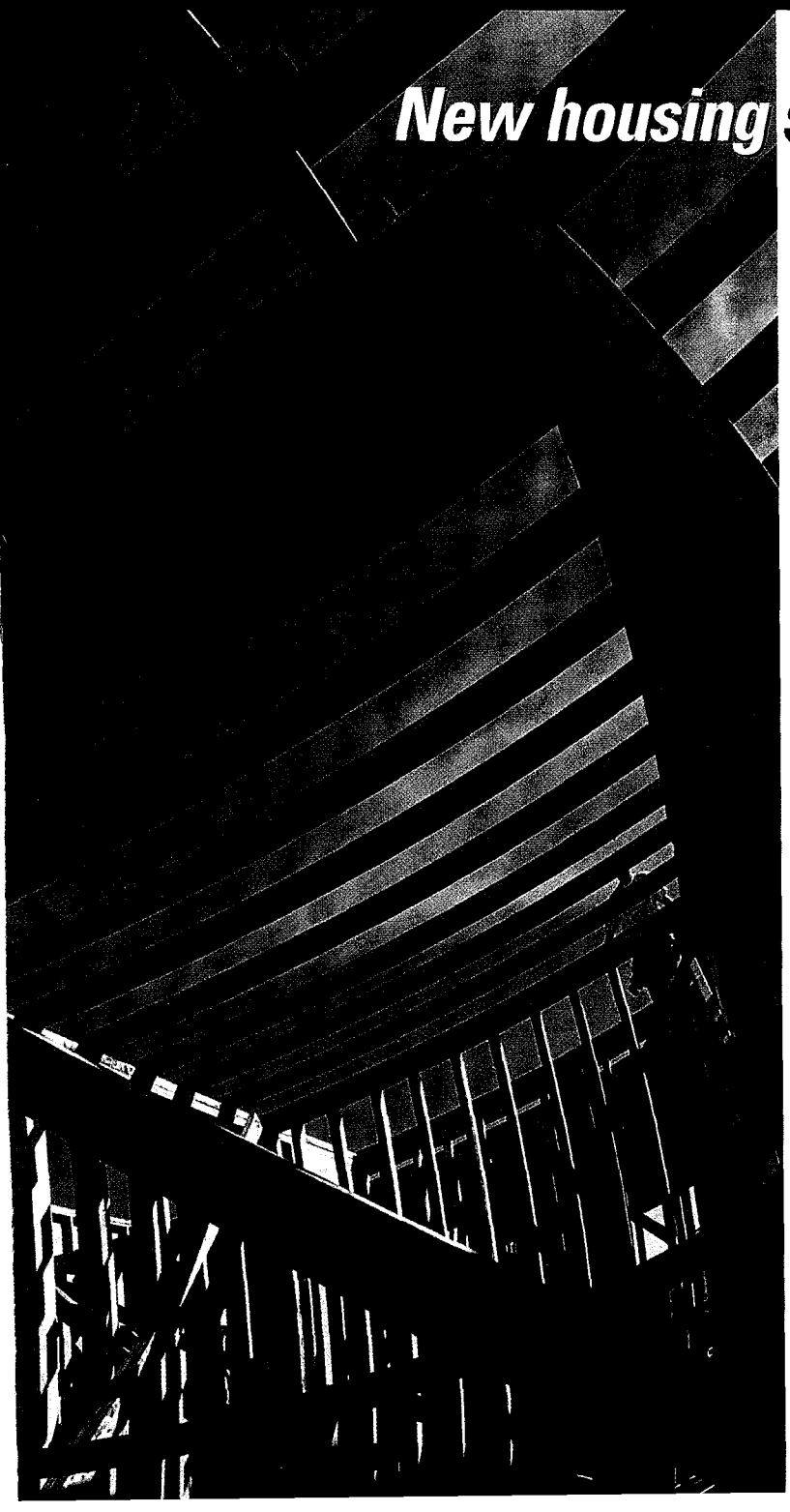
Chapters in This Unit

12. *Gross Domestic Product and Growth*
13. *Economic Challenges*



New housing starts are up . . .

Every day, news reporters tell us how well or poorly the economy is performing. Analyzing an entire economy is a challenging task. However, there are key indicators such as the number of new housing starts, unemployment rates, and inflation rates that provide clues. After listening to the financial news, you may wonder:

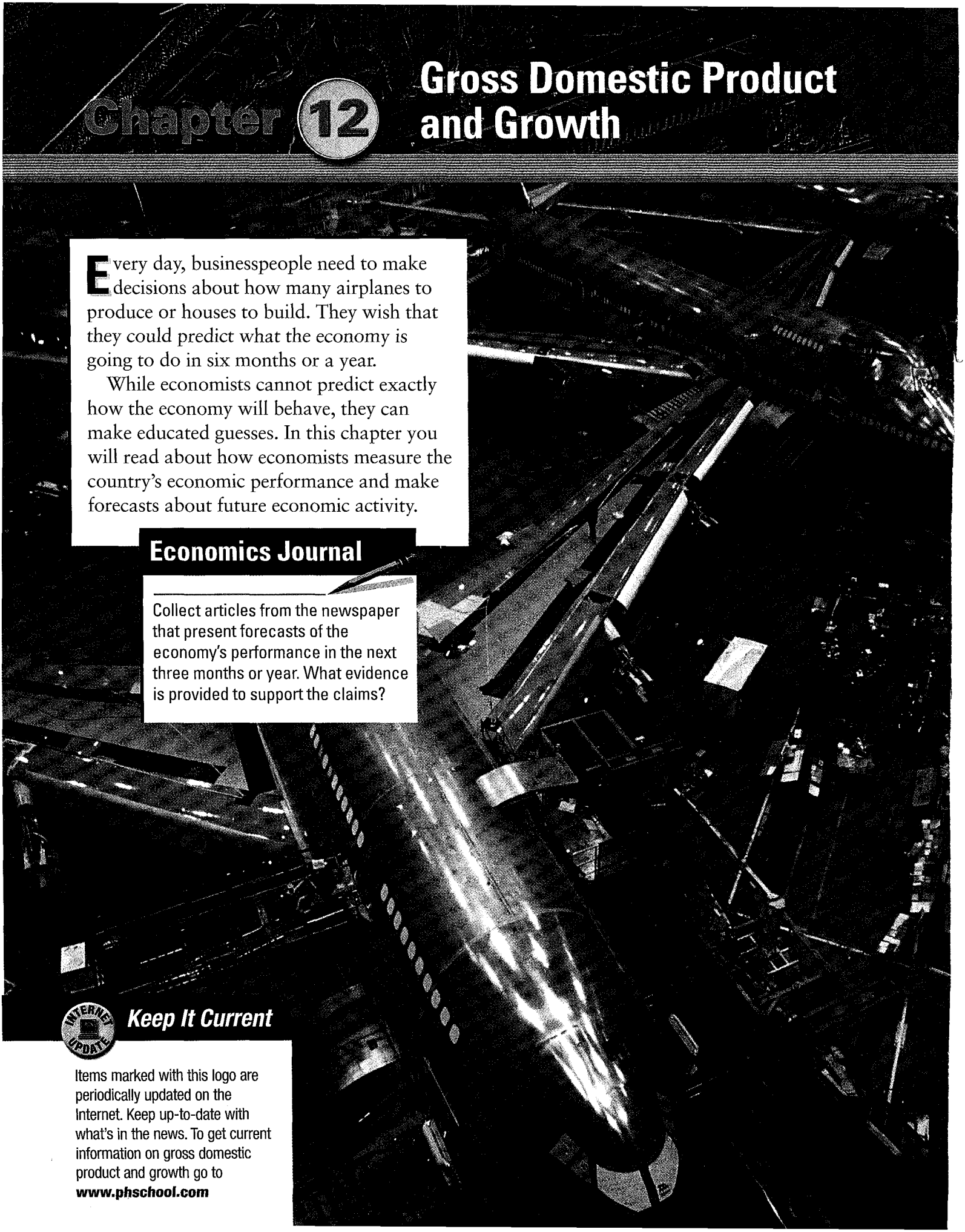
- How do economists measure the health of the economy?
- What impact would a recession have on workers and businesses?
- What is inflation?
- What makes the economy grow?

In this unit, you'll read about the answers to these questions as you are introduced to macroeconomics—the branch of economics that looks at an economy as a whole.

Focus Activity

Summarize one recent news article that refers in some way to the health of the economy of the United States. Then share your article with a classmate.

Chapter 12 Gross Domestic Product and Growth



Every day, businesspeople need to make decisions about how many airplanes to produce or houses to build. They wish that they could predict what the economy is going to do in six months or a year.

While economists cannot predict exactly how the economy will behave, they can make educated guesses. In this chapter you will read about how economists measure the country's economic performance and make forecasts about future economic activity.

Economics Journal

Collect articles from the newspaper that present forecasts of the economy's performance in the next three months or year. What evidence is provided to support the claims?

Keep It Current

Items marked with this logo are periodically updated on the Internet. Keep up-to-date with what's in the news. To get current information on gross domestic product and growth go to **www.phschool.com**

Section 1 Gross Domestic Product

Preview

Objectives

After studying this section you will be able to:

1. **Identify** National Income and Product Accounts (NIPA).
2. **Explain** how gross domestic product (GDP) is calculated.
3. **Explain** the difference between nominal and real GDP.
4. **List** the main limitations of GDP.
5. **Describe** other income and output measures.
6. **Identify** factors that influence GDP.

Section Focus

There are several ways to evaluate a nation's economic performance. Gross domestic product (GDP) is the most important, despite its limitations. GDP changes in response to shifts in aggregate supply or aggregate demand.

Key Terms

national income accounting
gross domestic product
intermediate goods
durable goods
nondurable goods
nominal GDP
real GDP
gross national product
depreciation
price level
aggregate supply
aggregate demand

Early economists believed that a national economy would regulate itself. Periods of high unemployment and low income and output would be temporary and short-lived and would be corrected automatically.

These ideas about the economy lasted until the Great Depression, a severe economic decline that started in 1929 and lasted for over a decade. This economic avalanche, touched off by the Great Crash of the stock market in October 1929, devastated the U.S. economy. The length and depth of the Great Depression convinced many economists that they must find a way to monitor the macroeconomy's performance so that they could predict economic downturns and try to prevent them.

National Income and Product Accounts

Keeping track of the U.S. economy is an enormous task. Today, economists monitor important macroeconomic data using **national income accounting,** a system that collects statistics on production, income, investment, and savings. The data are compiled and presented in the form of National Income and Product Accounts (NIPA), which are maintained by the U.S. Department of Commerce. NIPA data are used to determine economic policies that you will read about in Chapters 15 and 16.

Gross Domestic Product

The most important of the measures in NIPA is **gross domestic product (GDP),** the dollar value of all final goods and services produced within a country's borders in a given year. This carefully worded definition conveys a lot of information that we should consider piece by piece.

Dollar value is the total of the selling prices of all goods and services produced in a country in one calendar year, which are added up to calculate GDP. *Final goods and services* are products in the form sold to consumers, as opposed to **intermediate goods,** which are used in the production of final goods. *Produced within a country's borders* is especially important to remember. For example, U.S. GDP includes cars made in Ohio by a Japanese car company.

national income accounting *a system that collects macroeconomic statistics on production, income, investment, and savings*

gross domestic product (GDP) *the dollar value of all final goods and services produced within a country's borders in a given year*

intermediate goods *goods used in the production of final goods*

durable goods *goods that last for a relatively long time, such as refrigerators, cars, and DVD players*

nondurable goods *goods that last a short period of time, such as food, light bulbs, and sneakers*

U.S. GDP does not include cars made in Brazil by an American automaker. You'll be able to see shortly why this distinction is important.

Let's look at the housing market for more examples of how GDP is compiled. Suppose that your neighbor sold his house this year. When the house was built, say in 1982, it was counted in that year's GDP. Thus, it would be inaccurate to count it again this year just because it changed hands. However, the fee paid to the real estate agent who handled the resale of the house would come from services performed this year, so that fee would be included in GDP.

Meanwhile, your neighbor has bought a newly built house. Would the lumber, nails, shingles, windows, and other items used to produce that house be included in GDP? No. Those are intermediate goods, and their value would be included in the price of the completed house. Thus, only the price of the completed house would be added to GDP.

Expenditure Approach

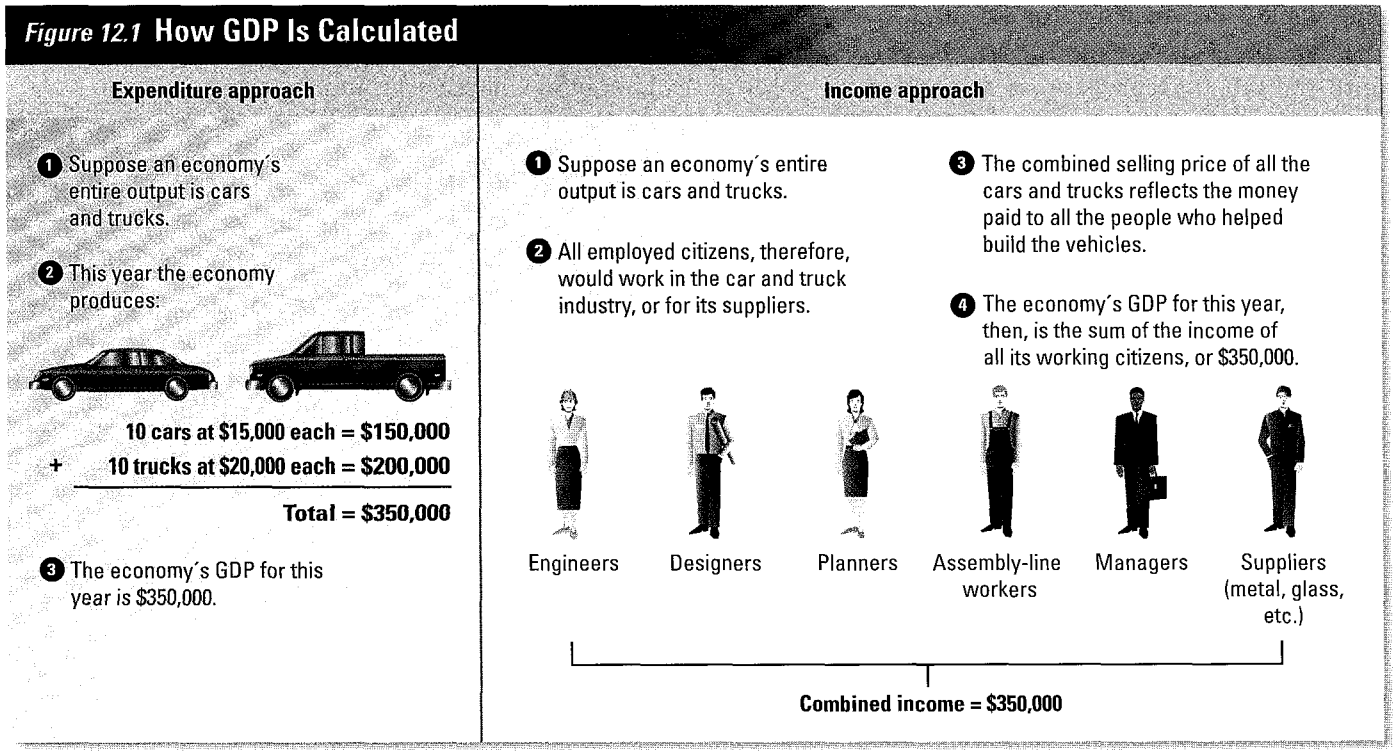
One way government economists calculate GDP is by using the expenditure approach, sometimes called the output-expenditure approach. It works this way: First, economists estimate the annual expenditures, or amounts spent, on four categories of final goods and services:

1. consumer goods and services
2. business goods and services
3. government goods and services
4. net exports or imports of goods and services

Consumer goods include **durable goods,** those goods that last for a relatively long time, such as refrigerators, cars, and DVD players. Consumer goods also include **nondurable goods,** those goods that last a short period of time, such as food, light bulbs, and sneakers.

Then, economists add together the amounts spent on all four categories to arrive at the total expenditures on goods

Figure 12.1 How GDP Is Calculated



BUILDING KEY CONCEPTS

The two ways of measuring gross domestic product are shown here. The expenditure approach is a practical way of calculating GDP. The income approach is generally more accurate.

Gross Domestic Product Apply the example shown in the diagram by using the expenditure approach and the income approach to explain how a brand-new housing complex would add to GDP.

and services produced during the year. This total equals GDP. Figure 12.1 provides a simplified example of calculating GDP with the expenditure approach.

Income Approach

The expenditure approach gives economists a practical way to measure GDP. If they want better accuracy, however, they use the income approach. The income approach calculates GDP by adding up all the incomes in the economy.

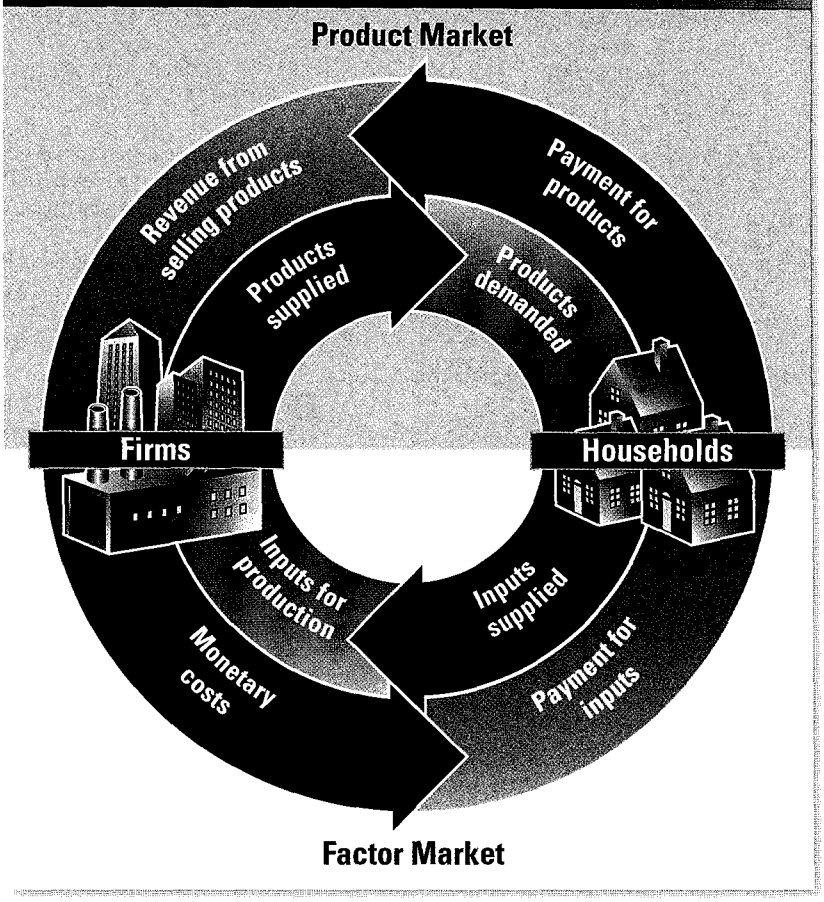
Here's how it works: When a firm sells its product, the selling price represents income for the firm's owners and employees. For instance, suppose that your neighbor's newly built house sold for $115,000. This amount is added to GDP under the expenditure approach.

However, that $115,000 is also income that was shared by all of the people who helped build the house. The contractor, the bricklayer, the roofers, the window installers, and everyone else who worked on the house received some income directly from the house's selling price. Also, let's not forget the people who supplied the lumber, the nails, and all of the other materials that went into the house. The money that they received for these goods all comes from the selling price of the house, even though they may have been paid before the house was sold.

Each of these people may get only a small share of the house's selling price. However, if we added up all the shares, we would see that $115,000 of income was generated by the sale. In other words, the house's selling price is equal to the amount of income earned by all of the people who helped, however indirectly, to build the house. This same logic holds for all goods and services produced in the economy. Thus, we may calculate GDP by adding up all income earned in the economy. This process is the income approach, shown in Figure 12.1.

In theory, we can calculate GDP with either the income approach or the expenditure approach. Both calculations should give us the same total. In fact, federal economists often determine GDP using both approaches. Then they compare the two totals and make adjustments to offset any mistakes. This gives them a better result.

Figure 12.2 **Circular Flow of Output and Income**



BUILDING KEY CONCEPTS

This circular flow diagram shows how the production of goods and services generates income for households and how households purchase goods and services produced by firms. **Gross Domestic Product (a) Which part of this diagram would you use to calculate GDP using the expenditure approach? (b) Which part would you use for the income approach?**

Nominal Versus Real GDP

Government policymakers measure gross domestic product to find out how well the economy is performing. The measurement must be as accurate as possible. Comparing the results of the expenditure and income approaches is one way to judge accuracy. To develop additional information about the economy, economists distinguish between two measures of GDP, nominal and real.

Figure 12.3 Nominal and Real GDP

Year 1 Nominal GDP	Year 2 Nominal GDP	Year 2 Real GDP
1 Suppose an economy's entire output is cars and trucks.	1 In the second year, the economy's output does not increase, but the prices of the cars and trucks do:	1 To correct for an increase in prices, economists establish a set of constant prices by choosing one year as a base year. When they calculate real GDP for other years, they use the prices from the base year. So we calculate the real GDP for Year 2 using the prices from Year 1:
2 This year the economy produces: **10 cars at $15,000 each = $150,000** **+ 10 trucks at $20,000 each = $200,000** **Total = $350,000**	**10 cars at $16,000 each = $160,000** **+ 10 trucks at $21,000 each = $210,000** **Total = $370,000**	**10 cars at $15,000 each = $150,000** **+ 10 trucks at $20,000 each = $200,000** **Total = $350,000**
3 Since we have used the current year's prices to express the current year's output, the result is a nominal GDP of $350,000.	2 This new GDP figure of $370,000 is misleading. GDP rises because of an increase in prices. Economists prefer to have a measure of GDP that is not affected by changes in prices. So they calculate real GDP.	2 Real GDP for Year 2, therefore, is $350,000.

This example shows the different results that come from calculating nominal GDP and real GDP. Real GDP reflects actual increases in output without the misleading effects of price increases.

Gross Domestic Product Using Year 1 as the base year, calculate real GDP for Year 3, in which 15 cars and 14 trucks were sold.

nominal GDP *GDP measured in current prices*

real GDP *GDP expressed in constant, or unchanging, prices*

Nominal GDP

In Figure 12.1, we calculated **nominal GDP**—that is, GDP measured in current prices. (Sometimes it is called "current GDP.") To calculate nominal GDP, we simply use the current year's prices to calculate the value of the current year's output. Figure 12.3 shows how the definition of nominal GDP applies to the small economy that produces only cars and trucks.

Real GDP

Study how nominal GDP is calculated in Year 1 and Year 2. The diagram points out a problem with nominal GDP: A general increase in prices *appears* to make GDP rise, when in fact output has not risen. To correct for this distortion, economists determine **real GDP.** This is defined as GDP expressed in constant, or unchanging, prices.

Look again at Figure 12.3 and see how real GDP is calculated in Year 2. When real GDP rises, we can be certain whether an economy is producing more goods and services, regardless of changes in the prices of those items. In this example, we learn from calculating real GDP that output did not increase in Year 2.

Limitations of GDP

Even though economists can calculate it accurately, GDP is still not a perfect yardstick. For instance, GDP does not take into account certain economic activities, such as:

- *Nonmarket activities* GDP does not measure goods and services that people make or do themselves, such as caring for children, mowing the lawn, cooking dinner, washing the car. GDP *does* rise, however, when people pay someone else to do these things for them. When nonmarket activities are shifted to the market, GDP is pushed up somewhat, even though production has not really increased.
- *The underground economy* A large amount of production and income is never recorded or reported to the govern-

ment: for instance, transactions on the *black market,* the market for illegal goods, such as drugs, weapons, stolen cars, and exotic animals. Income from illegal gambling goes unreported. So do "under the table" wages paid by some companies to avoid paying business and income taxes.

