



## CHAPTER 2

# The Market System and the Circular Flow

You are at a mall in Halifax. Suppose you were assigned to compile a list of all the individual goods and services there, including the different brands and variations of each type of product. That task would be daunting and the list would be long! And even though a single shopping mall in Vancouver contains a remarkable quantity and variety of goods, it is only a tiny part of the Canadian economy.

Who decided that the particular goods and services available at the mall and in the broader Canadian economy should be produced? How did the producers determine which technology and types of factors to use in producing these particular goods? Who will obtain these products? What accounts for the new and improved products among these goods? This chapter will answer these and related questions.

### 2.1 Economic Systems

Every society needs to develop an **economic system**—a particular set of institutional arrangements and a coordinating mechanism—to respond to the economic problem. The economic system determines what goods are produced, how they are produced, who gets them, how to accommodate change, and how to promote technological progress.

Economic systems differ as to (1) who owns the factors of production and (2) the method used to motivate, coordinate, and direct economic activity. There are two general types of economic systems: the command system and the market system.

#### The Command System

The **command system** is also known as *socialism* or *communism*. In that system, government owns most property resources and economic decision making occurs through a central economic plan. A central planning board appointed by the government makes nearly all the major decisions concerning the use of resources, the composition and distribution of output, and the organization of production. The government owns most of the business firms, which produce according to government directives. The central planning

#### IN THIS CHAPTER YOU WILL LEARN:

- 2.1 The difference between a command system and a market system
- 2.2 The main characteristics of the market system
- 2.3 The five fundamental questions any economy faces
- 2.4 About the demise of the command system
- 2.5 The mechanics of the circular flow model

**economic system**

A particular set of institutional arrangements and a coordinating mechanism for producing goods and services.

**command system**

An economic system in which most property resources are owned by the government and economic decisions are made by a central government body.

**market system**

An economic system in which property resources are privately owned and markets and prices are used to direct and coordinate economic activities.


**ORIGIN 2.1**  
 Laissez-faire

board determines production goals for each enterprise and specifies the amount of resources to be allocated to each enterprise so that it can reach its production goals. The division of output between capital and consumer goods is centrally decided, and capital goods are allocated among industries on the basis of the central planning board's long-term priorities.

A pure command economy would rely exclusively on a central plan to allocate the government-owned property resources. But, in reality, even the pre-eminent command economy—the Soviet Union—tolerated some private ownership and incorporated some markets before its collapse in 1992. Recent reforms in Russia and most of the eastern European nations have to one degree or another transformed their command economies to market-oriented systems. China's reforms have not gone as far, but they have greatly reduced the reliance on central planning. Although there is still extensive government ownership of resources and capital in China, the nation has increasingly relied on free markets to organize and coordinate its economy. North Korea and Cuba are the last remaining examples of largely centrally planned economies. Later in this chapter, we will explore the main reasons for the general demise of the command systems.

## The Market System

The polar alternative to the command system is the **market system**, or *capitalism*. The system is characterized by the private ownership of resources and the use of markets and prices to coordinate and direct economic activity. Participants act in their own self-interest. Individuals and businesses seek to achieve their economic goals through their own decisions regarding work, consumption, or production. The system allows for the private ownership of capital, communicates through prices, and coordinates economic activity through *markets*—places where buyers and sellers come together. Goods and services are produced and resources are supplied by whoever is willing and able to do so at the prevailing prices. The result is competition among independently acting buyers and sellers of each product and resource. Thus, economic decision making is widely dispersed. Also, the high potential for monetary rewards creates powerful incentives for existing firms to innovate and entrepreneurs to pioneer new products and processes.

In *pure* capitalism—or *laissez-faire* capitalism—government's role is limited to protecting private property and establishing an environment appropriate to the operation of the market system. The term “laissez-faire” means “let it be”; that is, keep government from interfering with the economy. The idea is that such interference will inhibit the efficient working of the market system.

But in the capitalism practised in Canada and most other countries, government plays a significant role in the economy. It not only provides the rules for economic activity but also attempts to promote economic stability and growth, provides certain goods and services that would otherwise be underproduced or not produced at all, and modifies the distribution of income. The government, however, is not the dominant economic force in deciding what to produce, how to produce it, and who will get it. That force is the market.

## 2.2 Characteristics of the Market System

An examination of some of the key features of the market system in detail will be instructive.

### Private Property

In a market system, private individuals and firms, not the government, own most of the property resources (land and capital). It is this extensive private ownership of capital that gives capitalism its name. This right of **private property**, coupled with the freedom to negotiate binding legal contracts, enables individuals and businesses to obtain, use, and dispose of property resources as they see fit. The right of property owners to designate who will receive their property when they die sustains the institution of private property.

**private property**

The right of private persons and firms to obtain, own, control, employ, dispose of, and bequeath land, capital, and other property.

Property rights encourage investment, innovation, exchange, maintenance of property, and economic growth. No one would stock a store, build a factory, or clear land for farming if someone else, or the government itself, could take that property for his or her own benefit.

Property rights also extend to intellectual property through patents, copyrights, and trademarks. Such long-term protection encourages people to write books, music, and computer programs and to invent new products and production processes without fear that others will steal them and the rewards they may bring.

Moreover, property rights facilitate exchange. The title to an automobile or the deed to a cattle ranch assures the buyer that the seller is the legitimate owner. Also, property rights encourage owners to maintain or improve their property so as to preserve or increase its value. Finally, property rights enable people to use their time and resources to produce more goods and services, rather than using them to protect and retain the property they have already produced or acquired.

### freedom of enterprise

The freedom of firms to obtain economic resources, to use these resources to produce products of the firm's own choosing, and to sell their products in markets of their choice.

### freedom of choice

The freedom of owners of property resources to employ or dispose of them as they see fit, and of consumers to spend their incomes in a manner that they think is appropriate.



### ORIGIN 2.2 Self-Interest

### self-interest

That which each firm, property owner, worker, and consumer believes is best for itself.

### competition

The presence in a market of a large number of independent buyers and sellers competing with one another and the freedom of buyers and sellers to enter and leave the market.

## Freedom of Enterprise and Choice

Closely related to private ownership of property is freedom of enterprise and choice. The market system requires that various economic units make certain choices, which are expressed and implemented in the economy's markets:

- **Freedom of enterprise** ensures that entrepreneurs and private businesses are free to obtain and use economic resources to produce their choice of goods and services and to sell them in their chosen markets.
- **Freedom of choice** enables owners to employ or dispose of their property and money as they see fit. It also allows workers to enter any line of work for which they are qualified. Finally, it ensures that consumers are free to buy the goods and services that best satisfy their wants.

