CONCEPT REVIEW

Macroeconomics is the study of the economy as a whole and how major sectors of the economy interact.

CHAPTER 12 KEY CONCEPT

National income accounting uses statistical measures of income, spending, and output to help people understand what is happening to a country’s economy.

WHY THE CONCEPT MATTERS

Your economic decisions—combined with those of millions of other people—determine the fate of the nation’s economy. Can you afford to buy a new car? Is now a good time to change jobs? Should you take a risk in the stock market or keep your money safe in the bank? Understanding what is happening to the country’s economy will help you make better economic decisions.
Gross Domestic Product and Other Indicators

What Is GDP?

As you have read, microeconomics and macroeconomics look at the economy through different lenses. While microeconomics examines the actions of individuals and single markets, macroeconomics examines the economy as a whole. Macroeconomists analyze the economy using national income accounting, statistical measures that track the income, spending, and output of a nation. The most important of those measures is gross domestic product (GDP), the market value of all final goods and services produced within a nation in a given time period.

The Components of GDP

To be included in GDP, a good or service has to fulfill three requirements. First, it has to be final rather than intermediate. For example, the fabric used to make a shirt is an intermediate good; the shirt itself is a final good. Second, the good or service must be produced during the time period, regardless of when it is sold. For example, cars made this year but sold next year would be counted in this year’s GDP. Finally, the good or service must be produced within the nation’s borders. Products made in foreign countries by U.S. companies are not included in the U.S. GDP.
Calculating GDP

Although there are several different ways to calculate GDP, economists often use the expenditures approach. With this method, they group national spending on final goods and services according to the four sectors of the economy: spending by households, or consumption; spending by businesses, or investment; government spending; and total exports minus total imports, or net exports. Economists identify consumption with the letter \( C \); investment with the letter \( I \); government spending with the letter \( G \); and net exports with the letter \( X \). To calculate GDP, economists add the expenditures from all sectors together: \( C + I + G + X = GDP \).

**FIGURE 12.1 COMPONENTS OF U.S. GROSS DOMESTIC PRODUCT**

*Source: U.S. Bureau of Economic Analysis, 2005 data*

**ANALYZE GRAPHS**

1. In 2005, net exports was a negative number. What does this say about the relative amounts of exports and imports?
2. Did households, businesses, or the government contribute the most to U.S. GDP in 2005?

**Consumption** includes all spending by households on durable goods, nondurable goods, and services. You drive to the movies in a durable good (an item that does not wear out quickly). You purchase a service when you pay for the movie (since you are not buying to own something). And you obtain a nondurable good (a good that is used up relatively soon after purchase) when you buy popcorn.

**Investment**, which measures what businesses spend, has two categories. One is fixed investment, which includes new construction and purchases of such capital goods as equipment, machinery, and tools. The other is inventory investment. This category, also called unconsumed output, is made up of the unsold goods that businesses keep on hand.

**Government spending** includes all the expenditures of federal, state, and local governments on goods and services. Examples include spending for defense, highways,
and public education. However, government spending on transfer payments, such as social security and unemployment benefits, is not included. These payments allow the recipients to buy goods and services, and these are counted as consumption.

**Net exports**, the final component of GDP, represents foreign trade. This component takes into account the goods and services produced in the United States but sold in foreign countries—in other words, exports. However, U.S. consumers and businesses also buy, or import, goods made in foreign countries. Cars, car parts, and crude oil are the largest imports in dollar value. The GDP counts only net exports—the value of U.S. exports minus the value of U.S. imports.

### Two Types of GDP

Economists use GDP to gauge how well a country’s economy is doing. When GDP is growing, an economy creates more jobs and more business opportunities. When GDP declines, jobs and more business opportunities become less plentiful. To get a clearer picture of a country’s economic health, economists calculate two forms of GDP—nominal and real.

The most basic form is **nominal GDP**, which is stated in the price levels for the year in which the GDP was measured. If prices never changed, nominal GDP would be sufficient. But prices tend to increase over time. In Figure 12.2, find the line that represents nominal GDP. If you estimate the difference from 1990 to 2005, the nominal GDP of the United States about doubled. However, during this time prices went up, adding dollars to GDP without adding value to the nation’s output.

To factor out rising prices, economists use **real GDP**, which is nominal GDP adjusted for changes in prices. Real GDP is an estimate of the GDP if prices were to

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**QUICK REFERENCE**

Nominal GDP states GDP in terms of the current value of goods and services.

Real GDP states GDP corrected for changes in prices from year to year.

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**FIGURE 12.2 U.S. NOMINAL AND REAL GROSS DOMESTIC PRODUCT**

![Graph showing nominal GDP and real GDP from 1955 to 2005](source: U.S. Bureau of Economic Analysis)

**ANALYZE GRAPHS**

1. About how much did nominal GDP increase from 1990 to 2000?
2. About how much did real GDP increase over the same period?
3. Why do the two lines cross at the year 2000?
Economic Indicators and Measurements

remain constant from year to year. To find real GDP, economists compare nominal GDP to a base year. Look again at Figure 12.2, which uses 2000 as a base year. Since real GDP eliminates price differences, the line for real GDP rises more gradually than the line for nominal GDP. Real GDP provides a more accurate measure of economic performance.

APPLICATION Applying Economic Concepts

A. If output remained the same, how would a year of falling prices affect nominal GDP? How would it affect real GDP?

| Step 1: Calculate nominal GDP for 2004. Nominal GDP is the product of the number of TVs produced and the price of TVs that year. |
|---|---|---|
| Number produced | Price in that year | Nominal GDP |
| 500 | $100 | $50,000 |

The table shows that nominal GDP grew each year. If you judged only by nominal GDP, the economy of this country would seem to be growing.

Step 2: Analyze the nominal GDP figures. Why did nominal GDP increase from 2004 to 2005? The number of TVs produced increased. Why did nominal GDP increase from 2005 to 2006? The price of TVs increased.

The output of the country’s economy grew from 2004 to 2005, but it stayed the same from 2005 to 2006, despite the increase in prices. Calculating real GDP produces a better estimate of how much a country’s economy is growing.

Step 3: Calculate real GDP for 2006. Real GDP is the product of the number of TVs produced in the current year and the price of TVs in the base year. In this case, use 2004 as the base year.

| Number produced | Price in the base year | Real GDP |
| 600 | $100 | $60,000 |

Since 2004 is the base year, nominal and real GDP are the same for 2004. Real GDP allows you to compare the output of the country’s economy in different years.
What GDP Does Not Measure

KEY CONCEPTS

Although GDP provides an important estimate of how well the economy is performing, it does not measure all output. It does not measure nonmarket activities, such as home childcare or performing one's own home repairs. GDP also does not measure output from the underground economy, market activities that go unreported because they are illegal or because those involved want to avoid taxation. Further, GDP does not measure “quality of life” issues related to economic output.

