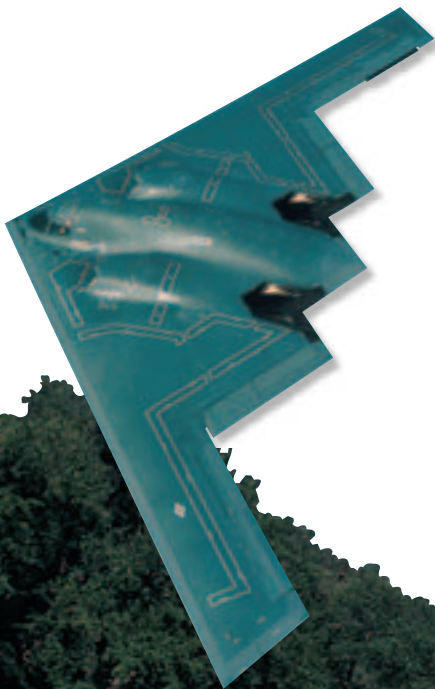
Luxuries such as concert tickets often become necessities in the eyes of consumers. *How do consumers satisfy their seemingly unlimited wants?*

## Wants Versus Needs

Typically the term *need* is used very casually. When most people use the word, as shown in **Figure 1.1**, they really mean that they want something they do not have. Obviously, everyone needs certain things to survive—food, clothing, and shelter. Americans also consider education and health care as needs.

To economists, however, everything other than basic survival needs is considered a *want*. People want such items as new cars and personal computers. What begins as a luxury, or want, becomes to many people a necessity.

So how do individuals satisfy their unlimited wants in a world of limited resources? They must do this by making choices.



## FIGURE 1.2

### Economic Choices

Everyone, including governments, must make choices in a world of limited resources. If the government allocates funds to build Stealth bombers, then funds for higher education could be limited. *What is the basic economic problem that makes choices necessary?*



## Choices

As a student, you probably have a small income from an allowance or a part-time job. As a result, you have to make choices about its use. Whenever you make such a spending decision, each available choice competes with every other available choice. Suppose you have \$20.00 to spend. When you decide whether to spend your money on lunch or clothes or a new CD, you are making an economic choice.

Like individuals, businesses must also make choices. Businesspeople make decisions daily about what to produce now, what to produce later, and what to stop producing. These decisions in turn affect workers' incomes and people's ability to buy. Societies, too, face choices about how to utilize their resources in the production of goods and services. As shown in **Figure 1.2**, elected government representatives in the United States must decide how much to spend on defense (Stealth bombers) versus higher education, for example. How people and societies make these choices is the focus of economics.

## The Problem of Scarcity

The need to make choices arises because everything that exists is limited, although some items (such as trees in a large forest) may appear to be in abundant supply. At any single moment, a fixed amount of resources is available. At the same time, people have competing uses for these resources. This situation results in scarcity—the basic problem of economics.

**Scarcity** means that people do not have and cannot have enough income, time, and other resources to satisfy their every want. What you buy as a student is limited by the amount of income you have. In this case, your income is the scarce resource. Even if everyone in the world were rich, however, scarcity would continue to exist—at least with respect to time. Even the richest person does not have unlimited time.

It is important not to confuse scarcity with *shortages*. Scarcity always exists because of competing alternative uses for resources, whereas shortages are temporary. Shortages often occur, for example, after hurricanes or floods destroy goods and property.

**scarcity:** condition of not being able to have all of the goods and services one wants, because wants exceed what can be made from all available resources at any given time

## Factors of Production

When economists talk about scarce resources, they are referring to the **factors of production**, or resources needed to produce goods and services. Traditionally, economists have classified

**factors of production:** resources of land, labor, capital, and entrepreneurship used to produce goods and services

these productive resources as land, labor, capital, and entrepreneurship. **Figure 1.3** shows you the four factors of production.

**land:** *natural resources and surface land and water*

**labor:** *human effort directed toward producing goods and services*

**goods:** *tangible objects that can satisfy people's wants or needs*

**services:** *actions that can satisfy people's wants or needs*

**capital:** *previously manufactured goods used to make other goods and services*

**Land** As an economic term, **land** refers to natural resources present without human intervention. “Land” includes actual surface land and water, as well as fish, animals, forests, mineral deposits, and other “gifts of nature.”

**Labor** The work people do is **labor**—which is often called a human resource. Labor includes anyone who works to produce goods and services. As you know, economic **goods** are tangible items that people buy, such as pharmaceuticals, shampoo, or computers. **Services** are activities done for others for a fee. Doctors, hair stylists, and Web-page designers all sell their services.

**Capital** Another factor of production is **capital**—the manufactured goods used to make other goods and services. The machines, buildings, and tools used to assemble automobiles, for example, are *capital goods*. The newly assembled goods are not considered capital unless they, in turn, produce other goods and services, such as an automobile performing services as a taxicab.

## FIGURE

1.3

**The Four Factors of Production** The four general categories of resources needed in the production of all goods and services include land, labor, capital, and entrepreneurship.

### A Land

*Natural resources, such as timber, are all the things found in nature—on or in water and the earth.*

### B Labor

*This child-care worker falls under the category of labor—she is performing a service for a fee.*





When capital is combined with land and labor, the value of all three factors of production increases. Think about the following situation. If you combine an uncut diamond (land), a diamond cutter (labor), and a diamond-cutting machine (capital), you end up with a highly valued gem.

Capital also increases **productivity**—the ability to produce greater quantities of goods and services in better and faster ways. Consider how much faster a mechanical reaper—a capital good—can harvest grain than a person clearing the field with a scythe.

**Entrepreneurship** The fourth factor of production is **entrepreneurship**. This refers to the ability of individuals to start new businesses, to introduce new products and processes, and to improve management techniques. Entrepreneurship involves initiative and willingness to take risks in order to reap profits.