These choices are free only within broad legal limitations, of course. Illegal choices such as selling human organs or buying illicit drugs are punished through fines and imprisonment. (Global Perspective 2.1 reveals that the degree of economic freedom varies greatly from economy to economy.)

## Self-Interest

In the market system, **self-interest** is the motivating force of the various economic units as they express their free choices. Self-interest simply means that each economic unit tries to achieve its own particular goal, which usually requires delivering something of value to others. Entrepreneurs try to maximize profit or minimize loss. Property owners try to get the highest price for the sale or rent of their resources. Workers try to maximize their utility (satisfaction) by finding jobs that offer the best combination of wages, hours, fringe benefits, and working conditions. Consumers try to obtain the products they want at the lowest possible price and apportion their expenditures to maximize their utility. The motive of self-interest gives direction and consistency to what might otherwise be a chaotic economy.

## Competition

The market system depends on **competition** among economic units. The basis of this competition is freedom of choice exercised in pursuit of a monetary return. Very broadly defined, competition requires:

- independently acting sellers and buyers operating in a particular product or factor market
- freedom of sellers and buyers to enter or leave markets, on the basis of their economic self-interest

Competition among buyers and sellers diffuses economic power within the businesses and households that make up the economy. When there are independently acting sellers and buyers in a market, no one buyer or seller is able to dictate the price of the product or factor because others can undercut that price.





## 2.1 | GLOBAL PERSPECTIVE

### Index of Economic Freedom, Selected Nations

The Index of Economic Freedom measures economic freedom using 10 broad categories, such as trade policy, property rights, and government intervention, with each category containing more than 50 specific criteria. The Index then ranks 157 nations according to the degree of economic freedom. A few selected rankings for 2009 are listed here.

Source: Heritage Foundation ([www.heritage.org](http://www.heritage.org)) and the *Wall Street Journal*.

<b>FREE</b>	
1	Hong Kong
3	Australia
6	United States
7	Canada
<b>MOSTLY FREE</b>	
20	Belgium
29	Spain
64	France
<b>MOSTLY UNFREE</b>	
105	Brazil
132	China
146	Russia
<b>REPRESSED</b>	
174	Venezuela
177	Cuba
179	North Korea

Competition also implies that producers can enter or leave an industry; there are no insurmountable barriers to an industry's expanding or contracting. This freedom of an industry to expand or contract provides the economy with the flexibility needed to remain efficient over time. Freedom of entry and exit enables the economy to adjust to changes in consumer tastes, technology, and factor availability.

*The diffusion of economic power inherent in competition limits the potential abuse of that power.* A producer that charges more than the competitive market price will lose sales to other producers. An employer who pays less than the competitive market wage rate will lose workers to other employers. A firm that fails to exploit new technology will lose profits to firms that do. Competition is the basic regulatory force in the market system.

### Markets and Prices

We may wonder why an economy based on self-interest does not collapse in chaos. If consumers want breakfast cereal but businesses choose to produce running shoes and resource suppliers decide to make computer software, production would seem to be deadlocked by the apparent inconsistencies of free choices.

In reality, the millions of decisions made by households and businesses are highly coordinated with one another. Markets and prices are key components of the market system. They give the system its ability to coordinate millions of daily economic decisions. A **market** is an institution or mechanism that brings buyers ("demanders") and sellers ("suppliers") into contact. A market system conveys the decisions made by buyers and sellers of products and factors. The decisions made on each side of the market determine a set of product and factor prices that guide resource owners, entrepreneurs, and consumers as they make and revise their choices and pursue their self-interest.

#### market

Any institution or mechanism that brings together buyers and sellers of particular goods, services, or resources for the purpose of exchange.

Just as competition is the regulatory mechanism of the market system, the market system itself is the organizing and coordinating mechanism. It is an elaborate communication network through which innumerable individual free choices on the part of consumers and producers are recorded, summarized, and balanced. Those who respond to market signals and heed market dictates are rewarded with greater profit and income; those who do not respond to those signals and choose to ignore market dictates are penalized. Through this mechanism society decides what the economy should produce, how production can be organized efficiently, and how the fruits of production are to be distributed among the various units that make up the economy.

## QUICK REVIEW

- ▶ The market system rests on the private ownership of property and on freedom of enterprise and freedom of choice.
- ▶ The market system permits consumers, resource suppliers, and businesses to pursue and further their self-interest.
- ▶ Competition diffuses economic power and limits the actions of any single seller or buyer.
- ▶ The coordinating mechanism of capitalism is a system of markets and prices.

## Technology and Capital Goods

In the market system, competition, freedom of choice, self-interest, and personal reward provide the opportunity and motivation for technological advance. The monetary rewards for new products or production techniques accrue directly to the innovator. The market system therefore encourages extensive use and rapid development of complex capital goods: tools, machinery, large-scale factories, and facilities for storage, communication, transportation, and marketing.

Advanced technology and capital goods are important because the most direct methods of production are often the least efficient. The only way to avoid that inefficiency is to rely on capital goods. It would be ridiculous for a farmer to go at production with bare hands. There are huge benefits to be derived from creating and using such capital equipment as plows, tractors, storage bins, and so on. More efficient production means much more abundant output.

## Specialization

The extent to which market economies rely on **specialization** is astonishing. Specialization is the use of resources of an individual, region, or nation to produce one or a few goods or services rather than the entire range of goods and services. Those goods and services are then exchanged for a full range of desired products. The majority of consumers produce virtually none of the goods and services they consume, and they consume little or nothing of the items they produce. The person working nine-to-five installing windows in commercial aircraft may rarely fly. Many farmers sell their milk to the local dairy and then buy margarine at the local grocery store. Society learned long ago that self-sufficiency breeds inefficiency. The jack-of-all-trades may be a very colourful individual but is certainly not an efficient producer.

## DIVISION OF LABOUR

Human specialization—called the **division of labour**—contributes to a society's output in several ways:

- **Specialization Makes Use of Differences in Ability** Specialization enables individuals to take advantage of existing differences in their abilities and skills. If Peyton is strong, athletic, and good at throwing a football and Beyoncé is beautiful, agile, and can sing, their distribution of talents can be most efficiently used if Peyton plays professional football and Beyoncé records songs and gives concerts.

### specialization

The use of the resources of an individual, a firm, a region, or a nation to produce one or a few goods and services.

### division of labour

Dividing the work required to produce a product into a number of different tasks that are performed by different workers.