Nonmarket Activities

Some productive activities do not take place in economic markets. For example, there is no effective way to measure the output of plumbers who install or repair plumbing systems in their own homes or people who do volunteer work for schools or hospitals. By far the biggest nonmarket activity, also left out of GDP, consists of the many services—cooking, cleaning, childcare—provided by homemakers.

Underground Economy

Also missing from GDP is the underground sector of the economy. Some activities are kept underground because they are illegal—drug dealing, smuggling, gambling, and selling stolen goods, for example. When goods are rationed or otherwise restricted, illegal trading occurs on what is called the black market. Other underground activities are themselves legal, but the way the payment is handled is not. For example, a plumber who does repairs for a neighbor might receive payment in cash and not declare it as taxable income. Estimates suggest that the underground economy would make up 8 to 10 percent of the U.S. GDP.

Quality of Life

Countries with high GDPs have high living standards. But GDP does not show how the goods and services are distributed. The United States has the largest GDP of any country, but more than 10 percent of its people still live in poverty. GDP also does not express what products are being built and services offered: for example, are there more jails being built than schools?

APPLICATION Explaining an Economic Concept

B. If you get paid in cash to baby-sit, mow lawns, or do other chores for neighbors, are you part of the underground economy? Why or why not?
Other Economic Performance Measures

**KEY CONCEPTS**

GDP is not the only measure that economists use to gauge economic performance. Several other measures are derived by making adjustments to GDP.

- **Gross national product (GNP)** is the market value of all final goods and services a country produces in a given time period. GNP equals GDP plus the income from goods and services produced by U.S. companies and citizens in foreign countries but minus the income foreign companies and citizens earn here.

- **Net national product (NNP)** is GNP minus depreciation of capital stock—in other words, the value of final goods and services less the value of capital goods that became worn out during the time period.

- **National income (NI)** is the total income earned in a nation from the production of goods and services in a given time period. It is calculated by subtracting indirect business taxes, such as property and sales taxes, from NNP.

- **Personal income (PI)** is the income received by a country’s people from all sources in a given time period. It can be calculated from NI by subtracting social security taxes, corporate profit taxes, and corporate profits not paid to stockholders and by adding social security, unemployment, and welfare payments.

- **Disposable personal income (DPI)** is personal income minus personal income taxes. It shows how much money is actually available for consumer spending.

**APPLICATION Making Inferences**

C. Under what circumstances might a country’s GNP be greater than its GDP?
Synthesizing Economic Data

Synthesizing is a skill used by economists to interpret economic trends. Synthesizing involves interpreting various data to form an overview of economic performance. A synthesis is often stated as a broad summary statement.

PRACTICING THE SKILL National income accounting involves the collection and analysis of data on key economic variables. Economists synthesize the data to arrive at an overview of national economic performance. The table below presents data for variables used to determine gross domestic product (GDP), a key factor in national income accounting.

Read the column heads carefully. The four types of expenditures are used to determine GDP.

**FIGURE 12.5 COMPONENTS OF U.S. GDP (IN BILLIONS OF DOLLARS)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Consumption Expenditure</th>
<th>Investment Expenditure</th>
<th>Government Expenditure</th>
<th>Net Export Expenditure</th>
<th>Nominal GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>1,757</td>
<td>479</td>
<td>566</td>
<td>−13</td>
<td>2,789</td>
</tr>
<tr>
<td>1985</td>
<td>2,720</td>
<td>736</td>
<td>879</td>
<td>−115</td>
<td>4,220</td>
</tr>
<tr>
<td>1990</td>
<td>3,840</td>
<td>861</td>
<td>1,180</td>
<td>−78</td>
<td>5,803</td>
</tr>
<tr>
<td>1995</td>
<td>4,976</td>
<td>1,144</td>
<td>1,369</td>
<td>−91</td>
<td>7,398</td>
</tr>
<tr>
<td>2000</td>
<td>6,739</td>
<td>1,736</td>
<td>1,722</td>
<td>−380</td>
<td>9,817</td>
</tr>
<tr>
<td>2005</td>
<td>8,746</td>
<td>2,105</td>
<td>2,363</td>
<td>−727</td>
<td>12,487</td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of Economic Analysis

**THINKING ECONOMICALLY** Synthesizing

1. What trend can be seen in U.S. nominal GDP? What can you tell from this about the growth of the U.S. economy? Do you need more information?
2. Which expenditure accounts for most of GDP?
3. Does the proportion of this expenditure to the other two positive expenditures remain about the same in the six years shown here? Briefly explain how you estimated this.
SECTION 1 Assessment

REVIEWING KEY CONCEPTS

1. Explain the relationship between the terms in each of these pairs.
   a. nominal GDP  
   b. gross national product  
   c. personal income  
   d. real GDP  
   e. net national product  
   f. disposable personal income

2. What are the four components of GDP?
3. What is an example of a durable good? a nondurable good?
4. Name two economic activities that GDP does not measure.
5. Why are transfer payments not included as a government expenditure when calculating GDP?
6. Using Your Notes Write a brief summary of the methods used to calculate national income and the purposes of each accounting method. Refer to your completed hierarchy chart.
   Use the Graphic Organizer at Interactive Review @ ClassZone.com

7. Drawing Conclusions List some things that have become more expensive during your lifetime. Explain how a rise in price level affects nominal GDP and real GDP.
8. Making Inferences If consumption is especially high compared with other years, what might you generalize about the health of the economy?
9. Explaining an Economic Concept What is the underground economy? What impact does it have on a nation’s GDP?
10. Drawing Conclusions Imagine that a new country is discovered on an island in the middle of the Pacific Ocean. The country’s people have never left the island, and no foreigners have ever been there. What would the relationship be between the country’s GDP and its GNP? Why?
11. Challenge How would the following affect GDP?
   a. Government transfer payments increase.
   b. Student sells used CD to record store.
   c. Car owner pays auto repair shop $500 to fix his car.

Identifying Intermediate and Final Goods

Look at the following list of goods and who purchased them.