Many legal, informal transactions are not reported, as well, such as selling your car to a friend or trading your stereo for a bike, or hiring someone to baby-sit, mow lawns, or shovel snow. Underground transactions add nothing to the GDP figure, even though goods and services were produced and income was earned.

- *Negative externalities* Unintended economic side effects, or externalities, have a monetary value that often is not reflected in GDP. (See Chapter 3, Section 3, for a discussion of externalities.) For example, if a power plant spends money to reduce damage caused by pollution, those expenditures will be added to GDP. However, the value of a clean environment is not counted in GDP, even though a cleaned-up lake or restored wetlands have considerable social value.
- *Quality of life* Although some economists and politicians interpret rising GDP as a sign of rising well-being, we should remember that additional goods and services do not necessarily make people any happier. In fact, some things that are not counted in GDP contribute greatly to most people's quality of life, such as pleasant surroundings, ample leisure time, and personal safety. GDP measures output and income within an economy, not individuals' quality of life.

All of these limitations suggest that GDP is a poor measure of people's well-being and a somewhat flawed measure of output and income. Nevertheless, while the measure itself may be imperfect, when calculated consistently over time, it helps reveal economic growth rates. For this reason, GDP is closely watched by economists and policymakers.

Other Income and Output Measures

FAST FACT

How big is the underground economy? Estimates vary from 4 to 30 percent of U.S. GDP. Perhaps 25 million Americans earn a large part of their income from the underground economy, earning more than a half trillion dollars in unreported income. Economists note that although consumers rarely pay for consumer goods with $100 bills, 60 percent of U.S. currency in circulation is in $100 bills. Where are all those Ben Franklins circulating? Quite likely, underground.

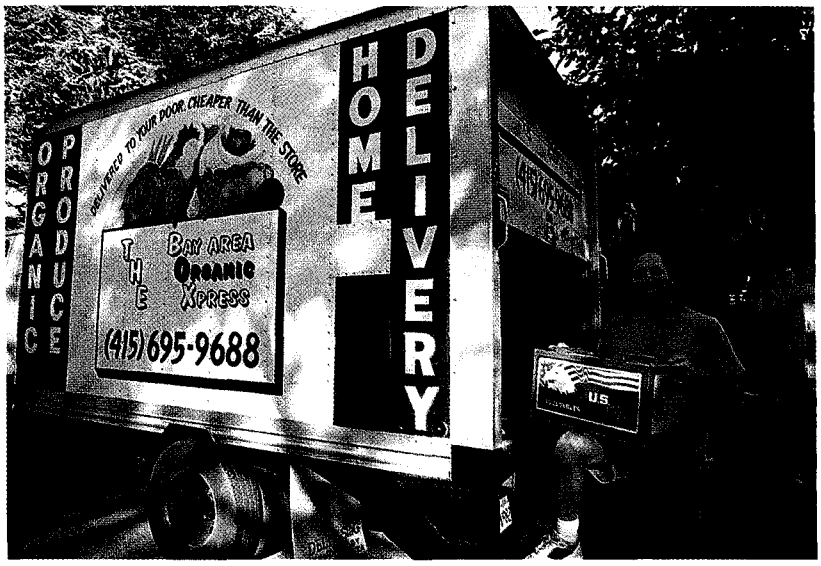
As you have read, our system of National Income and Product Accounts provides numerous measurements of the macroeconomy's performance. While gross domestic product is the primary measure of income and output, sometimes other measures are more useful. Many of these other yardsticks are derived *from* GDP. Figure 12.4 (on the next page) shows how GDP is used to determine five other economic measures.

The first is **gross national product** (GNP), the annual income earned by U.S.-owned firms and U.S. citizens. GNP is a measure of the market value of all goods and services produced by Americans in one year. Study the diagram on the next page to see how GNP is derived from GDP.

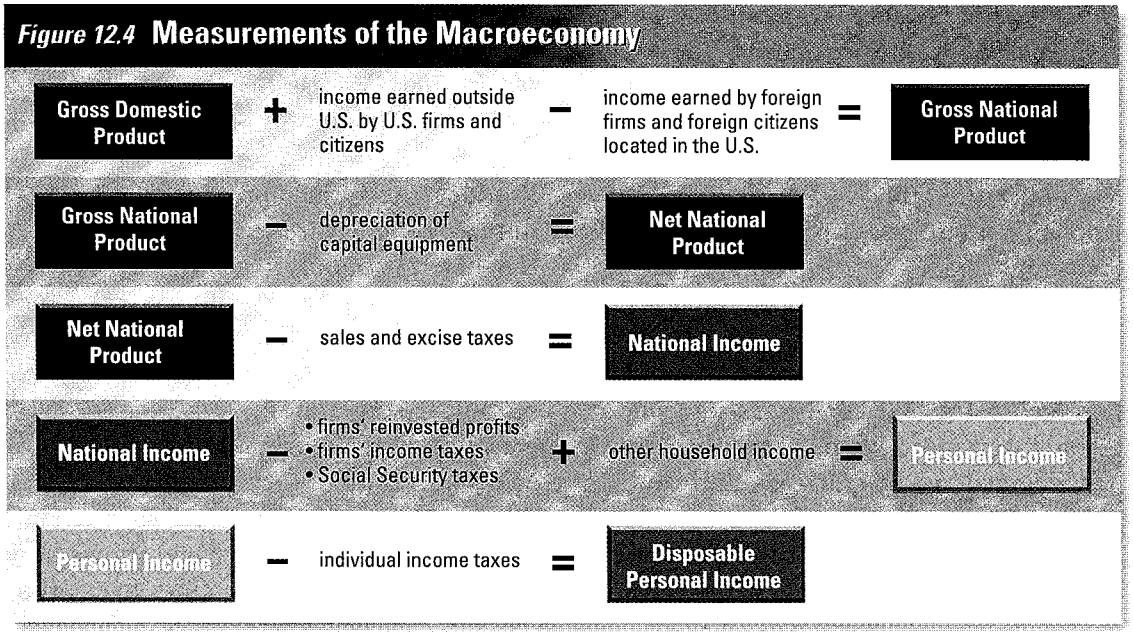
GNP does not account for **depreciation,** the loss of the value of capital equipment that results from normal wear and tear. The cost of replacing this physical capital slightly reduces the value of what we

gross national product *(GNP) the annual income earned by U.S.-owned firms and U.S. citizens*

depreciation *the loss of the value of capital equipment that results from normal wear and tear*



▲ When people go to grocery stores to buy food, their efforts are not counted in GDP; however, when they pay someone else, like this on-line grocery service, to do their shopping, the expense does get counted in GDP.



BUILDING KEY CONCEPTS

These equations summarize the formulas for calculating some of the key macroeconomic measurements.

Economic Systems Why might economists track so many different indicators of the nation's economic health?

produce. GNP minus the cost of depreciation of capital equipment is called *net national product (NNP)*. NNP is a measure of the net output for one year, or the output made after the adjustment for depreciation.

NNP does not reflect another cost of doing business: taxes. After subtracting sales and excise taxes and making some other minor adjustments to NNP, we get another important statistic, called *national income (NI)*.

From NI, we can find out how much pretax income businesses actually pay to U.S. households after reinvesting some of their income and paying additional taxes. That amount, as calculated in Figure 12.4, is called *personal income (PI)*.

Finally, we want to know how much money people actually have to spend after they pay their taxes, a figure called *disposable personal income (DPI)*. To find DPI, we take personal income and subtract individual income taxes.

See how far we have come. Beginning with GDP, the value of all goods and services produced in a year—a very large number—we wind up knowing how much cash Americans have to spend or put in the bank. As you might suppose, this data is extremely valuable to economic planners, legislators, investors, and businesses.

Influences on GDP

So far, we have defined GDP, calculated it, and learned about its limitations. One important issue, however, remains: What influences GDP? That is, in a real economy, what factors can change the level of GDP? These questions go to the heart of macroeconomics.

In Chapters 4 and 5 we learned about demand and supply as they relate to individual markets. Now we will look at supply and demand on a nationwide scale to see how large-scale changes in supply and demand can affect GDP.

Aggregate Supply

As you read earlier, market supply is the amount of a particular good or service available for purchase at all possible prices in an individual market. But how do we look at supply and prices on a macroeconomic

level? Think of aggregate supply as a supply curve for the whole economy.

First, economists add up the total supply of goods and services produced for sale in the economy—in other words, GDP. Then they calculate the **price level,** the average of all prices in the economy. Now they can determine **aggregate supply,** the total amount of goods and services in the economy available at all possible price levels.

In a macroeconomy, as the prices of most goods and services change, the price level changes. Firms respond by changing their output—that is, their production, or real GDP, which is aggregate supply. For example, if the price level rises, it means that the prices of most goods and services are rising. Rising prices give firms an incentive to increase their output. After all, at higher prices, more goods and services sold means greater profits, at least until producers are forced to pay higher prices for intermediate goods. Similarly, as prices throughout the economy fall, companies' profits shrink. In response, they reduce their output.

The aggregate supply (AS) curve on a graph illustrates the relationship between prices and output supplied. Look at the aggregate supply curve in Figure 12.5. As the price level rises, real GDP, or aggregate supply, rises. As the price level falls, real GDP falls.

Aggregate Demand

Aggregate demand is the amount of goods and services in the economy that will be purchased at all possible price levels. As price levels in the macroeconomy move up and down, individuals and businesses change how much they buy.

For example, a lower price level translates into greater purchasing power for households, because the real value of money rises as price levels drop. The dollars that we hold are worth more at lower price levels than they are at higher price levels. Therefore, falling prices increase wealth and demand. This scenario is known as the wealth effect.

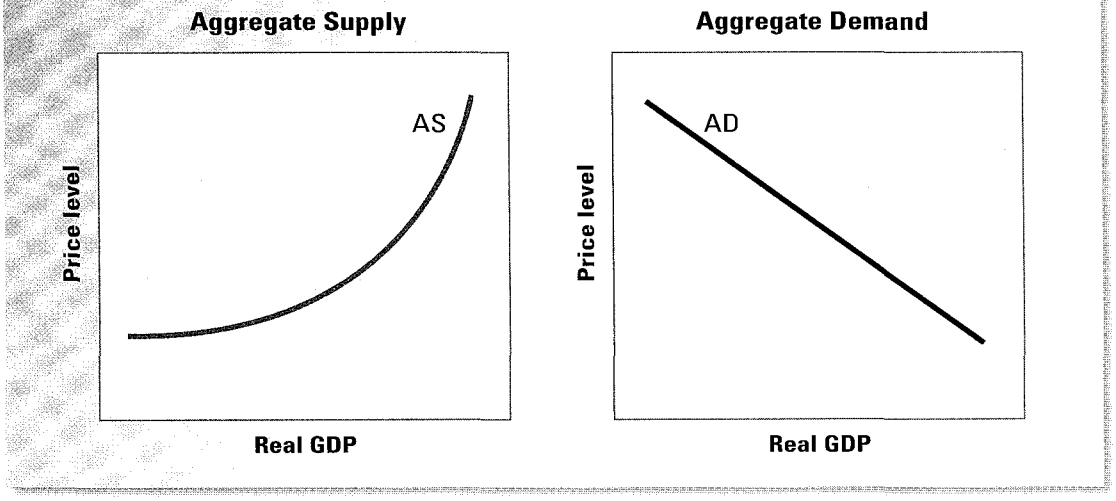
On the other hand, as the price level rises, purchasing power declines, causing a reduction in the quantity of goods and services demanded. The aggregate demand (AD) curve shows this relationship between price and real GDP demanded. As you can see from Figure 12.5, this curve (right-hand

price level *the average of all prices in the economy*

aggregate supply *the total amount of goods and services in the economy available at all possible price levels*

aggregate demand *the amount of goods and services in the economy that will be purchased at all possible price levels*

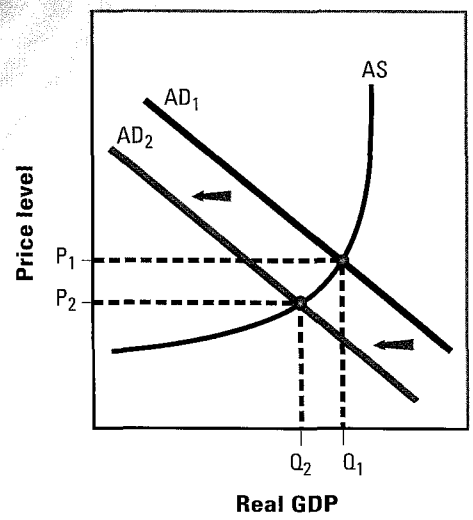
Figure 12.5 Aggregate Supply and Demand



BUILDING KEY CONCEPTS

These graphs show an aggregate supply curve and an aggregate demand curve. **Supply and Demand Explain what the positive (upward to the right) and negative (downward to the right) slopes of these curves mean.**

Figure 12.6 Equilibrium Aggregate Supply and Demand



BUILDING KEY CONCEPTS

This graph shows AS/AD equilibrium. It also shows what happens to GDP and to the price level when aggregate demand shifts from AD_1 to AD_2.

Supply and Demand If a country goes to war, causing an increase in government demand for durable and nondurable goods, how might real GDP and price levels be affected?

graph) plots the total amount of goods and services demanded in the economy at various price levels. Like all demand curves, it is negatively sloped (downward to the right).

Aggregate demand is made up of the same types of spending discussed earlier under the expenditure approach to calculating GDP. Consumers account for most of aggregate demand, but business spending on capital investment, government spending, and foreigners' demand for export goods all play roles, too.

Aggregate Supply/Aggregate Demand Equilibrium

When we put together the aggregate supply (AS) and aggregate demand (AD) curves, we can find the AS/AD equilibrium in the macroeconomy. Look at Figure 12.6. The intersection of the AS and AD_1 curves indicates an equilibrium price level of P_1 and an equilibrium real GDP of Q_1.

Now consider how GDP might change. Any shift in either the AS or AD curve will cause real GDP to change. For example, the graph shows aggregate demand falling from line AD_1 to line AD_2. As a result, the equilibrium GDP (Q_2) falls, and so does the equilibrium price level (P_2).

Any shift in aggregate supply or aggregate demand will have an impact on real GDP and on the price level. In the next section we will discuss some factors that may cause such shifts.

Section 1 Assessment

Key Terms and Main Ideas

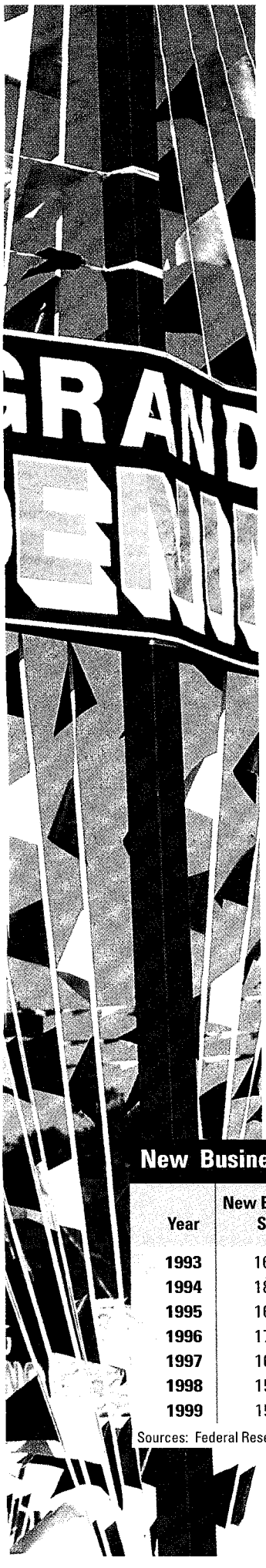
1. What is the difference between **intermediate goods** and final goods?
2. How does **gross domestic product (GDP)** differ from **gross national product?**
3. How does **nominal GDP** differ from **real GDP?**
4. What economic activities are not included in GDP?
5. If **aggregate demand** rises, what happens to real GDP? What happens to the **price level?**

Applying Economic Concepts

6. ***Critical Thinking*** Why is GDP calculated by both the expenditure approach and the income approach?
7. ***Math Practice*** Suppose that a very small economy produces only televisions and computers. Determine nominal GDP and real GDP in Year 4, using the following information: *In Year 1, the base year, 10 computers sold at $2,000 each, and 15 televisions sold at $500 each. In Year 4, 17 computers sold at $2,200 each and 20 televisions sold at $550 each.*

Take It to the NET

Collect real GDP data for the last six months. Analyze the data to determine what part of the business cycle the country is in right now. Use the links provided in the Social Studies area at the following Web site for help in completing this activity. **www.phschool.com**



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Critical Thinking | Graphs and Charts | Social Studies | Technology

Predicting Consequences

Economists, politicians, and entrepreneurs use economic data as a window into the future. On the basis of past events and the current situation, they sometimes try to predict how an economy or an individual market will behave. Thousands of variables and events have an impact on an economy, so predictions will not always come true. However, one can observe broad trends in an economy and try to imagine what will happen if these trends continue into the future. Follow the steps below to analyze the table and use the data to make predictions about the American economy.

1. Identify the kinds of information in the table. The table below lists the number of new businesses started each year during a recent American economic boom. Also listed is the discount lending rate, one of the key factors that determines how expensive it is to borrow money to start a new business. The higher the discount rate, the more expensive it is to borrow money. Because the discount rate can rise or fall during the year, rates are given for January and December. Read the column headings and introductory notes for the table. (a) What information does this table give you for each year? (b) How much did the number of business starts change between 1997 and 1998?

2. Look for relationships within the data. Lower interest rates encourage people to invest in new businesses because the cost of borrowing money is lower. Because too much borrowing can lead to inflation, the Federal Reserve Bank will raise the discount rate if there is a lot of new investment in the economy. (a) How did the interest rates in 1993 and early 1994 compare with rates in other years? (b) How did the number of new businesses change between 1993 and 1994? (c) What is the relationship between interest rates and business starts from 1993 to 1995?

New Businesses, 1993–1999

Year	New Businesses Started	Discount Rate on January 1	Discount Rate on December 31	Rate Change
1993	166,154	3%	3%	0%
1994	188,387	3%	4.75%	+1.75%
1995	168,158	4.75%	5.25%	+0.5%
1996	170,475	5.25%	5%	-0.25%
1997	166,740	5%	5%	0%
1998	155,141	5%	4.5%	-0.5%
1999	151,016	4.5%	5%	+0.5%

Sources: Federal Reserve Bank of Minneapolis; *Statistical Abstract of the United States,* 2000

Additional Practice

Using the Internet or your local library, locate recent articles about the state of the economy and interest rates. What indicators do economists use to judge the health of the economy? Based on these indicators, do you think interest rates will go up, stay the same, or go down in the near future? Explain.

Section 2

Business Cycles

Preview

Objectives

After studying this section you will be able to:

1. **Identify** the phases of the business cycle.
2. **Describe** four key factors that keep the business cycle going.
3. **Explain** how economists forecast fluctuations in the business cycle.
4. **Analyze** the impact of business cycles in U.S. history.
5. **Analyze** why U.S. business cycles may change in the future.

Section Focus

A business cycle consists of successive periods of improvement and decline in a macroeconomy. Policymakers study business cycles to try to predict declines, lessen their effects, and speed economic recovery.

Key Terms

business cycle
expansion
economic growth
peak
contraction
trough
recession
depression
stagflation
leading indicators

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business cycle *a period of macroeconomic expansion followed by a period of contraction*

expansion *a period of economic growth as measured by a rise in real GDP*

economic growth *a steady, long-term increase in real GDP*

peak *the height of an economic expansion, when real GDP stops rising*

contraction *a period of economic decline marked by falling real GDP*

Many economic analysts and historians of the nineteenth century recognized economic panics and collapses. But most did not see a pattern in the occurrence of these changes.

One early economist did see a pattern, however. He attributed it to, of all things, sunspots. In a way, his theory wasn't so crazy. William Stanley Jevons, a British economist of the mid-1800s, believed that periodic sunspot activity affected crop harvests. In the 1800s, when most people worked on farms, crop surpluses and shortages would have had widespread economic effects.

Economists long ago dismissed Jevons's sunspot theory, but they embraced his notion that the economy undergoes periodic changes. A modern industrial economy repeatedly experiences cycles of good times, then bad times, and then good times again. Business cycles are of major interest to macroeconomists, who study their causes and effects. In this section we will learn about these periodic swings in economic performance: how we describe them, what might cause them, and how they have shaped the country's economy.

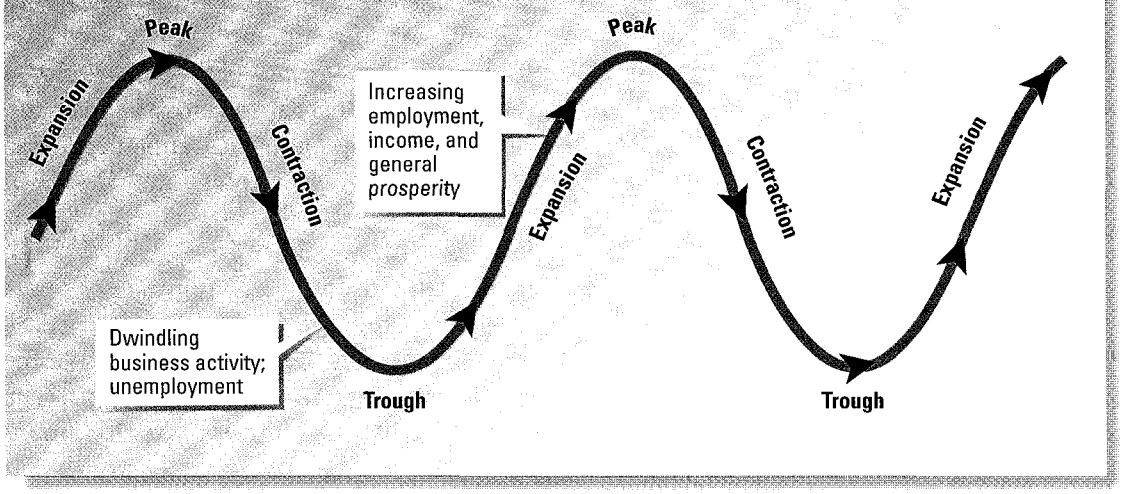
Phases of a Business Cycle

As you read in Chapter 3, a **business cycle** is a period of macroeconomic expansion followed by a period of macroeconomic contraction. Figure 12.7 illustrates the phases of a business cycle.

Business cycles are not minor ups and downs. They are major changes in real GDP above or below normal levels. The typical business cycle consists of four phases: expansion, peak, contraction, and trough.

1. *Expansion* An **expansion** is a period of economic growth as measured by a rise in real GDP. In economists' terms, **economic growth** is a steady, long-term increase in real GDP. In the expansion phase, the economy as a whole enjoys plentiful jobs, a falling unemployment rate, and business prosperity.
2. *Peak* When real GDP stops rising, the economy has reached its **peak,** the height of an economic expansion.
3. *Contraction* After reaching its peak, the economy enters a period of **contraction,** an economic decline marked by falling real GDP. Falling output generally causes unemployment to rise.

Figure 12.7 Tracking a Business Cycle



BUILDING KEY CONCEPTS

In a business cycle, a period of rising real GDP reaches a peak, then falls into a contraction. When the contraction reaches the low point, or trough, a new expansion begins. From 1854 to 1991, the United States had 31 business cycles. Excluding wartimes, the cycles averaged 48 months. **Gross Domestic Product In which part of a business cycle do you think the United States is right now—expansion or contraction? Give evidence to support your conclusion.**

4. *Trough* When the economy has "bottomed out," it has reached the **trough** (TRAWF), the lowest point in an economic contraction, when real GDP stops falling.

During the contraction phase, GDP is always falling. But other conditions, such as price levels and unemployment, may vary. Economists created terms to describe contractions with different characteristics and levels of severity. They include:

- *Recession* If real GDP falls for two consecutive quarters (at least six straight months), the economy is said to be in a recession. A **recession** is a prolonged economic contraction. Generally lasting from 6 to 18 months, recessions are typically marked by unemployment rising into the range of 6 percent to 10 percent.
- *Depression* If a recession is especially long and severe, it may be called a **depression.** The term has no precise definition but usually refers to a deep recession with features such as high unemployment and low factory output.
- *Stagflation* This term combines *stagnant*—a word meaning unmoving or decayed—and *inflation.* **Stagflation** is a decline in real GDP (output) combined with a rise in the price level (inflation).