Entrepreneurs must also incur the costs of failed efforts. About 30 percent of new business enterprises fail. Of the 70 percent that do survive, only a few become wildly successful businesses such as Microsoft, The Limited, or Blockbuster Video.

**Technology** Some economists add technology to the list of factors of production. In the past, **technology** included any use of land, labor, and capital that produced goods and services more efficiently. For example, computerized word processing was a technological advance over the typewriter.

**productivity:** the amount of output (goods and services) that results from a given level of inputs (land, labor, capital, entrepreneurship)

**entrepreneurship:** ability of risk-taking individuals to develop new products and start new businesses in order to make profits

**technology:** advance in knowledge leading to new and improved goods and services and better ways of producing them



#### Capital

Capital goods, such as these robots, are unique in that they are the result of previous manufacturing.



#### Entrepreneurship

These entrepreneurs are taking a financial risk to make a profit for themselves and to bring innovative products and services to consumers.





## Technology Saves You a Trip to the Store

Only a few years ago, computers were as big as refrigerators. Now, Frigidaire Home Products has unveiled a fridge that contains a computer. The computer has a touch-screen monitor and a bar code scanner mounted on the freezer door. There's

even a jack for an Internet connection. After emptying a carton of milk, you could swipe the carton past the bar code scanner, tap a couple of buttons on the screen, and the fridge would order replacements from an online grocery store. ■

How much of each of the factors of production you have determines an individual's wealth. The more land and capital you have, the richer you will be. The greater your entrepreneurial skills, the more income you might earn. In other words, the distribution of factors of production affects a nation's income distribution—what percentage of Americans are rich and what percentage are poor.



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### SECTION

1

## Assessment

### Understanding Key Terms

1. **Define** economics, scarcity, factors of production, land, labor, goods, services, capital, productivity, entrepreneurship, technology.

### Reviewing Objectives

2. What is the difference between wants and needs?
3. Explain why scarcity and choice are basic problems of economics.
4. **Graphic Organizer** Create a chart like the one shown in the next column, then list the four factors of production and provide two examples of each.

Factor of Production	Example 1	Example 2

### Applying Economic Concepts

5. **Factors of Production** Describe a situation in which a capital good has improved your personal productivity.

### Critical Thinking Activity

6. **Summarizing Information** Use a search engine to research an entrepreneur from the past or present, such as Andrew Carnegie, Mary Kay Ash, or Bill Gates. Explain what benefits were brought to society by his or her risk-taking entrepreneurship.



## CRITICAL THINKING SKILLS

# Sequencing and Categorizing Information

Sequencing involves placing facts in the order in which they occurred. Categorizing entails organizing information into groups of related facts and ideas. Both actions help you deal with large quantities of information in an understandable way.

- Look for dates or clue words that provide you with a chronological order: *in 2004, the late 1990s, first, then, finally, after the Great Depression*, and so on.
- If the information you're studying did not happen in a sequential order, you may categorize it instead. To do so, look for information with similar characteristics.
- List these characteristics, or categories, as the headings on a chart.
- As you read, fill in details under the proper category on the chart.

### LEARNING THE SKILL

To learn sequencing and categorizing skills, follow the steps listed on the left.

### PRACTICING THE SKILL

Read the passage below, then answer the questions that follow.

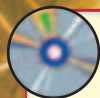
“Twinkies were invented in 1930 by James A. Dewar, a plant manager for Continental Baking Company. Faced with economic hardship, it didn’t make sense to Dewar that the bakery had lots of expensive pans dedicated to a product called Little Short Cake Fingers that was baked only six weeks a year—during strawberry season. Dewar thought the little cakes could sell year-round if the company came up with something to replace the strawberry cream placed inside. He mixed up a banana-flavored ‘crème’ and figured out a way to inject it into the shortcake using three syringe-like injection tubes.”

—Adapted from Jack Mingo’s *How the Cadillac Got Its Fins*, HarperCollins, ©1994

1. How can the facts here be organized sequentially?
2. Now organize the facts under the categories of *Land*, *Labor*, *Capital*, and *Entrepreneurship*.

### APPLICATION ACTIVITY

Find a newspaper or magazine article about a local business. Sequence or categorize the information in a chart.



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# Global *Economy*

**Pencils—An International Product** As you’ve learned, the “land” factor of production includes natural resources. The natural resources that make up a pencil come from all over the world. So a pencil—yes, the simple writing tool you hold in your hand—is an international product.

## Manufacturers

The Eberhard Faber Division makes its pencils in Lewisburg, Tennessee. The company produces almost a billion pencils every year. The J.R. Moon Pencil Company is also located in Lewisburg.

## The Lead

The lead in a pencil is not really lead at all. It’s a mixture of graphite and clay. The best graphite comes from Sri Lanka, Madagascar, and Mexico. Many pencil makers prefer the graphite from Mexico because it makes the blackest marks. Clay comes from Germany and Georgia.

## The Casing

The casing (material around the lead) of most wooden pencils is made from incense cedar. Most of this cedar comes from the High Sierras in California, but some of it comes from Oregon and Washington.

## Wax

Wax from Brazil coats the lead and soaks into the wood. The wax on the lead helps the pencil write more smoothly. Wax in the wood makes the wood easier to run through the machines at the factory and also makes the finished pencil easier for you to sharpen.





### **Yellow Pencils**

Pencils were first painted yellow to honor China, where the best graphite came from. In China, yellow is a color of royalty and respect.

### **The Eraser**

Rubber and pumice are the key ingredients of erasers. Pumice is the part that actually erases—the rubber just holds it together. The pumice comes from Italy, and the rubber comes from Malaysia.

### **Thinking Globally**

1. List all the locations that supply resources for making pencils.
2. What are the specific resources supplied by the locations you listed in question 1?