<table>
<thead>
<tr>
<th>Goods</th>
<th>Purchaser</th>
</tr>
</thead>
<tbody>
<tr>
<td>copier paper</td>
<td>accounting firm</td>
</tr>
<tr>
<td>refrigerator</td>
<td>home consumer</td>
</tr>
<tr>
<td>stainless steel</td>
<td>manufacturer</td>
</tr>
<tr>
<td>eggs</td>
<td>home consumer</td>
</tr>
<tr>
<td>eggs</td>
<td>factory that makes frozen baked goods</td>
</tr>
<tr>
<td>battery</td>
<td>car owner</td>
</tr>
<tr>
<td>paint</td>
<td>furniture maker</td>
</tr>
</tbody>
</table>

Categorize Economic Information Decide whether each good is an intermediate good or a final good.

Challenge Why is it important to make a distinction in national income accounting between intermediate and final goods?
What Is the Business Cycle?

**KEY CONCEPTS**

Economic changes often follow a broad pattern. During the 1990s, the U.S. economy expanded. In 2001, the economy slowed down. It then returned to a period of growth. Such changes are an example of the **business cycle**, a series of periods of expanding and contracting economic activity. The business cycle is measured by increases or decreases in real GDP. The cycle has four distinct stages: expansion, peak, contraction, and trough.

**STAGE 1 Expansion**

In the expansion phase, real GDP grows from a low point, or trough, as you can see in the graph in Figure 12.6. The expansion is a period of **economic growth**, an increase in a nation’s real gross domestic product (GDP). During an expansion, jobs are relatively easy to find, so unemployment goes down. More and more resources are needed to keep up with spending demand. As resources become more scarce, their prices rise. The length of each phase may vary both within a cycle and from cycle to cycle. The longest expansion in U.S. history took place over the course of ten years from 1991 to 2001.
STAGE 2 Peak
The point at which real GDP is the highest represents the peak of the business cycle. As prices rise and resources tighten, businesses become less profitable. From that point on, real GDP declines as businesses curtail production.

STAGE 3 Contraction
The contraction phase begins after the peak. As producers cut back, resources become less scarce and prices tend to stabilize or fall. Unemployment rises because employers produce less. Sometimes the contraction phase becomes a recession, a contraction lasting two or more quarters (six months or more). On rare occasions, as in the 1930s, a contraction turns into a depression, an extended period of high unemployment and limited business activity. While prices usually remain about the same or go down during the contraction phase, sometimes they go up. These are periods of stagflation—stagnation in business activity and inflation of prices.

STAGE 4 Trough
The final phase of the business cycle is the trough, the point at which real GDP and employment stop declining. A business cycle is complete when it has gone through all four phases, from trough to trough or from peak to peak.

APPLICATION Explaining an Economic Concept
A. In terms of the business cycle, what is unusual about stagflation?
Aggregate Demand and Supply

**KEY CONCEPTS**

One way to understand business cycles is through the concepts of demand and supply. In this case the concepts apply not to a single product or business but to the economy as a whole.

**Aggregate Demand**

*Aggregate demand* is the total amount of goods and services that households, businesses, government, and foreign purchasers will buy at each and every price level. In Figure 12.7, the vertical axis, labeled “Price level,” shows the average price of all goods and services. The horizontal axis, labeled “Real GDP,” shows the economy’s total output. The aggregate demand curve (AD) is downward sloping. As the price level decreases the purchasing power of money increases.

**Aggregate Supply**

*Aggregate supply* is the total amount of goods and services that producers will provide at each and every price level. Note that in Figure 12.8 the aggregate supply curve (AS) does not look like the supply curves in Chapter 5. The aggregate supply curve is almost horizontal when real GDP is low—during times of recession or depression—because businesses try not to raise their prices when the economy is weak. The middle part of the aggregate supply curve slopes upward, with prices increasing as real GDP increases. But during times of high inflation, prices rise without contributing to real GDP, and the aggregate supply curve becomes almost vertical.

**ANALYZE GRAPHS**

1. What does a normal demand or supply graph use as an x-axis? What does it use as a y-axis?
2. Why are the x and y axes different for the aggregate demand and supply graphs?

Use an interactive aggregate demand and aggregate supply graph at ClassZone.com
Macroeconomic Equilibrium

When the quantity of aggregate demand equals the quantity of aggregate supply, the economy reaches **macroeconomic equilibrium**. Figures 12.9 and 12.10 illustrate a variety of different possibilities, but let’s consider one particular example shown in Figure 12.9. Macroeconomic equilibrium occurs where the aggregate demand curve (AD1) intersects the aggregate supply curve (AS). P1 indicates the equilibrium price level, and Q1 shows the equilibrium level of real GDP.

Think about business cycles. An increase in aggregate demand shifts the aggregate demand curve to the right (AD2). Aggregate demand becomes greater at all price levels, and equilibrium real GDP rises (Q2), marking an expansion phase. If aggregate demand were to decrease, the aggregate demand curve would shift to the left (AD3). This would result in a lower equilibrium real GDP (Q3)—in other words, an economic contraction.

Shifts in aggregate supply affect real GDP in a similar way, as you can see in Figure 12.10. An increase in aggregate supply shifts the aggregate supply curve to the right (AS2). As aggregate supply increases, the price level goes down (P2) and equilibrium real GDP rises (Q2), marking an expansion phase. If aggregate supply were to decrease, the aggregate supply curve would shift to the left (AS3). The result would be a higher price level (P3) and lower equilibrium real GDP (Q3)—in other words, stagflation.

**Application Analyzing Cause and Effect**

B. Assuming aggregate demand remains the same, why does the price level go up when aggregate supply decreases?
Why Do Business Cycles Occur?

**KEY CONCEPTS**

You have seen that shifts in aggregate demand and aggregate supply indicate changes in the business cycle. But what causes these shifts? Four factors are especially important: (1) decisions made by businesses, (2) changes in interest rates, (3) the expectations of consumers, and (4) external shocks to the economy. These factors involve the “ripple effect,” the cause-and-effect interactions that ripple through the economy.

**FACTOR 1 Business Decisions**

When businesses decide to decrease or increase production, their decisions can have far-reaching effects. If enough businesses make similar decisions, it can lead to a change in the business cycle.

**Demand slump** Consider the ripple effect of a decision by businesses in the recording industry. In response to a slump in demand, the producers decide to reduce production of compact discs. First, they reduce the number of hours worked at their compact disc manufacturing facilities. Some workers get laid off, others work shorter hours. In a related move, the recording businesses cut back on their investment in new CD manufacturing equipment. That decision will lead to a decrease in the demand for machinery, which puts producers of the machinery in the same situation that the recording businesses were in. The machinery businesses will also cut back on production and lay off workers. The recording industry businesses also decide to reduce the number of new recordings they commission, thereby reducing the income of musicians, recording engineers, record promoters, and other associated workers. All of the workers that are now unemployed or working less must cut back on their purchases.