Although economists know much about business cycles, they cannot predict any one cycle's behavior, nor can they tell exactly how long its phases will last. The only certainty is that a growing economy will eventually experience a downturn and will later bounce back.

trough *the lowest point in an economic contraction, when real GDP stops falling*

recession *a prolonged economic contraction*

depression *a recession that is especially long and severe*

stagflation *a decline in real GDP combined with a rise in the price level*

What Keeps a Business Cycle Going?

The shifts that occur during a business cycle have many causes, some more predictable than others. Often, two or more factors will combine to push the economy into the next phase of a business cycle. Typically, a sharp rise or drop in some important economic variable will set off a series of events that bring about the

next phase. Business cycles are affected by four main economic variables:

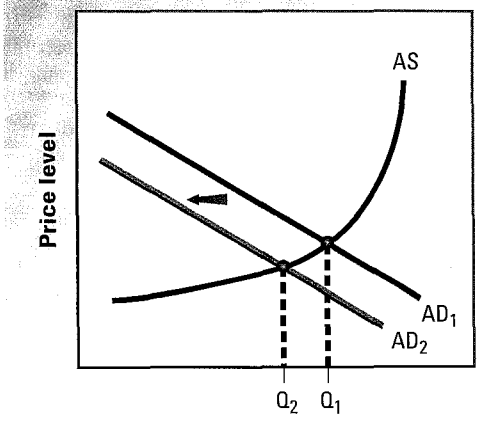
1. *business investment*
2. *interest rates and credit*
3. *consumer expectations*
4. *external shocks*

Business Investment

When the economy is expanding, firms expect sales and profits to keep rising. Therefore, they may invest heavily in new plants and equipment. Or they may invest in the expansion of old plants in order to increase the plants' productive capacity. All of this investment spending creates additional output and jobs, helping to increase GDP and maintain the expansion.

At some point, however, firms may decide that they have expanded enough or that demand for their products is dropping. They cut back on investment spending; as a result, aggregate demand falls. As Figure 12.8 shows, the result is a decline in the price level and in GDP. The drop in business spending reduces output and income in other sectors of the economy.

Figure 12.8 Declining Business Investment



BUILDING KEY CONCEPTS

This graph shows how a drop in business investment can affect the business cycle.
Supply and Demand On this graph, when business investment declines, what happens to (a) aggregate demand? (b) real GDP? (c) the price level?

Then industries that produce capital goods slow production down and begin to lay off workers. Other industries might follow, causing unemployment to rise. Jobless workers cannot buy new cars, eat at restaurants, or perhaps even pay their rent. The downward spiral picks up speed, and we find ourselves in a recession.

Interest Rates and Credit

In the United States economy, consumers often use credit to purchase "big ticket" items—from new cars and houses to home electronics, appliances, and vacations. The cost of credit is the interest rate that financial institutions charge their customers. If the interest rate rises, consumers are less likely to buy those new cars and homes and appliances.

Businesses, too, look to interest rates in deciding whether or not to purchase new equipment, expand their facilities, or make any other large investments that must be financed. For businesses, interest rates are a part of the opportunity cost of making investments.

When interest rates are low, companies borrow money to make new investments, often adding jobs to the economy. When interest rates climb, investment dries up, as does job growth. One result of rising interest rates, then, is less output and employment in the industries producing consumer and business goods. Such actions may lead to a contraction of the entire economy.

Consider a recent example of the impact of interest rates on the business cycle. In the early 1980s, high consumer interest rates helped bring on the worst economic slump in the United States since the Great Depression of the 1930s. Some credit-card interest rates reached 21 percent, and interest rates on home loans climbed as high as 17 percent. As a result, the cost of expensive items usually bought on credit was too high for many Americans.

As consumers reduced their spending, the economy entered a recession. The recession eventually drove up unemployment

rates to over 9 percent—the highest since the Depression.

You can see, therefore, why economists watch interest rates closely. The rise and fall of borrowing rates has a great impact on the level of spending and real GDP in the economy.

Consumer Expectations

Consumer spending is determined partly by consumers' expectations. Fears of a weakening economy can cause consumer confidence to fall, meaning that a majority of people expect the economy to begin contracting. If that happens, consumers may start "saving for a rainy day," reducing their spending because they expect layoffs and lower incomes.

This reduced spending can actually help bring on a contraction, as firms respond to reduced demand for their products. Thus consumer expectations often become self-fulfilling prophecies, creating the very outcome that consumers fear.

Of course, the opposite can occur, too. If people expect a robust and rapidly growing economy, they will also expect abundant job opportunities and rising incomes. Thus, they will buy more goods and services. The rise in spending will create high aggregate demand, pushing up GDP. In other words, consumers can help create the very prosperity they anticipate!

External Shocks

Of all of the factors that affect the business cycle, perhaps most difficult to predict are external shocks, which you read about in Chapter 6. External shocks can dramatically affect an economy's aggregate supply.

Examples of negative external shocks include disruptions of the oil supply, wars that interrupt normal trade relations, and droughts that severely reduce crop harvests.

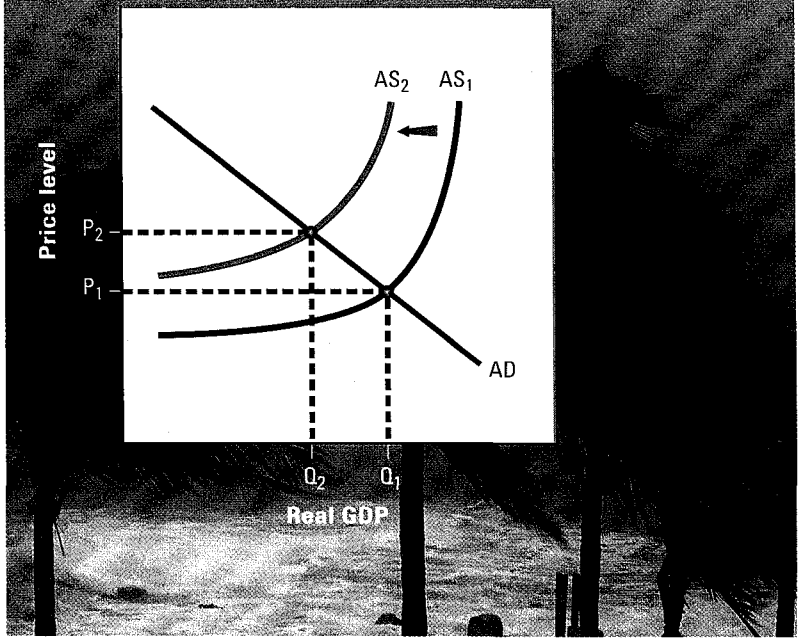
Let's consider what might happen if one of these shocks occurred. Suppose that the nation's oil supply were suddenly cut off. Immediately, the price of any remaining oil skyrockets.

This shock has a powerful effect on the economy. Oil is used to produce many goods, and petroleum products fuel the trucks, trains, and airplanes that transport goods from factories to stores. The oil shortage forces firms to reduce production and raise prices for their goods. In other words, GDP declines and the price level rises.

Figure 12.9 illustrates this scenario. The negative shock raises costs of production and prices of final goods throughout the economy. The aggregate supply (AS) curve shifts to the left, reflecting higher prices and lower real GDP. This is the stagflation that you read about on page 311. It is particularly harmful to businesses and households and difficult for policymakers to fix.

Of course, an economy may also enjoy *positive* external shocks to its aggregate supply. The discovery of a large deposit of oil or minerals will contribute to a nation's wealth. A growing season with a perfect mix of sun and rain may create bountiful harvests that drive food prices down. Positive shocks tend to shift the AS curve to

Figure 12.9 Negative External Shock



BUILDING KEY CONCEPTS

Difficulties such as hurricanes, drought, war, and trade disputes can cause negative external shocks to the economy. **Supply and Demand Compare the results of the negative shock shown on this graph with the results of declining business investment shown in Figure 12.8.**

THE WALL STREET JOURNAL.
CLASSROOM EDITION

In the News *As this excerpt from a* Wall Street Journal Classroom Edition *article shows, business cycles influence people's spending and borrowing habits, incomes, and employment.*

"Consumers [pay] off their credit-card bills faster than ever, as a strong economy and low borrowing costs [leave] many families flush with cash. . . .

"'Late in an economic expansion, the vast majority of consumers are in the best shape they are ever going to be in. In this expansion, consumers are in great shape, home values are high, incomes are up and jobs are plentiful,' says Robert Barbera, chief economist at Hoenig & Co., an investment and economic consulting firm."

the right, lowering the price level and increasing real GDP.

External shocks usually come without much warning. The other key factors capable of pushing an economy from one phase of the business cycle to another are more predictable. So economists track business investment, interest rates, and consumer expectations in order to more accurately forecast changes in the business cycle.

Business Cycle Forecasting

Predicting changes in a business cycle is difficult for a number of reasons. To predict the next phase of a business cycle, forecasters must anticipate movements in real GDP before they occur. This is no easy task, given the large number of factors that influence the level of output in a modern economy.

leading indicators *key economic variables that economists use to predict a new phase of a business cycle*

Government and business decision makers need accurate economic predictions to respond to changes in a business cycle. For instance, if businesses expect a contraction, they may reduce inventories and postpone building new factories. If government policymakers expect a contraction, they may launch spending and taxation measures to try to prevent a recession.

Economists have many tools available for making these predictions. The **leading indicators** are a set of key economic variables that economists use to predict a new phase of a business cycle.

The stock market is one leading indicator. Typically, the stock market turns sharply downward a short time before a recession begins. Recessions do not *always* follow downturns in the stock market, but the pattern is fairly regular. Combined with other leading indicators, stock market movements can help economists predict a contraction.

The Conference Board, a private business research organization, maintains an index of ten leading economic indicators, including stock prices, interest rates, and manufacturers' new orders of capital goods. Economists and policymakers closely watch this index, which is updated monthly. However, like the other important tools used to forecast changes in the business cycle, it is not altogether reliable, since it sometimes predicts events that don't occur. (See "Economic Indicators" in the Economic Atlas and Databank, pages 538–539, for data relating to the Index of Leading Economic Indicators and other economic measures.)

Business Cycles in American History

Economic activity in the United States has indeed followed a cyclical pattern. Periods of GDP growth alternate with periods of GDP decline.

The Great Depression

As you read earlier, before the 1930s many economists believed that when an economy declined, it would quickly recover on its own. This explains why, when the U.S. stock market crashed in 1929, and the economy took a nosedive, President Herbert Hoover felt little need to

Global Connections

Global Economic Decline Like a deadly virus, the Great Depression quickly spread throughout much of the world. Latin America took a hard hit when U.S. markets for its goods dried up. Europeans depended on the United States for investments and loans, which became scarce. Industrial production fell by 40 percent in Germany, 14 percent in Britain, and 29 percent in France. "Hoovervilles," the makeshift shelters of the homeless named after President Hoover, sprang up in cities around the world. A photo from the era shows a British man wearing a sign that described the plight of many: "I know 3 trades / I speak 3 languages / Fought for 3 years / Have 3 children / And no work for 3 months / But I only want one job."

change his economic policies. The crisis, however, did not just go away.

One look at Figure 12.10 shows that the Great Depression did not rapidly cure itself. Rather, it was the most severe economic downturn in the history of industrial capitalism. Between 1929 and 1933, GDP fell by almost one third, and unemployment rose to about 25 percent. One out of every four workers was jobless, and those who could find work often earned very low wages.

As the effects of the Great Depression spread throughout the world, it affected economists' beliefs about the macroeconomy. The Depression, along with the publication of John Maynard Keynes's *The General Theory of Employment, Interest, and Money,* pushed economists to consider the idea that modern market economies could fall into long-lasting contractions.

In addition, many economists accepted Keynes's idea that government intervention might be needed to pull an economy out of a depression. You'll read more about Keynes and his ideas in Chapter 15.

The depression also affected American politics. Rejecting Hoover, voters in 1932 elected the Democratic governor of New York, Franklin Delano Roosevelt, to the presidency. Roosevelt soon began a series of government programs designed to get people back to work.

Programs such as the Works Progress Administration and the Civilian Conservation Corps got able-bodied workers back on the job and earning income, which they would then spend supporting their families. In this way, spending increased throughout the economy.

Not until the United States entered into World War II did the country completely recover from the Great Depression. The sudden surge in government defense spending boosted real GDP well above pre-depression levels.

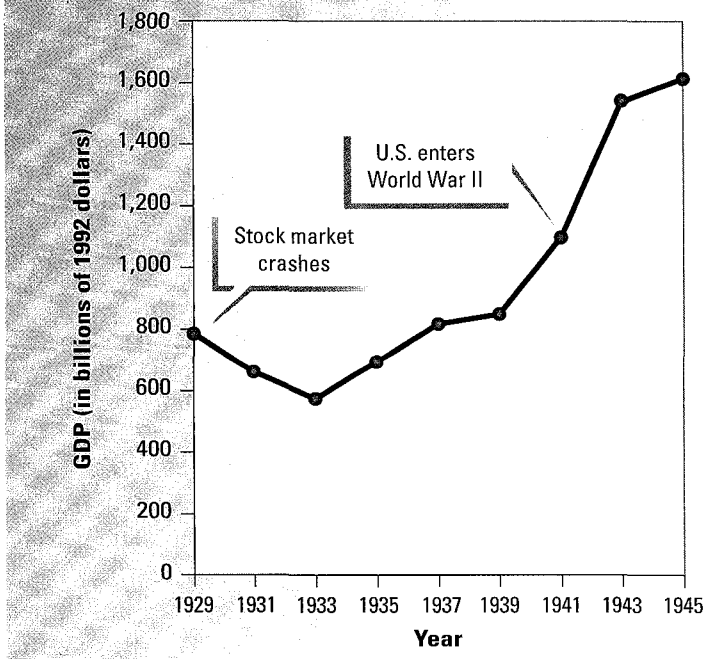
Some Later Recessions

Thankfully, no economic downturns since the 1930s have been nearly as severe as the Great Depression. We have had recessions, though.

In the 1970s, an international cartel, the Organization of Petroleum Exporting Countries (OPEC), launched an embargo on oil shipped to the United States and quadrupled the price of its oil. These actions caused external shocks in the American oil market. As oil prices skyrocketed, raw material costs rose, and the economy quickly contracted into a period of stagflation.

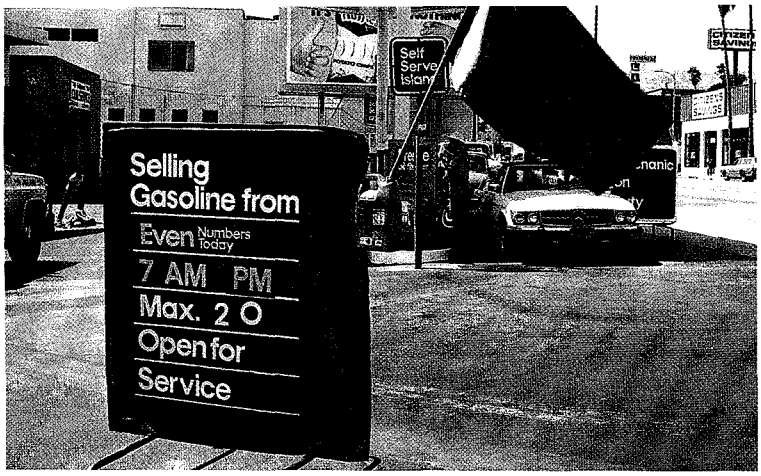
Reeling from higher-than-ever prices for gasoline and heating fuel prices, Americans began looking for ways to conserve energy. They turned down their heat, bought smaller, more fuel-efficient cars, and began researching energy alternatives to petroleum. When the United States and other nations developed more of their own energy resources, OPEC finally lowered its oil prices.

Figure 12.10 U.S. Real GDP, 1929–1945



BUILDING KEY CONCEPTS

As this graph shows, output (real GDP) dropped dramatically during the Great Depression. With factories idle, thousands of Americans lost their jobs and their homes. **Unemployment What accounts for the rise in real GDP in the early 1940s?**



▲ When the supply of OPEC petroleum decreased, gasoline prices shot up. Limited supplies closed some gas stations. The green flag at this California gas station meant that only those customers with even-numbered license plates could buy rationed gas that day.

Once again the United States had suffered an economic downturn, although not as severe as the Great Depression. There were additional problems in the late 1970s and early 1980s. High interest rates and other factors caused real GDP to fall and the unemployment rate to rise to over 9 percent in the early 1980s.

The Future of U.S. Business Cycles

Following a brief recession in 1991, the U.S. economy grew steadily, with real GDP rising each year during the 1990s. The country enjoyed record growth, low unemployment, and low inflation. Some economists began to suggest that the nature of the business cycle had changed. Perhaps we had learned how to control recessions and promote long-term growth.

In early 2001, however, the U.S. growth slowed. Companies began predicting reduced profits. Economists hoped the decline would be short lived, but then the terrorist attacks of September 11 on the World Trade Center and the Pentagon resulted in a sharp drop in consumer spending. The economy fell into a recession. The hotel, airline, and tourism industries were especially affected. Unemployment rose as many hard hit companies laid off employees. Although spending gradually increased following the attacks, many companies blamed their performance problems on September 11.

Many economists expect steady improvement and predict that the recession will be relatively mild. The economic slowdown in 2001, however, suggests that the economy will continue to experience the normal patterns of peaks and troughs during the 21st century. The terrorist attacks remind us that there will always be unexpected events that affect economic performance. Still, the active role of the Fed in cutting interest rates and the government's commitment to stabilize the economy through fiscal policy may help to reduce the severity of recessions in the future.

Section 2 Assessment

Key Terms and Main Ideas

1. Which phase of a **business cycle** can lead an economy into recession?
2. How can interest rates push a business cycle into a **contraction?**
3. Why is the stock market considered to be a **leading indicator** of economic change?
4. How did the Great Depression affect economists' beliefs about the macroeconomy?

Applying Economic Concepts

5. ***Critical Thinking*** At which point in a business cycle would you prefer to be, the peak or the trough? Why?
6. ***Try This*** Draw a line graph of a business cycle in which the peak occurs when the real GDP reaches $4.9 trillion ($4,900 billion) and the trough occurs at $4.3 trillion. Label the expansion, peak, contraction, and trough. Use Figure 12.10 as a model.

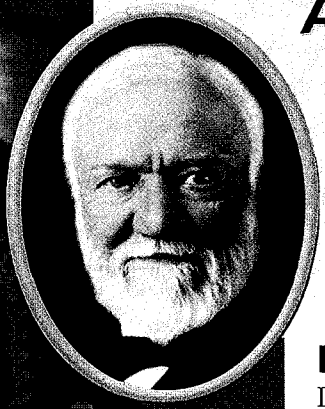
Take It to the NET

Find a first-person description of life during the Great Depression. Briefly describe the conditions the person faced, and explain how he or she was affected by the business cycle. Use the links provided in the Social Studies area at the following Web site for help in completing this activity. **www.phschool.com**

ECONOMIC

Profile

ANDREW CARNEGIE (1835–1919)



Andrew Carnegie's hard work and determination helped him rise from poverty to wealth and power. He inherited a strong commitment to workers from his father, but he also was ruthless when dealing with his own employees. He was deeply committed to charity, and is remembered today for the his huge charitable endowments.

Escape from Poverty

If you had known the Carnegie family when Andrew was born, you would never have predicted his financial success. The Carnegies lived in Dunfermline, Scotland. The town formerly produced the finest damask linens in England, but the industry had declined and Andrew's father, a weaver, did not have enough work to support his family. Hearing that conditions were better in America, the family left Scotland and arrived in Pittsburgh, Pennslyvania, in 1848.

Pittsburgh was a booming industrial city, growing rapidly but suffering the effects of pollution. Carnegie later wrote that "if you washed your face and hands they were as dirty as ever in an hour. The soot gathered in the hair and irritated the skin . . . ." Carnegie was determined to improve his life.

At first, Carnegie worked as a telegraph messenger, then as the personal telegrapher to the superintendent of the western division of the Pennsylvania Railroad. Eventually, he became superintendent himself. By 1856, he had saved enough money to begin investing in other companies, and by 1863 he was earning $40,000 a year from his investments. In 1899, he founded the company that grew into Carnegie Steel Co., Ltd.

Mixed Treatment of Workers

Carnegie often spoke out in support of working people, no doubt remembering his own humble beginnings. But he ran his own business ruthlessly. In a brutal confrontation between striking workers and management guards, three workers and seven guards were killed. Carnegie expressed horror at the bloodshed. Once the union was crushed, however, Carnegie cut wages and imposed longer workdays. He gave his steel workers only one day off during the entire year: the Fourth of July.

Charitable Commitments

In 1901, Carnegie sold Carnegie Steel to J.P. Morgan. Carnegie personally earned $250 million from the sale—or about $4.5 billion in today's dollars. He then retired from business as one of the wealthiest people in the world.

In retirement, Carnegie gave more than $350 million to a wide range of philanthropic causes—over $3 billion in current dollars. He supported education, world peace, libraries, and research. Today, he is also remembered for creating music halls (the most famous one, in New York City, bears his name) and over 3,000 public libraries.

CHECK FOR UNDERSTANDING

1. Source Reading How did Andrew Carnegie use the technological developments of the Industrial Revolution to become one of the richest people in the world?

2. Critical Thinking Are today's entrepreneurs able to make the same degree of charitable contributions as Carnegie? Why or why not?

3. Learn More Use the Internet to learn more about major Carnegie endowments such as the Carnegie Endowment for International Peace.

Section 3

Economic Growth

Preview

Objectives

After studying this section you will be able to:

1. **Analyze** how economic growth is measured.
2. **Understand** capital deepening and how it contributes to economic growth.
3. **Analyze** how saving and investment are related to economic growth.
4. **Summarize** the impact of population growth, government, and foreign trade on economic growth.
5. **Identify** the causes and impact of technological progress.

Section Focus

Economic growth is a steady, long-term increase in a nation's real GDP that tends to raise living standards. Primary contributors to long-term growth include capital deepening, saving and investing, and advances in technology. The other factors that affect economic growth are population, government, and foreign trade.

Key Terms

real GDP per capita
capital deepening
saving
savings rate
technological progress

Most of us would agree that as far as material possessions go, Americans are much better off today than they were 100 years ago. Why is this so?

Economic growth has allowed successive generations to have more and better goods and services than their parents. Long-term increases in real GDP allow an entire society to improve its quality of life, especially its standard of living. (See Chapter 3.)

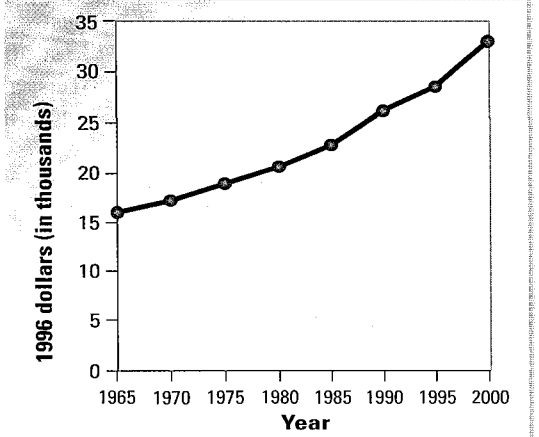
A hundred years ago, most American families would have been able to own an icebox, a wood-burning stove, and a horse or bicycle. For most of us today, those necessities of life have turned into a refrigerator-freezer, a microwave oven, and a car or two. Think about the differences between these two sets of products!

BUILDING KEY CONCEPTS

Americans have been enjoying a fairly steady rise in their standard of living. **Standard of Living By about how much did real GDP per capita increase between 1970 and 2000?**

Figure 12.11 **Real GDP per Capita, 1965–2000**

INTERNET UPDATE



Source: *Economic Report of the President*

Measuring Economic Growth

The basic measure of a nation's economic growth rate is the percentage change of real GDP over a given period of time. For example, the real GDP in 1990 was $6.7 trillion, and in 2000, it was $9.1 trillion. The economic growth rate for this time period was about 38 percent (($9.1 trillion – $6.7 trillion) ÷ $6.7 trillion × 100).