## READER'S GUIDE

## Terms to Know

- trade-off
- opportunity cost
- production possibilities curve

## Reading Objectives

1. How are trade-offs and opportunity costs related?
2. How can society's trade-offs be shown on a production possibilities curve?

## COVER STORY

BUSINESS WEEK, MAY 19, 2003

Job prospects for fresh grads haven't been this bleak in a decade. In 2002, companies hired one-third fewer college grads than in the previous year, according to the National Association of Colleges. . . .

Of course, not everyone is hurting: Prospects remain relatively strong in accounting, health care, and education.



**A**s you learned in Section 1, scarcity forces people to make choices about how they will use their resources. In this section you'll learn that the effects of these choices may be long-lasting. For example, you may go to college or work full-time after graduating from high school. This decision affects not only your life now, but also what you'll earn in the future.

## Trade-Offs

The economic choices people make involve exchanging one good or service for another. If you choose to buy a DVD player, you are exchanging your money for the right to own the player. Exchanging one thing for the use of another is called a **trade-off**.

Individuals, families, businesses, and societies are forced to make trade-offs every time they use their resources in one way and not another. **Figure 1.4** shows a trade-off common to growing communities.

**trade-off:** *sacrificing one good or service to purchase or produce another*

**The Cost of Trade-Offs** The result of a trade-off is what you give up in order to get or do something else. Time, for example, is



FIGURE

1.4

**Trade-Offs** The trade-off of maintaining a historical community is the convenience that modern roads would provide. *How can a trade-off you make today affect your future?*

a scarce resource—there are only so many hours in a day—so you must choose how to use it. When you decide to study economics for an hour, you are giving up any other activities you could have chosen to do during that time.

In other words, there is a cost involved in time spent studying this book. Economists call it an **opportunity cost**—the value of the next best alternative that had to be given up to do the action that was chosen. You may have many trade-offs when you study—connecting to your favorite Web site, going to the mall, or practicing the guitar, for example. But whatever you consider the *single next best alternative* is the opportunity cost of your studying economics for one hour.

A good way to think about opportunity cost is to realize that when you make a trade-off (and you *always* make trade-offs), you lose. What do you lose? You lose the ability to engage in your next highest valued alternative, as shown in **Figure 1.5** on page 14. In economics, therefore, opportunity cost is always an opportunity that is given up.

### Considering Opportunity Costs

Being aware of trade-offs and their resulting opportunity costs is vital in

**opportunity cost:** value of the next best alternative given up for the alternative that was chosen



## Global Economy

### Rain Forest Trade-Offs

How do trade-offs of resources affect our future? The Amazon River Basin in Brazil is the world's largest tropical rain forest and river system. But within the Basin an area equal to 5,000 soccer fields is being destroyed every day. Farmers burn the forests to gain farmland for other profitable crops. Loggers cut and export the fine hardwoods for a profit. And people have penetrated the forests to strip the Amazon of its curative and medicinal plants.

What are the trade-offs for the future? Many scientists believe the destruction of the forest will speed up global warming. Rain forests supply one-fifth of the world's oxygen supply, as well as trap poisonous carbon compounds. If the area is destroyed, its untold medicinal secrets also will be lost forever. ■





FIGURE

1.5

**Opportunity Cost** Any time you pay money to purchase a good or service, you lose the opportunity to purchase your next best alternative. *How do trade-offs and opportunity costs differ?*

making economic decisions at all levels. Businesses must consider trade-offs and opportunity costs when they choose to invest money or hire workers to produce one good rather than another.

Consider an example at the national level. Suppose Congress votes \$220 billion to finance needed highways. Congress could have voted for increased spending on new schools. The opportunity cost of building new highways, then, is fewer new schools.

## Production Possibilities Curve

Obviously, many businesses produce more than one type of product. An automobile company, for example, may manufacture several makes of cars per plant in a given year. Does this mean that the company makes no trade-offs? No, what this means is that the company produces combinations of goods—which still results in an opportunity cost.

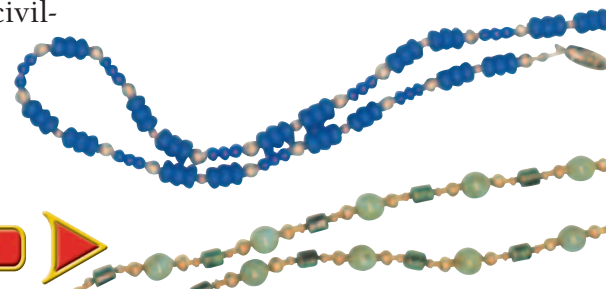
Economists use a model called the **production possibilities curve** to show the maximum combinations of goods and services that can be produced from a fixed amount of resources in a given period of time. This curve can help people and businesses determine how much of each item to produce, thus revealing the trade-offs and opportunity costs involved in each decision.

Imagine that you run a jewelry-making business. Working 20 hours a week, you have enough resources to make either 10 bracelets or 5 pairs of earrings. If you want to make some of both, **Figure 1.6** shows your production possibilities.

**The Classic Example** The classic example for explaining production possibilities in economics is the trade-off between military defense and civilian goods, sometimes referred to as *guns versus butter*. The extremes for a

### **production possibilities curve:**

*graph showing the maximum combinations of goods and services that can be produced from a fixed amount of resources in a given period of time*



nation would be using all its resources to produce only one or the other.