The single decision by the recording industry businesses had numerous consequences. By itself, it might not be enough to change the business cycle for the entire country. But if enough businesses make similar decisions, a contraction in the business cycle might result.

**New technology** Alternatively, business decisions can also increase aggregate supply and fuel an expansion. For example, suppose computer chip manufacturers adopt a new technology that greatly reduces production costs. Those manufacturers become more productive—the supply of their products increases and the cost of their products goes down. Businesses that make products that use computer chips can make their products more cheaply. Other businesses may now be able to make new products with the more readily available computer chips. All of these businesses hire more workers to handle the increased production. The aggregate supply increases, and the economy experiences an expansion.
FACTOR 2 Changes in Interest Rates

Another event that has a ripple effect in the economy and causes shifts in aggregate demand and supply is a change in interest rates. Rising interest rates, for example, make it more costly for consumers to borrow money to make purchases—from televisions to cars to houses. This decreased purchasing power lowers the level of aggregate demand and promotes a contraction in the economy. When interest rates fall, the opposite happens. Aggregate demand rises, promoting an expansion.

Consider what may happen to businesses when interest rates rise. With the higher cost of borrowing money, businesses may cut back on their investment in capital goods. As you saw earlier, such a cutback would lead to less business activity for the producers of capital goods. As the aggregate supply decreases, a contraction in the economy is likely. But falling interest rates would lead to an increase in aggregate supply and an economic expansion.

Higher or lower interest rates also affect the housing market. When interest rates are low, people are inclined to purchase housing rather than rent, so housing sales and all related economic activities increase, contributing to an economic expansion. When interest rates rise, the high cost of loans limits mortgage eligibility, so more people rent. Housing sales slow down, contributing to an economic contraction.

FACTOR 3 Consumer Expectations

Every month, 5,000 households are surveyed to find out how people are feeling about the economy, and the results are published in the Consumer Confidence Survey report. Why? The way consumers are feeling about prices, business activity, and job prospects influences their economic choices, and their choices can bring about changes in aggregate demand. For example, when consumers are confident about the future and believe that they are economically secure, they tend to consume more, driving up aggregate demand and encouraging an economic expansion.

FACTOR 4 External Issues

A nation’s economy can also be strongly influenced by issues and events beyond its control or outside of its borders. Examples include such natural disasters as Hurricanes Katrina and Rita, which struck the Gulf Coast in the summer of 2005. The hurricanes damaged oil refineries, oil wells, and offshore oil platforms. The effects of Katrina and Rita, combined with conflicts in other oil-producing countries, led to higher oil prices and slowed down the growth of the U.S. economy.

The oil embargo of 1973 is another example. The Organization of the Petroleum Exporting Countries (OPEC) reduced the amount of oil supplied to Western nations that had supported Israel in the Yom Kippur and October wars. The price of oil rose by 400 percent. The higher prices raised production costs and resulted in an economic contraction in the United States.

APPLICATION Analyzing Cause and Effect

C. Describe the ripple effect of a natural disaster like Hurricane Katrina on the economy.
Predicting Business Cycles

KEY CONCEPTS

Economists try to predict changes in the business cycle to help businesses and the government make informed economic choices. They base their predictions on sets of economic indicators.

- **Leading indicators** are measures of economic performance that usually change **before** real GDP changes.
- **Coincident indicators** are measures of economic performance that usually change **at the same time as** real GDP changes.
- **Lagging indicators** are measures of economic performance that usually change **after** real GDP changes.

ANALYZE GRAPHS

1. Find a period of at least four quarters in which the index of leading economic indicators accurately predicted a change in real gross domestic product.
2. Do changes in the real gross domestic product always echo changes in the index of leading economic indicators? What does this say about predicting changes in the nation’s economy?

APPLICATION Using a Decision-Making Process

D. If you were the manager of an electronics store, how might you use the news that leading indicators suggest a contraction in the economy in six months?
Business Cycles in U.S. History

**Key Concepts**

The agency that tracks economic indicators and business cycles in the United States is the National Bureau of Economic Research (NBER). It measures contractions from peak to trough and expansions from trough to peak. NBER identified about 20 extended contractions, or recessions, in the American economy in the 20th century. The worst of these by far was the Great Depression.

**The Great Depression**

“Back in those dark depression days,” President Ronald Reagan once recalled, “I saw my father on a Christmas Eve open what he thought was a Christmas greeting from his boss. Instead, it was the blue slip telling him he no longer had a job. The memory of him sitting there holding that slip of paper and then saying in a half whisper, ‘That’s quite a Christmas present’—it will stay with me as long as I live.” Millions of people who lived through the Great Depression were haunted by such memories. For more than a decade, beginning with the stock market crash in 1929, the United States and much of the world suffered a terrible economic contraction. Not until the United States entered World War II in 1941 did the American economy begin a full recovery.

Between the years 1929 and 1933, when the depression was at its worst, U.S. real GDP declined by about a third. Sales in some big businesses, including General Motors Corporation, declined by as much as 50 percent. In the resulting cutbacks, millions of workers lost their jobs. The unemployment rate skyrocketed from 1929 to 1933, leaving one in four American workers jobless. Businesses failed at a higher than usual rate, and banks failed at a tremendously high rate. The number of bank closings, either temporary or permanent, soared from 659 in 1929 to 4,000 in 1933.

**The New Deal**

President Herbert Hoover, who had been elected in 1928, was not able to bring about a recovery. Franklin D. Roosevelt, accepting the nomination to run for president against Hoover in 1932, promised Americans “a new deal,” and the programs he enacted after winning the election came to be known by that name. Roosevelt’s New Deal programs focused on federal spending to help the economy revive. Through a number of government agencies created just for this purpose, the American economy came under closer government regulation and many Americans were put back to work—employed by the federal government itself. Spending by the federal government rose from about 3 percent of GDP in the 1920s to about 10 percent in the mid-1930s.
Economists debate whether the New Deal programs led to sustained economic growth. But when the United States entered World War II in 1941, spending on the war effort also helped the economy to recover. Unemployment plunged to 1.2 percent by 1944.

**Business Cycles Since the Great Depression**

According to NBER, there have been about a dozen economic contractions and expansions in the U.S. economy since the Great Depression. The recessions have been less severe and have occurred less often than those before the 1930s. However, the contraction of the mid-1970s was an especially difficult time, triggered in part by the Oil Embargo of 1973. The unemployment rate rose from an average of 5.4 percent in the first half of the decade to an average of 7.4 percent from 1975 to 1979. At the same time, prices also rose, creating stagflation.

