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Markets, Governments, and Nations: The Organization of Economic Activity

Learning Objectives

By the end of this chapter, you will be able to:

- Identify the four types of productive resources, or factors of production, and the income paid to each for its role in producing goods and services.
- Understand the basic economic questions that must be addressed by every economic system.
- Use a circular flow model to show the relationships between firms and households in markets in an economy.
- Explain and give examples of the basic functions of government.
- Evaluate the benefits of specialization and exchange based on comparative advantage.

Introduction

Consider this. . . Suppose you were hired by Raúl Castro to advise him on how he should organize production in Cuba. What would you tell him? What things would you tell him the government should do and what things should he let markets do? What goods should the government produce or subsidize, if any? Should the Cuban people be allowed to buy goods from foreign firms? How should Castro decide what goods should be imported and what goods should be exported? Transitioning the Cuban economy appears to be very complicated. The concepts in this chapter will help you develop an understanding of how countries face these economic questions.

2.1 Limited Resources

To examine the process of choice, we can begin by identifying the scarce resources that exist. The productive resources are divided into four broad categories: labor, land, capital, and entrepreneurship. All resources used to produce goods and services fit into one of these four categories, or factors of production. **Goods** are objects that people value. **Services** are tasks performed for people. For example, a hairstylist provides a service of cutting a client's hair; the scissors that the hairstylist uses are goods.

Labor

Labor is the resource of production with which you are probably most familiar. It is the physical and mental work of human beings. The efforts of a factory worker, a professional basketball player, a university professor, and a carpenter are all labor.

Wages are the payments labor receives for its productive services. Some labor is valued (and paid) more than other labor. Why? One reason is that some labor is more productive. Workers are born with different talents and abilities: some are more intelligent; others are physically stronger or better coordinated; still others have artistic or musical ability. It is also possible to make labor more productive by devoting money and time to improving skills. Individuals invest in their labor skills by going to college, serving as apprentices, or practicing. Economists refer to this development of labor skills as an investment in **human capital**. Human capital consists of knowledge and skills that increase labor's productivity. A large part of wage differences can be explained by differences in human capital.

Land

The second resource is **land**. Land, to an economist, is not just rocks and soil, but all natural resources that can be used as inputs to production. By this definition, land includes minerals, water, air, forests, oil, and even rainfall, temperature, and soil quality. The income paid to this factor of production is called **rent**.

A key distinction between land and other productive resources is that land consists of natural resources or conditions, unimproved by any human activity. For example, acreage in Arizona that has been irrigated represents more than land. It also represents **capital**, the third resource. Thus, part of the payment that is called rent is a return to land, but part of it may be a return to capital.

Capital

The third resource, capital, is defined as all aids to production that are human creations rather than resources found in nature. Capital includes tools, factories, warehouses, and inventories. You have also seen that capital can become attached to land or to labor (human capital) when investment is made in improvements or in skills and training. In common usage, real capital is often confused with financial capital. Financial capital is money lent to purchase real, physical capital. Economists reserve the term *capital* for real inputs to production, not for financial assets.



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Land refers to all natural resources, such as water, soil, and minerals. Capital can become attached to land or to labor.

Capital, like land, receives a flow of income. The payments to capital are called **interest**. Interest is a reward for giving up present consumption in order to make resources available for the creation of more capital for future production. **Investment** is the act of adding to capital. Although the term *investment* is often used for such activities as buying stocks and bonds, to an economist the term means the creation of real, physical assets, such as machines, factories, or inventories, that can be used to produce other goods and services.

Entrepreneurship

The last factor of production is **entrepreneurship**, which consists of the activities of combining the other productive resources to produce goods and services, taking risks, and introducing new methods and new products (innovation). Entrepreneurs combine other resources by buying or renting them to produce a saleable product. The reward for innovation, risk taking, and organization is **profit**.

Profit is the most difficult of the four productive resources to measure in practice because it is whatever is left over after paying for land, capital, and labor. Accountants frequently count profit as what is left after the bills are paid. However, this measure is likely to overlook such opportunity costs as the value of the owner's labor (wages) or the return to the owner's capital (interest).

Check Point: The Four Factors of Production

- Labor is paid *wages*.
- Land is paid *rent*.
- Capital is paid *interest*.
- Entrepreneurship is paid *profit*.

2.2 The Basic Economic Questions

The process of choosing how to allocate scarce resources can be broken down into three broad economic questions:

- *What* goods and services will be produced and in what quantities?
- *How* will they be produced? (That is, what methods of production and combinations of inputs will be used?)
- *For whom* will they be produced? (That is, who gets what share of the goods and services produced?)

Different kinds of economic systems answer these three questions in different ways. However, people in all economic systems are faced with the problem of how to allocate scarce resources among an unlimited number of wants.

The production possibilities curve introduced in Chapter 1 shows attainable levels and combinations of outputs. It does not, however, explain how to choose among these combinations. What determines whether an economy is at one particular point on the production possibilities curve instead of another, and who makes that choice?

The **market** provides at least a partial answer to the three basic questions in many societies. A market is any setting in which buyers and sellers meet to exchange goods, services, or productive resources. A market system is an economic system that relies primarily on market transactions to answer the three basic economic questions.

What, How, and for Whom?