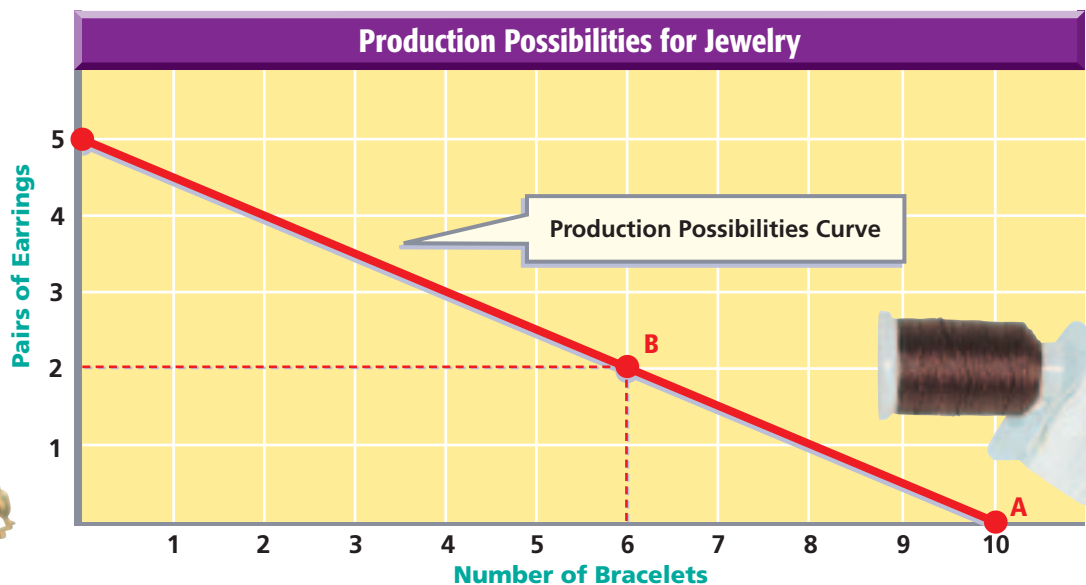
Look at **Figure 1.7** on page 16. Point A on the graph represents all resources being used to produce only guns (military defense). Point E represents the other extreme—all resources being used to produce only butter (civilian goods). The amount of military goods given up in the year is the opportunity cost for increasing civilian goods production. Members of the federal government determine where on the curve the nation will be.

The real world and our graphs are not always quite the same, however. In the real world, it takes time to move from point A to point B. The important point is that by using a production possibilities curve, a nation, business, or individual can decide how best to use its resources.

## FIGURE 1.6

**Production Possibilities for Jewelry** The curve here represents the production possibilities between bracelets and pairs of earrings during a 20-hour workweek. Note that if you make 10 bracelets (point A on

the curve), you have no resources or time to make earrings. If you make only 6 bracelets (point B on the curve), you have enough resources and time to also make 2 pairs of earrings. Therefore, the opportunity cost of making 2 pairs of earrings is the 4 bracelets not made. Although you are making both bracelets and earrings, you—and businesses and nations—cannot produce more of one thing without giving up something else.

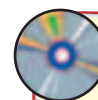




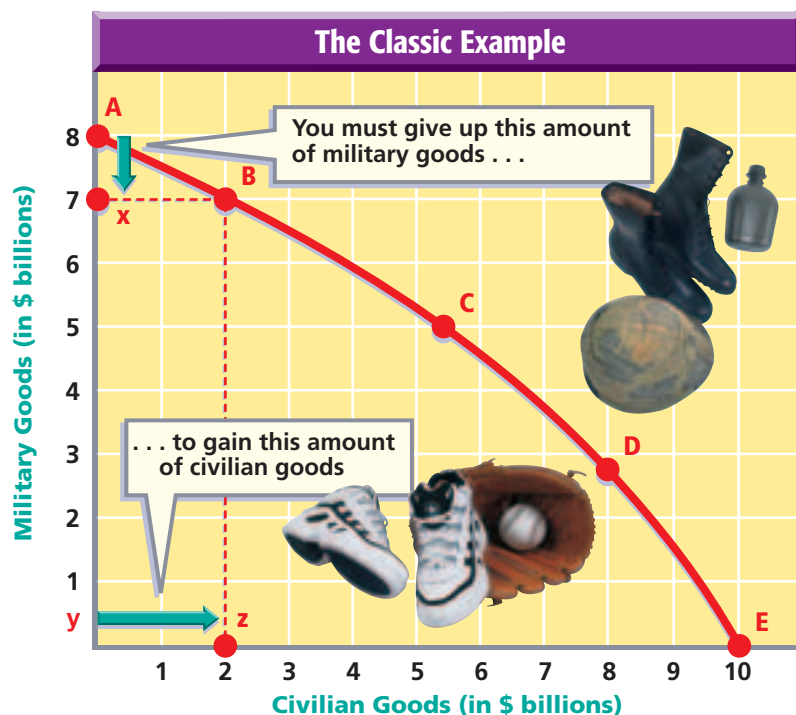
**FIGURE 1.7** . . . . .

**Production Possibilities—Military Goods Versus Civilian Goods** Nations produce combinations, or mixes, of goods. If the nation starts with all gun production and no butter production (point A), it can only get to some butter production (point B) by giving up some gun production. In other words, the cost of having some civilian goods (represented by the horizontal distance from y to point z) is giving up some military goods (represented by the vertical distance from point A to point x).

. . . . .



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## SECTION 2 Assessment

### Understanding Key Terms

- Define** trade-off, opportunity cost, production possibilities curve.

### Reviewing Objectives

- How are trade-offs and opportunity costs related?
- Graphic Organizer** Create a diagram like the one in the next column to identify the production possibilities of guns and butter using the following actions:
  - 100% guns produced
  - 70% butter produced
  - 40% guns produced
  - 25% butter produced

Action	→	Result
1.	→	
2.	→	

### Economic Concepts

- Opportunity Cost** What is the opportunity cost of going to a university for four years after high school instead of working?

### Critical Thinking Activity

- Synthesizing Information** Build your own production possibilities curve with “Hours Spent Watching TV” on the horizontal axis and “Hours Spent Studying Economics” on the vertical axis. Write a caption explaining the opportunity cost of each activity.