The 1990s, in contrast, saw strong economic expansion, fueled in part by the explosive growth of information technology. The economy experienced a brief recession in the early 2000s, which was extended slightly by the terrorist attacks on September 11, 2001. Through 2005, the U.S. economy continued to expand, although not at the heated pace of the 1990s.

**APPLICATION Making Inferences and Drawing Conclusions**

E. One industry that flourished during the Great Depression was the movie industry. Comedies were especially popular, and stories often portrayed the lives of the wealthy. Why do you think the movie industry fared so well?

![Figure 12.12 U.S. Business Cycles](image-url)

**ANALYZE GRAPHS**

1. According to the graph, how many recessions occurred from 1929 to 2005?
2. About how long was the longest business cycle shown on this graph?
SECTION 2  Assessment

REVIEWING KEY CONCEPTS

1. Explain the relationship between the terms in each of these pairs.
   a. contraction, expansion  
   b. aggregate demand, aggregate supply  
   c. leading indicators, lagging indicators

2. Between which two points of the business cycle is a contraction measured?

3. What is the difference between demand and aggregate demand?

4. Name four factors that can trigger changes in the business cycle.

5. Name three coincident indicators of the Great Depression.

6. Using Your Notes  Write a brief statement of your expectations for the economy from the point of view of the consumer. Use your completed cluster diagram and make references to what you have learned about the business cycle.
   Use the Graphic Organizer at Interactive Review @ ClassZone.com

CRITICAL THINKING

7. Comparing and Contrasting Economic Information  What were the similarities and differences between the Great Depression and the recession in the 1970s?

8. Solving Economic Problems  Did President Roosevelt’s New Deal focus on generating aggregate demand, or was its main focus on increasing aggregate supply? Explain.

9. Analyzing Cause and Effect  Are the components that are considered leading economic indicators causes or effects of changes in the business cycle?

10. Challenge  In the 1990s many people speculated that the economy had been transformed by new technologies. Paul A. Volcker, former chairman of the U.S. Federal Reserve Bank, described it this way: “The speed of communication, the speed of information transfer, the cheapness of communication, the ease of moving things around the world are a difference in kind as well as degree.” Do you think that business cycles are inevitable? Can they ever be eliminated entirely? Explain your answer.

INTERPRETING GRAPHS

The graph shows an economy at its macroeconomic equilibrium, where the aggregate demand curve (AD1) intersects the aggregate supply curve (AS1). P1 indicates the equilibrium price level, and Q1 shows the equilibrium level of real GDP.

Draw Aggregate Demand and Aggregate Supply Curves

Read the following scenarios. Copy the graph onto your own paper, then graph the changes that would occur in the Scenario 1 in blue. Graph the changes that would occur in the Scenario 2 in red.

Scenario 1: In a booming economy, interest rates begin to rise. Manufacturers and other producers, wary of borrowing money at higher rates, begin to cut back on production.

Scenario 2: Consumer confidence is high. Most people are optimistic about their job prospects and security, and they are willing to spend money on luxuries.

Challenge  As a consumer, how might your confidence be affected in Scenario 1?

Use SMARTGraper @ ClassZone.com to complete this activity.
Stimulating Economic Growth

### OBJECTIVES

In Section 3, you will
- explain how economists measure growth
- analyze the causes of economic growth
- discuss how productivity and economic growth are related

### KEY TERMS

- real GDP per capita, p. 369
- labor input, p. 371
- capital deepening, p. 371
- productivity, p. 372
- multifactor productivity, p. 372

### TAKING NOTES

As you read Section 3, complete a summary chart like the one below to record what you learn about economic growth. Use the Graphic Organizer at Interactive Review @ ClassZone.com

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**What Is Economic Growth?**

### KEY CONCEPTS

In Section 2 you learned about the business cycle, the pattern of expansion and contraction in a nation’s economy. In this section you will learn more about economic growth, as measured by changes in real gross domestic product (GDP).

### Gauging Economic Growth

Before Adam Smith (whom you learned about in Chapter 1, Section 4), many people believed that population growth and higher taxation were the secrets to economic growth. The theory held that more people paying more taxes was the best way to fill a nation’s treasury. Another view, called mercantilism, argued that increased national wealth came through exporting more goods than a country imports. In this way, the country would gain gold or silver currency from other countries.

Adam Smith, however, saw that the real “wealth of nations” lay in their productive capacities. Taxes could be so high that they limit the amount of funds available for business investment and consumer spending, thereby reducing economic growth. In Smith’s view, foreign trade allows a country to focus its resources on what it does best. The more efficiently a nation uses its resources, the more productive it will be and the larger its economy will grow. Smith’s views proved to be accurate, and they serve as the basis for modern economics.

The best measure of economic growth is not simply the amount of money a nation has or how much its population increases, but rather the increase in its real GDP. The rate at which real GDP changes is a good indicator of how well a country’s resources are being utilized.
Population growth influences economic growth. A country’s real GDP might be growing, but if its population is growing at an even faster rate, the increase in real GDP might simply reflect more workers contributing to the economy. Think of a potluck dinner. If each person brings one dish, the amount of food per person will be the same whether you invite 10 people or 100.

To get a clearer picture of economic growth, economists use a measure called **real GDP per capita**, which is real GDP divided by total population. Real GDP per capita reflects each person’s share of real GDP. In terms of the potluck dinner, if each person brings more than one dish to the next potluck, the amount of food per person will have increased.

Real GDP per capita is the usual measure of a nation’s standard of living. Nations with higher real GDP per capita tend to have populations that are better educated and healthier. However, real GDP per capita does not mean that each person gets that amount of money. Some people will get more, others less. It also does not measure quality of life. For example, people might have to work longer hours to achieve higher rates of economic growth, leaving them with less leisure time.

**APPLICATION Explaining an Economic Concept**

A. Why does a nation’s real GDP have to increase at a faster rate than its population for significant economic growth to take place?
What Determines Economic Growth?

KEY CONCEPTS

What drives economic growth? Why are some nations growing at a faster pace than others? Four key factors influence the rate of economic growth—natural resources, human resources, capital, and technology and innovation.

FACTOR 1 Natural Resources

One factor in economic growth is access to natural resources, especially arable land, water, forests, oil, and mineral resources. However, some countries, such as Japan, have very limited natural resources, yet their economies have grown rapidly. Others, such as India, which has the fourth-largest reserve of coal in the world and arable land covering more than half its territory, have developed more slowly.