The *what* question asks exactly what mix of goods and services is to be produced—how many tons of wheat, thousands of e-books, hours of television programming, pairs of jeans, and gallons of milk will make up the total national output. It is a difficult enough question in the simple two-product world of the production possibilities curve. With thousands and thousands of possible combinations of outputs, the *what* question is extremely complex. In a market system, the answer to the *what* question is determined by consumers, who “vote” in the marketplace by using their dollars to obtain particular goods and services. In other economic systems, other methods are used to determine what kinds of goods and services are produced and in what amounts.

A market economy may result in choices about the output mix that some economists or policy makers find peculiar or distasteful. Many policy makers may not share the public’s

taste for rock videos, gambling palaces, country music, or skateboards. However, unless people's consumption of these items can be shown to be harmful to others, a market society does not pass normative judgment on tastes. Markets produce what people want to buy.

The *how* question asks what input combination will be used to produce the chosen goods and services. Should levees be produced by combining many workers with a few units of capital or by a more capital-intensive method? Is it better to produce soybeans using lots of machinery intensely cultivating a few acres of land or using more land and workers and relatively little capital? Should college students be taught in large classes by professors (highly skilled labor) or in small sections by teaching assistants (substituting less skilled labor)? Such questions must be answered in a systematic way. In a market system, prices guide suppliers and buyers of resources to decisions that maximize profits or minimize costs.



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Some policy makers may not share the public's taste for gambling places. However, unless people's consumptions of such items can be shown to be harmful to others, markets produce what people want to buy.

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The *for whom* question asks who will get the goods and services produced and how much each person will receive. This is a way of asking which of many possible distributions of income will be chosen. Should the distribution be equal or unequal? Should an individual's share be based on contributions to production, on need, or on some combination of the two? A pure market system answers this question directly: A person's rewards depend on contributions to production. Other systems, including a mixed market system, use a mixture of guidelines to determine the distribution of income.

The answers to the three questions are not independent of one another. The distribution of income will determine whether there is more demand for bread and milk or luxury yachts. The production process chosen may determine the amount of each kind of output that can be produced.

Tradition, Command, and the Market

Every society has to find a way to answer the three basic economic questions. The study of the different ways of organizing economic activity, or answering these questions, is called **comparative economic systems**. One way to classify economic systems is by the method used to answer the three basic economic questions. This classification identifies three broad types of economies: the traditional economy, the command (or planned) economy, and the market economy. Of course, no economy fits neatly into any one of these categories. All economies are mixed in that they all contain elements of traditional, command, and market processes.

Traditional Economy

A **traditional economy** answers the basic economic questions by tradition, or custom. That is, the answers are determined by how the questions have been answered in the past. What is produced is whatever parents have taught their children to produce on the basis of customs. A heavily traditional society is usually not highly sophisticated. Most of people's efforts are devoted to production of food, clothing, and shelter. Tradition determines what kinds of food are grown, what kinds of clothing are made, and what kinds of houses are built. It also determines what combination of these three is produced in any given period.

The techniques of production (how to produce) are also passed on, with little change, from one generation to the next. In many parts of Asia and Africa, the methods of building houses and of farming have been the same for many generations. Traditional societies also have established answers to the distribution question (for whom): They often have rules on how to divide the spoils of the hunt or the fruits of the harvest. Medieval Europe was a highly traditional society, with shares of crops assigned to various claimants. In such a traditional society, a person's claim on society's resources was determined primarily by status in the hierarchy, from a peasant up to a king. You may recognize elements of tradition that persist even in modern industrial societies. An example of this can be seen in the country of Bosnia and Herzegovina. Traditionally, Herzegovinians breed goats and sheep for the production of cheese and wool. Due to the country's economic crisis in the early 2000s, many of Bosnia and Herzegovina's citizens returned to these traditional ways of production.

Command Economy

A **command economy**, or planned economy, answers the basic economic questions through central command and control. A central planning authority makes all decisions regarding what and how to produce. Individual production units receive detailed plans and orders that carry the weight of law. The question concerning income distribution is answered in the process of determining what and how to produce. The central planners also set wage rates and levels of production. This planning process was the primary method of organization in the former Soviet Union, as well as in China before the rapid movement toward market economies in the late 1990s and early 2000s. Command systems are disappearing very rapidly. North Korea and Cuba still make extensive use of central commands, but even these nations seem to be inching towards the use of markets to allocate goods.

In any economy, people plan. That is, they think about the future and prepare for it. In a traditional society, people plan for a future that will be much like the past. In a command economy, the government plays the primary role in planning how to answer the production and consumption questions for society. This kind of planning is very different from the individual planning that goes on in a market economy.

Market Economy

The third type of economic system is the **market economy**. A market economy relies on incentives and the self-interested behavior of individuals to direct production and consumption through market exchanges. Consumers, "voting" with their dollars, determine what is produced. The result of this market process determines what goods and services are available.

Suppliers determine how to produce. Since suppliers are self-interested and seek to maximize their profits, they tend to combine resource inputs so as to produce a good or service at the lowest possible cost. The answer to the *how* question depends on the prices of productive resources. Suppliers will use more of abundant resources because they are relatively cheap.

The goods and services are distributed to consumers who have the purchasing power to buy them. Households that have more purchasing power (because they own more valuable productive resources) receive more goods and services. The quantity and quality of the labor skills an individual sells are the most important determinants of individual income. In 2011, about 80% of income in the United States was wages and salaries (Bureau of Economic Analysis, 2012). People with higher earnings have more “votes” in the form of dollars spent in the marketplace. Those with high-quality, scarce skills that are in great demand receive high salaries and have more influence on output.