GDP and Population Growth

Over time, a nation's population tends to grow. Real gross domestic product, if it is to satisfy the needs of a nation's growing population, must keep up with the growth

Figure 12.12 Economic Health of Selected Countries

Country	GDP per capita (2000 dollars, in thousands)	GDP growth (average annual % change in growth, 1990–2000)	Secondary-school expenditure per student, 1998 (in dollars)	Life expectancy at birth, 1998 (men/women)	Unemployment rate (% of labor force, 1998, men/women)	% change in consumer prices, 2000
U.S.	36.0	+3.3	7,764	73.9/79.4	4.1/4.3	2.1
Czech Rep.	14.0	+0.2	3,182	71.1/78.1	7.4/10.5	4.5
France	23.2	+1.8	6,605	74.6/82.2	9.9/13.1	1.8
Germany	24.9	+1.7	6,209	74.5/80.5	8.3/9.3	2.0
Japan	25.6	+1.3	5,890	77.2/84.0	4.8/4.5	-0.8
Korea	17.7	+6.1	3,544	70.6/78.1	7.1/5.1	3.4
Mexico	9.0	+3.5	1,586	72.4/77.0	1.8/2.6	5.9
Turkey	6.8	+3.5	not available	66.4/71.0	7.6/6.6	67.3
U.K.	23.9	+2.2	5,230	74.6/79.7	6.8/5.1	1.6

Source: Organization for Economic Cooperation and Development, 2001

The statistics shown here are typically used as indicators of a country's living standards. **Standard of Living (a) How does the economic health of the United States compare to that of the other countries shown here? (b) What countries seem to have the most-healthy and the least-healthy economies?**

rate of the population. This is one reason that economists prefer a measure that takes population growth into account. For this, they rely on **real GDP per capita,** which is real GDP divided by the total population (*per capita* means "for each person").

real GDP per capita *real GDP divided by the total population*

This measure is considered the best measure of a nation's standard of living. As long as real GDP is rising faster than the population, real GDP per capita will rise, and so will the standard of living. Economists can see how the standard of living has changed over time by comparing real GDP per capita from two different time periods. They can also use per capita growth rates to compare the economies of two different nations.

GDP and Quality of Life

We can use GDP to measure standard of living, which relates to material goods. We cannot use it, however, as a complete measure of people's quality of life. As you read in Section 1, GDP excludes many factors that affect the quality of life, such as the state of the environment or the level of stress that individuals feel in their daily lives. In addition, while real GDP per capita represents the average output per person in an economy, it tells us nothing about how the output is distributed. A nation may have relatively high real GDP per capita, but if most of the income goes to relatively few people while the majority earn next to nothing, the typical person will not enjoy a very high standard of living.

Despite these facts, real GDP per capita is a good starting point for measuring a nation's quality of life. Nations with greater availability of goods and services usually enjoy better nutrition, safer and more comfortable housing, longer life spans, better education, and other indicators of a favorable quality of life.

Since economic growth has an enormous impact on quality of life, economists devote significant resources to figuring out what causes the nation's real GDP to rise. They

capital deepening *process of increasing the amount of capital per worker*

saving *income not used for consumption*

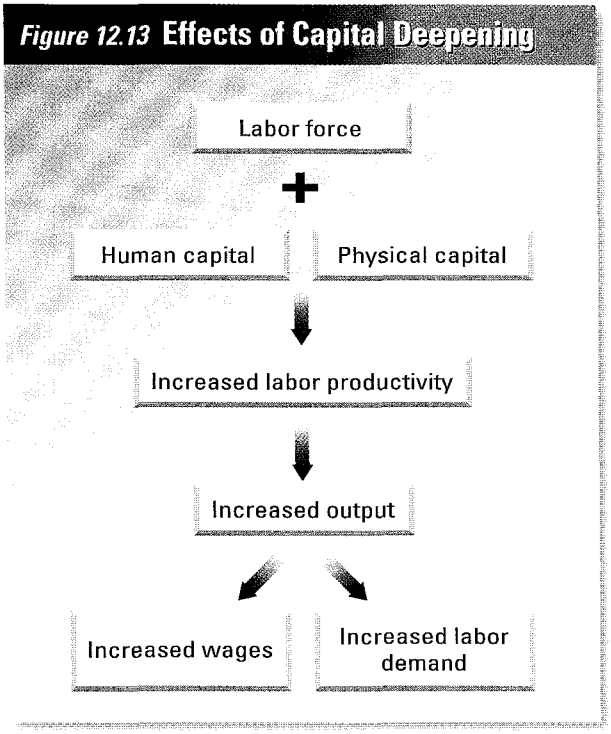
savings rate *the proportion of disposable income that is saved*

focus on the roles of capital goods, technology, and a few related factors.

Capital Deepening

Physical capital, the equipment used to produce goods and services, makes an important contribution to the output of an economy. With more physical capital, each worker can be more efficient and productive, producing more output per hour of work. Economists use the term *labor productivity* to describe the amount of output produced per worker.

With a labor force of a given size, more physical capital will lead to more output—in other words, to economic growth. This process of increasing the amount of capital per worker, called **capital deepening,** is one of the most important sources of growth in modern economies. (See Figure 12.13.)



BUILDING KEY CONCEPTS

This diagram shows the beneficial effects of capital deepening.

Money Suppose you own a small clothing shop. Why should buying a new line of clothes for an upcoming season and providing special training for sales staff result in capital deepening?

Human capital, the productive knowledge and skills acquired by a worker through education and experience, also contributes to output. Firms, and employees themselves, can deepen human capital through training programs and on-the-job experience. Better-trained and more-experienced workers can produce more output per hour of work. As the United States moves toward a service-oriented economy, human capital becomes another vital source of growth.

Capital deepening—whether it be physical capital or human capital—increases output per worker. It also tends to increase workers' earnings. To understand why this happens, consider the effect of greater worker productivity on the demand for workers. As you read in Chapter 9, if workers can produce more output per hour, they become more valuable to their employers. As a result, employers will demand more workers. This increase in demand will increase the equilibrium wage rate in the labor market.

So, with a labor force of a given size, capital deepening will increase output and workers' wages. But how does an economy increase its stock of capital per worker? It does so through saving and investment.

Saving and Investment

To help us understand how saving and investment are related, let's consider an economy with no government sector and no foreign trade. In this simplified economy, consumers and business firms purchase all output. In other words, output can be used for consumption (by consumers) or investment (by firms). Income that is not used for consumption is called **saving.**

Since output can only be consumed or invested, whatever is not consumed must be invested. Therefore, in this simplified economy, saving is equal to investment. The proportion of disposable income that is saved is called the **savings rate.**

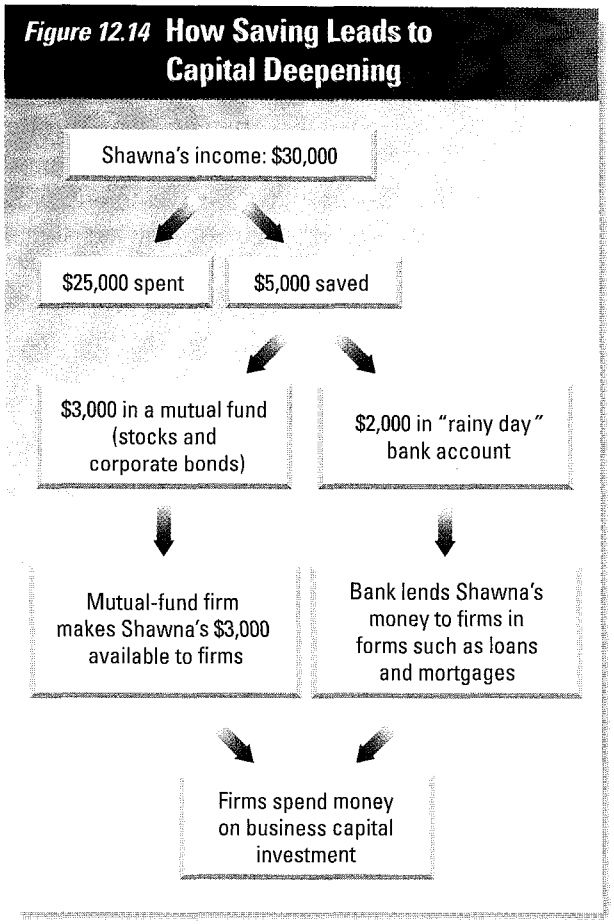
To see this another way, look at an individual's decision, as shown in Figure 12.14.

Shawna had an after-tax income of $30,000 last year, but she spent only $25,000. That left her with $5,000 available for saving. She used some of her leftover income to purchase shares in a mutual fund (stocks and bonds). She put the rest of the money into her bank account.

Through her mutual-fund firm, her bank, and other intermediaries, Shawna's $5,000 was made available to businesses. The firms used the money to invest in new plants and equipment. So, when Shawna chose not to spend her entire income and decided instead to save some of it, the amount that she saved became available for business investment.

If we consider the economy as a whole, the process works the same way. If total saving rises, more investment funds become available to business firms, and they will spend more on capital. Those firms will use most of these funds for capital investment—for expanding the stock of capital in the business sector.

Higher saving, then, leads to higher investment, and thus to higher amounts of capital per worker. In other words, higher saving leads to capital deepening. Now we can understand why most nations promote saving. In the long run, more saving will lead to higher output and income for the population, raising GDP and the standard of living.



BUILDING KEY CONCEPTS

This diagram shows how saving adds to GDP by creating capital.
Money If people saved a high proportion of their incomes, how might the economy be affected?

Population, Government, and Trade

Now we will consider a slightly more realistic economy that has population growth, a government sector, and foreign trade. First, think about the effect of the population growth on capital accumulation.

Population Growth

Population growth does not necessarily preclude economic growth. However, if the population grows while the supply of capital remains constant, the amount of capital per worker will shrink. This process, the opposite of capital deepening, will lead to lower living standards. In fact, some relatively poor countries, such as India, have large labor forces but small capital stocks.

The result is that output per worker—and earnings per worker—are relatively low. Conversely, a nation with low population growth and expanding capital stock will enjoy significant capital deepening.

Government

Government can affect the process of capital deepening in several ways. If government raises tax rates to pay for additional services or to finance a war, households will have less money. People will reduce their saving, thus reducing investment. In these cases, the government is taxing households in order to pay for

technological progress *an increase in efficiency gained by producing more output without using more inputs*

consumption spending, and the net effect is reduced investment.

On the other hand, if government invests the extra tax revenues in public goods, such as roads, telecommunications, and other infrastructure, investment will increase. To see why, consider what share of income the average household saves. Suppose that, on average, households save 10 percent of their income. In this case, for every extra dollar in tax revenue the government collects, household saving (and investment) drops by 10 cents. However, government investment in infrastructure rises by $1. The net result is an increase in total investment of 90 cents. This would promote capital deepening, since the government is taxing its citizens to provide investment goods.

Foreign Trade

Foreign trade can result in a trade deficit, a situation in which the value of goods a country *imports* is higher than the value of goods it *exports*. (You will read more about trade deficits in Chapter 17.) Running a trade deficit may not seem like a wise practice, but if the imports consist of investment goods, the practice can foster capital deepening. *Investment goods* are the structures and equipment purchased by businesses.

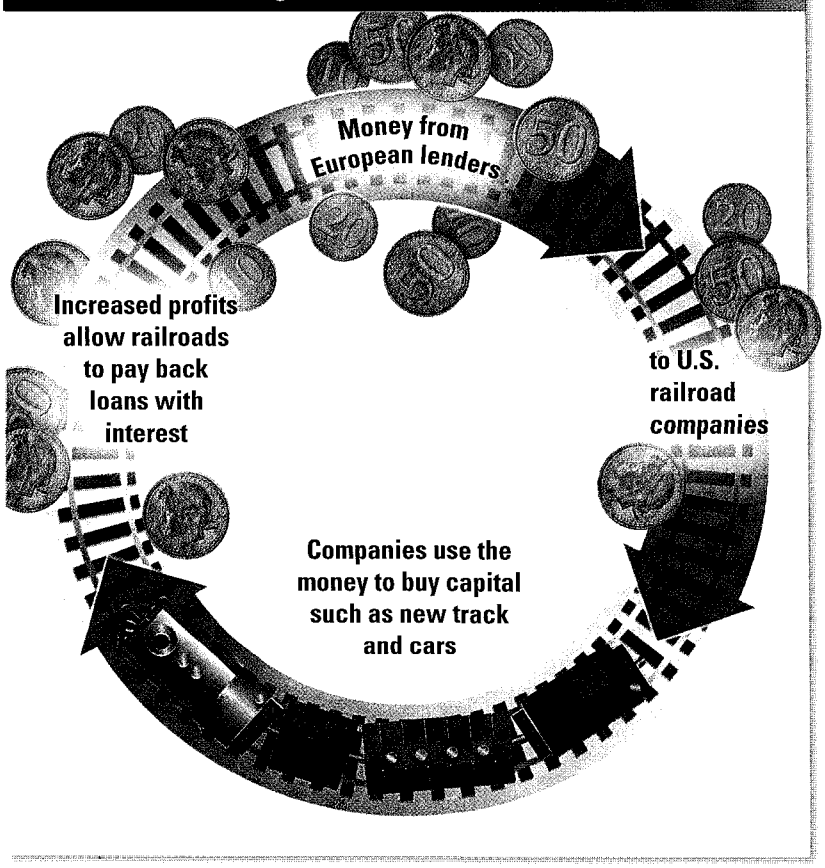
Capital deepening can help a country pay back its creditors because it is a source of economic growth. In the mid-1800s, for example, the United States financed the building of the transcontinental railroad in part by borrowing funds from investors in other countries. (See Figure 12.15.) The borrowing created a trade deficit, but it also helped create a much higher rate of economic growth than would have occurred without the borrowing. The railroad opened up vast areas to farming, which over time helped increase the nation's agricultural output by a huge amount.

Of course, not all trade deficits promote capital deepening. In this regard, trade deficits are similar to government taxation. Whether they encourage capital deepening and economic growth depends on how the funds are used. If they are used for short-term consumption, the economy will not grow any faster, and it will not have any additional GDP to pay back the debts. If the funds are used for long-term investment, however, they will foster capital deepening. The resulting economic growth will bring the country prosperity in the future.

Technological Progress

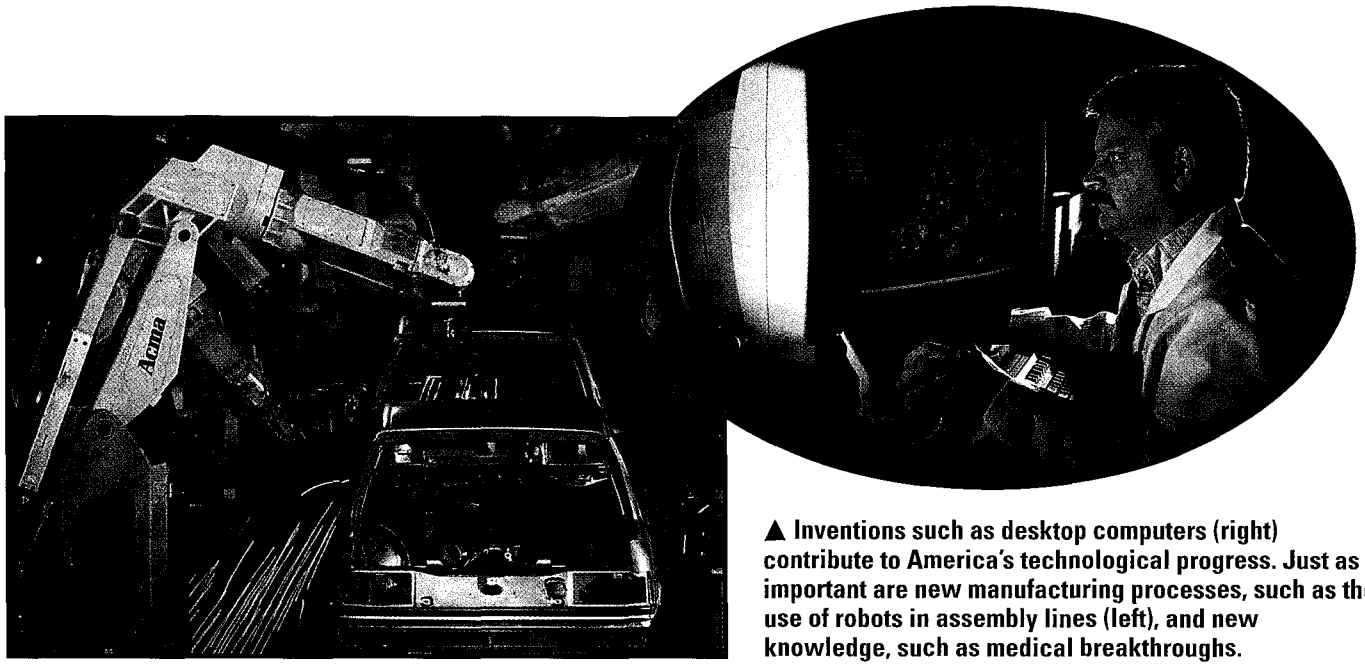
Another key source of economic growth is technological progress. This term usually brings to mind new inventions or new ways of performing a task, but in economics, it has a more precise definition. **Technological progress** is an increase in efficiency gained

Figure 12.15 **Financing the Transcontinental Railroad**



BUILDING KEY CONCEPTS

In the mid-1800s, railroad companies, eager to build a transcontinental line, borrowed money from foreign investors. The railroad, which was completed in 1869, made enough money to pay off the loans and return a profit.
Money How is the scenario shown here an example of capital deepening?



▲ **Inventions such as desktop computers (right) contribute to America's technological progress. Just as important are new manufacturing processes, such as the use of robots in assembly lines (left), and new knowledge, such as medical breakthroughs.**

by producing more output without using more inputs.

Technological progress occurs in many ways, as illustrated in the photographs above. It can come as new scientific knowledge that has practical uses. It can be a new machine that allows goods to be produced more efficiently. It may be a new method for organizing production. All of these advances raise a nation's productivity. Increased productivity means that we can produce more output with the same amounts of land, labor, and capital. With technological progress, a society can enjoy higher real GDP per capita, which leads to a higher standard of living.

Measuring Technological Progress

In most modern economies, the amount of physical and human capital changes all the time. So does the quantity and quality of labor and the technology used to produce goods and services. These interconnected variables work together to produce economic growth. How then can we isolate and measure the effects of technological progress?

Robert Solow, a 1987 Nobel Prize-winning economist from the Massachusetts Institute of Technology, developed a method for measuring the impact of technological progress on economic growth. Solow's method was to determine how much growth in output comes from increases in capital and how much comes from increases in labor. He concluded that any remaining growth in output must then come from technological progress.

Between 1929 and 1982, the average annual growth rate of real GDP was 2.92 percent. Using Solow's method, economist Edward Denison has estimated that technological progress boosted the real GDP 1.02 percent per year, on average. Increases in capital and labor were responsible for 0.56 percent and 1.34 percent of the average annual growth, respectively (2.92 – 0.56 – 1.34 = 1.02).

Causes of Technological Progress

Since technological progress is such an important source of economic growth, economists have looked for its causes. They have found a variety of factors that influence technological progress.

FAST FACT

Innovations in communication and transportation have revolutionized business efficiency in recent decades. Suppose a Michigan manufacturer needs a part from Japan to repair an essential tool on his automobile assembly line. He can contact the parts factory in Japan instantly through phone, fax, or email. Then, instead of waiting a week or more for the new part to arrive, he can receive the part in the morning through an overnight airline express service and have his assembly line up and running by afternoon.

THE WALL STREET JOURNAL.
CLASSROOM EDITION

In the News *As this excerpt from a* Wall Street Journal Classroom Edition *article shows, the labor force sometimes has trouble keeping up with the technology that drives our economy.*

"Trying to boost productivity, companies everywhere have spent billions of dollars on information technology. But now, these new high-tech tools are often idled by a very old-fashioned labor shortage. . . .

"The output of new talent from the nation's computer-science departments isn't keeping up with demand. According to the Commerce Department, there are 100,000 new computer jobs each year, but only 25,000 computer-related bachelor's degrees. . . ."

1. *Scientific research* Scientific research can generate new or improved production techniques, improve physical capital, and result in better goods and services.
2. *Innovation* When new products and ideas are successfully brought to the market, output goes up, boosting GDP and business profits. Yet innovation often requires costly research. For companies to carry out research, they need some assurance that they will make a profit on the sale of a product.

That's why the government issues patents. A patent is an exclusive right to produce and sell a product for a given period, currently 20 years. A patent helps companies recover the cost of research by earning profits before its competitors are allowed to copy new products.

Government can aid innovation in other ways as well. Through organizations such as the National Science Foundation and the National Institutes of Health, the United States government sponsors so-called basic research, the theoretical research that is often costly and might not bring a new product to market in a timely way.

3. *Scale of the market* Larger markets provide more incentives for innovation, since the potential profits are greater. For this reason, larger economies will come up with more technological advances.
4. *Education and experience* As you read earlier, firms can develop their human capital by providing education and on-the-job experience for workers. Human capital makes workers more productive and thus accelerates economic growth. It can also stimulate growth in another way. A more educated and experienced work force can more easily handle technological advances and may well create some new advances, too.
5. *Natural resource use* Increased natural resource use can create a need for new technology. For example, new technology can turn previously useless raw materials into usable resources. It can also allow us to obtain and use resources more efficiently, develop substitute new resources, and discover new resource reserves. Because price is based on the cost of obtaining a resource (and not necessarily on its scarcity), new technology can also lead to lower prices.

Section 3 Assessment

Key Terms and Main Ideas

1. **(a)** Why do economists measure **real GDP per capita?** **(b)** Why does real GDP per capita provide a better way to compare the economies of two different nations than does real GDP alone?
2. What is **capital deepening,** and how does it contribute to economic growth?
3. What role does **saving** play in the process of economic growth?
4. How do patents encourage **technological progress?**

Applying Economic Concepts

5. ***Critical Thinking*** You have read about the economic effects of the transcontinental railroad. What other communication and transportation systems might have similar effects? Write a paragraph analyzing these effects.
6. ***Using the Databank*** Turn to the graph "Personal Savings as a Percentage of Disposable Income" on page 540. What was the trend in savings between 1990 and 2000? How might this trend have affected capital deepening? Explain.

Take It to the NET

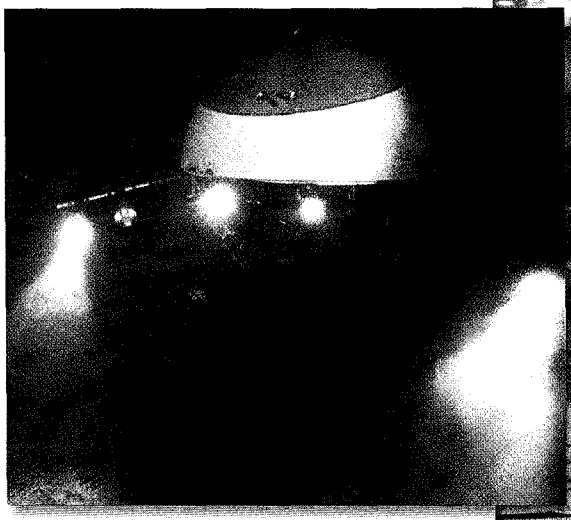
Create a brief oral presentation analyzing how a technological innovation has changed the way goods are manufactured, marketed, and distributed in the United States. Use the links provided in the Social Studies area at the following Web site for help in completing this activity. **www.phschool.com**

Real-life Case Study

How Has Technology Affected Productivity?

Technology, according to Peter Zentz, "is the cornerstone of all the products we make." Zentz is an executive with Benthos, Inc., a manufacturer of underwater equipment such as cameras that operate on the ocean floor. Benthos cameras took the first underwater pictures of the RMS *Titanic* after its discovery.