A GLOBAL PERSPECTIVE

Do Natural Resources Guarantee Wealth?

Not necessarily. In fact, countries with abundant natural resources generally do not perform as well economically as countries with fewer natural resources—a phenomenon economists refer to as “the resource curse.” In Nigeria, for example, although oil is plentiful, personal income is low. GDP per capita is about $1,400 (in U.S. dollars). Poverty is widespread, with an estimated 60 percent of Nigeria’s population below the poverty line—and Nigeria has the largest population of any African country.

At the other end of the spectrum is Japan. Although the country has few natural resources, the strength of Japan’s economy is second only to that of the United States. GDP per capita is about $30,000 (in U.S. dollars). What Nigeria lacks, but Japan has, are the basic structures of a free market economy—private ownership, the profit motive, an effective government, and economic competition. These economic institutions are more important than natural resources for generating economic growth. Japan, with few natural resources, achieved economic success by developing alternative sources of wealth—industry and foreign trade.

CONNECTION ACROSS THE GLOBE

1. Synthesizing Economic Information What role do natural resources play in a country’s economic strength? Explain your answer.

2. Drawing Conclusions Figure 12.14 illustrates oil production and consumption in Nigeria and Japan. What would happen to each country’s economy if it produced less oil? What if each produced more?
**FACTOR 2 Human Resources**

Another key factor in economic growth is the labor force. Economists measure this partly through labor input—the size of the labor force multiplied by the length of the workweek. The steady declines in the length of the workweek in most countries since the early 1900s have been more than made up for by the growth in the population, so labor input has grown. Perhaps even more important than the raw numbers, however, is the level of human capital—the skills and knowledge—that the labor force brings to its tasks. Some economists believe that human capital is the single most important component in economic growth.

**FACTOR 3 Capital**

You learned in Chapter 1 that natural resources, labor, and capital come together through the creativity of an entrepreneur to produce goods and services. Capital is critical to this process and to economic growth. More and better capital goods increase output: the more machines a factory has and the better designed they are, the more goods the factory can churn out. Multiply this by the number of factories across a nation and the increased output equals higher GDP.

The economy also grows when more capital is available per worker. An increase in the capital to labor ratio is called capital deepening. In other words, workers are provided with more and better equipment to work with. The Industrial Revolution is a prime example of capital deepening. Sewing machines, for example, allowed clothing manufacturers to make more clothing per worker than if the workers had been sewing by hand.

**FACTOR 4 Technology and Innovation**

Technology and innovation are also important factors in economic growth. These factors promote the efficient use of other resources, which in turn leads to increased output. Some of the key technological developments that have contributed to economic growth include steam power, electricity, and the automobile.

Innovations can also increase economic growth. Something as simple as adjusting an order form can contribute to economic growth by reducing the amount of time needed to complete a task. Other innovations might improve customer service or reduce the amount of material needed to create a product.

Information technology has had a strong impact on economic growth. Technological advances in producing the information technology itself have led to a dramatic decline in prices. With lower prices for technology, firms are engaging in capital deepening without having to spend more money.

**APPLICATION Writing About Economics**

B. Using the four factors, explain how developing countries like Nigeria might improve their economic growth.
Productivity and Economic Growth

**KEY CONCEPTS**

**Productivity** refers to the amount of output produced from a set amount of inputs. When the same amount of inputs produces more output, productivity has increased. In Chapter 9, you learned about labor productivity—the amount of goods or services produced by a worker in an hour. But the broader sense of productivity includes the productivity of both labor and capital.

For example, imagine that you begin building bookshelves. The inputs would include your labor plus capital, in the form of the workshop, hammers, glue, and other supplies. At first, it may take you a week to complete one bookshelf. In the process, you may waste materials as you make mistakes, and you may find that some of your tools are not ideal for the task. But after you have built several bookshelves and acquired the right tools for the job, your productivity increases. Using the same amount of input, you might now be able to produce two bookshelves per week.

This section concerns the productivity of a country’s entire economy. As a country becomes more productive, its economy is likely to grow.

**How Is Productivity Measured?**

To measure the productivity of a single business, you would compare the inputs to the outputs. Using the bookshelf example, you would compare the amount of capital and number of hours worked to the number of bookshelves produced. But how can we measure the productivity of a nation’s economy, which is made up of millions of different people and businesses? Economists use a measurement called **multifactor productivity**, the ratio between an industry’s economic output and its labor and capital inputs. By collecting multifactor productivity data on a country’s major industries and business sectors, economists can estimate the productivity of the entire economy.

**What Contributes to Productivity?**

Several factors contribute to changes in productivity.

**Quality of Labor** A better educated, healthier workforce tends to be more productive. Using the bookshelf example, if you were to take classes in woodworking, your enhanced knowledge would enable you to produce more and better shelves. In general, the more educated the workforce, the more productive it is. As for health, people are usually more productive when they feel well than when they feel sluggish or ill.

**Technological Innovation** Historically, as during the Industrial Revolution, new machines and technologies helped countries produce more output from the same amount of inputs. In recent times, the desktop computer and computer technology generally have generated productivity gains.

**Energy Costs** Gas, electricity, and other fuels power the technologies that increase productivity. When energy costs rise, those tools become more expensive to use and productivity declines. By the same token, when energy costs fall, using advanced tools becomes less expensive and productivity rises.
Financial Markets The easier it is for funds to flow to where they are needed, the more productive the economy becomes. Banks, stock markets, and similar institutions allow a country’s funds to be put to their best use. When such institutions do not exist or when they do not function efficiently, productivity is reduced.

**FIGURE 12.15 U.S. PRIVATE BUSINESS MULTIFACTOR PRODUCTIVITY**

Source: U.S. Bureau of Labor Statistics

**ANALYZE GRAPHS**
1. What happened to productivity in the three years after the 1973 oil embargo? Why?
2. Compare this graph with Figure 12.13 on page 369, which shows real per capita GDP. How closely is economic growth related to productivity?

**How Are Productivity and Growth Related?**

Economic growth is a measure of change in production. It does not consider how much effort or how many resources it took to produce that quantity of production. Productivity, on the other hand, is a measure of efficiency. It reflects the amount of effort and resources it took to produce a certain quantity.

A country could experience economic growth—as measured by real GDP—without increasing its productivity. Such growth would be tied to an increase in the quantity of natural resources, labor, capital, or technology. If the productivity of a country increases, its real GDP can grow without increasing the quantity of inputs.

As shown in Figure 12.15, productivity in the United States grew at a steady pace from 1950 to 2000. Among other things, a better educated labor force and advances in information technology contributed to the increase. The dips in the graph represent productivity setbacks, such as tighter financial markets during recessions.