## SPOTLIGHT ON THE ECONOMY

### Coasters Find a Whole New Way to Roll

**Check It Out!** In this chapter you learned about the factors of production—land, labor, capital, and entrepreneurship. In the following article, read to learn how traditional roller coasters are being modernized, keeping in mind the factors of production needed to perform this modernization.

**H**old on tight. The Joker's Jinx, a new roller coaster at the Six Flags America theme park in Largo, Maryland, will make its debut this coming May. And its trick piece of technology, the linear induction motor (LIM), is helping redefine the way roller coasters roll. The new beasts are faster, smoother, and scarier than their wooden predecessors.

So far, Premier Rides of Maryland, the roller coaster manufacturer that helped develop the technology, has launched seven LIM coasters. Three more, including The Joker's Jinx, will follow this year. Conventional roller coasters are dragged by chains or cables—clank, clank, clank—to the top of the first hill. Then gravity causes the cars to accelerate. In contrast, Premier Rides' coasters slingshot passengers out of the loading station, accelerating from zero to 70 miles per hour in less

than four seconds. The secret is the high-tech motors, about 200 of which are used in each coaster. When juiced with an alternating current, the motors create an electromagnetic force that accelerates the coaster over the first 200 feet of the ride.

—Reprinted from April 12, 1999 issue of *Business Week* by special permission, copyright © 1999 by The McGraw-Hill Companies, Inc.



#### Think About It

1. Provide two examples of each factor of production that went into developing the new coasters.
2. What is the opportunity cost of spending a day at an amusement park?





# What Do Economists Do?

## READER'S GUIDE

### Terms to Know

- microeconomics
- macroeconomics
- economy
- economic model
- hypothesis

### Reading Objectives

1. How do economists use models to study the real world?
2. Why are there different schools of economic thought?



## COVER STORY

THE COLUMBUS DISPATCH, JUNE 3, 2003

Teenagers going through the high-school rite of passage . . . found welcome mats out across the city at fine-dining establishments.

Prom season usually means added restaurant business on most weekend evenings during the spring. . . .

[N]ational numbers published by the Conde Nast magazine *Your Prom* said the average 17-year-old spent \$638, or more than \$1,200 per couple.

Proms are big business, estimated to bring in \$2.7 billion nationally.

**microeconomics:** the branch of economic theory that deals with behavior and decision making by small units such as individuals and firms

**macroeconomics:** the branch of economic theory dealing with the economy as a whole and decision making by large units such as governments

As you've learned, economics is a social science concerned with the ways individuals and nations choose to use their scarce resources. Economists might analyze how the super-rich spend their income, for example, and the effect this spending has on the economy. As you read this section, you'll find that something economists *don't* do, however, is judge whether there *should be* a social strata of the super-rich. They leave value judgments up to other social scientists.

Another thing to keep in mind as you read this textbook is that economics is divided into two parts. **Microeconomics** is the branch of economic theory that deals with behavior and decision making by small units such as individuals and firms. **Macroeconomics** is that branch of economic theory dealing

with the economy as a whole and decision making by large units such as governments.

## Economic Models

To economists, the word **economy** means all the activity in a nation that together affects the production, distribution, and use of goods and services. When studying a specific part of the economy—rising teenage unemployment, for example—economists often formulate theories and gather data. See **Figure 1.8**. The theories that economists use in their work are called **economic models**, which are simplified representations of the real world. Solutions that emerge from testing economic models often become the basis for actual decisions by private businesses or government agencies.

**What Models Show** Physicists, chemists, biologists, and other scientists use models to understand in simple terms the complex workings of the world. Similarly, one purpose of economic models is to show visual representations of consumer, business, or other economic behavior. The production possibilities curve that you learned about in Section 2 is an economic model that reveals opportunity cost. The most common economic model is a line graph explaining how



### CAREERS

#### Economist

Job Description	Qualifications
<ul style="list-style-type: none"> <li>Research, collect, and analyze economic data</li> <li>Monitor economic trends and develop forecasts</li> <li>Advise business, government, and other organizations on economic policy</li> </ul>	<ul style="list-style-type: none"> <li>Master's degree in economics</li> <li>Experience gathering and analyzing data for economic models</li> </ul>

**Median Salary:** \$64,830

**Job Outlook:** Above average

—Occupational Outlook Handbook, 2002–03

**economy:** the production and distribution of goods and services in a society

**economic model:** a theory or simplified representation that helps explain and predict economic behavior in the real world



## FIGURE 1.8

**Help Wanted** Economic models are developed to help solve problems such as teenage unemployment.

*What is the purpose of economic models?*



consumers react to changes in the prices of goods and services. You'll learn about this model in Chapter 7.

Economic models assume that some factors remain constant. In studying the production possibilities curve for making jewelry in Section 2, for example, we assumed that the price of inputs (beads, wire, and so on) would not increase. We also assumed that inclement weather would not close schools for a day, which would have enabled you to work more than 20 hours a week on jewelry.

Why are these constant-factor assumptions important? Economists realize that, in the real world, several things may be changing at once. Using a model holds everything steady except the variables assumed to be related. In the same way that a map does not show every alley and building in a given location, economic models do not record every detail and relationship that exists about a problem to be studied. A model will show only the basic factors needed to analyze the problem at hand.

**Creating a Model** Models are useful if they help us analyze the way the real world works. An economist begins with some idea about the way things work, then collects facts and discards those that are not relevant. Let's assume that an economist wants to find out why teenage unemployment rises periodically. Perhaps this unemployment occurs when the federal minimum wage goes up, thereby forcing employers to pay their teenage workers more or to lay some workers off. The economist can test this theory, or model, in the same way that other scientists test a **hypothesis**—an educated guess or prediction. **Figure 1.9** explains how hypotheses are used as the starting point for investigations.

**Testing a Model** Testing a model, or hypothesis, allows economists to see if the model represents reality under certain

**hypothesis:** an assumption involving two or more variables that must be tested for validity

## FIGURE 1.9

### Using a Hypothesis

The list below reviews the steps involved in making and testing hypotheses. In working with models, economists use these same steps.