One essential condition for undirected markets to answer the basic economic questions is the institution of **property rights**. In a command economy, almost all property belongs to the state. In a market economy, however, private property and property rights play an essential role. Markets will only function if individual buyers and sellers possess the property rights to the goods and services they want to exchange.

In a market economy, productive resources are owned by individuals. The owners of capital will not invest unless they are certain that they can claim the ownership of that capital and the products that it produces. They also need to be assured that their capital and its interest will not be taken away by the state or by force or violence. Workers will not offer their labor for hire if their right to be paid cannot be enforced or if they know their earnings are likely to be stolen. What a market system needs, then, is a legal system that defines property rights and enforces them against any violations. Defining and enforcing property rights is an important function of government even in a pure market economy.

Responding to Change

One way to compare the workings of these three types of economic systems is to consider how each responds to change. Suppose an earthquake closes some copper mines, and the supply of copper is suddenly cut in half. A traditional economy would only use copper for jewelry and would probably have rules to ensure that the most respected members of the group had first use of any copper. In a command economy, government officials would decide which uses of copper had the highest priority and make sure that the available copper was distributed properly.

Contrast these processes with what occurs in a market economy. When the mines close and less copper is available, copper prices will rise. The higher price leads consumers to search for cheaper substitutes. It also attracts a sudden flow of imported copper or scrap copper to the market. The allocation of copper might not meet the traditional economy’s criterion of fairness or the command economy’s priorities. However, the market response is much faster. Substitution and increased supplies occur very quickly, with no need for the government to process and send information. A market system

economizes on the amount of costly information needed to make production and consumption decisions.

The market system has advantages over command and traditional economies in flexibility and capacity for dealing with change. However, the market system also has some drawbacks. Many observers criticize the distribution of income that results from the workings of the market, which can create extremes of wealth and poverty. Market systems have also been criticized for encouraging self-centered behavior at the expense of community interests.

Mixed Economies

Because of the advantages of the market system, even primarily traditional or command economies incorporate some elements of markets. Conversely, the pure market system is often modified to soften some of the harshness of pure capitalism.

The blend of tradition, command, and market decision methods varies, but most modern industrial countries, such as Canada, Japan, the United States, Australia, and the nations of Western Europe, have **mixed economies**. In a mixed economy, the basic decision method is the market, but some economic choices are made by government. The goal is to leave economic decisions to the market when it works well, but to intervene in the economy when the market outcome is not acceptable. On a macroeconomic level, a high rate of unemployment is an example of an unacceptable market outcome. On a microeconomic level, air pollution caused by coal-fired power plants is an example of an undesirable market outcome. In both instances, some people argue that the government should step in to correct the performance of the market and alter its results.

All noncommunist nations can be classified as having mixed economies. The mix varies significantly from country to country. Governments are much more heavily involved in the economy in Poland, Sweden, and France than in the United States and the United Kingdom. The differences in the degree of governmental involvement in economic decisions reflect variety in political systems, national values, and historical experiences. Even within economies, the division of labor between the market and the public sector changes from time to time. In the United States, this is most often seen when the presidential leadership changes from Republican to Democratic (and vice versa).



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Shifts in division of labor between the market and the public sector are often seen when presidential leadership shifts from one political party to another.

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Check Point: Comparing Economic Systems

All economies contain elements of traditional, command, and market processes.

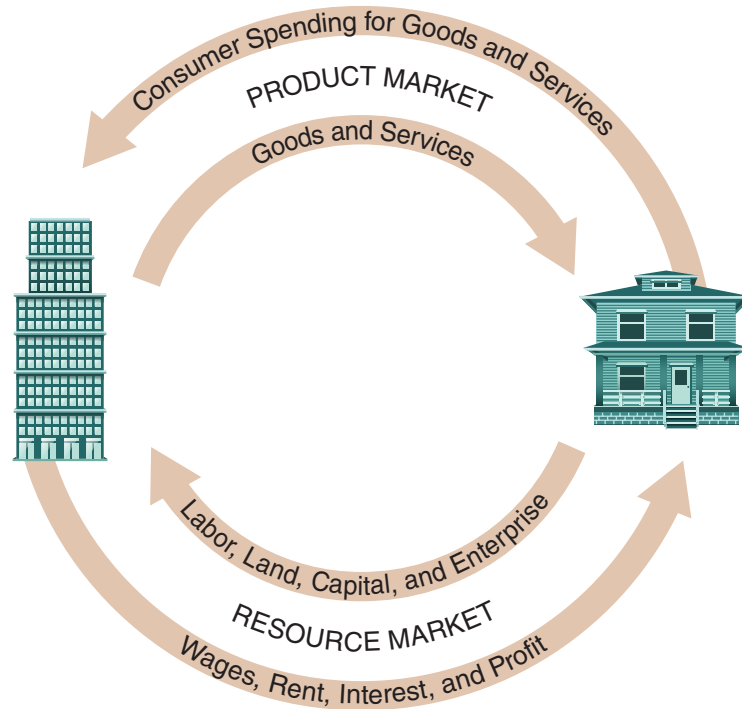
- A traditional economy allows tradition, or custom, to determine the types and combination of goods and services produced in any given period.
- In a command (or planned) economy, a central planning authority makes all decisions regarding what and how to produce.
- A market economy allows individuals to direct production and consumption through market exchanges to determine which goods and services are available.