**APPLICATION Drawing Conclusions**

C. Some countries have limited natural resources but high economic growth. Does this prove that worldwide economic growth is unlimited by natural resources? Why or why not?
In the late 1700s, many European thinkers and writers predicted a future of peace and harmony in which poverty and hunger would be eliminated. Discussing humanity’s future with his father led Thomas Robert Malthus to question whether the prevailing view was perhaps too rosy. Malthus saw a problem that others had overlooked, namely, that the world’s population seemed likely to outgrow the available supply of food. He published his ideas in 1798 in “An Essay on the Principle of Population as It Affects the Future Improvement of Society.”

**A Natural Limit to Economic Growth?**

Malthus’s essay argued that human population would increase geometrically—that is, it would double—every 25 years. Malthus also estimated that food production would only increase arithmetically—that is, by the same amount each time—over that time period. Figure 12.16 uses hypothetical numbers to illustrate the problem. As time went on, agriculture would produce less food per person, and millions would be thrown into poverty and starvation.

“An Essay on the Principle of Population” caused a tremendous backlash. People could not accept that the rosy future they had imagined might not come to pass. Malthus and his essay were widely attacked and criticized—but no one could ignore his argument.

Malthus’s estimates turned out to be flawed. Human population increased at a slower pace than he predicted. World population was about 1 billion in 1800, but it took until 1930 to reach 2 billion. Agricultural productivity rose dramatically with the introduction of mechanized farming and advances in fertilization and pest control. Although world population accelerated around 1950, reaching about 6.5 billion by 2005, agricultural production kept pace with the growing population.

**APPLICATION Applying Economic Concepts**

D. How is Malthus’s population problem an example of the problem of scarcity?
Section 3  Assessment

Reviewing Key Concepts

1. Explain the differences between the terms in each of these pairs.
   a. economic growth  
   real GDP per capita  
   b. capital deepening  
   labor input

2. Name the key measurement of economic growth.

3. What four factors drive economic growth?

4. How are productivity and growth related?

5. Briefly explain the problem Malthus identified.

6. Using Your Notes  Write a persuasive paragraph arguing one side or the other of economic growth possibilities. Refer to your completed summary chart.

   Use the Graphic Organizer at Interactive Review @ ClassZone.com

Critical Thinking

7. Solving Economic Problems  In 2000, the world’s population was about 6 billion, and about 800 million of those people did not have enough to eat. By 2050, the world’s population is expected to grow to about 9 billion. What steps should we take now to avoid having more than 1 billion people without enough to eat by 2050? Employ the ideas you learned about in this section in formulating your solution.

8. Explaining an Economic Concept  Why is real GDP per capita a useful measure? Why couldn’t real GDP or GDP per capita be used for the same purpose?

9. Analyzing Cause and Effect  Globalization opens international boundaries to companies, creating markets that stretch around the world. What role might global competition play in the development of innovations?

10. Challenge  Going to school is your job. Your product is increasing your knowledge, and your grades are the main measure of this. Increasing your productivity would result in better grades—and more free time. Adapt the factors that contribute to economic productivity to explain how you might increase your productivity as a student.

Economics in Practice

A busy factory is one route to economic growth.

Stimulating Economic Growth
Government policies affect economic growth. Some policies have immediate effects that last for a short time. Other policies take longer to show results but have lasting impact.

Create a Healthy Economy
Reflecting on what you learned in this section, consider the following possible government actions.

- open a protected wilderness area for coal mining
- increase funding for scholarships for low-income students
- provide tax breaks for companies purchasing new equipment
- strengthen laws protecting the rights of inventors

Explain how each potential action might lead to economic growth.

Challenge  Estimate the costs and the benefits of each action. Which actions would have the most lasting positive effect on the economy?
Poland: Economic Freedom and Economic Growth

**Background**
Communists ruled Poland and controlled its economy from 1948 to 1989. After holding its first free elections in 1990, Poland made rapid progress toward full democracy and a free market economy. Economic reforms included ending government price controls, privatizing industries formerly controlled by the government, and entering the international marketplace. As Poland moved away from government control of the economy, it experienced a surge in economic growth—outdistancing many other former Communist countries in eastern and central Europe. In 2004, Poland became a member of the European Union, further increasing its economic potential.

**What's the issue?** How successful is Poland’s economy? Read these documents to learn about the challenges and rewards of the country’s economic transition.

**Wroclaw, Poland: Europe’s Next Appliance Capital?**

**Appliance Manufacturers Pour into Southwest Poland**
Money and companies are pouring in—not just the prestige nameplates like Bombardier, Siemens, Whirlpool, Toyota, and Volvo, but also the network of suppliers that inevitably follows them. At first, most of the new jobs were of the semi-skilled variety. Now they have been followed by design and engineering work that aims to tap into the largest concentration of university students in Eastern Europe.

“Everyone is coming, and they are coming very fast,” reports Josu Ugarte... who heads the appliance manufacturing operations here of Mondragon, the giant Spanish industrial cooperative. He predicts, confidently, that the region around Wroclaw will soon surpass Northern Italy as Europe’s appliance capital. . . .

The secret isn’t just lower wages. It’s also the attitude of workers who take pride and are willing to do what is necessary to succeed, even if it means outsourcing parts production or working on weekends or altering vacation schedules. . . .

Source: "Europe’s Capitalism Curtain" WashingtonPost.com July 23, 2004

**Thinking Economically** How has Poland’s human capital contributed to the country’s economic growth?
B. Political Cartoon

Poland’s farmers were sceptical about the benefits of European Union membership. This cartoon reflects their change of heart as agricultural exports increased and they received new subsidies from the European Union.

Thinking Economically Does the cartoon emphasize the free market benefits of the European Union or other benefits?

C. Magazine Article

Joining the European Union brought tremendous growth to Poland’s economy. This article explains some of the elements that led to the success.

Reaping the European Union Harvest

How the new central European members learnt to stop worrying and love the European Union

After grumbling furiously about dangers to their sovereignty and their social values when they joined the European Union in May, Poles are discovering themselves now to be among the Union’s most loyal citizens. Some three-quarters say they are happy with EU membership—and no wonder. In its first eight months of membership Poland got some €2.5 billion [€ is the euro, the currency of the European Union] ($3.4 billion) from the EU budget, or roughly twice what it paid in, according to the newspaper Rzeczpospolita. Rural incomes have risen by one-third for small farmers and two-thirds for big ones, reversing eight years of stagnation and decline, thanks to munificent EU subsidies and an influx of foreign buyers offering high prices for Polish meat and fruit.