### ORIGIN 2.3

#### Specialization: Division of Labour

- **Specialization Fosters Learning by Doing** Even if the abilities of two people are identical, specialization may still be advantageous. By devoting time to a single task, a person is more likely to develop the skills required and to improve techniques than by working at a number of different tasks. You learn to be a good lawyer by studying and practising law.
- **Specialization Saves Time** By devoting time to a single task, a person avoids the loss of time incurred in shifting from one job to another. Also, time is saved by not “fumbling around” with a task that one is not trained to do.

For all these reasons, specialization increases the total output society derives from limited resources.

## GEOGRAPHIC SPECIALIZATION

Specialization also works on a regional and international basis. It is conceivable that apples could be grown in Saskatchewan, but because of the unsuitability of the land, rainfall, and temperature, the costs would be very high. And it is conceivable that wheat could be grown in British Columbia, but such production would be costly for similar geographical reasons. So, Saskatchewan farmers produce products—wheat in particular—for which their resources are best suited, and British Columbians (especially in the Okanagan Valley) do the same, producing apples and other fruits. By specializing, both regional economies produce more than is needed locally. Then, very sensibly, Saskatchewan and British Columbia exchange some of their surpluses—wheat for apples, apples for wheat.

Similarly, on an international scale, Canada specializes in producing such items as commercial aircraft (Bombardier) and communication equipment (Research In Motion), which it sells abroad in exchange for digital video recorders from China, bananas from Honduras, and woven baskets from Thailand. Both human specialization and geographic specialization are needed to achieve efficiency in the use of limited resources.

## Use of Money

A rather obvious characteristic of any economic system is the extensive use of money. Money performs several functions, but first and foremost it is a **medium of exchange**. It makes trade easier.

Specialization requires exchange. Exchange can, and sometimes does, occur through **barter**—swapping goods for goods; say, exchanging wheat for apples. But barter poses serious problems because it requires a *coincidence of wants* between the buyer and the seller. In our example, we assumed that Saskatchewan had excess wheat to trade and wanted apples. And we assumed that British Columbia had excess apples to trade and wanted wheat. So an exchange occurred. But if such a coincidence of wants is missing, trade will not occur.

Suppose that Saskatchewan has no interest in British Columbia’s apples but wants potatoes from Prince Edward Island. And suppose that Prince Edward Island wants British Columbia’s apples but not Saskatchewan’s wheat. And, to complicate matters, suppose that British Columbia wants some of Saskatchewan’s wheat but none of Prince Edward Island’s potatoes. We summarize the situation in Figure 2-1.

In none of the cases shown in the figure is there a coincidence of wants. Trade by barter would obviously be difficult. Instead, people in each province use **money**, which is simply a convenient social invention to facilitate exchanges of goods and services. Historically, people have used cattle, cigarettes, shells, stones, pieces of metal, and many other commodities, with varying degrees of success, as a medium of exchange. But to serve as money, an item needs to pass only one test: It must be generally acceptable to sellers in exchange for their goods and services. Money is socially defined: whatever society accepts as a medium of exchange *is* money.

Today, most economies use pieces of paper as money. The use of paper dollars (currency) as a medium of exchange is what enables Saskatchewan, British Columbia, and Prince Edward Island to overcome their trade stalemate, as demonstrated in Figure 2-1.

### medium of exchange

Items sellers generally accept and buyers generally use to pay for a good or service.

### barter

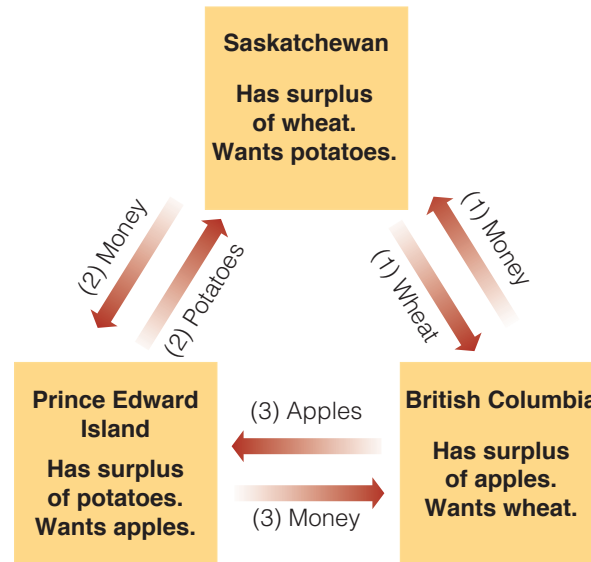
The exchange of one good or service for another good or service.

### money

Any item that is generally acceptable to sellers in exchange for goods and services.

**FIGURE 2-1****Money Facilitates Trade When Wants Do Not Coincide**

The use of money as a medium of exchange permits trade to be accomplished despite a non-coincidence of wants. (1) Saskatchewan trades the wheat that B.C. wants for money; (2) Saskatchewan trades the money it receives from B.C. for the potatoes it wants from P.E.I.; (3) P.E.I. trades the money it receives from Saskatchewan for the apples it wants from B.C.



On a global basis different nations have different currencies, which complicates specialization and exchange. But swapping dollars, yen, euros, pounds, and pesos for one another in markets in which currencies are bought and sold makes it possible for Canadians, Japanese, Germans, Britons, and Mexicans to exchange goods and services without resorting to barter.

**Active, But Limited, Government**

An active, but limited, government is the final characteristic of market systems in modern advanced industrial economies. Although a market system promotes a high degree of efficiency in the use of its resources, it has certain inherent shortcomings called “market failures.” We will discover in subsequent chapters that government can increase the overall efficiency of the economic system in several ways.

**QUICK REVIEW**

- ▶ The market systems of modern industrial economies are characterized by extensive use of technologically advanced capital goods. Such goods help these economies achieve greater efficiency in production.
- ▶ Specialization is extensive in market systems; it enhances efficiency and output by enabling individuals, regions, and nations to produce the goods and services for which their resources are best suited.
- ▶ The use of money in market systems facilitates the exchange of goods and services that specialization requires.

## 2.3 Five Fundamental Questions

The key features of the market system help explain how market economies respond to five fundamental questions:

- What goods and services will be produced?
- How will the goods and services be produced?
- Who will get the goods and services?
- How will the system accommodate change?
- How will the system promote progress?

These five questions highlight the economic choices underlying the production possibilities curve discussed in Chapter 1. They reflect the reality of scarce resources in a world of unlimited wants. All economies, whether market or command, must address these five questions.

### What Will Be Produced?

How will a market system decide on the specific types and quantities of goods and services to be produced? The simple answer is this: The goods and services produced at a continuing profit will be produced, and those produced at a continuing loss will not. Profits and losses are the difference between the total revenue (TR) a firm receives from the sale of its products and the total cost (TC) of producing those products. (For economists, economic costs include not only wage and salary payments to labour, and interest and rental payments for capital and land, but also payments to the entrepreneur for organizing and combining the other resources to produce a commodity.)