"The technology that continues to be developed in our industry," says Zentz, "is truly remarkable. But what strikes me every day is the way in which other types of technology have enabled us . . . to efficiently serve our customers, communicate effectively with them and our workers . . . and keep precise records."



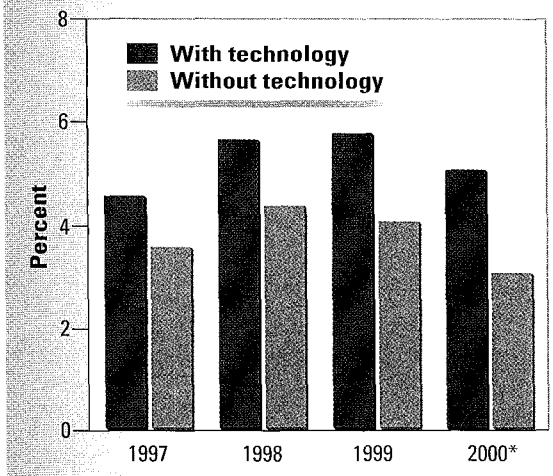
▲ High-tech underwater cameras help researchers study the ocean floor.

Teleconferencing Rick Gifford, a Benthos sales executive, believes that one of the greatest advancements for business is the technology that makes teleconferencing possible. "We used to spend hours, even days, bringing our sales representatives, customers, and field workers into our office for important meetings," he explains. "Through teleconferencing we get it done just as effectively, eliminate enormous expense, and no one has to be uprooted."

Photocopiers Zentz and Gifford, however, both agree that the computer is not their most indispensable technological device. "Believe it or not," says Zentz, "we've found that the copy machine is our most important piece of equipment. The thought of hand-copying the thousands of designs, research reports, written correspondence, and other documents that we generate every year boggles my mind."

Zentz is not alone in his opinion. In a recent survey, most office workers indicated that the photocopier is important to their productivity. But whatever the ranking, one thing is certain. Technology has changed the business world forever.

Annual Growth of Total Spending



Source: *Wall Street Journal Classroom Edition*, March 2001

* Through third quarter

Applying Economic Ideas

1. How has technology affected office productivity?
2. The graph on the right shows annual total spending in the United States economy with and without technology. What can you conclude about the relationship of technology and GDP?

Chapter 12 Assessment

Chapter Summary

A summary of major ideas in Chapter 12 appears below. See also the **Guide to the Essentials of Economics,** which provides additional review and test practice of key concepts in Chapter 12.

Section 1 Gross Domestic Product (pp. 301–308)

Gross domestic product (GDP) is the most important measure of a nation's economic performance. GDP changes in response to shifts in **aggregate supply** and **aggregate demand.** GDP does have its limitations, however. Other measures are often used in addition to GDP when evaluating a nation's economy. **National income accounting** is a system that collects macroeconomic statistics.

Section 2 Business Cycles (pp. 310–316)

A business cycle includes four phases: **expansion, peak, contraction,** and **trough.** Policymakers study business cycles to try to predict downturns in the economy and take steps to lessen their effects and speed economic recovery. **Leading indicators** help economists take the pulse of the macroeconomy.

Section 3 Economic Growth (pp. 318–324)

Economic growth is a steady, long-term increase in real GDP and often results in higher living standards. **Capital deepening, saving** and investment, population growth, government, foreign trade, and **technological progress** affect economic growth. **Real GDP per capita** is considered the best measure of a nation's standard of living.

Key Terms

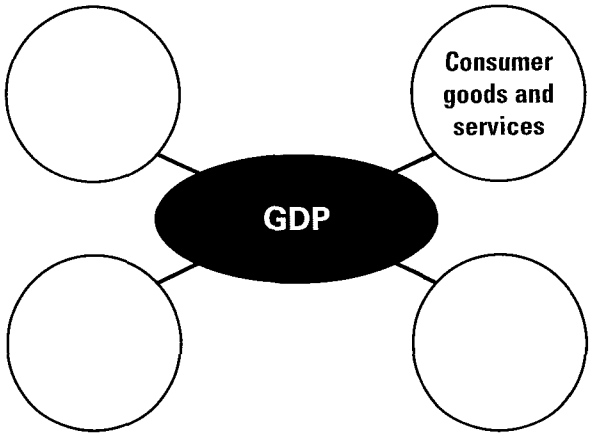
Complete each sentence by choosing the correct answer from the list of terms below. You will not use all of the terms.

gross domestic product
price level
capital deepening
aggregate supply
intermediate goods
recession
leading indicators
business cycle
gross national product

1. ____ are goods used in the production of final goods.
2. A ____ can be described as a period of macroeconomic expansion followed by a period of contraction.
3. Economists use the term ____ to describe the dollar value of all final goods and services produced within a country's borders in a given year.
4. ____ occurs when the amount of capital per worker increases.
5. The ____ is the average of all prices in the economy.
6. A prolonged economic contraction is known as a ____.

Using Graphic Organizers

7. On a separate sheet of paper, copy the web map below. Complete the web map by filling in the circles with components of GDP. You may add more circles.



Reviewing Main Ideas

8. List three limitations of using GDP as a measure of the nation's economy.
9. Identify four factors that keep the business cycle going.
10. Summarize the ways in which economists measure economic growth.
11. What is the difference between nominal GDP and real GDP?

Critical Thinking

12. **Making Comparisons** Compare the factors that propel the business cycle in peak periods. Which factor affects you most? Which is the most uncontrollable factor?
13. **Drawing Inferences** Why is real per capita GDP used to measure economic growth? In which ways is this measure more effective than other measures?
14. **Synthesizing Information** Explain why GDP is an accepted way of measuring the economy, despite its known drawbacks.

Problem-Solving Activity

15. A group of consumers claims that drug companies earn excessive profits because of the patents they have on drugs. They recommend cutting the length of time that a drug company can hold a patent to five years. They argue that this will lead to lower prices for drugs because competitors will enter the market after the five-year period. Are there any drawbacks to this proposal?

Skills for Life

Predicting Consequences Review the steps shown on page 309; then answer the following questions using the table below.

16. What is the topic of the table?
17. What economic indicators does the table show?
18. What time period do the data cover?
19. What trend can you find in these data?
20. How might you explain the trend in these data?
21. What prediction could you make on the state of the economy based on these data?

Economic Indicators

	Manufacturers' orders, consumer goods (1996 dollars, in millions)	Building permits (in thousands)	Money supply, M2 (1996 dollars, in billions)
Nov. 2000	177,156	1,614	4,535.80
Dec. 2000	174,852	1,553	4,565.80
Jan. 2001	167,820	1,724	4,591.20
Feb. 2001	170,582	1,663	4,620.30
March 2001	170,493	1,627	4,674.20

Source: The Conference Board

Economics Journal

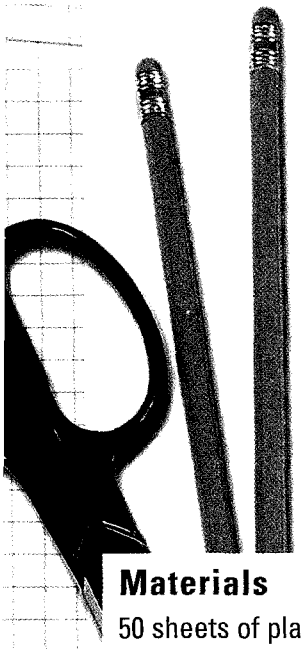
Making Comparisons Compare the forecasts you collected. How are they similar? How do they differ? On what indicator does each article base its forecast? Which forecast is considered most reliable?

Take It to the NET

Chapter 12 Self-Test As a final review activity, take the Chapter 12 Self-Test in the Social Studies area at the Web site listed below, and receive immediate feedback on your answers. The test consists of 20 multiple-choice questions designed to test your understanding of the chapter content.
www.phschool.com

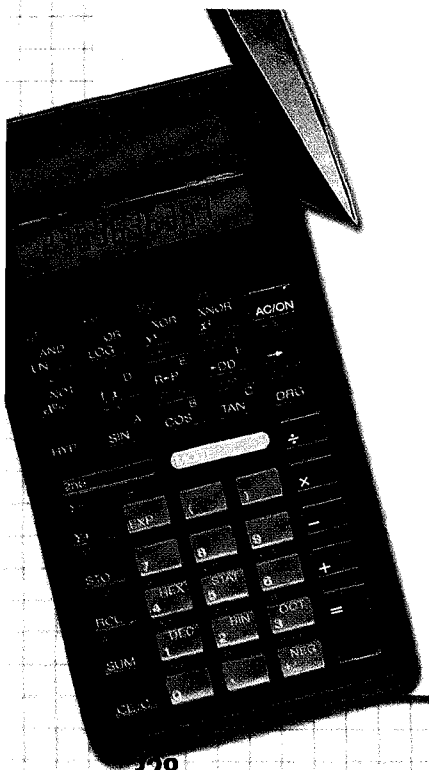
Economics Simulation

Increasing Productivity

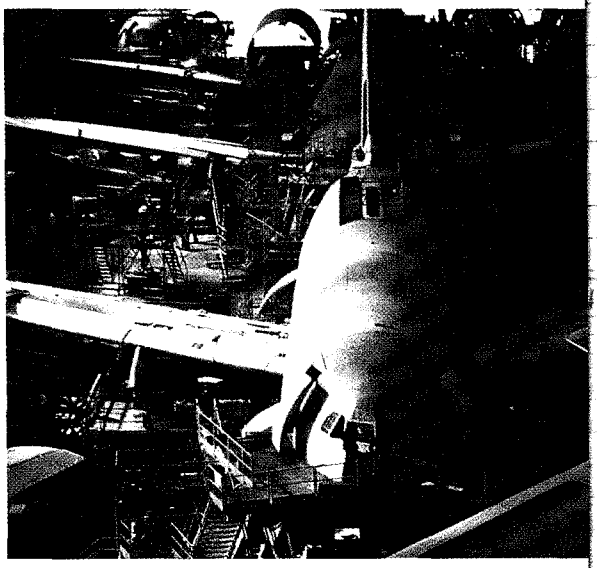


Materials

50 sheets of plain $8\frac{1}{2}$" x 11" paper
6 student desks
3 scissors
10 pencils



Resources are limited, and people's wants and needs often exceed what is available. As a result of scarcity, people "economize" by trying to get the greatest benefits from their limited resources. In other words, they try to get as much as possible from those resources by increasing productivity. Productivity is usually measured by the amount of output per worker. In this lab you will explore how businesses try to obtain the greatest possible benefits from the fewest possible resources.



▲ **Specialization at this assembly line can lead to increased productivity.**

Preparing the Simulation

One way that producers attempt to increase productivity is by dividing production into steps and assigning a step to each worker. Your task in this lab is to determine the impact this specialization, or division of labor, has on productivity.

Step 1: With a group of six of your classmates, form a "company" that builds paper airplanes. As a group, experiment and agree on a simple design for your company's airplane using only one half of an $8\frac{1}{2}$" x 11" piece of paper ($8\frac{1}{2}$" x $5\frac{1}{2}$"). Next, choose a company name, and print the name on both sides of the plane's fuselage. Each member of the company should practice making an airplane before beginning the lab activity.

Step 2: Gather your company's production resources as shown in the Materials box above. You already have one factor of production—your group's labor. Select one member to be quality control manager. The other members will be production workers. The quality control manager should inspect each worker's "practice" airplane using the following criteria: The plane must be made from the correct size paper, it must be properly folded, and the company name should be printed correctly on both sides.

Step 3: As the "workers" assemble the factors of production, the quality control manager should prepare a chart by copying, on a separate sheet of paper, the Productivity Chart shown at right.

Conducting the Simulation

This simulation will consist of three four-minute "shifts," each of which is described on the next page. During each shift the group's six workers will "manufacture" airplanes. All workers must cease work immediately at the end of each shift.

Shift 1

Materials:
1 pair of scissors
1 pencil
2 desks

Procedure: Each worker must work alone to make his or her airplanes. The materials must be shared. After the four minutes is up, the quality control manager should inspect the airplanes and record the number of acceptable airplanes completed in the Shift 1 column on the Productivity Chart.

Shift 2

Materials:
1 pair of scissors
1 pencil
2 desks

Procedure: Before this shift begins, work as a group to break the production process into a series of steps. Include cutting the paper, folding, and writing the company name. Before the shift begins, assign group members to one of the steps and organize the new assembly line. When the shift ends, the quality control manager should record the number of acceptable airplanes completed in the Shift 2 column on the Productivity Chart.

Shift 3

Materials:
Using the costs listed on the Productivity Chart, decide as a group whether to purchase additional desks, scissors, or pencils for the purposes of increasing productivity or of adding a second assembly line. You may acquire a maximum of 6 desks, 3 scissors, and 10 pencils.

Procedure: Before the shift begins, record the costs of any new capital in the Shift 3 column on the chart and reorganize the new assembly line or lines. At the end of the shift, record the number of airplanes completed in the Shift 3 column on the chart.

Productivity Chart

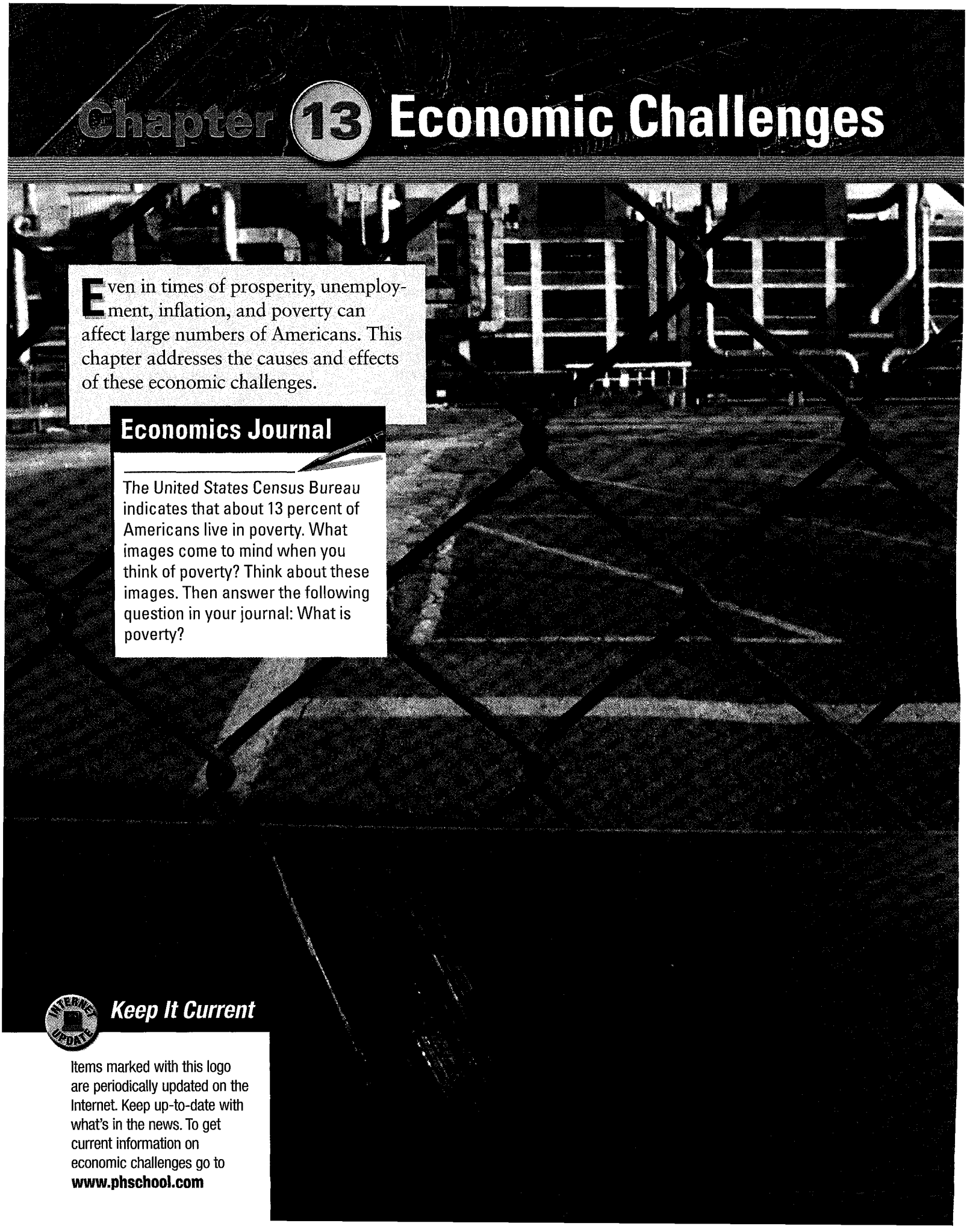
	Shift 1	Shift 2	Shift 3
a number of acceptable airplanes completed			
b number of workers			
c cost of materials (25¢ per plane)			
d wages ($1.00 per worker)			
e factory rent ($1.00 per desk)	2.00	2.00	
f investment in equipment (50¢ per scissors) (25¢ per pencil)	.75	.75	
g total cost (c + d + e + f)			
h cost per airplane (g + a)			
i total time worked (b x 4 minutes)			
j output per minute (a + i)			
k productivity per worker (a + b)			

Simulation Analysis

Complete the productivity chart as a group; then discuss the following questions.

1. What effect did the division of labor in Shift 2 have on productivity?
2. What effect did investing in additional capital goods for Shift 3 have on productivity?
3. For which shift was the cost per airplane the lowest? The highest?
4. **Identifying Alternatives** If instead of making an additional capital investment in Shift 3, the company had laid off one or two workers, how might total production, costs, and productivity per worker (rows a, g, h, j, and k on the productivity chart) have been affected?

Chapter 13 Economic Challenges



Even in times of prosperity, unemployment, inflation, and poverty can affect large numbers of Americans. This chapter addresses the causes and effects of these economic challenges.

Economics Journal

The United States Census Bureau indicates that about 13 percent of Americans live in poverty. What images come to mind when you think of poverty? Think about these images. Then answer the following question in your journal: What is poverty?

Keep It Current

Items marked with this logo are periodically updated on the Internet. Keep up-to-date with what's in the news. To get current information on economic challenges go to **www.phschool.com**

Section 1

Unemployment

Preview

Objectives

After studying this section you will be able to:

1. **Describe** frictional, seasonal, structural, and cyclical unemployment.
2. **Describe** how full employment is measured.
3. **Explain** why full employment does not mean that every worker is employed.

Section Focus

Even in good economic times, unemployment affects millions of Americans. The unemployment rate provides an important clue to the health of the entire economy.

Key Terms

frictional unemployment
seasonal unemployment
structural unemployment
cyclical unemployment
census
unemployment rate
full employment
underemployed
discouraged worker

In the late 1990s and early 2000s, unemployment in the United States hit record lows. Nevertheless, millions of Americans were looking for work, trying their best to get by on limited funds while they searched for a new job.

Unemployment, however, is not just a personal issue. It is an issue for the national economy. Economists can measure how healthy the economy is at any given time by counting the number of people who are unemployed. Congress, the President, and other policymakers pay close attention to these statistics so they can take the necessary action to get people back to work.

Economists look at four basic kinds of unemployment: frictional, seasonal, structural, and cyclical. The various kinds of unemployment have different effects on the economy as well as on the people who are unemployed.

Frictional Unemployment

Unemployment always exists, even in a booming economy. **Frictional unemployment** occurs when people take time to find a job. For example, people might change jobs, be laid off from their current jobs, need some time to find the right job after they finish their schooling, or take time off from working for a variety of other reasons. In the following examples Hannah, Jorge, and Liz are all considered frictionally unemployed.

frictional unemployment *unemployment that occurs when people take time to find a job*

- Hannah was not satisfied working as a nurse in a large hospital. Last month she left her job to begin looking for a position at a small health clinic.
- Since Jorge graduated from law school three months ago, he has been interviewing with various law firms to find the one that best suits his needs and interests.
- Liz left her sales job two years ago to care for an aging parent. Now she is trying to return to the work force.

None of these three people found work immediately after beginning his or her search. While they are looking for work, they are considered frictionally unemployed. In an economy as large and diverse as that of the United States, economists expect to find many people in this category.

Seasonal Unemployment

Gregory is a brick mason for a small construction company in the northeastern United States. Every winter Gregory's

▲ **Seasonal unemployment affects migrant farm workers, who can be without work once the harvest season is over.**

seasonal unemployment *unemployment that occurs as a result of harvest schedules or vacations, or when industries slow or shut down for a season*

structural unemployment *unemployment that occurs when workers' skills do not match the jobs that are available*

employer lays off all seven of his employees when cold weather forces an end to outdoor work. In the spring, he hires the workers back again to begin a new construction season. Gregory's yearly pattern of steady work followed by a predictable period of unemployment marks him as a seasonal worker.

In general, **seasonal unemployment** occurs when industries slow or shut down for a season or make seasonal shifts in their production schedules. It can also occur as a result of harvest schedules or vacations. When this school year ends, you or your friends may need some time to find the perfect summer job. If so, economists will count you as seasonally unemployed.

As with frictional unemployment, economists expect to see seasonal unemployment throughout the year. Government policymakers do not take steps to prevent this kind of unemployment, because it is a normal part of a healthy economy.

Still, the lives of seasonally unemployed workers can be extremely difficult. Migrant agricultural workers, for example, travel throughout the country to pick fruits and vegetables as various crops come into season. They know that their work will likely end when winter arrives. Migrant workers can also have periods of unemployment even during harvest season, depending on weather patterns that year. Heat, cold, rain, and drought can all ruin harvest schedules by causing fruits and vegetables to ripen sooner or later than expected. Instead of moving smoothly from crop to crop, migrant workers might lose work time waiting for a crop to be ready for picking.

Structural Unemployment

As you read in Chapter 9, the structure of the American economy has changed over time. Two centuries ago, people needed basic farming skills to survive. As the country developed an industrial economy, farm workers moved to urban areas to work in factories. Today, service industries are rapidly replacing manufacturing industries, and information services are expanding at breakneck speed.

All these shifts lead to upheavals in the labor market. When the structure of the economy changes, the skills that workers must have in order to succeed in the economy also change. Workers who lack the necessary skills lose their jobs. **Structural unemployment** occurs when workers' skills do not match the jobs that are available.

▶ **With the invention of electric refrigerators, workers no longer made home deliveries of ice. The displacement of these workers is an example of structural unemployment.**

There are five major causes of structural unemployment.

- *The development of new technology* New inventions and ideas often push out older ways of doing things. For example, after the compact disc was introduced in 1982, fewer people bought phonograph records. Many workers who produced records and record players had to look for work in another field.
- *The discovery of new resources* New resources replace old resources and the industries that provide them. The discovery of petroleum in Pennsylvania in 1859 severely hurt the whale-oil industry and put many whaling ship crews out of work.
- *Changes in consumer demand* Consumers often stop buying one product in favor of another. Many people today favor sneakers and other sports shoes over more traditional kinds of shoes. As a result, traditional shoemaking jobs have declined.
- *Globalization* Recent trends in the world economy include a shift from local to global markets. As a result, companies often relocate jobs or entire facilities to another country. Celia, for example, had spent many years working on an automobile assembly line in Michigan. Then, in the late 1990s, the removal of trade barriers between the countries of North America led her company to move much of its auto assembly work to Mexico, where labor is less expensive. Celia lost her job.
- *Lack of education* People who drop out of school or fail to acquire the minimum skills needed for today's job market may find themselves unemployed, employed part-time, or stuck in a low-wage job. For example, Martin only barely managed to graduate from high school. When he was hired as a clerk by a local clothing store, he had trouble using the computerized checkout register. The store manager fired Martin after just two months because Martin lacked the skills needed for the job.