1. Define the problem.
2. From the possible alternatives, state a hypothesis that appears to offer the best solution to a problem or explanation of an event.
3. Gather data to test the hypothesis. Besides using facts from the real world, an economist must identify economic principles involved.
4. Evaluate the data and discard any that are not relevant, or related to the immediate situation, or that are not based on fact.
5. Make sure there are enough data to test the hypothesis thoroughly.
6. Develop a conclusion based on the data. To do this, an economist evaluates whether the alternative is the best, in view of its consequences and trade-offs.
7. If the hypothesis appears to be valid, retest it with new data to see if the same results can be obtained again.
8. If the hypothesis still appears to be valid, form a generalization that can be applied to other cases. A *generalization* pulls together common ideas among facts and is true in most cases. For an economist, this step involves developing an economic policy based on the best alternative.

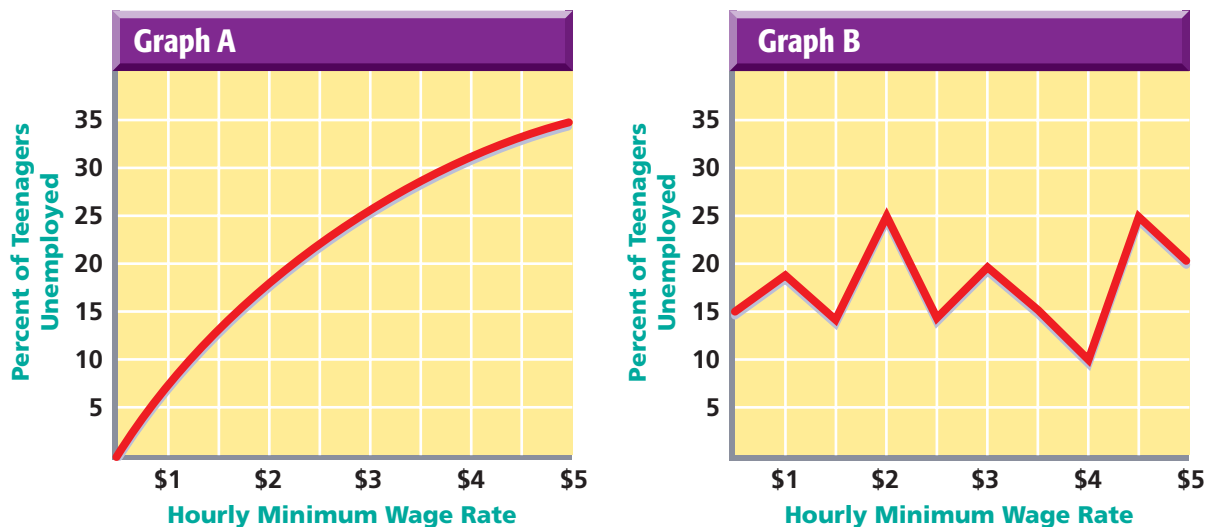
conditions. Suppose an economist has developed the model shown in *Graph A* of **Figure 1.10**. The economist would collect data on the amount of teenage unemployment every year for the last 30 years. He or she would also gather 30 years of information on federal legislation that increased the legal minimum wage paid to teenagers.

The economist can be fairly satisfied with the model if teenage unemployment rose every time the minimum wage rate increased. But suppose that the data instead resulted in *Graph B* of **Figure 1.10**, which does not show a relationship between teenage unemployment and increases in the legal minimum wage. The economist then will have to develop another model to explain changes in teenage unemployment.

**Applying Models to Real Life** Much of the work of economists involves predicting how people will react in a particular situation. Individual human behavior is not always predictable, though. As a result, an economist's predictive model may not apply under different conditions.

## FIGURE 1.10

**Economic Models** The purpose of economic models is to show visual representations of consumer, business, or other economic behavior. Economic models, however, must be tested to see if they represent reality. Graph A supports the theory that a direct relationship exists between increases in the minimum wage rate and increases in teenage unemployment. Graph B does not support that theory.





# ECONOMICS Online



**Student Web Activity** Visit the *Economics Today and Tomorrow* Web site at [ett.glencoe.com](http://ett.glencoe.com) and click on **Chapter 1—Student Web Activities** to learn about famous economists and their contributions.

**CLICK HERE**

For example, some economists believe that to stimulate the economy, taxes should be cut and government spending increased. Cutting taxes, these economists believe, may put more income into consumers' pockets, which will increase personal spending and increase total production. However, some people's fears concerning possible higher taxes in the future might cause them to save the extra income rather than spend it. As this example illustrates,

economists cannot take into account all of the factors that may influence people's behavior.

## Schools of Economic Thought

Economists deal with facts. Their personal opinions and beliefs may nonetheless influence how they view those facts and fit them to theories. The government under which an economist lives also shapes how he or she views the world. As a result, all economists will not agree that a particular theory offers the best solution to a problem. Often, economists from competing schools of thought claim that their theories are better in predicting a certain result than are others' theories. See **Figure 1.11**.

During a given period of time, a nation's political leaders may agree with one school of economic thought and develop policies based on it. Later, leaders may agree with another group of economists. Throughout American history, many economists have stressed the importance of government maintaining "hands off" in business and consumer affairs as a method of preventing

increased unemployment and inflation. Other influential economists have proposed that the federal government should intervene in the economy to reduce unemployment and prevent inflation.

### FIGURE 1.11

#### Economic Information

Economists analyze events and their effects on the economy.

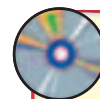


**Values and Economics** Learning about economics will help you predict what may happen if certain events occur or certain policies are followed. But economics will *not* tell you whether the results will be good or bad. Judgments about results depend on a person's values.