Continuing economic profit ( $TR > TC$ ) in an industry results in expanded production and the movement of resources toward that industry. Existing firms grow and new firms enter. The industry expands. Continuing losses ( $TC > TR$ ) in an industry leads to reduced production and the departure of resources from that industry. Some existing firms shrink in size; others go out of business. The industry contracts.

In the market system, consumers are sovereign (in command). **Consumer sovereignty** is crucial in determining the types and quantities of goods produced. Consumers spend their income on the goods they are most willing and able to buy. Through these “**dollar votes**” they register their wants in the market. If the dollar votes for a certain product are large enough to create a profit, businesses will produce that product and offer it for sale. In contrast, if the dollar votes do not create sufficient revenues to cover costs, businesses will not produce the product. So the consumers are sovereign. Through their dollar votes they collectively direct resources to industries that are meeting consumer wants and away from industries that are not meeting consumer wants.

The dollar votes of consumers determine not only which industries will continue to exist but also which products will survive or fail. Only profitable industries, firms, and products survive. So firms are not as free to produce whatever products they want. Consumers’ buying decisions make the production of some products profitable and the production of other products unprofitable, thus restricting the choice of businesses in deciding what to produce. Businesses must match their production choices with consumer choices or else face losses and eventual bankruptcy.

The same holds true for resource (factor) suppliers. The employment of resources derives from the sale of the goods and services that the resources help produce. Autoworkers are employed because automobiles are sold. There are few remaining professors of early Latin because there are few people who want to learn the Latin language. Resource suppliers that want to earn income are not truly free to allocate their resources to the production of goods or services that consumers do not value highly. Consumers register their preferences in the market; producers and resource suppliers, prompted by their own self-interest, try to satisfy those preferences. (*Key Question 8*)

#### consumer sovereignty

Determination by consumers of the types and quantities of goods and services that will be produced with the scarce resources of the economy.

#### dollar votes

The “votes” that consumers and entrepreneurs cast for the production of consumer and capital goods, respectively, when they purchase them in product and resource markets.



## How Will the Goods and Services Be Produced?

What combinations of resources and technologies will be used to produce goods and services? How will the production be organized? The answer: in combinations and ways that minimize the cost per unit of output. Because competition eliminates high-cost producers, profitability for firms requires that they produce their output at minimum cost per unit. Achieving this least-cost production necessitates that firms use the right mix of labour and capital, given the prices and productivity of those resources. It also means locating production facilities in such a way as to minimize production and transportation costs.

Least-cost production also means that firms must employ the most economically efficient technique of production in producing their output. The most efficient production technique depends on:

- The available technology; that is, the various combinations of resources that will produce the most output.
- The prices of the needed resources.

A technique that requires just a few inputs of resources to produce a specific output may be highly inefficient economically if those resources are valued very highly in the market. Economic efficiency requires obtaining a particular output of product with the least input of scarce resources, when both output and resource inputs are measured in dollars and cents.



### WORKED PROBLEM 2.1 Least Cost Production

## Who Will Get the Output?

The market system enters the picture in two ways when determining the distribution of total output. Generally, any product will be distributed to consumers on the basis of their ability and willingness to pay its existing market price. If the price of some product, say a small sailboat, is \$3000, then buyers who are willing and able to pay that price will get it; those unwilling or unable to pay the price will not.

The ability to pay the prices for sailboats and other products depends on the amount of income that consumers have, along with the prices of, and preferences for, various goods. If consumers have sufficient income and want to spend their money on a particular good, they can have it. And the amount of income they have depends on (1) the quantities of the property and human resources they supply and (2) the prices those resources command in the factor market. Factor prices (wages, interest, rent, profit) are crucial in determining the size of each person's income and therefore each person's ability to buy part of the economy's output. If a lawyer earning \$300 an hour and a recreational worker earning \$10 an hour both work the same number of hours each year, the lawyer will be able to take possession of 30 times as much of society's output as the recreational worker that year.

## How Will the System Accommodate Change?

Market systems are dynamic: consumer preferences, technology, and supplies of resources can all change at the same time. This means that the particular allocation of resources that is now the most efficient for a specific pattern of consumer tastes, range of technological alternatives, and amount of available resources will become obsolete and inefficient as consumer preferences change, new techniques of production are discovered, and resource supplies change over time. Can the market economy adjust to such changes?

Suppose consumer tastes change. For instance, assume that consumers decide they want more fruit juice and less milk than the economy currently provides. Those changes in consumer tastes will be communicated to producers through an increase in spending on fruit juice and a decline in spending on milk. Other things equal, prices and profits in the fruit juice industry will rise and those in the milk industry will fall. Self-interest will induce existing competitors to expand output and entice new competitors to enter the prosperous fruit juice industry and will in time force firms to scale down—or even exit—the depressed milk industry.

The higher prices and greater economic profit in the fruit juice industry not only will induce that industry to expand but also will give it the revenue needed to obtain the resources necessary to its growth. Higher prices and profits will permit fruit juice producers to draw more resources from less urgent alternative employment. The reverse occurs in the milk industry, where fewer workers and other resources are employed. These adjustments in the economy are automatic responses to the changes in consumer tastes. This is consumer sovereignty at work.

The market system is a gigantic communications system. Through changes in prices and profits it communicates changes in consumer demand and elicits appropriate responses from businesses and resource suppliers. By affecting price and profits, changes in consumer demand direct the expansion of some industries and the contraction of others. Those adjustments are conveyed to the factor market. As expanding industries employ more factors of production and contracting industries employ fewer, the resulting changes in factor prices (wages and salaries, for example) and income flows steer resources from the contracting industries to the expanding industries.

This *directing* or guiding function of prices and profits is a core element of the market system. Without such a system, a government planning board or some other administrative agency would have to direct businesses and resources into the appropriate industries. A similar analysis shows that the system can and does adjust to other fundamental changes—for example, to changes in technology and in the prices of various resources.

## How Will the System Promote Progress?

Society desires economic growth (greater output) and higher standards of living (greater income per person). How does the market system promote technological improvements and capital accumulation, both of which contribute to a higher standard of living for society?

### TECHNOLOGICAL ADVANCE

The market system provides a strong incentive for technological advance and enables better products and processes to supplant inferior ones. An entrepreneur or firm that introduces a popular new product will gain revenue and economic profit at the expense of rivals.

Technological advance also includes new and improved methods that reduce production or distribution costs. By passing on part of its cost reduction to the consumer through a lower product price, the firm can increase sales and obtain economic profit at the expense of rival firms.