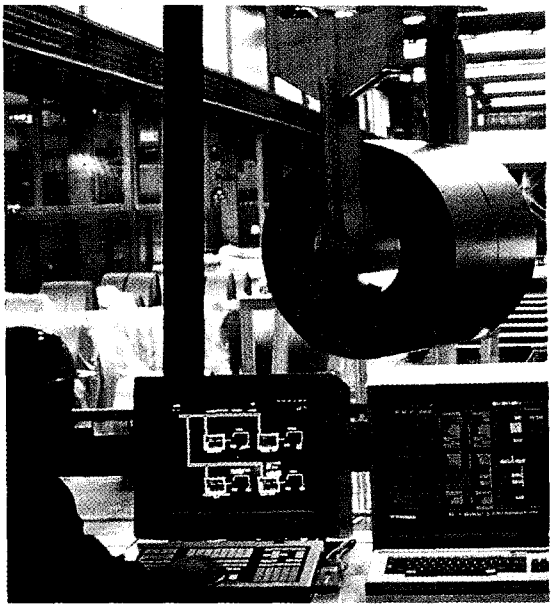
Policymakers in the 1990s recognized that computer technology, globalization, and other structural changes threatened the futures of many workers. As a result, they developed job-training programs to help workers gain new skills, especially computer skills.

Retraining takes a long time, however, and the new skills do not assure the trainees a high-wage job. Some companies have begun offering their own training programs. In this way, they can tailor the training to fit their exact labor needs. This approach gives more trainees the specific skills that can make them valued employees.

Cyclical Unemployment

Unemployment that rises during economic downturns and falls when the economy improves is called **cyclical unemployment.** During recessions, or downturns in the business cycle, the demand for goods and services drops. The resulting slowdown in production causes the demand for labor to drop as well, and companies begin to lay off employees. Many of these laid-off employees will be rehired when the recession ends and the business cycle resumes an upward trend. Although economists expect cyclical unemployment, it can severely

cyclical unemployment *unemployment that rises during economic downturns and falls when the economy improves*



◀ Cyclical unemployment can affect workers in industries sensitive to changes in the business cycle, such as workers in the steel industry.

▲ **What might be the effects of the mother's job loss on her family?**

strain the economy and greatly distress the unemployed.

The most damaging example of cyclical unemployment in the twentieth century was the Great Depression. During the Great Depression, one out of every four workers was unemployed. Many remained jobless for years. To help these unemployed workers, President Franklin D. Roosevelt proposed, and Congress passed, the Social Security Act of 1935. In addition to providing payments for people who cannot support themselves, this act established a program of unemployment insurance. Today, this insurance provides weekly payments to workers who have lost their jobs. The payments usually provide about half of a worker's lost wages each week for a limited amount of time.

Measuring Employment

The amount of unemployment in the nation is an important clue to the health of the economy. For this reason, the government keeps careful track of how many people are unemployed, and why.

census *an official count of the population*

unemployment rate *the percentage of the nation's labor force that is unemployed*

The United States Bureau of the Census conducts a monthly census relating to the size and other characteristics of the population. (A **census** is an official count of the population.) Each month, the Bureau of Labor Statistics (BLS), a branch of the U.S. Department of Labor, polls a sample of the population. This sample, consisting of about 50,000 families, is designed to represent the entire population of the United States. The interviewers poll families about employment during that month. From this poll, called the Current Population Survey, the BLS identifies how many people are employed and how many are unemployed. Using these numbers, the BLS computes the **unemployment rate,** or the percentage of the nation's labor force that is unemployed.

Determining the Unemployment Rate

As you read in Chapter 9, the labor force is composed of civilians age 16 and older who have a job or are actively looking for a job. To determine the unemployment rate, BLS officials add up the number of employed and unemployed people. That figure equals the total labor force. Then they divide the number of unemployed people by the total labor force and multiply by 100. As Figure 13.1 shows, the result is the percentage of people who are unemployed.

For example, in April 2001, the Current Population Survey showed that 135.3 million people were employed, and 6.4

Figure 13.1 **Calculating the Unemployment Rate**

To calculate the unemployment rate, use the following formula:

Number of people unemployed **divided by** number of people in the civilian labor force **multiplied by** 100

For example,
if the number of people unemployed = 6.4 million
and the number of people in the civilian labor force = 141.7 million

then,
6.4 ÷ 141.7 = .045
.045 x 100 = 4.5

Therefore,
the unemployment rate is 4.5%.

BUILDING KEY CONCEPTS

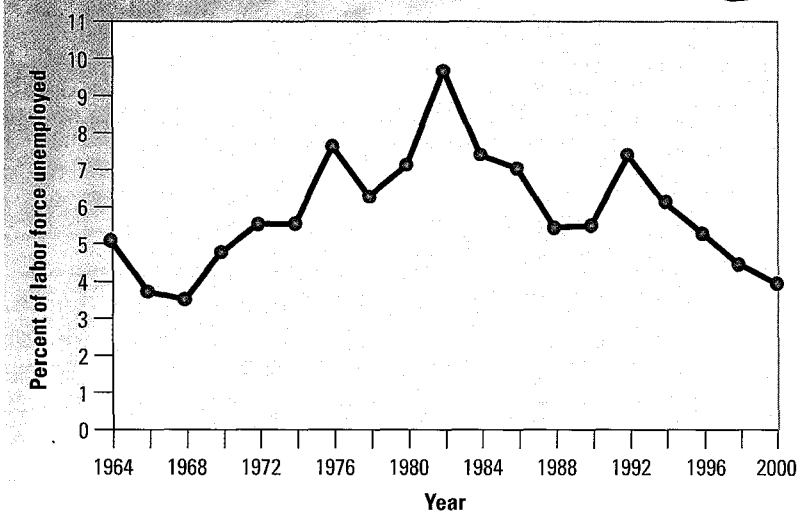
To calculate the unemployment rate, follow the steps above. **Unemployment In 1982, the civilian labor force was 110.2 million, and 10.68 million people were unemployed. What was the unemployment rate?**

million were unemployed. The total labor force, therefore, was 141.7 million. Dividing 6.4 million by 141.7 million, and then multiplying the result by 100, yields an unemployment rate of 4.5 percent for that month.

When you see the unemployment rate for a particular month, it has usually been "seasonally adjusted." This means that the rate has been increased or decreased to take into account the level of seasonal unemployment. Seasonally adjusting unemployment levels allows economists to compare unemployment rates from month to month in order to detect changing economic conditions.

The unemployment rate is only an average for the nation. It does not reflect differences from region to region, state to state, or even city to city. Some areas, such as the coal-mining region of Appalachia in the southeastern United States, have long had a higher-than-average unemployment rate. The BLS and individual state agencies therefore establish unemployment rates for states and other geographic areas. These rates help pinpoint trouble areas on which policymakers can focus attention.

Figure 13.2 **Unemployment Rate, 1964–2000**



Source: U.S. Department of Labor

BUILDING KEY CONCEPTS

Between 1964 and 2000, the unemployment rate peaked at an alarming 9.7 percent in 1982. **Unemployment In what years was the unemployment rate between 4 and 6 percent, the rate considered normal for a healthy economy?**

Full Employment

Look at Figure 13.2. Notice the low levels of unemployment in the late 1960s and late 1990s. Do you think it is possible for the economy to reach an unemployment rate of 0 percent? As you read earlier, zero unemployment is not an achievable goal in a market economy, even under the best of circumstances. Economists generally agree that in an economy that is working properly, an unemployment rate of around 4 to 6 percent is normal. Such an economy would still experience frictional, seasonal, and structural unemployment. In other words, **full employment** is the level of employment reached when no cyclical unemployment exists.

Underemployment

Full employment means that nearly everyone who wants a job has a job, but are all those people satisfied with their jobs? Not necessarily. Some people working at low-skill, low-wage jobs may be highly skilled or educated in a field with few opportunities. They are **underemployed,** that is, working at a job for which they are over-qualified, or working part-time when they desire full-time work.

For example, Jim was a philosophy major in college. He went on to earn a graduate degree in philosophy. When he left school, Jim found that although the economy was booming, he could not find

full employment *the level of employment reached when there is no cyclical unemployment*

underemployed *working at a job for which one is over-qualified, or working part-time when full-time work is desired*

Global Connections

A Shorter Workweek During the early months of 1998, protests erupted throughout France. The reason—the nation's high unemployment rate. In response, the French government signed into law a shorter, 35-hour workweek that went into effect in January 2000. This new workweek, down from the standard 39 hours a week, is intended to create more than 200,000 new jobs and ease the country's 12.5 percent unemployment rate. Many economists, however, are skeptical of this solution. **How would a mandatory shorter workweek affect employment?**

THE WALL STREET JOURNAL.
CLASSROOM EDITION

In the News *As the following excerpt from a* Wall Street Journal Classroom Edition *article shows, no matter what the job market, grades top the list of key measures employers use when they make hiring decisions.*

"'Employers will always look first at grades,' says Rachel A. Seff, director of the career services center at the University of Houston business school. 'They still believe your GPA is a measure of how well you've developed the skills they're hiring you to use on the job.' Other key gauges are practical work experience and involvement in student organizations."

jobs in which he could apply his knowledge of philosophy. Jim had many job choices, but none of them paid very well, and none of them challenged his mind. He was underemployed.

So was Celia, the auto worker described earlier. After her company sent her auto-assembly job to Mexico, she could not find a similar job in the local area, so she was forced to take a low-skill, low-wage job.

Underemployment also describes the situation of people who want a permanent, full-time job but have not been able to find one. Many part-time workers and seasonal workers fit this category.

discouraged worker *a person who wants a job but has given up looking*

Discouraged Workers

Some people, especially during a long recession, give up hope of finding work. These **discouraged workers** have stopped searching for employment and may need to rely on other family members or savings to support them. Discouraged workers, although they are without jobs, do not appear in the unemployment rate determined by the Bureau of Labor Statistics because they are not actively looking for work.

Effects of Terrorism

By late 2001, the employment picture had changed from the low levels of unemployment of the late 1990s and 2000. Even before the September 11 attacks on the World Trade Center and the Pentagon, the economic slowdown had brought U.S. unemployment to a four-year high. Studies estimate that the terrorist attacks cost the country an additional 1.5 to 2 million jobs.

Many of the lost jobs were in travel and tourism. The largest drop-off was in air transportation, accounting for about 20 percent of jobs lost.

The area of New York City around the World Trade Center site was especially hard-hit, with New York City losing some 150,000 jobs. Employment in New York City and in the nation as a whole is expected to improve as the economy returns to normal, and New York begins rebuilding.

Section 1 Assessment

Key Terms and Main Ideas

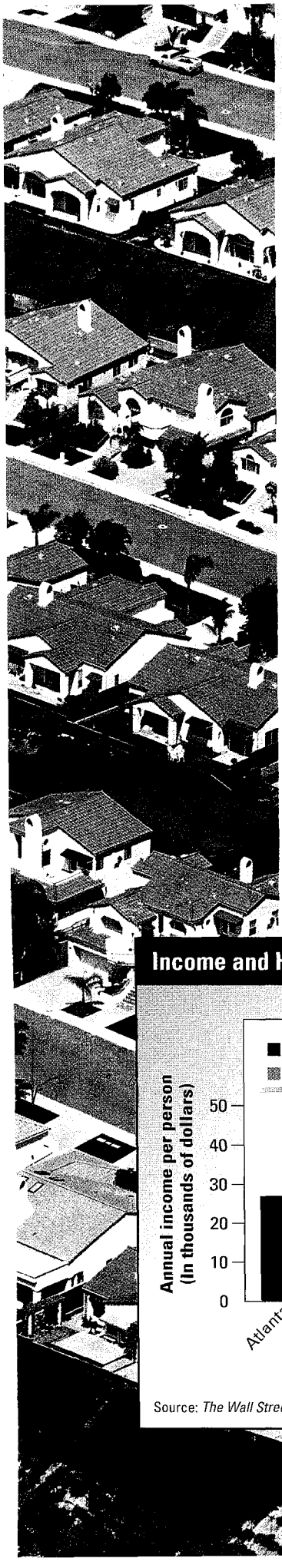
1. How do **frictional** and **structural unemployment** differ? Give an example of each.
2. When does **cyclical unemployment** take place?
3. How is the **unemployment rate** calculated?
4. Why isn't **full employment** the same as zero unemployment?

Applying Economic Concepts

5. ***Math Practice*** Determine the unemployment rate for a month in which 125.4 million people were employed and 7.3 million people were unemployed.
6. ***Critical Thinking*** After a car accident, Santo needed six months to recover. Since his recovery, he has spent the last year trying to find work in his former occupation, medical technology. So far, he has failed, even though the economy is booming. Which of the four kinds of unemployment best describes Santo's situation? Explain.
7. ***Try This*** Create two fictional workers, one a discouraged worker and one an underemployed worker. Write a paragraph explaining each person's employment situation. Include why these workers are discouraged or underemployed, their current financial situation, and their view of the future.

Take It to the NET

The Bureau of the Census and the Bureau of Labor Statistics provide information about unemployment rates. Find the most recent data on national unemployment. Is there a trend upward or downward in the unemployment rate, or has the rate been steady? Use the links provided in the Social Studies area at the following Web site for help in completing this activity.
www.phschool.com



Skills for LIFE

Critical Thinking | Graphs and Charts | Social Studies | Technology

Analyzing Bar Graphs

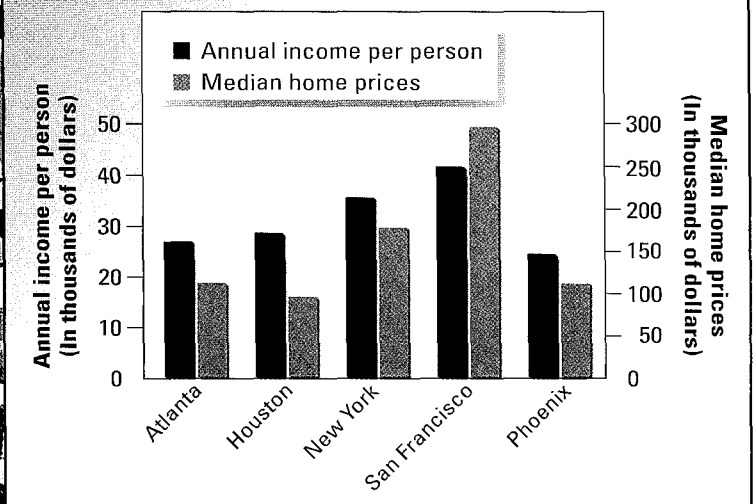
A bar graph is a useful way to present information visually and to condense large amounts of data. Bar graphs allow us to see the relationships between two or more sets of data, and to discern trends. Use the following steps to study and analyze the bar graph below.

1. Identify the subject. Bar graphs show one or more sets of data for a small group of items, such as cities, countries, or people. The title, axis labels, and key tell the reader what the graph depicts. (a) What is the title of the graph below? (b) What do the bars represent?

2. Read the data. While some graphs measure all data on the same scale, this bar graph uses two different scales for the *y*-, or vertical, axis. Two different scales are needed to show home prices and average income. Per capita income is shown on the left scale, while home prices are shown on the right scale. (a) What is the per capita income in Houston? (b) Which city has the lowest housing costs? (c) How much does the average house cost in this city?

3. Interpret the graph. Look at the data and consider what you can learn from the bar graph. (a) Judging from the three cities with the least expensive houses, what conclusion can you draw about the relationship between geographic location and housing costs? (b) What does it mean if the housing bar is much taller than the income bar? (c) Compare the average income and housing cost in Phoenix with those in Houston. Which city is relatively cheaper to live in (housing costs divided by average per capita income)?

Income and Housing Costs in U.S. Cities



Source: *The Wall Street Journal Almanac*

Additional Practice

Construct a bar graph using two sets of recent data on the economies of the United States, Canada, Germany, and Japan, such as inflation rate, income per capita, or unemployment rate. What can you infer from your bar graph about these economies? What other statistics might you have used instead?

Section 2

Inflation

Preview

Objectives

After studying this section you will be able to:

1. **Explain** the effects of rising prices.
2. **Understand** the use of price indexes to compare changes in prices over time.
3. **Identify** the causes and effects of inflation.
4. **Describe** recent trends in the inflation rate.

Section Focus

Economists use indexes to keep track of rising prices and to calculate the inflation rate. The level of inflation in the economy can affect wages, purchasing power, and other aspects of everyday life.

Key Terms

inflation
purchasing power
price index
Consumer Price Index (CPI)
market basket
inflation rate
core inflation rate
hyperinflation
quantity theory
demand-pull theory
cost-push theory
wage-price spiral
fixed income
deflation

inflation *a general increase in prices*

You may have heard your grandparents or other relatives talk about the "good old days," when you could get an ice cream for a nickel or a movie ticket for a quarter. They aren't kidding. Prices really were much lower years ago. On the other hand, although prices have generally risen, wages have risen, too. If you asked your older relatives how much they earned when they were young, you might find that it was difficult to scrape up that quarter for the movie ticket. In this section, you will learn why prices have risen, how economists measure their rise, and the effects of rising prices across the economy.

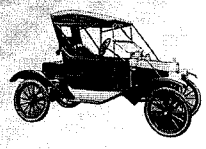
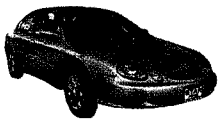
The Effects of Rising Prices

Josephine and Jack Barrow have owned the same house for 50 years. Recently, they had a real estate agent estimate the house's present market value. The Barrows were astounded. They had bought the house for $12,000, and now it was worth nearly $150,000—a rise in value of more than 1,100 percent.

How could the value of a house, or anything else, increase so much? The main reason is inflation. **Inflation** is a general increase in prices. Over the years prices rise and fall, but in the American economy, they have mostly risen. Since World War II, real estate prices have risen greatly.

The Barrows were pleased that they could get so much money for their house. They also realized that they could not buy a similar house in their area for $12,000 or even $120,000. Inflation had raised the

Figure 13.3 **Effect of Inflation on Auto Prices**

	1908	1955	2001
			
Cost	$850	$3,030	$19,075
Hours worked	4,696	1,638	1,346

Source: Federal Reserve Bank of Dallas

BUILDING KEY CONCEPTS

Inflation has driven up the price of an automobile even though the number of hours a worker must work to earn the money to pay for an automobile has decreased. **Income Why can more people afford automobiles today than they could in 1908, despite much higher auto prices?**

prices of all houses, just as it had also raised wages and the price of most other goods and services.

Another way to look at the Barrows' situation is that inflation had shrunk the value, or purchasing power, of the Barrows' money. **Purchasing power** is the ability to purchase goods and services. As prices rise, the purchasing power of money declines. That is why $12,000 can buy much less now than it could 50 years ago.

Price Indexes

Housing costs are just one element that economists consider when they study inflation. The economy has thousands of goods and services, with millions of individual prices. How do economists compare the changes in all these prices in order to measure inflation? The answer is that they do not compare individual prices; instead, they compare price levels. As you read in Chapter 12, price level is the cost of goods and services in the entire economy at a given point in time.

To help them calculate price level, economists usually turn to a price index. A **price index** is a measurement that shows how the average price of a standard group of goods changes over time. A price index produces an average that economists can compare to earlier averages to see how much prices have changed over time.

Using Price Indexes

Price indexes help consumers and businesspeople make economic decisions. For example, after Marina read in the newspaper that consumer prices had been rising, she decided to increase the amount of money she had been saving to buy a new car. She wanted to be sure that when the time came to buy the car, she would have saved enough money for her purchase.

The government also uses indexes in making policy decisions. A member of Congress, for example, might push for an increase in the minimum wage if she thinks inflation has shrunk purchasing power.

Figure 13.4 **CPI Market Basket Items**

Category	Examples
Food and drinks	cereals, coffee, chicken, milk, restaurant meals
Housing	rent, homeowners' costs, fuel oil
Apparel and upkeep	men's shirts, women's dresses, jewelry
Transportation	airfares, new and used cars, gasoline, auto insurance
Medical care	prescription medicines, eye care, physicians' services
Entertainment	newspapers, toys, musical instruments
Education and communication	tuition, postage, telephone services, computers
Other goods and services	haircuts, cosmetics, bank fees

Source: Bureau of Labor Statistics

BUILDING KEY CONCEPTS

The CPI market basket helps economists calculate the average inflation rate for the country. **Inflation Why might an individual family experience an inflation rate that is higher or lower than the national average?**

The Consumer Price Index

Although there are several price indexes, the best-known index focuses on consumers. **The Consumer Price Index (CPI)** is computed each month by the Bureau of Labor Statistics (BLS). The CPI is determined by measuring the price of a standard group of goods meant to represent the "market basket" of a typical urban consumer. This **market basket** is a representative collection of goods and services. By looking at the CPI, consumers, businesses, and the government can compare the cost of a group of goods this month with what the same or a similar group cost months or even years ago.

As you can see from Figure 13.4, the CPI market basket is divided into eight categories of goods and services. Figure 13.4 shows these categories and a few examples of the many items in each group.

About every 10 years, the items in the market basket are updated to account for shifting consumer buying habits. The BLS determines how the market basket should change by conducting a Consumer Expenditure Survey. The BLS conducted one such survey from 1993 to 1995. For

purchasing power *the ability to purchase goods and services*

price index *a measurement that shows how the average price of a standard group of goods changes over time*

Consumer Price Index (CPI) *a price index determined by measuring the price of a standard group of goods meant to represent the "market basket" of a typical urban consumer*

market basket *a representative collection of goods and services*

inflation rate *the percentage rate of change in price level over time*

core inflation rate *the rate of inflation excluding the effects of food and energy prices*

each of these years, 4,800 families provided information on their spending habits. Another 4,800 families kept diaries in which they noted everything they purchased during a two-week period for each of the years. This process resulted in the list of market basket items used today.

Price Indexes and the Inflation Rate

Economists also find it useful to calculate the **inflation rate,** or the percentage rate of change in price level over time. Although there are other price indexes, the CPI is the index you will most often hear about, so we will focus on it. How does the BLS determine the CPI and use it to calculate the inflation rate?

Determining the CPI

To determine the CPI, the BLS establishes a base period to which it can compare current prices. Currently, the base period is 1982–1984. The cost of the market basket for that period is assigned the index number 100. Every month, BLS representatives update the cost of the same market basket of goods and services by rechecking all the prices. Each updated cost is compared with the base-period cost to determine the index for that month. As costs rise, the index rises.

The BLS determines the CPI for a given year using the following formula.

$$\text{CPI} = \frac{\text{updated cost}}{\text{base period cost}} \times 100$$

For example, suppose the market basket cost $200 during the base period and costs $330 today. The CPI for today would be:

$$\frac{\$330}{\$200} \times 100 = 165$$

In this example, the CPI rose from 100 in the base period to 165 today.

Calculating the Inflation Rate

To figure the inflation rate from one year to the next, you would use the steps shown in Figure 13.5. You can also determine the rate of inflation from month to month using the same basic formula that you see in this chart. Just substitute "Month A" and "Month B" for "Year A" and "Year B."

Types of Inflation

Inflation rates in the United States have changed greatly over time. From Figure 13.6, you can see that the inflation rate stayed fairly low in the 1960s. When the inflation rate stays low and averages between 1 and 3 percent, it does not typically cause problems for the economy. Businesses and governments can plan in this environment. However, economists have noted that when the inflation rate exceeds 5 percent, the inflation rate itself becomes unstable and unpredictable. This makes planning very difficult.

As you can also see in figure 13.6, the inflation rate sometimes spikes up sharply, as in 1974 and 1980. These sharp increases in the inflation rate were due in part to increases in prices in world food and oil markets. In order to study long-term trends in the inflation rate, analysts need to set aside temporary spikes in food and fuel prices. To do this, economists have developed the concept of core inflation rate. The **core inflation rate** is the rate of inflation excluding the effects of food and energy prices.

To calculate the inflation rate, follow the steps shown in the chart.
Inflation CPI for 1979 was 72.6. For 1980, CPI was 82.4. Calculate the inflation rate for 1980.

Figure 13.5 Calculating the Inflation Rate

To calculate the inflation rate, use the following formula:

CPI for Year A **minus** CPI for Year B
divided by CPI for Year B
multiplied by 100

For example,
if the CPI for 1999 (Year A) = 166.6
and the CPI for 1998 (Year B) = 163

then,

166.6 – 163 = 3.6

3.6 ÷ 163 = .022

.022 x 100 = 2.2

Therefore,
the inflation rate for 1999 was 2.2%.

By far the worst kind of inflation is **hyperinflation,** or inflation that is out of control. During periods of hyperinflation, inflation rates can go as high as 100 or even 500 percent per month, and money loses much of its value. This level of inflation is rare, but when it occurs it often leads to a total economic collapse.