2.3 The Circular Flow of Economic Activity

Chapter 1 discussed the use of models by economists in developing simple descriptions from which wider conclusions and inferences can be made. One model that is often used to describe a mixed economy in which the market is the primary source of decisions is the **circular flow model**. This model provides an overview of the central concerns of both macroeconomics and microeconomics. The circular flow model is a visual picture of the relationships between the **resource market**, in which income is earned, and the **product market**, in which income is used to purchase goods and services.

The Two-Sector Circular Flow Model

In a pure market economy, there are only two kinds of decision makers: households and firms. In reality, sometimes firms and households are one and the same. Family farms fit this description, as do some family-owned grocery stores, day-care centers, and home-based accounting services. We will assume that households own all resources and firms produce all goods and services. Firms and households interact in two types of markets: the resource and product markets. As shown in Figure 2.1, households purchase goods and services produced by firms, creating a flow of dollars to firms in payment for these goods and services. The individual markets in which these exchanges take place, shown in the upper part of Figure 2.1, make up the product market. Firms buy resources from households (who own all the productive resources) in order to produce the goods and services they sell to the households. The flow of productive resources to firms generates an opposite flow of dollar payments (wages, rent, interest, and profits). The total of the individual markets in which these transactions take place, shown in the lower part of Figure 2.1, is the resource market.

Figure 2.1: Circular flow of income

Households purchase goods and services in the product market; they supply land, labor, capital, and enterprise in the resource market. Firms buy the services of these inputs in the resource market and supply goods and services in the product market.

Recall that models are an important part of economic analysis because they permit more orderly thinking about the world. The circular flow in Figure 2.1 is a very simple model of the way a market economy operates. This model is a broad overview of the economy that you need to keep in mind as we proceed to look at its various specific components. We will add a few simple refinements to the model in this chapter.

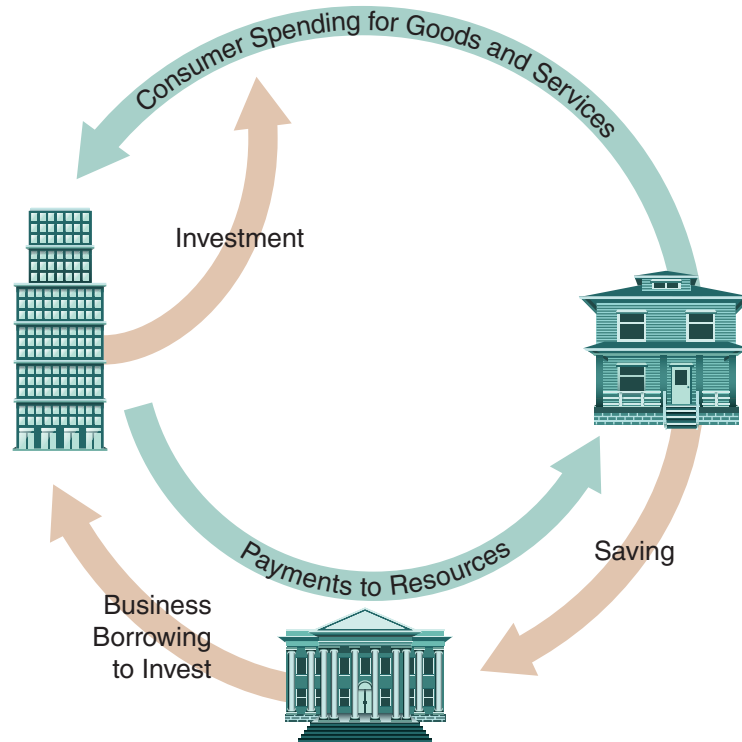
Most of macroeconomics is concerned with measuring and changing the sizes of the flows of output and income, represented by the sizes of the shaded arrows in Figure 2.1. Most of microeconomics is devoted to a closer look at the operation of the individual markets that make up the circular flow and at the behavior of individual decision makers (households, firms, and governments).

The Circular Flow Model With Savings, Government, and International Trade

We can make the simple circular flow model more realistic in several important ways. To keep things as simple as possible, however, we will limit the model to just the outer flow in each market. The diagrams will show the flow of income payments through the resource market to households and the flow of purchases through the product market to the business sector.