Moreover, the market system promotes the *rapid spread* of technological advance throughout an industry. Rival firms must follow the lead of the most innovative firm or else suffer immediate losses and eventual failure. In some cases, the result is **creative destruction**: the creation of new products and production methods completely destroys the market positions of firms that are wedded to existing products and older ways of doing business. For example, the advent of compact discs largely demolished long-play vinyl records, and iPods and other digital technologies are now supplanting CDs.

### CAPITAL ACCUMULATION

Most technological advances require additional capital goods. The market system provides the resources necessary to produce those goods through increased dollar votes for capital goods.

But who will register votes for capital goods? Answer: entrepreneurs and owners of businesses. As receivers of profit income, they often use part of that income to purchase capital goods. Doing so yields even greater profit income in the future if the technological innovation is successful. Also, by paying interest or selling ownership shares, the entrepreneur and firm can attract some of the income of households to cast dollar votes for the production of more capital goods. (*Key Question 9*)

#### creative destruction

The hypothesis that the creation of new products and production methods simultaneously destroys the market power of firms that are wedded to existing products and older ways of doing business.

## QUICK REVIEW

- ▶ The output mix of the market system is determined by profits, which in turn depend heavily on consumer preferences. Economic profits cause industries to expand; losses cause industries to contract.
- ▶ Competition forces industries to use the least costly production methods.
- ▶ In a market economy, consumer income and product prices determine how output will be distributed.
- ▶ Competitive markets reallocate resources in response to changes in consumer tastes, technological advances, and changes in availability of resources.
- ▶ Competitive markets create incentives for technological advance and capital accumulation, both of which contribute to increases in standards of living.

### invisible hand

The tendency of firms and resource suppliers seeking to further their own self-interests in competitive markets to also promote the interest of society as a whole.

## The “Invisible Hand”

In his 1776 book *The Wealth of Nations*, Adam Smith first noted that the operation of a market system creates a curious unity between private interests and social interests. Firms and resource suppliers, seeking to further their own self-interest and operating within the framework of a highly competitive market system, will simultaneously, as though guided by an “invisible hand,” promote the public or social interest. For example, we have seen that in a competitive environment, businesses seek to build new and improved products to increase profits. Those enhanced products increase society’s well-being. Businesses also use the least costly combination of resources to produce a specific output because it is in their self-interest to do so. To act otherwise would be to forgo profit or even to risk business failure. But, at the same time, to use scarce resources in the least costly way is clearly in the social interest as well. It “frees up” resources to produce something else that society desires.

Self-interest, awakened and guided by the competitive market system, is what induces responses appropriate to the changes in society’s wants. Businesses seeking to make higher profits and to avoid losses, and resource suppliers pursuing greater monetary rewards, negotiate changes in the allocation of resources and end up with the output that society wants. Competition guides self-interest such that self-interest automatically and quite unintentionally furthers the best interest of society. The invisible hand ensures that when firms maximize their profits and resource suppliers maximize their incomes, these groups also help maximize society’s output and income.

Of the various virtues of the market system, three merit re-emphasis:

- **Efficiency** The market system promotes the efficient use of resources, by guiding them into the production of the goods and services most wanted by society. It forces the use of the most efficient techniques in organizing resources for production, and it encourages the development and adoption of new and more efficient production techniques.
- **Incentives** The market system encourages skill acquisition, hard work, and innovation. Greater work skills and effort mean greater production and higher incomes, which usually translate into a higher standard of living. Similarly, the assumption of risks by entrepreneurs can result in substantial profit incomes. Successful innovations generate economic rewards.
- **Freedom** The major noneconomic argument for the market system is its emphasis on personal freedom. In contrast to central planning, the market system coordinates economic activity without coercion. The market system permits—indeed, it thrives on—freedom of enterprise and choice. Entrepreneurs and workers are free to further their own self-interest, subject to the rewards and penalties imposed by the market system itself.

Of course, no economic system, including the market system, is flawless. The global financial crisis that gripped most economies in 2008–09 highlighted some of the shortcomings of unfettered financial markets. In Chapter 15 of *Microeconomics* we will explain several well-known shortcomings of the market system and examine the government policies that try to remedy them.

## 2.4 The Demise of the Command System

Our discussion of how a market system answers the five fundamental questions provides insights on why command systems of the Soviet Union, eastern Europe, and China (prior to its market reforms) failed. Those systems encountered two insurmountable problems.

### The Coordination Problem

The first difficulty was the coordination problem. The central planners had to coordinate the millions of individual decisions by consumers, resource suppliers, and businesses. Consider the setting up of a factory to produce tractors. The central planners had to establish a realistic annual production target; for example, 1000 tractors. They then had to make available all the necessary inputs—labour, machinery, electric power, steel, tires, glass, paint, transportation—for the production and delivery of those 1000 tractors.

Because the outputs of many industries serve as inputs to other industries, the failure of any single industry to achieve its output target caused a chain reaction of repercussions. For example, if iron mines, for want of machinery or labour or transportation, did not supply the steel industry with the required inputs of iron ore, the steel mills were unable to fulfill the input needs of the many industries that depended on steel. Steel-using industries that produced capital goods (such as factory equipment and modes of transportation) were unable to fulfill their planned production goals. Eventually the chain reaction spread to all firms that used steel as an input and from there to other input buyers or final consumers.

The coordination problem became more difficult as the economies expanded. Products and production processes grew more complex, and the number of industries requiring planning increased. Planning techniques that worked for the simpler economy proved highly inadequate and inefficient for the larger economy. Bottlenecks and production stoppages became the norm, not the exception. In trying to cope, planners further suppressed product variety, focusing on one or two products in each product category.

A lack of a reliable success indicator added to the coordination problem in the Soviet Union and China (prior to its market reforms). We have seen that market economies rely on profit as a success indicator. Profit depends on consumer demand, production efficiency, and product quality. In contrast, the major success indicator for the command economies usually was a quantitative production target that the central planners assigned. Production costs, product quality, and product mix were secondary considerations. Managers and workers often sacrificed product quality because



### CONSIDER THIS | The Two Koreas

North Korea is one of the few command economies still standing. After the Second World War, Korea was divided into North Korea and South Korea. North Korea, under the influence of the Soviet Union, established a command economy that emphasized government ownership and central government planning. South Korea established a market economy based upon private ownership and the profit motive. Today, the differences in the economic outcomes of the two systems are striking:

	North Korea	South Korea
GDP	\$40 billion*	\$1.2 trillion*
GDP per capita	\$1,800*	\$24,500*
Exports	\$1.3 billion	\$326 billion
Imports	\$2.7 billion	\$309.3 billion
Agriculture as % of GDP	30 %	3 %

\*Based on purchasing power equivalencies to the U.S. dollar.