*Values* are the beliefs or characteristics that a person or group considers important, such as religious freedom, equal opportunity, individual initiative, freedom from want, and so on. Even having the same values does not mean that people will agree about solutions to problems, strategies, or interpretation of data, however.

For example, those in favor of decreasing teenage unemployment in order to bring about economic opportunity may disagree about the best way to solve this problem. If you were a legislator, you might show your commitment to this value by introducing a bill to decrease teenage unemployment. The economists who help you research the causes of teenage unemployment will tell you, based on their expertise, whether the proposed solution will actually reduce teenage unemployment.

Remember, however, that the science of economics is not used to judge whether a certain policy is good or bad. Economists only inform us as to likely short-term and long-term outcomes of these policies.



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## SECTION

3

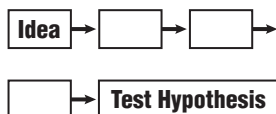
# Assessment

### Understanding Key Terms

- 1. Define** microeconomics, macroeconomics, economy, economic model, hypothesis.

### Reviewing Objectives

- 2. Graphic Organizer** Create a diagram like the one below to show how economists use models to study the real world.



- 3.** Why are there different schools of economic thought?

### Applying Economic Concepts

- 4. Economic Models** If you were to make a model showing the effect of hiring senior citizens into previously held teenage job markets, what factors would you analyze?

### Critical Thinking Activity

#### 5. Distinguishing Fact From Opinion

Write three "headlines" about the economy that reveal a value judgment. Then rewrite the headlines to omit the value judgment.



# People & Perspectives



## Robert L. Heilbroner

*ECONOMIST (1919–)*

- Attended Harvard University and the New School for Social Research in New York City
- Has taught at the New School for Social Research since 1971
- Published *The Worldly Philosophers* (1953), *The Future as History* (1960), *Visions of the Future* (1995), and *The Crisis of Vision in Modern Economic Thought* (1996)

**R**obert L. Heilbroner's book *The Worldly Philosophers* gives a unique and insightful look into the lives and works of the great economists of the past. In his introduction, Heilbroner explains the importance of these great economists to history:

“By all rules of schoolboy history books, they were nonentities: they commanded no armies, sent no men to their deaths, ruled no empires, took little part in history-making decisions. . . . Yet what they did was more decisive for history than many acts of statesmen who basked in brighter glory, often more profoundly disturbing than the shuttling of armies back and forth across frontiers, more powerful for good and bad than the edicts of kings and legislatures. It was this: they shaped and swayed men's minds.”

Heilbroner expresses his belief that economists have a major impact on the world. He

disagrees with the perception that the work of economists is dull and boring:

“A man who thinks that economics is only a matter for professors forgets that this is the science that has sent men to the barricades. . . . No, the great economists pursued an inquiry as exciting—and dangerous—as any the world has ever known. . . . The notions of the great economists were world-shaking, and their mistakes nothing short of calamitous.”

### **Checking for Understanding**

1. Why is it important to study the great economists of the past?
2. What impact have economists made in the world? Explain your answer.



**Chapter Overview** Visit the *Economics Today and Tomorrow* Web site at [ett.glencoe.com](http://ett.glencoe.com) and click on **Chapter 1—Chapter Overviews** to review chapter information.

◀ **CLICK HERE**

## SECTION 1 The Basic Problem in Economics

- **Economics** is the study of how individuals, families, businesses, and societies use limited resources to fulfill their unlimited wants.
- Individuals satisfy their unlimited wants in a world of limited resources by making choices.
- The need to make choices arises because of **scarcity**, the basic problem of economics.
- The resources needed to make goods and services are known as the **factors of production**.
- The four factors of production include **land**, or natural resources; **labor**, also known as human resources; **capital**, the manufactured goods used to make other goods and services; and **entrepreneurship**, the ability of risk-taking individuals to start new businesses and introduce new products and processes.
- Some economists add **technology** to the list of factors of production.

## SECTION 2 Trade-Offs

- People are forced to make **trade-offs** every time they use their resources in one way and not another.

- The cost of making a trade-off is known as **opportunity cost**—the value of the next best alternative that had to be given up to do the action that was chosen.
- A **production possibilities curve** is a graph that shows the maximum combinations of goods and services that can be produced from a fixed amount of resources in a given period of time.
- The classic example for explaining production possibilities in economics is the trade-off between guns (military defense) and butter (civilian goods).

## SECTION 3 What Do Economists Do?

- Economists study the **economy**—all the activity in a nation that together affects the production, distribution, and use of goods and services.
- Economists also formulate theories called **economic models**, which are simplified representations of the real world.
- Economists test their models in the same way that other scientists test **hypotheses**, or educated guesses.
- Economists deal with facts, although their personal opinions may sway their theories.
- Economists offer solutions to economic problems, but they do not put value judgments on those solutions.



# Assessment and Activities

**ECONOMICS**  
*Online*

CLICK HERE

**Self-Check Quiz** Visit the *Economics Today and Tomorrow* Web site at [ett.glencoe.com](http://ett.glencoe.com) and click on **Chapter 1—Self-Check Quizzes** to prepare for the Chapter Test.

## Identifying Key Terms

Write a short paragraph about the factors of production in the United States using all of the following terms.

- scarcity
- factors of production
- entrepreneurship
- technology
- trade-off
- land
- labor
- capital
- goods
- services

## Recalling Facts and Ideas

### Section 1

1. What is the condition that results because wants are unlimited?
2. What is the difference between scarcity and shortages?
3. Your friend says, "I need some new clothes." Under what conditions would this be expressing a need? A want?
4. What are the four factors of production?

### Section 2

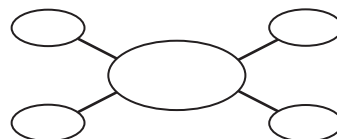
5. What does making a trade-off require you to do?
6. What do economists call the next best alternative that had to be given up for the one chosen?
7. In economics, what is cost?
8. What does a production possibilities curve show?