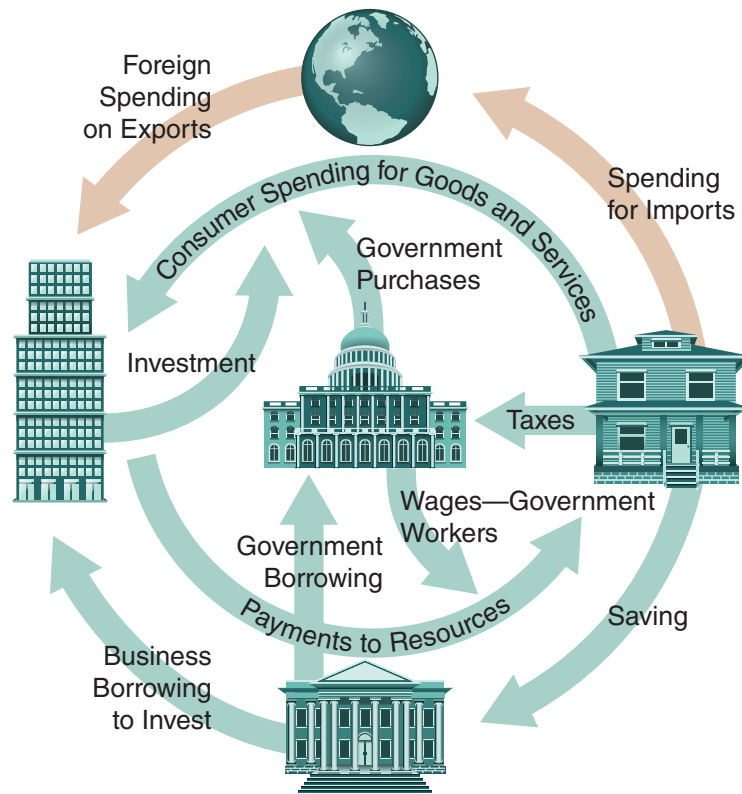
The first adjustment to our model is to relax the assumption that the flow of income from firms to households (the lower half of Figure 2.1) and the flow of payments from households to firms (the upper half of Figure 2.1) are equal. If firms pay out all of their revenues to households and households spend every dollar they receive on purchases of goods and services, then the flows will be equal. But if households save part of their incomes, there is a leakage out of the circular flow. If firms invest (buy new capital equipment), there is an injection into the circular flow. Either an injection or a leakage can change the size of the flow. Figure 2.2 shows a flow of savings out of the income stream and an injection of investment spending into the income stream.

Figure 2.2: Circular flow with savings and investment



If households do not spend their income, some of it will leak out of the circular flow in the form of savings. If business firms borrow in order to invest, their investments will be an injection into the circular flow.

A second adjustment is to add a government sector. You know that local, state, and federal governments produce, or cause the production of, goods ranging from schools and libraries to missiles and post offices. Governments take part of household incomes in taxes—a leakage out of the spending stream. They also purchase productive inputs from households—an injection, just like investment. Government plays an important microeconomic role because its actions affect the mix of goods and services produced and the distribution of output. At the macroeconomic level, government actions affect the amount of total production, as well as unemployment and economic growth. Figure 2.3 shows a circular flow diagram with a government that collects taxes from households and purchases goods and

Figure 2.4: Circular flow with a foreign sector

Still another source of production and buyer of output is the rest of the world, or the foreign sector. Sales to foreign buyers are exports, and purchases from foreign suppliers are imports.

In Figure 2.4, the sizes of the arrows labeled “Spending for Imports” and “Foreign Spending on Exports” indicate the size of the foreign sector, or the importance of consumers and suppliers in other countries. If the foreign sector is small, the economy is more like a closed economy. With a large foreign sector, an economy is more likely to affect and be affected by the rest of the world. It is more vulnerable to the effects of inflation or recession in other countries. Since exports are a large share of total output, when export sales fall, the impact is felt throughout the economy.

The larger its land area, population, and total output or income, the less dependent an economy is likely to be on trade. Trade averages 20%–40% of GDP across the broad range of all countries, but there is tremendous variety within this range. The ratio of exports to total output in 2011 was relatively low for such large countries as Brazil (12%) and Turkey (21%). Countries that are geographically isolated, such as Australia (21% in 2011), also tend to have a lower ratio of trade to total output, because the cost of shipping is so high. At the other extreme, small countries that produce primary products (agricultural or mineral) often have very high ratios of trade to total output. The small oil-producing nation of Bahrain exported 97% of its total output in 2008. The tiny archipelago of Malta exported 98% of what it produced in 2011.

The share of trade in total output is an indicator of how dependent a nation is on other nations. The higher the trade ratio, the more sensitive a country is to events in foreign markets and the more dependent it is on foreign sources of supply. The benefits of trade are substantial, but one of the opportunity costs of this interdependence is control for policy makers over their own economic fate.

The government sector and the foreign sector are two very important additions to the circular flow model. The government is what makes the economy a mixed economy, where some decisions are made outside the market. The foreign sector makes the economy an open rather than a closed one; actions by the three inside decision makers (households, businesses, and government) will have very different effects from what would occur in a closed economy. We will consider each of these two sectors in turn.

Check Point: Components of the Circular Flow Model

The circular flow model illustrates the relationships between the resource market and the product market.

- Households purchase goods and services produced by firms.
- Firms buy resources from households.
- Governments receive income in taxes from households, purchase productive inputs from households, and purchase goods and services from firms.
- Households purchase imported goods and services from the foreign sector (other nations).

2.4 The Economic Role of Government

All markets work in basically the same way in any economy, as you will soon see in Chapter 3. Supply and demand determine prices and quantities. In some economies or for some kinds of exchanges, however, the market may not be allowed to perform this function. Then some other decision-making process must be used to answer the three basic economic questions.

The most common method other than the market is to allow choices concerning the use of resources to be made by politicians or other agents of government. The kinds of decisions made through governments and the kinds made through the private sector vary among nations. In the United States, health care has been largely private, with government intervention for people who are elderly and people who are poor through Medicare and Medicaid. In Canada, it is publicly financed but privately provided. In most European countries, health care is both paid for and provided by government. Some governments (such as Sweden's) use taxes and social welfare programs to greatly modify the market distribution of income. Others (such as Japan's) do very little to change the distribution of income that results from market decisions.