Causes of Inflation

Where does inflation come from? Price levels can rise steeply when demand for goods and services exceeds the supply available at current prices, such as during wartime. They can also rise steeply when productivity is restricted, such as when a long drought leads to poor harvests.

Nobody can explain every instance of rising price levels. Economists, however, offer several theories about the causes of inflation. These include the quantity theory, the demand-pull theory, and the cost-push theory.

A full explanation of the reasons for inflation incorporates all three theories. Economists therefore look at all elements of this picture when they try to understand the inflation process.

The Quantity Theory

The **quantity theory** of inflation states that too much money in the economy causes inflation. Therefore, the money supply should be carefully monitored to keep it in line with the nation's productivity as measured by real GDP.

Economists at the University of Chicago developed a popular version of this theory in the 1950s and 1960s. They maintained that the money supply could be used to control price levels in the long term. The key to stable prices, they said, was to increase the supply of money at the same rate as the economy was growing.

Demand-Pull Theory

The **demand-pull theory** states that inflation occurs when demand for goods and services exceeds existing supplies. During wartime, for example, the needs of the government put pressure on producers. The heavy demand for new equipment, supplies, and services makes those items more valuable, forcing their prices up. Wages also rise as the demand for labor increases along with the demand for goods.

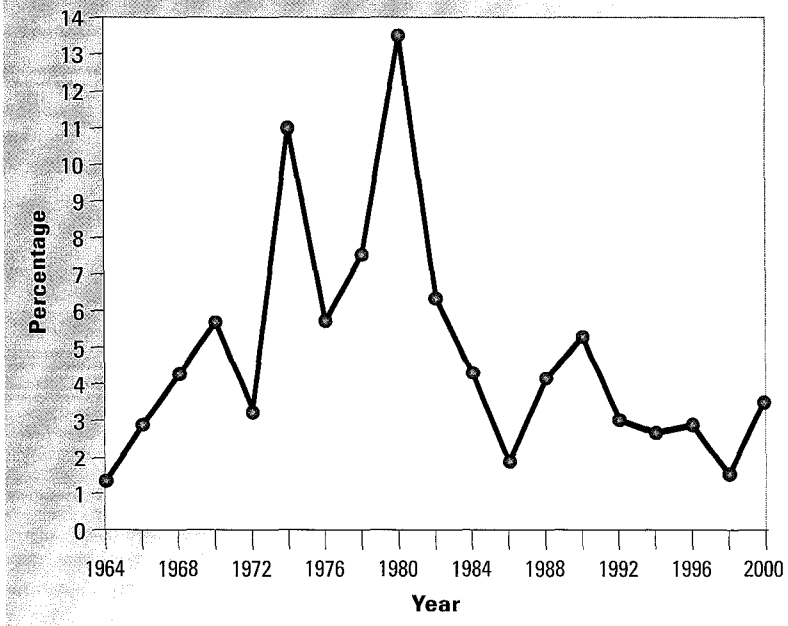
Cost-Push Theory

According to the **cost-push theory,** inflation occurs when producers raise prices in order to meet increased costs. Higher prices for raw materials can cause costs to increase. Wage increases, however, are most often the biggest reason, since wages are the largest single production cost for most companies.

Wage increases can come when low unemployment leads employers to offer higher wages in an effort to attract workers. Wage increases can also occur as a result of collective bargaining.

Assume, for example, that Jen is a union laborer at Am-Gro Fertilizer. Her

Figure 13.6 **Inflation Rate, 1964–2000**



Source: U.S. Department of Labor

BUILDING KEY CONCEPTS

Sharp inflation rate increases in 1974 and 1980 were due in part to increases in food and oil prices. An inflation rate of 1 to 3 percent does not typically cause economic problems. **Inflation In what years was the inflation rate at a level where it would not cause problems for the economy?**

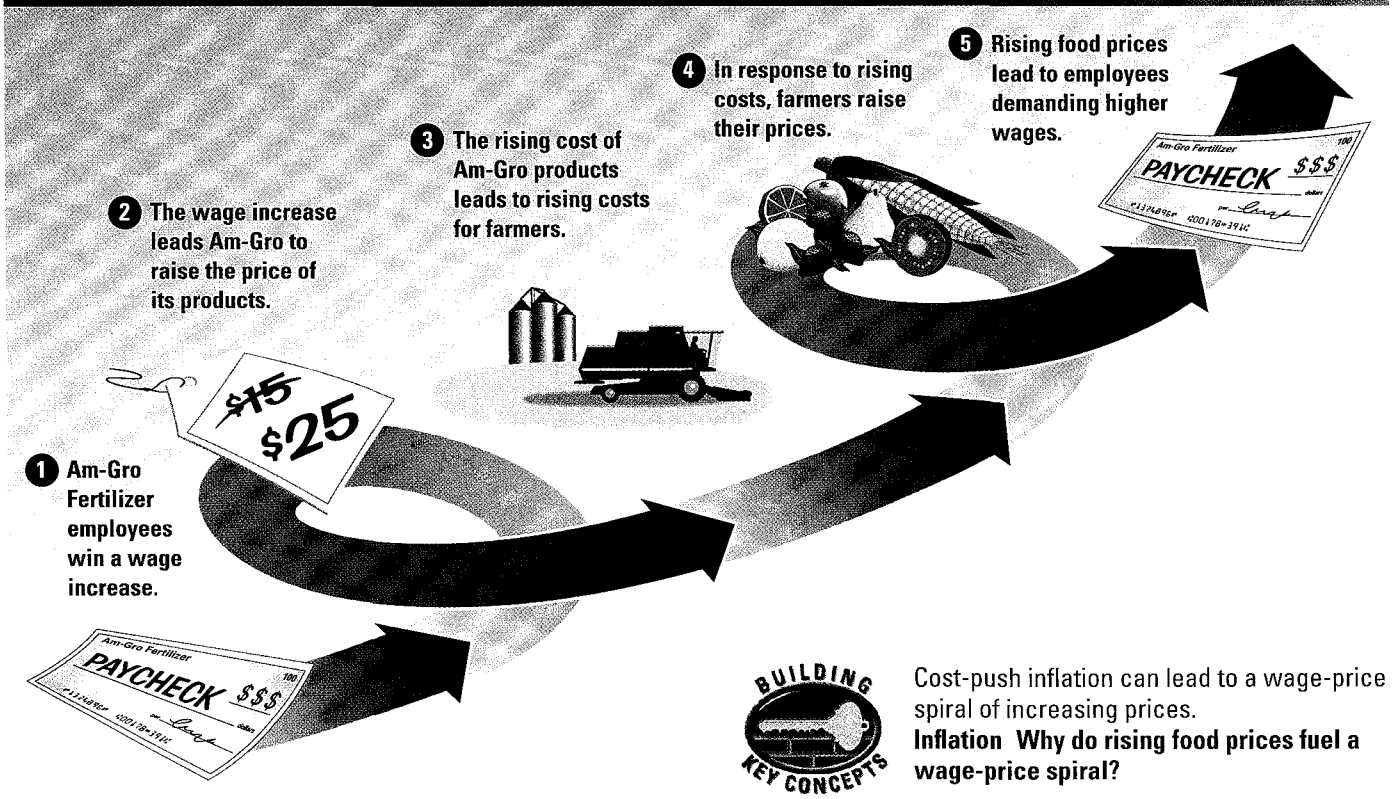
hyperinflation *inflation that is out of control*

quantity theory *theory that too much money in the economy causes inflation*

demand-pull theory *theory that inflation occurs when demand for goods and services exceeds existing supplies*

cost-push theory *theory that inflation occurs when producers raise prices in order to meet increased costs*

Figure 13.7 The Wage-Price Spiral



BUILDING KEY CONCEPTS

Cost-push inflation can lead to a wage-price spiral of increasing prices.
Inflation Why do rising food prices fuel a wage-price spiral?

wage-price spiral *the process by which rising wages cause higher prices, and higher prices cause higher wages*

union recently won a large wage increase. This new cost has led Am-Gro to raise its prices to meet the higher payroll and maintain its profits.

Cost-push inflation can lead to a spiral of ever-higher prices. That is, one increase in costs leads to an increase in prices, which leads to another increase in costs, and on and on. The process by which rising wages cause higher prices, and higher prices cause higher wages, is known as the **wage-price spiral.** Figure 13.7 above shows how a wage-price spiral would affect Am-Gro Fertilizer.

Effects of Inflation

High inflation is a major economic problem, especially when inflation rates change greatly from year to year. Buyers and sellers find planning for the future difficult, if not impossible. The effects of inflation can be seen mainly in purchasing power, income, and interest rates.

Purchasing Power

You have seen, in the example of Jack and Josephine Barrow's house, how inflation can erode purchasing power. In an inflationary economy, a dollar will not buy the same number of goods that it did in years past. To take a simple example, suppose $1.00 would buy $1.00 worth of goods last year. If the inflation rate is 10 percent this year, however, $1.00 will buy the equivalent of only $.90 worth of goods today.

Income

Inflation sometimes, but not always, erodes income. If wage increases match the inflation rate, a worker's real income stays the same. People who don't receive their income as wages, such as doctors, lawyers, and businesspeople, can often increase their incomes to keep up with inflation by raising the prices they charge.

Not all people are so fortunate. The Barrows, for example, could be hit hard by inflation because they are retired and

living on a **fixed income,** or income that does not increase even when prices go up. The portion of their income from Social Security rises with the price level, because the government raises Social Security benefits to keep up with inflation. Much of their income, however, comes from a pension fund that pays them a fixed amount of money each month. Inflation steadily eats away at the real value of that pension check.

Interest Rates

People receive a given amount of interest on money in their savings accounts, but their true return depends on the rate of inflation. For example, Sonia had her savings in an account that paid 7 percent interest. At the same time, the annual inflation rate was 5 percent. The purchasing power of Sonia's savings increased that year by 2 percent, not by 7 percent, because 5 percent of her savings was needed to keep up with inflation.

When a bank's interest rate matches the inflation rate, savers break even. The amount they gain in interest is taken away by inflation. Savers may even lose money if the inflation rate is higher than their bank's interest rate.

Recent Trends

Americans over age 30 have experienced positive inflation rates for most of their lifetimes. In the late 1990s, however, prices at times seemed to be falling. Some experts even predicted a period of **deflation,** or a sustained drop in the price level.

In addition, unemployment levels during the late 1990s and early 2000s remained low. Typically, when unemployment falls to very low levels, inflation increases. This makes sense because high unemployment means that companies have lots of workers to choose from. They do not have to lure skilled workers with high wages. When the pool of available workers shrinks, wages rise. Rising wages can push the inflation rate up, as you know from the discussion of the wage-price spiral.

In the late 1990s, however, unemployment fell to its lowest level in decades, and inflation crept along at less than 3 percent. Economists had different reactions to this phenomenon. Some suggested that the economy was just going through a lucky streak. Others maintained that the economy was returning to the normal levels of unemployment that had existed in the 1950s and 1960s.

fixed income *income that does not increase even when prices go up*

deflation *a sustained drop in the price level*

Section 2 Assessment

Key Terms and Main Ideas

1. How does **inflation** affect **purchasing power**? Give an example.
2. What is the purpose of the **Consumer Price Index (CPI)?**
3. What causes a **wage-price spiral,** and what can it lead to?
4. Why did the existence of low inflation and low unemployment in the 1990s puzzle some economists?

Applying Economic Concepts

5. ***Math Practice*** Suppose that the CPI for last year was 164 and that for this year it is 168. Calculate the inflation rate from last year to this year.
6. ***Critical Thinking*** If you had never experienced inflation, how might that affect your expectations about annual wage increases?
7. ***Using the Databank*** Turn to the chart on page 538 that shows the CPI Market Basket. **(a)** Which category of the CPI receives the highest percentage weighting? **(b)** Does this answer surprise you? Why or why not?

Take It to the NET Using CPI data for the past decade, write a short oral presentation regarding the impact of inflation on the economy. Use the links provided in the Social Studies area at the following Web site for help in completing this activity. **www.phschool.com**

ECONOMIC

Profile

Economist

Entrepreneur

Oprah Winfrey (b. 1954)

Determination and an uncanny ability to connect with her audience enabled Oprah Winfrey to become one of the richest and most powerful women in America. Remembering her roots, Oprah has used her substantial power in the media to raise awareness of important social and economic issues.

Raised in Poverty

Born in rural Mississippi, Oprah Winfrey spent her early childhood in extreme poverty on a farm, where she was raised by her grandmother after her mother moved north in search of work. At age 6, Winfrey was sent to Milwaukee, Wisconsin, to live with her mother and half brothers. The family struggled to survive on her mother's monthly $50 income as a servant.

Winfrey spent her early teens in and out of trouble until she went to live with her father in Nashville, Tennessee. Winfrey credits his strict discipline with saving her life. He required her to learn five new vocabulary words each day and read one book per week. "Getting my library card was like citizenship," Winfrey recalls. She soon excelled in school, and in her senior year, she got a part-time job reading the news for a local radio station.

The Oprah Winfrey Show

While studying speech and drama at Tennessee State University, Winfrey was offered a job anchoring the evening news at a local TV station. "Sure I was a token," she says, "But, honey, I was one happy token." After graduating in 1976, Winfrey took a job with a station in Baltimore, Maryland. When the station demoted her from news anchor to talk show host, she discovered what she "was born to do."

In 1984, Winfrey moved to Chicago to take over a similar show. In 1985, it became *The Oprah Winfrey Show,* and the next year it began to air nationwide. By 1987, in a business dominated by white men, this African American woman had the most-watched talk show in America.

Oprah Gives Back

In exploring topics related to family abuse, poverty, and opportunity, Winfrey has confronted her own past in front of a national television audience. By offering a forum for such subjects, she has increased public awareness of important social and economic issues. Winfrey has also shared her success by contributing millions of dollars to schools and to her own Family for Better Lives foundation.

In 1997, Winfrey launched Oprah's Angel Network to encourage people to help those in need. Oprah's Angel Network has raised more than $3.5 million for scholarships for needy students. Working with Habitat for Humanity, Oprah's Angel Network has also built over 200 houses for low-income people across the nation.

CHECK FOR UNDERSTANDING

1. Source Reading Describe three ways in which Oprah Winfrey has used her position to address the issue of poverty in America.

2. Critical Thinking How are poverty and opportunity related? What effects does widespread poverty have on the nation's economy?

3. Learn More Use the Internet and other resources to learn more about efforts to improve the lives of poor people in the United States. Prepare a brief report on one specific public or private program.

Section 3 Poverty

Preview

Objectives

After studying this section you will be able to:

1. **Define** who is poor, according to government standards.
2. **Describe** the causes of poverty.
3. **Analyze** the distribution of income in the United States.
4. **Summarize** government policies intended to combat poverty.

Section Focus

Despite the tremendous success of our nation's economy, millions of Americans remain poor. The government develops public policies and programs to try to combat poverty.

Key Terms

poverty threshold
poverty rate
income distribution
food stamps
Lorenz Curve
enterprise zone
block grant
workfare

What image comes to mind when you think of poverty? You might associate poverty with a homeless person on a city street or a poorly clothed child in a small rural house. Despite the success of the American economy, many Americans lack sufficient food, clothing, and shelter. In this section you'll read about the nature and causes of poverty, the distribution of income in the United States, and government programs designed to combat poverty.

The Poor

As you have read, the United States Bureau of the Census conducts extensive surveys to gather data about the American people. Then its economists analyze the data and organize it to reveal important characteristics, such as how many families and households live in poverty. The Census Bureau defines a family as a group of two or more people related by birth, marriage, or adoption who live in the same housing unit. A household is all people who live in the same housing unit, regardless of how they are related.

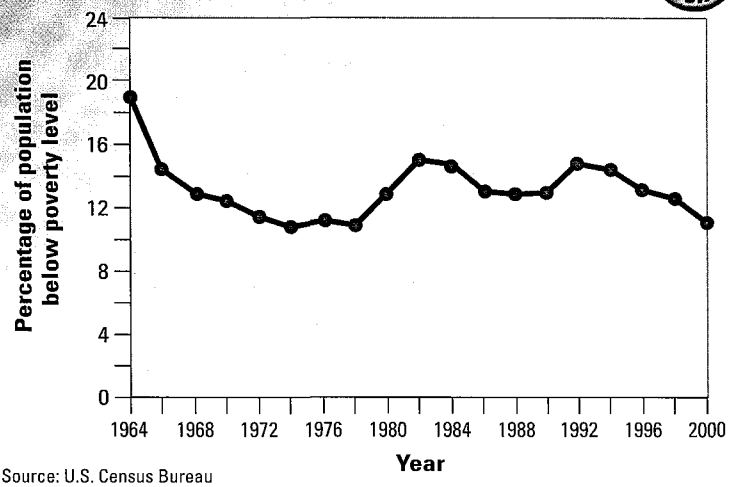
The Poverty Threshold

According to the government, a poor family is one whose total income is less than the amount required to satisfy the family's minimum needs. The Census Bureau determines the income level, known as the poverty threshold, needed to meet those minimum needs. The **poverty threshold** is the income level below which income is insufficient to support a family or household.

poverty threshold *the income level below which income is insufficient to support a family or household*

The poverty threshold, or poverty line, varies with the size of the family. For example, in 2000, the poverty threshold for a single parent under age 65 with one child

Figure 13.8 **Poverty Rate, 1964–2000**

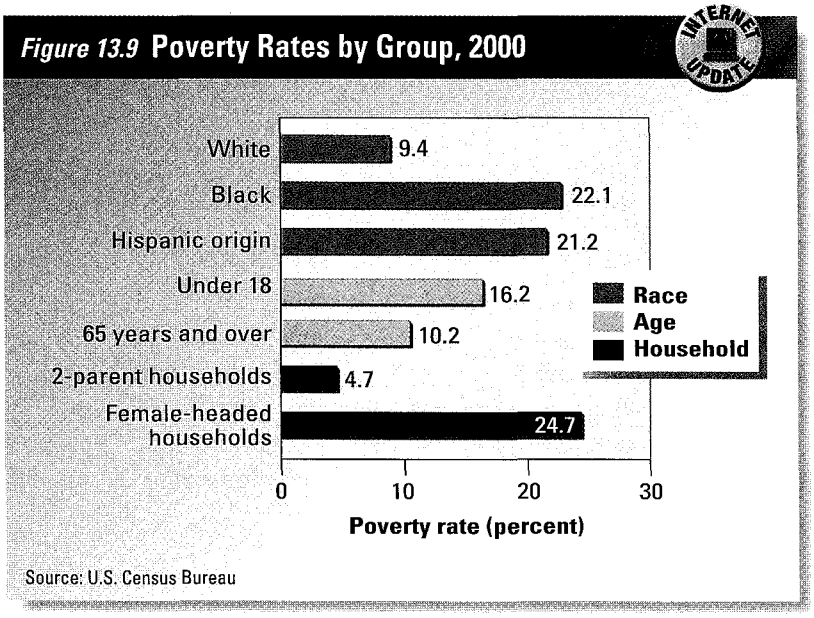


Source: U.S. Census Bureau

BUILDING KEY CONCEPTS

The poverty rate began to decline during the 1960s, partly as a result of anti-poverty programs.
Income How did poverty rates during the 1990s compare with poverty rates during the 1960s?

Figure 13.9 Poverty Rates by Group, 2000



Source: U.S. Census Bureau

BUILDING KEY CONCEPTS

Households headed by women, African Americans, and Hispanics are more likely than other groups to have incomes below the poverty threshold, as this recent data shows.

Income What percentage of African American families have incomes below the poverty threshold?

poverty rate *the percentage of people who live in households with income below the official poverty line*

was $11,869. For a family of four with two children, it was $17,463. If a family's total income is below the poverty threshold, everyone in the family is counted as poor.

The Poverty Rate

Figure 13.9 shows poverty rates for various groups. The **poverty rate** is the percentage of people who live in households with income below the official poverty threshold.

We can use poverty rates to discover whom the government considers to be poor and what factors seem to contribute to poverty. As you read in Chapter 3, poverty rates differ sharply by groups, according to several different indicators:

- *Race and ethnic origin* The poverty rate among African Americans and Hispanics is more than twice the rate for white Americans.
- *Type of family* Families with a single mother have a poverty rate almost six times greater than that of two-parent families.
- *Age* The percentage of children living in poverty is significantly larger than that for any other age group. Young adults make up the next largest group in this category.
- *Residence* People who live in the inner city have double the poverty rate of those who live outside the inner city. People who live in rural areas also have a higher poverty rate, especially in regions where job prospects are limited.

Causes of Poverty

Put simply, a family is poor when the adults in the family fail to earn enough income to provide for its members' basic needs. This failure to earn adequate income is often the result of unemployment.

As you read in Section 1, millions of Americans are unemployed, for a variety of reasons. While they are out of a job, their families might well fall below the poverty threshold. Many other poor adults are not even considered a part of the labor force. Some suffer from chronic health problems or disabilities that prevent them from working.

Many poor adults do have jobs, however. In fact, more than half of poor households have someone who works at least part-time, and one in five have a full-time, year-round worker. For these "working poor," the problem is usually low wages or a limited work schedule, rather than the lack of a job. For example, Ray makes $7.90 an hour as a full-time clerk in a clothing store. While he is at work, his wife stays at home with their two young children. Although Ray works 40 hours per week, and his salary is well above minimum wage, his annual earnings amount to just over $16,400, which is below the poverty threshold for a family of four.

Economists agree that poverty and lack of income go hand in hand, but have different ideas about the causes of poverty. Here are some of the most important explanations for why some people are poor.

Lack of Education

The median income of high school dropouts in 1998 was $20,724, which was just above the poverty threshold for a family of

five in that year. High-school graduates earned about one third more than dropouts, and college graduates earned about three times as much.

Location

In most cities of the United States, racial minorities are concentrated in the inner cities, far from the higher-wage jobs in suburban areas. Many inner-city residents do not own cars, and mass-transit systems are often not an efficient means of commuting from the inner city to the suburbs. As a result, people who live in the inner city earn less than people living outside the inner city. Similar obstacles exist for many people living in rural areas.

Racial and Gender Discrimination

White workers generally earn more than minority workers, and men generally earn more than women. Much of this income inequality can be explained by differences in hours worked, education, and work experience. Part of the inequality, however, results from racial and gender discrimination. Even when all the workers in a group are equally productive, whites are often paid more than African Americans, and men are often paid more than women. Economists agree, however, that this kind of discrimination has been diminishing.

Economic Shifts

People who lack education and skills are not very productive workers. For this reason they are often the "last hired and first fired." They are hired when the economy is expanding, and workers are hard to find, but they are the first to lose their jobs when the economy slows down. Also, workers without college-level skills have suffered in recent decades from the ongoing decline of manufacturing and the rise of service and high-technology jobs.