### Section 3

9. For what purposes do economists use real-world data in building models?
10. An economic theory is another name for what?
11. When does an economist consider an economic model useful?

## Thinking Critically

1. **Drawing Inferences and Conclusions** Some people argue that air is not an economic good. Explain why you agree or disagree with this statement.
2. **Categorizing Information** Create three diagrams like the one below and label the center oval with one of the following services: providing financial advice, teaching economics, producing a movie. Fill in examples of each factor of production that went into developing these services.



3. **Summarizing Information** Why will studying economics not tell you whether a possible solution to a problem is either good or bad?

## Applying Economic Concepts

**Trade-Offs and Opportunity Costs** Because your time is scarce, you are constantly facing trade-offs. Make a list of the trade-offs you have made in choosing how you used your time during a one-week period. What activities did you choose to do? What were the opportunity costs involved in your choices?

## Cooperative Learning Project

Working in groups of four, choose a consumer product such as a DVD player, a pair of sunglasses, or an automobile. Determine and list the elements of each of the four factors of production that went into making that consumer product. Discuss your lists with the rest of the class.

## Technology Activity



**Using the Internet** Each time you access the Internet you see advertising—banners, buttons, keywords, click-on ads, and other promotions. Home pages of popular Web search engines like Yahoo! face an opportunity cost: any screen space that a site uses to promote its own services cannot be sold to advertisers.

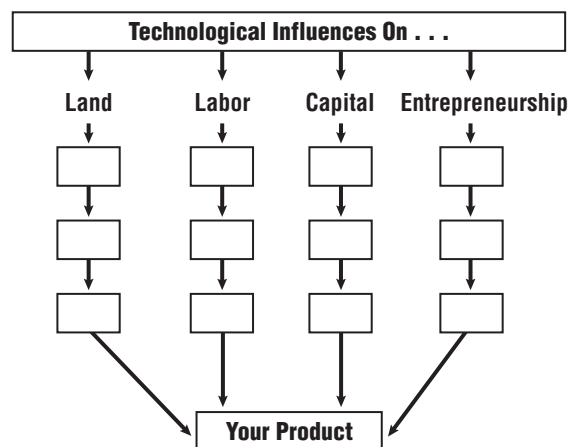
Design a home page for your own Web site. Assume that you can sell some screen space to advertisers, but be aware that too many ads will cause users to switch to a less cluttered site. Consider every square inch on your home page as having an opportunity cost.

## Reviewing Skills

### Sequencing and Categorizing Information

In this chapter you learned that some economists add technology as a fifth factor of production. *Technology*, as you recall, is an advance in knowledge leading to new and improved goods and services and better ways of producing them. This includes any use of land, labor, capital, and entrepreneurship that produces goods and services more efficiently.

Choose a product or service, and then research the technology that went into developing it. Construct a diagram like the one below that displays in sequential order the technology involved in preparing the factors of production that ultimately create your good or service. Share your diagram with the rest of the class.



Watch television news reports and read newspapers and/or news magazines every day for one week. Make a list of proposed actions on the part of international governments that involve trade-offs and opportunity costs. Report your findings to the class.



# Focus on Free Enterprise

## Amazon.com

**I**n 1994 30-year-old Jeff Bezos, a Princeton summa cum laude graduate, noticed that this newfangled thing called the World Wide Web was growing by 2,300 percent a year. He wanted in by the smartest available route. Methodically, he drew up a list of products that could be sold on the Internet, including computers, software, music, videos, and clothing.

### Curling Up With a Good Book

He finally decided on books because of the variety of product (more than a million titles in print), because no single merchandisers dominated the market, and because computer search engines could be very useful in helping customers find hazily remembered volumes.

Jeff Bezos, founder of Amazon.com, wasn't the first to see that the Internet offered a useful way to match up people and books, but he has pushed the concept harder and faster. Three years after making its first sale, Amazon.com was the third-largest book-seller in the country, selling about \$400 million worth of books, music, and videos.

### Click and Buy

The central concept of online book-selling is breathtakingly simple: Instead of people going in search of books, make it so the books can come to them. For the first

Jeff Bezos

time, nearly any book is only a mouse click and a few days away from any reader in the country.

In a business using the most sophisticated technology, Bezos's whole purpose is to retrieve something that thrived in the past. "I want to transport online bookselling," he says, "back to the days of the small bookseller who got to know you very well."

Once the customer has made his choice, a premium is put on speed. Customer service workers at Amazon.com take the orders and pass them along to a wholesale book company, which ships the books immediately. Most books arrive at the customer's front door only a few days after the order is sent—so quickly, so painlessly that the buyer is supposed to lose interest in going to the library or superstore. "I abide by the theory that says in the late 20th century, the scarcest resource is time," Bezos says. "If you can save people money and time, they'll like that."

### Virtual Overhead

Since Amazon.com is virtual, it doesn't have many of the fixed costs for real estate and employees that real-world bookstores do. As a company, Amazon initially owned little—no buildings, no factories, nothing that

qualifies as equity in the traditional sense. It also takes advantage of its medium to allow its customers to post their own book reviews online—which costs nothing, yet bonds its readers into a community.

Another advantage is that it doesn't have to order most books from publishers or wholesalers until a customer actually wants them. A bookstore in the real world has to do things the opposite way: It orders a stack of books and hopes customers will want them.

### Cyber Irony

Only a few years ago, futurists were predicting that the digital age would be the death of conventional publishing. Instead, the hottest business on the burgeoning Internet is selling old-fashioned books.

—Adapted from *The Washington Post National Weekly Edition*, July 20–27, 1998.

### Free Enterprise in Action

1. What is the basic concept of online book-selling?
2. Why does Amazon.com have lower fixed costs than regular bookstores?