In the United States, the preference is to make most decisions through the market. However, there are some things that the market cannot do or cannot do well. Many economists

argue that the market does not do a very good job of addressing such problems as poverty, pollution, inflation, unemployment, and the market power of large firms. It is also difficult for private markets to provide enough of such goods and services such as defense, education, and sewer systems.

Recall that a market system requires clearly defined property rights. That is, someone has to decide who owns what goods and services and to define their rights to use and trade those goods and services. The market cannot define and enforce property rights very well, so this role is usually assigned to governments. Citizens in most modern mixed economies cannot legally drive a car without a license, park in a space reserved for people with disabilities without a sticker, or build a fast-food restaurant in a neighborhood zoned as residential. These rules represent government restrictions on property rights. An unrestricted market would allow people to do all of these things, whether or not they were considered desirable by the majority. Even in a pure market economy, government is needed to establish and protect property rights.

The activities of government are grouped into three categories: **allocation**, **redistribution**, and **stabilization**. Stabilization and redistribution are conducted primarily through governments in all economic systems. Allocation is a microeconomic activity that is shared by the government and the market to different extents in different systems. Much of the dispute over what government should or should not do relates to its allocation activities. Also, much of the difference between market and command economies involves how allocation is divided between the market and the agencies of government.

Global Outlook: Privatization in Great Britain

The division of economic activity between public and private spheres in a mixed economy is not fixed. In wartime, the share of economic activity commanded by government increases. Also, when there are changes in citizens' preferences or political philosophy, government's share of total dollars spent may rise or fall in response. For most Western economies, there has been a significant upward trend in the share of government as a percentage of total spending. In the last few decades, however, several mixed economies have tried to reverse that trend and reduce the share of economic activity controlled by government. In particular, there has been a move to spin off some allocation activities of government to the private sector. This change is called privatization. In China, for example, a large part of the economic transition consisted of shifting activities from government to the private sector.



Tom Burnside/Photo Researchers/Getty Images

Rolls-Royce is an example of a company that was privatized.

Privatization has been strongly advocated in a number of countries. Nowhere was it pushed as far as in the United Kingdom under Prime Minister Margaret Thatcher in the 1980s, when the public sector was cut 40%. This privatization effort in the United Kingdom was stronger than in the United States under President Ronald Reagan, in part because there had traditionally been more government involvement in economic activity in the United Kingdom.

(continued)

Global Outlook: Privatization in Great Britain (*continued*)

Privatization can mean a variety of things. It may mean that the government continues to provide a service—for example, garbage collection—but is no longer the producer of that service. Instead, the government collects taxes to pay for the service but contracts with a private firm to actually perform it. Alternatively, the government may get out of the business of providing a service altogether. It will either leave provision completely to the private market or limit its role to subsidizing some buyers or producers.

Much of what was first privatized in the United Kingdom is traditionally in the private sector in other market economies. Companies made private included British Steel, British Airways, Rolls-Royce, and Jaguar. (Jaguar was purchased by Ford Motor Company in 1990 before being sold to Indian corporation Tata Motors in 2008.) When these companies were privatized, the government issued shares of stock sold to the public, creating private ownership while raising revenue for the public treasury. It was hoped that private, profit-minded managers would be more efficient, lowering costs and prices and increasing output and exports. However, the British government met resistance in trying to privatize such traditionally public services as water, electricity, and roads. The privatization movement has been an important episode in the continuing search for balance between the public and private sectors.

The Allocation Function

Allocation refers to any government activity that affects the quantity and quality of goods and services produced (that is, anything that affects the answer to the *what* question). Allocation activities in a market-based mixed economy may include producing public education, subsidizing higher education, taxing cigarettes, regulating factory and auto emissions, setting safety standards for cars, placing quotas on steel imports, building highways, and setting prices for electric power produced by private firms. In a command economy, the array of government allocation activities is much broader. Some, maybe even most, allocation activities also affect the answer to the *for whom* question, because they increase the incomes of some firms and individuals at the expense of others.

Public Goods and Positive Externalities

In mixed economies, allocation activities are usually assigned to the public sector only when the good or service is considered a **public good** or when its production or consumption creates substantial external effects. We will explore each of these criteria in turn.

Economists define public goods as those goods that are nonrival in consumption and not subject to exclusion. What do these technical phrases mean? *Nonrival* means that a good or service is not used up in consumption. Sunsets and lighthouses are both nonrival in consumption. The fact that you are watching a sunset leaves no less sunset for someone else to enjoy. Sunsets and lighthouses are also hard to subject to exclusion. If a good is *excludable*, that means that nonpayers, or **free riders**, can be kept from consuming it. Free riders are people or firms who consume public goods without contributing to the cost of their production. In addition to sunsets and lighthouses, national defense and mosquito spraying are examples of services for which it is very difficult, or at least expensive, to exclude

free riders. Because nonpayers cannot easily be excluded, there is not much incentive for a self-interested private firm to produce such goods and services.