THE WALL STREET JOURNAL.
CLASSROOM EDITION

In the News *As the following excerpt from a* Wall Street Journal Classroom Edition *article shows, poverty in rural areas remains persistent, even in a growing economy. Allendale County, South Carolina is typical.*

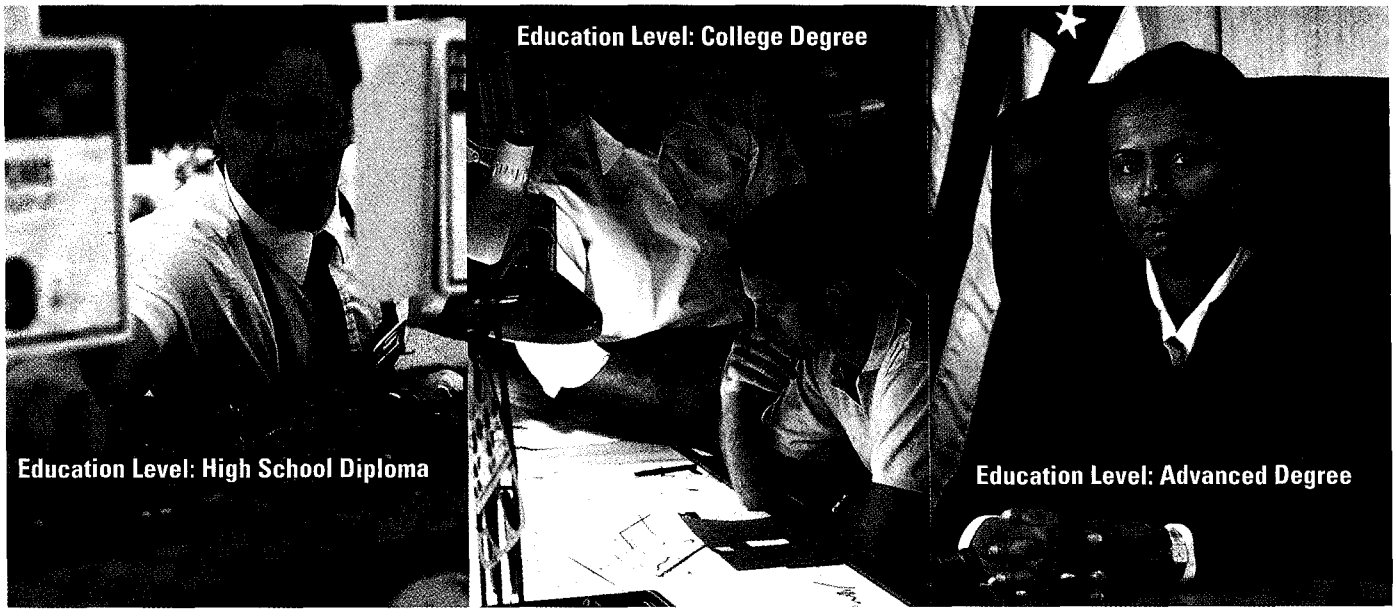
"A third of Allendale residents live in poverty. A quarter of adults have no more than an eighth-grade education. Local jobs are so scarce that Warren Chavous, who teaches job-hunting skills to welfare clients, tells his students not to bother with the help-wanted ads."

Shifts in Family Structure

The divorce rate has risen significantly since the 1960s, as has the number of children born to unmarried parents. These demographic shifts tend to result in more single-parent families and more children living in poverty.

Income Distribution

In 1999, the median household income in the United States was $40,816, which means that half the households earned more than this amount and half earned



▼ People with college and advanced degrees generally earn much higher incomes than people with only high-school diplomas.

income distribution
how the nation's total income is distributed among its population

food stamps
government-issued coupons that recipients exchange for food

less. This figure, however, tells only part of the income story. In order to fully understand poverty in the United States, you also need to understand **income distribution,** or how the nation's total income is distributed among its population.

Income Inequality

The United States has millions of poor people, but it also has the one of the highest per capita GDPs in the world. How can that be? The answer lies in how the market distributes income. Figure 13.10 shows how income is distributed in the United States. These figures do not take into account the effects of taxes or noncash government aid such as housing subsidies, health care, or food stamps. **Food stamps** are government-issued coupons that recipients exchange for food.

Look at the table on the left side of Figure 13.10. To compute the numbers in the table, economists take four steps.

1. First, they rank the nation's households according to income.
2. Second, they divide the list into fifths, or quintiles, with equal numbers of households in each fifth. The lowest fifth, which appears at the top of the list, includes the poorest 20 percent of households. The highest fifth, which appears at the bottom of the list, includes the richest 20 percent of households. The first column in Figure 13.10 shows this division into quintiles.
3. Next, they compute each group's average income by adding up the incomes of all the households in the group, and then dividing by the number of households.
4. Finally, they compute each group's share, or percentage, of total income by dividing the group's total income by the total income of all the groups. The second column shows each group's share. The third column shows the cumulative total. (For example, the lowest two fifths of households earned 12.5 percent of total income.)

Compare the share of the poorest fifth with that of the richest fifth. If you divide richest by poorest, you will see that the typical household in the richest fifth receives more than 13 times the income of the typical household in the poorest fifth.

Now look at the graph on the right side of Figure 13.10. It shows that the numbers for shares of total income, when they are plotted on a graph, form a curve. This

BUILDING KEY CONCEPTS

The table (left side) shows family income ranked by category. When plotted on a Lorenz Curve (right side), these data show the distribution of income in the United States.
Income What percent of total income did the lowest three fifths of households make in 2000?

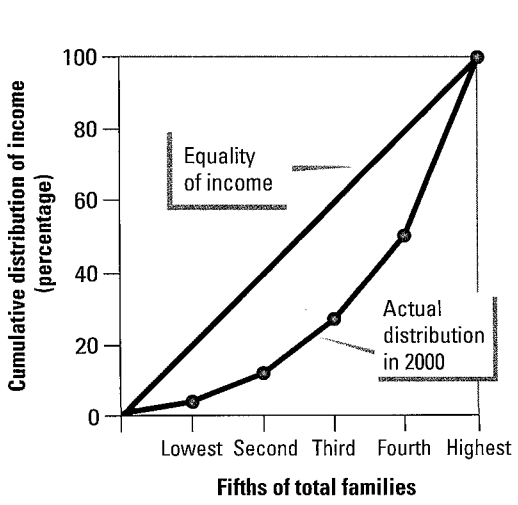
Figure 13.10 Income Distribution

INTERNET UPDATE

Percent of Total Income, 2000

Quintile	Percent of income for quintile	Cumulative: Percent of income for this and lower quintiles
Lowest fifth	3.6%	3.6%
Second fifth	8.9%	12.5%
Third fifth	14.8%	27.3%
Fourth fifth	23.0%	50.3%
Highest fifth	49.6%	100.0%

Source: U.S. Census Bureau



graph, called the **Lorenz Curve,** illustrates the distribution of income in the economy.

Let's see what this Lorenz Curve tells you. First, read the label on each axis. Then look at the straight line running diagonally across the graph. This reference line represents complete equality. Under conditions of complete equality, each quintile would receive one fifth of total income. That means the lowest 20 percent of households would receive 20 percent of total income, as shown by the point (lowest, 20). Similarly, the lowest 40 percent (the first two quintiles) would receive 40 percent of total income, as shown by the point (second, 40). The lowest 60 percent would receive 60 percent of total income, and so on.

In 1999, the distribution of income was not equal, as the Lorenz Curve indicates. For example, the point (lowest, 3.6) shows that the lowest 20 percent, or one fifth, of households received just 3.6 percent of the nation's total income. The point (second, 12.5) shows that the lowest 40 percent, or two fifths, of households received only 12.5 percent of the income. The area on the graph between the line of equality and the Lorenz Curve represents the amount of inequality in income distribution. The larger the area between the curves, the greater the income inequality.

Income Gap

As you can see from Figure 13.10, the wealthiest fifth of American households earned almost as much income (49.4 percent) as the bottom four-fifths combined (50.6 percent). A study published in 1999 showed that the richest 2.7 million Americans receive as much income after taxes as the poorest 100 million Americans. Why are there such differences in income among Americans? Here are two key factors.

- *Differences in skills and education* Some people are more highly skilled than others, so they earn higher wages. Labor skills are determined in part by education and training and in part by a worker's natural ability. In addition, some people work in jobs that are in high demand, so they generally earn more income.
- *Inheritances* Some people inherit large sums of money and earn income by investing it. Others inherit businesses that produce income from profits.

In the last two decades, the distribution of income has become less equal. Since 1977, the share of income earned by the lowest three fifths has decreased by 12 percent, while the share earned by the top 1 percent has more than doubled.

▲ Young adults who volunteer for the government-sponsored AmeriCorps program help combat poverty.

Antipoverty Policies

As you read in Chapter 3, the government spends billions of dollars on programs designed to reduce poverty. This money is spent mainly on cash assistance, education, medical benefits, and noncash benefits such as food stamps and subsidized housing.

Many antipoverty programs have drawn criticism from those who say that much of the money is wasted or that the programs themselves harm the very people they are intended to help. In recent years, these criticisms have led to various new policies and proposals for reform. These include the establishment of enterprise zones, job training and other forms of employment assistance, and welfare reform.

Lorenz Curve *the curve that illustrates income distribution*

FAST FACT

In 1994, the welfare rolls reached their highest level and then started declining. By 1997, they had fallen by nearly 25 percent. Part of the reason for the decline was the booming economy during this period. Another was the establishment of state and federal reforms. Still another reason, some suggest, was that the old-fashioned work ethic had been restored.

Enterprise Zones

Enterprise zones, which became popular in the 1980s, are areas where companies can locate free of certain state, local, and federal taxes and restrictions. These zones benefit businesses and residents because people can find work near their homes. Rundown areas, such as inner cities, can begin to be revitalized.

Employment Assistance

The lack of an adequate income may result from inadequate skills or simply a lack of opportunity. In recent decades, federal and state governments have designed job-training programs to deal with the problem of workers who lack skills. In addition, the federal government has made a minimum wage mandatory since 1938. The minimum wage ensures that workers' hourly pay will not fall below a certain point.

enterprise zone *area where companies can locate free of certain local, state, and federal taxes and restrictions*

block grant *federal funds given to the states in lump sums*

workfare *a program requiring work in exchange for temporary assistance*

Welfare Reform

Poor people often cannot afford basic needs, such as food and medical care. The United States has long had a welfare system that provides for those basic needs, especially for children and the elderly. That system underwent major reform when President Clinton signed the Personal Responsibility and Work Opportunity Reconciliation Act of 1996. (See Debating Current Issues, pages 354–355.)

This welfare-reform plan responded to criticisms that welfare encouraged poor people to remain unemployed in order to keep receiving aid. It replaced the traditional antipoverty program for poor families (Aid to Families with Dependent Children, or AFDC) with a new program called Temporary Assistance for Needy Families (TANF). TANF eliminated cash assistance for poor families. Instead, the federal government provides **block grants,** or lump sums of money, to the states. As a result of this welfare-reform act, the states are now responsible for designing and implementing programs to move most poor adults from welfare dependence to employment. TANF also set a 5-year limit on receipt of benefits.

How will TANF affect poverty rates? The plan calls for a shift from welfare to **workfare**—a program requiring work in exchange for temporary assistance. The resulting surge of new employees will increase the number of low-skilled people in the labor market. In theory, this could lower the wages of the least-skilled workers. On the other hand, welfare reform has the potential to reduce poverty by providing poor Americans with labor skills and access to a steady, adequate income.

Section 3 Assessment

Key Terms and Main Ideas

1. How is the **poverty threshold** related to the **poverty rate?**
2. Identify five reasons that help account for poverty.
3. What is the **Lorenz Curve,** and what does it suggest about the distribution of income in the United States?
4. How do existing government policies deal with poverty?
5. Explain how a family can include working adults but still have an income below the poverty threshold.

Applying Economic Concepts

6. ***Try This*** Suppose that you are in charge of creating an antipoverty program for your state. Create a list of at least five proposals for your program.
7. ***Math Practice*** Do you think the minimum wage in 1997 ($5.15 per hour) was adequate to lift most families out of poverty? Explain your answer.
8. ***Critical Thinking*** How might the distribution of block grants help the federal government control its budget?

Take It to the NET

Poverty rates vary in different regions of the country. Find the most recent national poverty rate and the poverty rate for your region. Use the links provided in the Social Studies area at the following Web site for help in completing this activity. **www.phschool.com**

Unemployment in a Booming Economy

In the late 1990s, the United States found itself in the midst of an economic boom that would have been unimaginable only a decade earlier. Demand for workers continued to grow to such an extent that by 2000, there were more than 122 million jobs in the nation. Meanwhile, the nation's unemployment rate remained well below 5 percent.

▲ Job seekers can use the Internet to help them find the right job.

Looking for Work During such a period of frenzied demand for workers, some people thought that anyone who wanted a job could get one. They were wrong. Even in periods of so-called full employment, there are always qualified people without jobs. Some companies move, while others fail. Some workers live in areas where there are few jobs available that match their skills.

Take Rick Taber, for example, a highly educated, skilled accountant who lives about 100 miles from Boston. When the company he worked for was purchased by another firm, he lost his job. There were jobs available in Boston, but Rick didn't want to move there. He spent almost a year searching for a job near his home that would match his skills and experience, but eventually had to take a job for which he was overqualified.

Older Workers Sometimes older workers have trouble finding jobs because of the emphasis on youth in the job marketplace. Many energetic men and women in their 50s and 60s, with years of experience in their fields, have difficulty finding work because some companies prefer to hire younger employees, who tend to work for smaller salaries.

Effects of Technology In addition, the technology that helped create millions of new jobs in high tech industries has also eliminated jobs in other areas. Many bank tellers, for example, have lost their jobs because computers and machines do many of their tasks more cheaply and efficiently. Telephone operators are being replaced by automated phone systems. As technology continues to perform routine tasks more efficiently, more and more Americans will find themselves switching jobs, and perhaps occupations.

Applying Economic Ideas

1. Why are some people jobless during periods of high employment?
2. How might technological changes in the workplace affect the unemployment rate?

Chapter 13 Assessment

Chapter Summary

A summary of major ideas in Chapter 13 appears below. See also the **Guide to the Essentials of Economics,** which provides additional review and test practice of key concepts in Chapter 13.

Section 1 Unemployment (pp. 331–336)

Unemployment affects millions of Americans each year. Causes of unemployment vary, so unemployment is categorized into **seasonal, frictional, structural,** and **cyclical unemployment.** The Bureau of Labor Statistics tracks unemployment and determines the **unemployment rate.** Economists use the unemployment rate as an indicator of the health of the overall economy.

Section 2 Inflation (pp. 338–343)

A general increase in prices is known as **inflation.** Economists use indexes to measure inflation and its effects on consumers and producers. The best-known index is the **Consumer Price Index (CPI),** which uses prices of a group of consumer goods called the **market basket.** Inflation affects many aspects of our everyday lives, from how much we earn to how much our earnings can purchase.

Section 3 Poverty (pp. 345–350)

Despite the tremendous success of our nation's economy, millions of Americans remain poor. Causes of poverty range from lack of education to racial and gender discrimination. Federal, state, and local governments administer programs to help people whose incomes place them below the **poverty threshold,** the income level needed to meet a family's minimum needs.

Key Terms

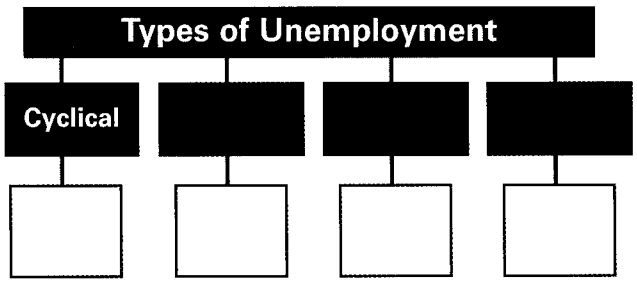
Match the following definitions with the terms listed below. You may not use all of the terms.

inflation	**discouraged workers**
full employment	**deflation**
poverty rate	**price level**
wage-price spiral	**Lorenz Curve**
structural unemployment	**poverty threshold**

1. occurs when the skills that workers have do not match the jobs that are available
2. the percentage of people in a particular group who live in households below the official poverty threshold
3. an increase in the general level of prices
4. process by which rising wages cause higher prices and higher prices cause higher wages
5. an average of the prices of goods and services in the economy
6. the level of employment reached when there is no cyclical unemployment
7. illustrates the distribution of income in the economy

Using Graphic Organizers

8. On a separate sheet of paper, copy the tree map below. Chart the four types of unemployment, and list the causes of each.



Reviewing Main Ideas

9. What are three effects of inflation? Give an example of each.
10. What role does the Consumer Price Index play in calculating inflation?
11. List and describe at least three ways in which the government combats poverty.
12. What are three causes of inflation, and how do they differ?
13. How is the unemployment rate determined?
14. Which groups are most affected by poverty? Use data from the chapter to support your answer.

Critical Thinking

15. **Analyzing Information** Review the characteristics of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 decribed on page 350. Do you agree with the basic aim of the program? Explain your answer.
16. **Expressing Problems Clearly** How can full employment be a problem? What issues arise when the economy reaches full employment?
17. **Recognizing Cause and Effect** What cause-and-effect relationship exists in the cost-push theory of inflation?

Problem-Solving Activity

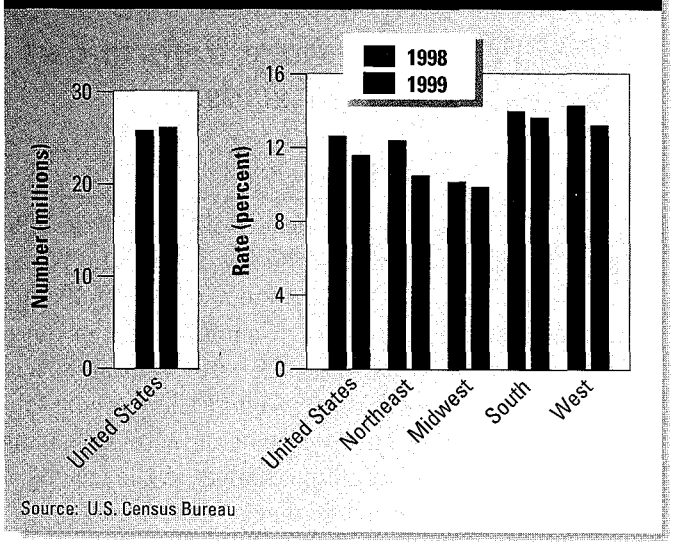
18. Assume you are about to run for local political office. Your area is currently affected by high poverty rates and unemployment. Write a proposal for alleviating poverty and unemployment in your area.

Skills for Life

Analyzing Bar Graphs Review the steps shown on page 337; then answer the following questions using the bar graphs below.

19. What is the subject of these bar graphs?
20. Did the total number of people in poverty in the United States increase or decrease between 1998 and 1999?
21. Which regions of the country had poverty rates lower than the national rate?
22. Did any regions have a poverty rate greater than the national rate? If so, which ones?
23. What additional data might you want to consult to help you interpret these graphs?

Poverty by Region



Source: U.S. Census Bureau

Economics Journal

Making Comparisons How do your perceptions of poverty in the United States compare with the data presented in this chapter? How does your definition of poverty compare with that of the Bureau of the Census? What do you think are the primary causes of poverty?

Take It to the NET

Chapter 13 Self-Test As a final review activity, take the Chapter 13 Self-Test in the Social Studies area at the Web site listed below, and receive immediate feedback on your answers. The test consists of 20 multiple-choice questions designed to test your understanding of the chapter content.
www.phschool.com

THE WALL STREET JOURNAL.
CLASSROOM EDITION

DEBATING CURRENT ISSUES: *Welfare and Work*

In August 1996, President Bill Clinton signed into law a bill that radically restructured the U.S. antipoverty program. The legislation turned welfare programs over to the states and imposed a five-year time limit on benefits. It also required beneficiaries to find work in two years.

Has the welfare-to-work provision succeeded in moving welfare recipients out of poverty? Nancy L. Johnson (R.-Conn.), chair of the Human Resources Subcommittee of the House Ways and Means Committee, says *yes* in this excerpt from "The Results Are In: Welfare Reform Works," an opinion piece from *The Wall Street Journal.* Former welfare recipient Sara Day would say *no* based on the excerpt from *The Wall Street Journal Classroom Edition* article "Why a Welfare Success Story May Go Back on Welfare," by Christina Duff, Staff Reporter of *The Wall Street Journal.*

YES *Has Welfare Reform Cut Poverty Levels?*

BY NANCY L. JOHNSON

ON THE THIRD ANNIVERSARY of the historic 1996 welfare-reform law, the law is working better than anyone ever dared to hope. A host of studies now provide good information on two major questions about the effects on mothers of welfare reform:

1) Do families have more income? There are no reliable national data on the income of mothers leaving welfare. But we can examine changes in the income of all poor and low-income mothers.

According to the Census Bureau, those whose incomes were in the bottom 20 percent of mothers—averaging about $6,500 in 1997—had income increases of nearly $500 between 1993 and 1997. Thus this bottom group, which includes most mothers on welfare and some who left welfare, is somewhat better off than in 1993.

The big story concerns the income of mothers in the next bracket, who had average incomes of $13,500 in 1997. These mothers lost about $1,500 in cash welfare and food stamps but gained nearly $3,000 in earnings and the earned-income tax credit over the period. Combine this with modest increases in child-support payments and nonwelfare government benefits, and these mothers were about $1,500 better off in 1997 than in 1993. Here is the group of mothers that represents the greatest success of welfare reform.

2) Have they escaped poverty? If mothers leaving welfare were falling into the abyss [bottomless hole], poverty rates would increase, or, at best, stagnate.

One important concern for mothers leaving welfare is how to afford child care, which can consume a large portion of a low-income worker's wages.

Opponents of welfare reform predicted it would cast a million children into poverty. In fact, both overall poverty and child poverty declined in 1995 [through 1999], the latest years for which we have data. Poverty among black children declined more in 1997 than in any previous year.

NO *Has Welfare Reform Cut Poverty Levels?*

BY CHRISTINA DUFF, STAFF REPORTER OF THE WALL STREET JOURNAL

SARA DAY COULD BE considered a welfare-reform success story. After 10 years on welfare, she has a two-year-college degree and earns $11 an hour as a secretary at a prep school. Her welfare cash and food stamps stopped a year ago, and her government-paid health care ended in March. Her only major tether is medical care for her children.

So why is the 28-year-old single mom contemplating a return to welfare?

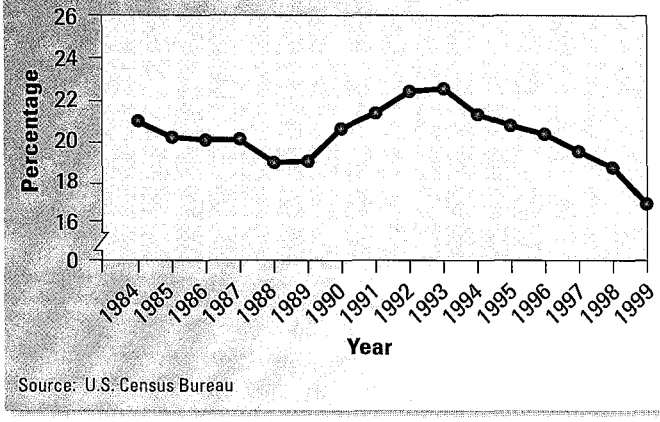
Because her take-home pay and child support total $1,435.50 a month, and food, rent, and other basic expenses total $1,418.37, not counting clothing, diapers or pills for her migraines. To make ends meet, she lets bills go unpaid and sends her children to day care even when she isn't working so they can get the free lunch.

She has no health insurance, and her partially subsidized rent is climbing faster than her paychecks.

Ms. Day is a face behind the statistics cited both by welfare-reform supporters and critics. Her family is one of about 1.6 million families that have left the welfare rolls in the past three years, and she is one of those cited in state surveys that find up to 70 percent of former recipients have found work. Low-wage workers are enjoying solid raises at last, and the federal earned-income tax credit is supplementing their income, as it is Ms. Day's.

But a new study by the Institute for Wisconsin's Future suggests welfare reform may be more successful at moving low-income families off welfare rolls than lifting them out of poverty. The liberal nonprofit group found that the number of welfare recipients in Wisconsin decreased by 67 percent between 1986 and 1997, but that the number of people in poverty fell by only 11.8 percent. Wisconsin launched its welfare reform effort in 1986.

Percentage of U.S. Children in Poverty



Source: U.S. Census Bureau

In most of the 1980s and 1990s, one out of every five or six children lived in poverty in the United States.

DEBATING THE ISSUE

1. What statistics on poverty does Nancy Johnson cite to prove the welfare-to-work provision of welfare reform is successful?
2. What data in the second excerpt indicate that welfare reform may not be successful in moving former welfare recipients out of poverty?
3. **Analyzing Information** How much money does Sara Day have each month for clothing, diapers, and medicine after she pays for food, rent, and other basic expenses? Does your answer support or refute the Wisconsin study that says reform may lift people off welfare rolls but not out of poverty?
4. **Reading Graphs** Was the rate of child poverty rising or falling in the two years before welfare reform began? Can you use this graph to support the opinion that welfare-to-work is lifting people out of poverty?

Take It to the Net Visit **www.phschool.com** for additional resources relating to this debate.

UNIT 6

Government and the Economy