Source: *CIA World Fact Book*, 2008, [www.cia.gov](http://www.cia.gov).



they were being awarded bonuses for meeting quantitative, not qualitative, targets. If meeting production goals meant sloppy assembly work, so be it.

It was difficult at best for planners to assign quantitative production targets without unintentionally producing distortions in output. If the plan specified a production target for producing nails in terms of *weight* (tons of nails), the enterprise made only large nails. But if it specified the target as a *quantity* (thousands of nails), the firm made all small nails, and lots of them! That is precisely what happens in centrally planned economies.

## The Incentive Problem

The command economies also faced an incentive problem. Central planners determined the output mix. When they misjudged how many automobiles, shoes, shirts, and chickens were wanted at the government-determined prices, persistent shortages and surpluses of those products often arose. But as long as the managers who oversaw the production of those goods were rewarded for meeting their assigned production goals, they had no incentive to adjust production in response to the shortages and surpluses. And there were no fluctuations in prices and profitability to signal that more or less of certain products was desired. Thus, many products were unavailable or in short supply, while other products were overproduced and sat for months or years in warehouses.



### CONSIDER THIS

### Market Failure and the Need for Government

Suppose a municipality, say Brandon, Manitoba, requires a new road. In the absence of a government request that a private firm build it, it is unlikely that a private firm will build the required road on its own initiative. Or, to express it in another way, private markets will not make available public goods. The citizens of Brandon have to elect a government to either direct a private firm to build the road, or hire the people and buy the capital equipment needed to construct the road on its own.

Why would a private firm not undertake to build a road on its own? The obstacle is common property rights. The land on which the road is to be built must be owned by the firm before it would consider building the road. Lands used by all citizens are most often held publicly. The firm would thus need to get the consent of all the citizens affected. Such unanimity would be difficult to achieve. Indeed, it is the difficulty of making collective decisions that makes government action essential in the creation of an infrastructure—such as roads and airports—necessary to facilitate the functioning of markets. Not only must a decision be made to build the road, but then the decision must be made as to who should bear the cost. The free-rider problem arises here. Every individual hopes someone will pay for the needed road. This way he or she can have the benefits without contributing to its cost. The free-rider problem can potentially arise in all situations where collective action must be taken. Unless we have a central authority—government—with the monopoly power to impose costs on all members of a society, many socially useful projects will not be undertaken.

In a pathbreaking book, *The Logic of Collective Action*,<sup>1</sup> Mancur Olson pointed out 40 years ago that contrary to popular belief, groups of individuals with common interest do not necessarily attempt to further those common interests. In many instances group members attempt to further their own personal interests. A few years later, the political scientist Garrett Hardin popularized the term “the tragedy of the commons”<sup>2</sup> to describe the problems that arise when there are common property rights. For example, where there are common property rights to a natural resource, it is typically overexploited. The cod stocks on Canada’s east coast have suffered just that fate.

Where collective action is required, or where there are common property rights, governments are needed because markets fail to bring together the interests of the individual and those of society. The federal government has had to impose mandatory fishing restrictions to save the cod stocks from dwindling further. Similarly, governments must make decisions to construct a road, otherwise the road might never get built.

But we do not want to leave the impression that all government interventions to rectify market failure succeed. Some individuals point to the failure of the Canadian federal government to properly manage the cod stocks off the eastern seaboard as a case in point.

<sup>1</sup> Mancur Olson, *The Logic of Collective Action* (Cambridge: Cambridge University Press, 1965).

<sup>2</sup> Garrett Hardin, “The Tragedy of the Commons,” *Science* 162 (1968): 1243–48.

The command systems of the Soviet Union and China before its market reforms also lacked entrepreneurship. Central planning did not trigger the profit motive, nor did it reward innovation and enterprise. The route for getting ahead was through participation in the political hierarchy of the Communist Party. Moving up the hierarchy meant better housing, better access to health care, and the right to shop in special stores. Meeting production targets and manoeuvring through the minefields of party politics were measures of success in “business.” But a definition of business success based solely on political savvy is not conducive to technological advance, which is often disruptive to existing products, production methods, and organizational structures.

## 2.5 The Circular Flow Model



### ORIGIN 2.4 Circular Flow Diagram

#### circular flow diagram

The flow of resources from households to firms and of products from firms to households. These flows are accompanied by reverse flows of money from firms to households and from households to firms.

#### factor market

A market in which households sell and firms buy factors of production.

#### product market

A market in which products are sold by firms and bought by households.

The dynamic market economy creates continuous, repetitive flows of goods and services, resources, and money. The **circular flow diagram**, shown in **Figure 2-2 (Key Graph)**, illustrates those flows. Observe that in the diagram we group private decision makers into *businesses* and *households* and group markets into the *factor market* and the *product market*.

### Factor Market

The upper part of the circular flow diagram represents the **factor market**: the place where resources or the services of resource suppliers are bought and sold. In the factor market, households sell resources and businesses buy them. Households (that is, people) own all economic resources either directly as workers or entrepreneurs or indirectly through their ownership of business corporations. They sell their resources to businesses, which buy them because they are necessary for producing goods and services. The funds that businesses pay for resources are costs to businesses but are flows of wage, rent, interest, and profit income to the households. Productive resources therefore flow from households to businesses, and money flows from businesses to households.

### Product Market

Next consider the lower part of the diagram, which represents the **product market**: the place where goods and services produced by businesses are bought and sold. In the product market, businesses combine resources to produce and sell goods and services. Households use the (limited) income they have received from the sale of resources to buy goods and services. The monetary flow of consumer spending on goods and services yields sales revenues for businesses. Businesses compare those revenues to their costs in determining profitability and whether or not a particular good or service should continue to be produced.

The circular flow model depicts a complex, interrelated web of decision making and economic activity involving businesses and households. For the economy, it is the circle of life. Businesses and households are both buyers and sellers. Businesses buy resources and sell products. Households buy products and sell resources. As shown in Figure 2-2, there is a counterclockwise *real flow* of economic resources and finished goods and services and a clockwise *money flow* of income and consumption expenditures.