The term *public goods* could even be extended to include goods with weak rivalry or high costs of exclusion. Examples of such “almost” public goods include firefighting, education, and highways. In all these cases, benefits spill over to nonpayers. These spillover benefits to third parties are called **positive externalities**. Where there are such positive effects, the private market may not produce enough of the good or service because some who benefit can free ride. Note that this broader group of almost public goods can imply an expanded role for government. In fact, all of the services mentioned have at some point been produced in the private sector. Volunteer fire departments in some rural areas still will not put out fires in nonsubscribers’ homes. Education through the 12th grade is produced in both the public and the private sector. Private toll roads were the earliest form of highways in New England, and toll bridges still exist today.

Keep in mind that the concept of public goods is different from that of goods that are *publicly provided*. Local and state governments and the federal government may supply goods that are not public goods as we have defined them here. Golf courses are a good example—although some are supplied by the government, many of these require membership or a fee to play. It is also important to note that some goods might be called public even though they are decidedly private. Public television and public radio are good examples: They refer to themselves as public, but almost all their funds come from private donations. There may be small public subsidies, but private fundraising efforts pay for public television.

Negative Externalities

When people or firms consume certain goods or engage in certain activities, they pass some of the costs of production or consumption along to others. These costs are **negative externalities**. Those who create noise, litter, hazards, and pollution often do not bear the full cost. If the negative externalities are strong enough and widespread enough, they may constitute **public bads**. These are negative effects that have an impact on everyone to some degree. Public bads are the opposite of public goods and include such broad negative effects as global warming, depletion of the ozone layer, and extinction of endangered species. Critics of the pure free market argue that many negative externalities and public bads are produced if all decisions are left to private markets and individuals.

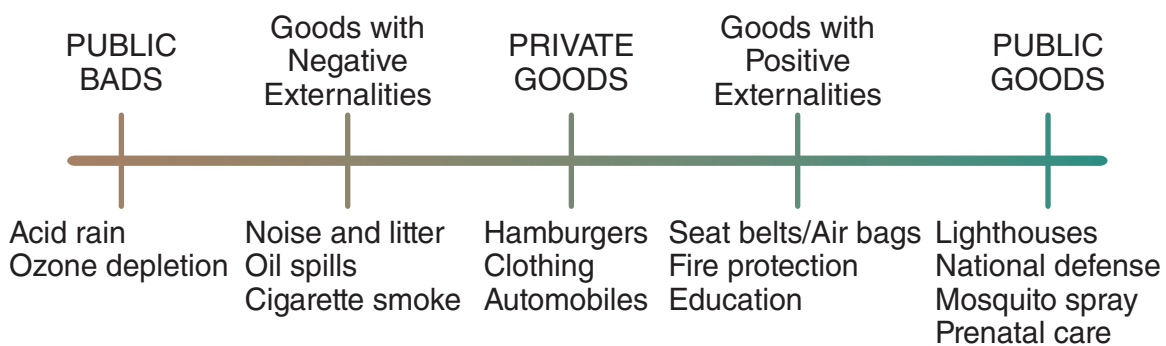
The Scope of Allocation by Government

Most economists agree that the government does have some responsibility to produce public goods, to encourage the production of goods with positive externalities, and to discourage the production of negative externalities and public bads. But the lines are drawn differently by different individuals within any nation. They are certainly drawn very differently in different countries. How big do spillovers have to be before government gets involved? Does the government itself have to produce public goods, or can their production be contracted out to the private sector or encouraged through subsidies? Do negative externalities have to be addressed by prohibitions or standards, or can taxes and fines do the job? An individual’s, or a nation’s, answers to these questions will reflect certain underlying values and ideas about the relative importance of efficiency, equity, and

freedom. The answers to these questions also delineate the lines of controversy in almost all debates about public policy.

Figure 2.5 shows a spectrum from public bads, to goods with negative externalities, to private goods, to goods with positive externalities, to public goods. In almost all economies, it is agreed that the two ends of the spectrum call for government intervention to promote public goods and deter public bads. It is also fairly generally agreed that the market works best in the middle of the spectrum, producing and distributing private goods and nearly private goods. Nations disagree on where to draw the lines on either side of the middle, dividing the private from the public sphere.

Figure 2.5: Public goods, private goods, and public bads



Goods and services fit on a spectrum from pure public goods to private goods and then to goods that cause negative external effects to some parties. At the far end of the spectrum are activities that cause widespread public bads.

The Redistribution Function

The distribution of income in a market economy is based on each person's contributions to production. There is no denying that the distribution of income determined by the market is quite unequal. Some people are very wealthy, and others are very poor. One way in which economies differ greatly is the extent to which the political process is involved in redistribution. Redistribution means taking income from one group and giving it to another through taxes and transfer payments.

In any economy, when the government taxes individuals with high incomes, they have less incentive to work, save, and invest to increase output in future years. On the other hand, some individuals cannot earn an income through the market. They may be too old, too young, too sick, or too disabled. Others work as hard as they can with the skills and resources at their disposal but still cannot earn enough to get by. There is some private redistribution, but private charity is subject to a free-rider problem. (Many people will not contribute because they know others will.) Such free-riding behavior makes income redistribution more or less a public good that falls within the domain of government.

How much income should be redistributed? To whom should it go? How can redistribution be managed to minimize the negative effects on work incentives? These are difficult questions to answer. As a result, the answers are very different in different countries. In general, there is more redistribution and greater equality of income in countries at the middle of the spectrum, with more mixed economies, than in countries at either the command or the market extreme.