Poland’s total exports rose by more than 30% in the first nine months of 2004, helped by the abolition of customs formalities. EU rules have opened the skies to budget airlines, boosting tourist numbers by 20% last year. Higher-than-expected tax revenues have meant lower-than-expected budget deficits...

Source: The Economist, January 8, 2005

Thinking Economically According to the document, how has membership in the EU helped Poland’s economic growth?

THINKING ECONOMICALLY Synthesizing

1. Which economic measurements and indicators are evident in documents A and C? Explain what they convey about the strengths and weaknesses of Poland’s economy.
2. What factors have driven Poland’s economic growth?
3. Compare documents A and C, written about six months apart. What continued economic trends and new economic strengths do they describe?
Choose the key concept that best completes the sentence. Not all key concepts will be used.

1. aggregate demand  
2. macroeconomic equilibrium  
3. aggregate supply  
4. national income (NI)  
5. business cycle  
6. national income accounting  
7. capital deepening  
8. net national product (NNP)  
9. coincident indicators  
10. disposable personal income (DPI)  
11. economic growth  
12. per capita real GDP  
13. gross domestic product (GDP)  
14. nominal GDP  
15. gross national product (GNP)  
16. nonmarket activities  
17. lagging indicators  
18. real GDP  
19. leading indicators  
20. recession  
21. per capita income (PI)  
22. stagnation  
23. business cycle  
24. underground economy

1. The market value of all goods and services produced in a nation is one of the key measurements used in 2. 3. is especially useful because it gives the market value of all goods and services corrected for price level changes. Another very useful measurement is 4. , which shows the actual amount of money people have to spend.

The economy goes through regular changes called the 5. . Economists watch 6. , such as building permits issued and stock prices, to predict changes in the economy. Low points in the economy are usually self-correcting, but in times of a 7. , such as the one that happened in the 1930s, government intervention may be needed.

Several factors influence 8. , including an increase in capital, 9. , an increase in the ratio between capital and labor, increases productivity, helping the economy grow. Economists use 10. , real GDP divided by whole population, to distinguish an increase in population from a higher level of economic output.

The table below shows the size of the underground economies of selected countries.

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP Per Capita (in U.S. dollars)</th>
<th>Underground Economy as Percent of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egypt</td>
<td>3,900</td>
<td>69</td>
</tr>
<tr>
<td>Thailand</td>
<td>8,300</td>
<td>70</td>
</tr>
<tr>
<td>Russia</td>
<td>11,100</td>
<td>44</td>
</tr>
<tr>
<td>Chile</td>
<td>11,300</td>
<td>19</td>
</tr>
<tr>
<td>Singapore</td>
<td>28,100</td>
<td>14</td>
</tr>
<tr>
<td>Italy</td>
<td>29,200</td>
<td>27</td>
</tr>
<tr>
<td>Switzerland</td>
<td>32,300</td>
<td>9</td>
</tr>
<tr>
<td>United States</td>
<td>41,800</td>
<td>10</td>
</tr>
</tbody>
</table>

Sources: International Monetary Fund, U.S. Central Intelligence Agency, 1998-2005 data

7. Is there a relationship between GDP per capita and the size of a country’s underground economy?

8. If a country incorporated its underground economy into the main economy, what would happen to its GDP per capita? Why?
CRITICAL THINKING

9. Creating Graphs  Copy the blank graph onto your own paper. Then use the data in the table to create a line graph showing the percent change in U.S. real gross domestic product from 1999 through 2003.
Use SMARTGrapher @ ClassZone.com to complete this activity.

<table>
<thead>
<tr>
<th>Year</th>
<th>Quarter 1</th>
<th>Quarter 2</th>
<th>Quarter 3</th>
<th>Quarter 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>3.4</td>
<td>3.4</td>
<td>4.8</td>
<td>7.3</td>
</tr>
<tr>
<td>2000</td>
<td>1.0</td>
<td>6.4</td>
<td>−0.5</td>
<td>2.1</td>
</tr>
<tr>
<td>2001</td>
<td>−0.5</td>
<td>1.2</td>
<td>−1.4</td>
<td>1.6</td>
</tr>
<tr>
<td>2002</td>
<td>2.7</td>
<td>2.2</td>
<td>2.4</td>
<td>0.2</td>
</tr>
<tr>
<td>2003</td>
<td>1.7</td>
<td>3.7</td>
<td>7.2</td>
<td>3.6</td>
</tr>
</tbody>
</table>

Source: U.S. Bureau of Economic Analysis

10. Analyzing and Interpreting Data  Which year had the highest growth? The lowest?

11. Analyzing Cause and Effect  The government enacted tax cuts and issued child tax credit refunds in 2003. What component of GDP would likely have increased because of these?

12. Distinguishing Fact from Opinion  Does the graph support or counter the idea that the September 11, 2001 terrorist attacks caused a recession?

13. Challenge  How could GDP grow by 5 percent a year but leave the economy no better off—or even worse off? Give two different explanations.

SIMULATION

Surveying Consumer Confidence

The Consumer Confidence Survey is one poll used to determine consumer expectations. Another is the ABC/Washington Post Consumer Comfort Index, which makes 1,000 phone calls to adults each month and asks the following questions:

- National Economy: “Would you describe the state of the nation’s economy these days as excellent, good, not so good, or poor?”
- Personal Finances: “Would you describe the state of your own personal finances these days as excellent, good, not so good, or poor?”
- Buying Climate: “Considering the cost of things today and your own personal finances, would you say now is an excellent time, a good time, a not so good time, or a poor time to buy the things you want and need?”

To understand the consumer comfort index better, take a survey of your class.

**Step 1.** Break into five small groups and discuss each of the questions. The point is to share your thoughts, not to debate who is right or wrong.

**Step 2.** Return to your desk and write down your answers to each of the questions anonymously.

**Step 3.** Collect the anonymous answers from the whole class. Have one person tabulate the answers to each question on the board.

**Step 4.** Now calculate the consumer confidence of your class. For each question, add up the number of positive responses (either “excellent” or “good”). Then subtract the number of negative responses (either “not so good” or “poor”). Divide by the total number of students and multiply by 100.

Add the result from all three questions together, and then divide by three. That will yield an overall comfort level. A level of 100 would mean everyone is satisfied with everything. A level of −100 would mean that everyone felt negatively about everything.

**Step 5.** Discuss the result. Does it seem to accurately reflect the mood of the class? What would happen to the nation’s GDP if all consumers felt as you do?