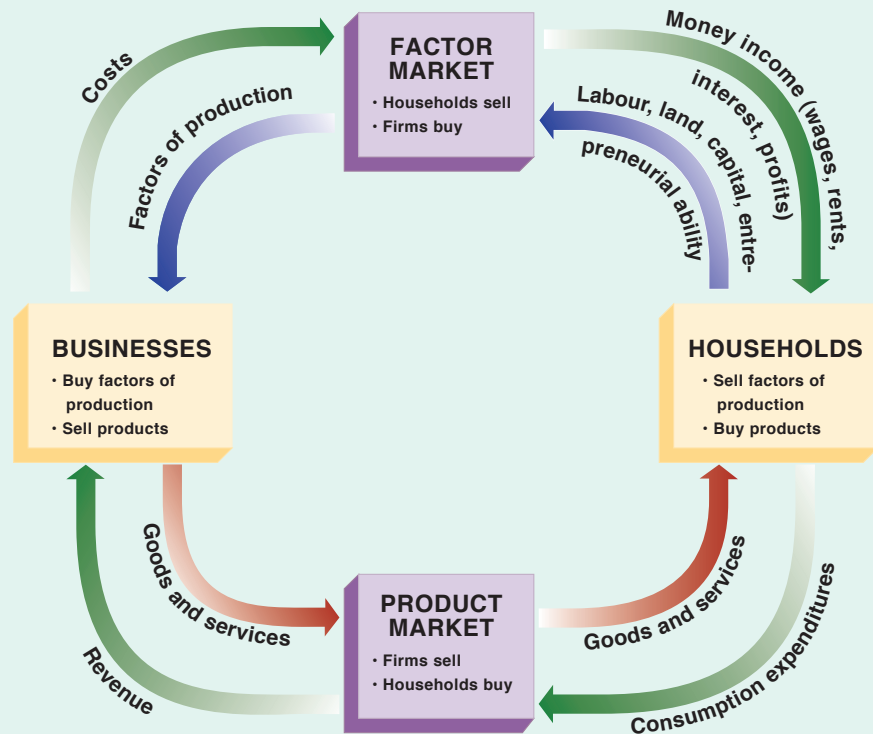
## KEY GRAPH



**FIGURE 2-2**

### The Circular Flow Diagram

Factors of production flow from households to businesses through the factor market and products flow from businesses to households through the product market. Opposite these real flows are monetary flows. Households receive income from businesses (their costs) through the factor market and businesses receive revenue from households (their expenditures) through the product market.



### Quick Quiz

- The factor market is where:**
  - households sell products and businesses buy products.
  - businesses sell factors of production and households sell products.
  - households sell factors of production and businesses buy factors of production (or the services of factors).
  - businesses sell factors of production and households buy factors of production (or the services of factors).
- Which of the following would be determined in the product market?**
  - a manager's salary
  - the price of equipment used in a bottling plant
  - the price of 80 hectares of farmland
  - the price of a new pair of athletic shoes
- In this circular flow diagram:**
  - money flows counterclockwise.
  - resources flow counterclockwise.
  - goods and services flow clockwise.
  - households are on the selling side of the product market.
- In this circular flow diagram:**
  - households spend income in the product market.
  - firms sell resources to households.
  - households receive income through the product market.
  - households produce goods.

### Answers:

1. c; 2. d; 3. b; 4. a

## The **LAST WORD** Shuffling the Deck

Economist Donald Boudreaux marvels at the way the market system systematically and purposefully arranges the world's tens of billions of individual resources.

In *The Future and Its Enemies*, Virginia Postrel notes the astonishing fact that if you thoroughly shuffle an ordinary deck of 52 playing cards, chances are practically 100 percent that the resulting arrangement of cards has never before existed. Never. Every time you shuffle a deck, you produce an arrangement of cards that exists for the first time in history.

The arithmetic works out that way. For a very small number of items, the number of possible arrangements is small. Three items, for example, can be arranged only six different ways. But the number of possible arrangements grows very quickly. The number of different ways to arrange five items is 120...for ten items it's 3,628,800...for fifteen items it's 1,307,674,368,000.

The number of different ways to arrange 52 items is  $8.066 \times 10^{67}$ . This is a big number. No human can comprehend its enormousness. By way of comparison, the number of possible ways to arrange a mere 20 items is 2,432,902,008,176,640,000—a number larger than the total number of seconds that have elapsed since the beginning of time ten billion years ago—and this number is Lilliputian compared to  $8.066 \times 10^{67}$ .

What's the significance of these facts about numbers? Consider the number of different resources available in the world—my labour, your labour, your land, oil, tungsten, cedar, coffee beans, chickens, rivers, the Empire State Build-

ing, [Microsoft] Windows, the wharves at Houston, the classrooms at Oxford, the airport at Miami, and on and on and on. No one can possibly count all of the different, productive resources available for our use. But we can be sure that this number is at least in the tens of billions.

When you reflect on how incomprehensibly large is the number of ways to arrange a deck containing a mere 52 cards, the mind boggles at the number of different ways to arrange all the world's resources.

If our world were random—if resources combined together haphazardly, as if a giant took them all into his hands and tossed them down like so many [cards]—it's a virtual certainty that the resulting combination of resources would be useless. Unless this chance arrangement were quickly rearranged according to some productive logic, nothing worthwhile would be produced. We would all starve to death. Because only a tiny fraction of possible arrangements serves human

ends, any arrangement will be useless if it is chosen randomly or with inadequate knowledge of how each and every resource might be productively combined with each other.

And yet, we witness all around us an arrangement of resources that's productive and serves human goals. Today's arrangement of resources might not be perfect, but it is vastly superior to most of the trillions upon trillions of other possible arrangements.

How have we managed to get one of the minuscule number of arrangements that works? The answer is private property—a social institution that encourages mutual accommodation.

Private property eliminates the possibility that resource arrangements will be random, for each resource owner chooses a course of action only if it promises rewards to the owner that exceed the rewards promised by all other available courses.

[The result] is a breathtakingly complex and productive arrangement of countless resources. This arrangement emerged over time (and is still emerging) as the result of billions upon billions of individual, daily, small decisions made by people seeking to better employ their resources and labor in ways that other people find helpful.



Source: Abridged from Donald J. Boudreaux, "Mutual Accommodation," *Ideas on Liberty*, May 2000, pp. 4–5. Reprinted with permission.

### Question

What explains why millions of economic resources tend to get arranged logically and productively rather than haphazardly and unproductively?



## CHAPTER SUMMARY

### 2.1 ► ECONOMIC SYSTEMS

- The command system and the market system are the two broad types of economic systems used to address the economic problem. In the command system (or socialism or communism), government owns most resources, and central planners coordinate most economic activity. In the market system (or capitalism), private individuals own most resources, and markets coordinate most economic activity.

### 2.2 ► CHARACTERISTICS OF THE MARKET SYSTEM

- The market system is characterized by the private ownership of resources, including capital, and the freedom of individuals to engage in economic activities of their choice to advance their material well-being. Self-interest is the driving force of such an economy, and competition functions as a regulatory or control mechanism.
- In the market system, markets, prices, and profits organize and make effective the many millions of individual economic decisions that occur daily.
- The use of advanced technology, specialization, and the extensive use of capital goods are common features of market systems. Functioning as a medium of exchange, money eliminates the problems of bartering and permits easy trade and greater specialization, both domestically and internationally.

### 2.3 ► FIVE FUNDAMENTAL QUESTIONS

- Every economy faces five fundamental questions: (1) What goods and services will be produced? (2) How will the goods and services be produced? (3) Who will get the goods and services? (4) How will the system accommodate change? (5) How will the system promote progress?
- The market system produces products whose production and sale yield total revenue sufficient to cover total cost. It does not produce products for which total revenue continuously falls short of total cost. Competition forces firms to use the lowest-cost production techniques.
- Positive economic profit (total revenue minus total cost) indicates that an industry is prosperous and promotes its

expansion. Losses signify that an industry is not prosperous and hasten its contraction.

- Consumer sovereignty means that both businesses and resource suppliers are subject to the wants of consumers. Through their dollar votes, consumers decide on the composition of output.
- The prices that a household receives for the resources it supplies to the economy determine that household's income. This income determines the household's claim on the economy's output. Those who have income to spend get the products produced in the market system.
- By communicating changes in consumer tastes to entrepreneurs and resource suppliers, the market system prompts appropriate adjustments in the allocation of the economy's resources. The market system also encourages technological advance and capital accumulation, both of which raise a nation's standard of living.
- Competition, the primary mechanism of control in the market economy, promotes a unity of self-interest and social interests. As directed by an invisible hand, competition harnesses the self-interest motives of businesses and resource suppliers to further the social interest.

### 2.4 ► THE DEMISE OF THE COMMAND SYSTEM

- The command systems of the Soviet Union and pre-reform China met their demise because of coordination difficulties under central planning and the lack of profit incentives that encourage product improvement, produce new products, and give rise to entrepreneurship.

### 2.5 ► THE CIRCULAR FLOW MODEL

- The circular flow model illustrates the flows of resources and products from households to businesses and from businesses to households, along with the corresponding monetary flows. Businesses are on the buying side of the resource market and the selling side of the product market. Households are on the selling side of the resource market and the buying side of the product market.

## TERMS AND CONCEPTS

economic system, p. 32  
 command system, p. 32  
 market system, p. 32  
 private property, p. 32  
 freedom of enterprise, p. 33  
 freedom of choice, p. 33  
 self-interest, p. 33

competition, p. 33  
 market, p. 34  
 specialization, p. 35  
 division of labour, p. 35  
 medium of exchange, p. 36  
 barter, p. 36  
 money, p. 36

consumer sovereignty, p. 38  
 dollar votes, p. 38  
 creative destruction, p. 40  
 invisible hand, p. 41  
 circular flow diagram, p. 44  
 factor market, p. 44  
 product market, p. 44

## STUDY QUESTIONS

- LO ▶ 2.1** 1. Contrast how a market system and a command economy try to cope with economic scarcity.
- LO ▶ 2.2** 2. How does self-interest help achieve society's economic goals? Why is there such a wide variety of desired goods and services in a market system? In what way are entrepreneurs and businesses at the helm of the economy but commanded by consumers?
- LO ▶ 2.2** 3. Why is private property, and the protection of property rights, so critical to the success of the market system?
- LO ▶ 2.2** 4. What are the advantages of using capital in the production process? What is meant by the term "division of labour"? What are the advantages of specialization in the use of human and material resources? Explain why exchange is the necessary consequence of specialization.
- LO ▶ 2.2** 5. What problem does barter entail? Indicate the economic significance of money as a medium of exchange. What is meant by the statement "We want money only to part with it"?
- LO ▶ 2.2** 6. Evaluate and explain the following statements:
- The market system is a profit-and-loss system.
  - Competition is the disciplinarian of the market economy.
- LO ▶ 2.3** 7. In the 1990s thousands of dot-com companies emerged with great fanfare to take advantage of the Internet and new information technologies. A few, like Yahoo, eBay, and Amazon, have generally thrived and prospered, but many others struggled and eventually failed. Explain these varied outcomes in terms of how the market system answers the question "What goods and services will be produced?"
- LO ▶ 2.3** 8. **KEY QUESTION** With current technology, suppose a firm is producing 400 loaves of banana bread daily. Also, assume that the least-cost combination of resources in producing those loaves is 5 units of labour, 7 units of land, 2 units of capital, and 1 unit of entrepreneurial ability, selling at prices of \$40, \$60, \$60, and \$20, respectively. If the firm can sell these 400 loaves at \$2 per unit, will it continue to produce banana bread? If this firm's situation is typical for the other makers of banana bread, will factors of production flow to or away from this bakery good?
9. **KEY QUESTION** Some large hardware stores such as Canadian Tire boast of carrying as many as 20,000 different products in each store. What motivated the producers of those individual products to make them and offer them for sale? How did the producers decide on the best combinations of factors to use? Who made those factors available, and why? Who decides whether these particular hardware products should continue to be produced and offered for sale? **LO ▶ 2.3**
10. What is meant by the term "creative destruction"? How does the emergence of MP3 (iPod) technology relate to this idea? **LO ▶ 2.3**
11. In a sentence, describe the meaning of the phrase "invisible hand." **LO ▶ 2.3**
12. In market economies, firms rarely worry about the availability of inputs to produce their products, whereas in a command economies input availability is a constant concern. Why the difference? **LO ▶ 2.4**
13. Distinguish between the factor market and the product market in the circular flow model. In what way are businesses and households both sellers and buyers in this model? What are the flows in the circular flow model? **LO ▶ 2.5**

## INTERNET APPLICATION QUESTIONS @

1. **Diamonds—Interested in Buying One?** Use the links on the McConnell-Brue-Flynn-Barbiero Web site (Chapter 2) to access the Internet auction site eBay. Select the category Jewelry and Watches, followed by Loose Diamonds and Gemstones, and then Loose Diamonds. How many loose diamonds are for sale at the moment? Note the wide array of sizes and prices of the diamonds. In what sense is there competition among the sellers in this market? How does that competition influence prices? In what sense is there competition among buyers? How does that competition influence prices?
2. **Barter and the Canada Revenue Agency.** Bartering occurs when goods or services are exchanged without the exchange of money. For some, barter's popularity is that it enables them to avoid paying taxes to the government. How might such avoidance occur? Use the links on the McConnell-Brue-Flynn-Barbiero Web site (Chapter 2) to access the Canada Revenue Agency's (CRA) interpretation of barter transactions. Does the CRA treat barter as taxable or nontaxable income? How is the value of a barter transaction determined?