One means of redistributing income is to use taxes and transfer payments. In the United States, transfer payments are streams of income that are received by individuals without any work being done; they take the form of Social Security benefits, food stamps, and welfare payments. Taxes that collect relatively more from people who are rich than from people who are poor, such as the U.S. federal income tax, mean that people who are rich pay more than do people who are poor for the same level of public services. This difference is a form of redistribution.

In the United States, transfer payments are primarily financed by the federal government rather than state governments. The states administer the programs and pay part of the cost. Redistributing income at the federal level makes it possible to reduce inequality between rich and poor states, as well as between rich and poor individuals within states. In any economy, however, how much redistribution is enough, from whom it should come, and to whom it should go are very difficult policy questions.

The Stabilization Function

The last and most recently developed task of government is stabilization. Stabilization refers to government policy actions to reduce changes in output, employment, and prices. Market economies tend to go through severe ups and downs in output, employment, and prices, as seen in recent history. It is now clear, however, that unemployment and inflation are problems for command economies like North Korea as well.

Stabilization is mainly a macroeconomic function. However, the ways in which stabilization policies are carried out also affect the mix of goods produced (allocation) and the distribution of costs and benefits (redistribution). Government attempts to stabilize the economy consist of increasing spending or cutting taxes to increase output and employment, or cutting spending and increasing taxes to control inflation. In addition, changes in the money supply are used to expand or contract economic activity.

Economists disagree about how stable a market economy would be if it were left alone. Historically, in the U.S. economy (and most market economies) there have been periods of high unemployment combined with low inflation, or occasionally even deflation (falling price level). These downturns have alternated with periods of more rapid inflation (increasing price level) and lower unemployment in a cyclical pattern. Although such cycles have been less severe since World War II, the most recent cycle of 2007–2009 demonstrated that the need for stabilization is still present even in today's economy.

Check Point: Types of Government Activities

Government economic activities can be grouped into three categories: allocation, redistribution, and stabilization.

- Allocation activities may include producing public education, subsidizing higher education, and building highways.
- Redistribution is when the government taxes individuals with high incomes and gives that money to another group through transfer payments.
- Stabilization refers to policy actions aimed at reducing ups and downs in output, employment, and prices.

2.5 The Role of the Foreign Sector

The last of the four sectors is the foreign sector. All nations engage in trade with other nations to some extent, because there are goods and services they cannot produce for themselves or can produce only at a very high cost. In most nations, there is also some inflow and outflow of the productive resources—labor, capital, land, and entrepreneurship. Some nations, including the United States, allow goods and resources to flow relatively freely. Others, such as China and Russia, restrict the movement of one or both with tariffs, quotas, immigration restrictions, capital controls, and exchange controls.

Benefits and Costs of International Trade

In general, a nation benefits from trade in both goods and resources. Trade enables households to consume goods that are not produced domestically or would be much more costly to produce there. Trade enables firms to produce for larger markets, often lowering their average costs of production. Trade also forces firms to respond to competitors in other countries that are producing products that are cheaper, more appealing, or safer. A flow of labor or capital may help a country overcome its shortages in certain resources.

Those who work for or own firms whose products compete with imports, as well as workers who compete directly with immigrant workers, may not have a positive attitude toward such trade. These groups are likely to lobby for tariffs and other forms of protection in order to shield themselves from the effects of foreign competition. In addition, an economy that depends on international trade to market its products or supply needed goods and services will be affected by the actions of other countries. Interdependence with other countries reduces the amount of control that a government can exert over domestic economic activities.

For a nation as a whole, however, there are substantial gains from trade with other nations. Let us explore one of the main benefits of such trade, the gains that result from specializing on the basis of comparative advantage.

Specialization and Comparative Advantage

A major benefit of international trade is that it permits a nation to go beyond its production possibilities curve without acquiring more resources or improving technology. A nation can attain larger combinations of output through **specialization** and exchange. Specialization, or the division of labor, means that individuals will produce more than they intend to consume of one or more items and will trade the excess for other things they want.

Specialization allows individuals to take the fullest advantage of their unique talents and skills. Some people who are strong and agile can become professional athletes. Some people who are intelligent and gifted talkers can become lawyers. Specialization allows individuals to concentrate on what they do best and to produce more than they could if they tried to engage in a variety of production activities. For people with very valuable specialized skills, such as basketball stars or brain surgeons, the opportunity cost of using their time for other purposes is very high. Think about the value of the time brain surgeons spend when cooking their own dinner or mowing their lawn!

Nations, states, and regions also specialize. The phrase *banana republic* used to refer to small Central American countries that were heavily specialized in producing bananas for export. These countries used the earnings from bananas to import and consume a wide variety of products that they did not produce. Other small countries are highly specialized in oil, coffee, cocoa, sugar, and other agricultural products and raw materials. Within the United States, pineapples come from Hawaii, oranges from Florida and California, wheat from the Midwest and plains states, and peaches from Georgia and South Carolina. Nations, states, and regions also specialize in certain types of goods and services. Japan is famous for small cars and electronic products, Switzerland for watches and banking, and France and Italy for champagne and other wines.

By specializing, individuals, regions, and nations can produce greater total output without any increase in resources or breakthroughs in technology. Thus, specialization improves a nation's standard of living. Small countries especially can consume more goods and enjoy a wider range of goods and services through specialization and trade than if they were limited to what they produced.



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Switzerland has specialized in watchmaking for centuries. Even today, Swiss watches are known the world over.

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Policy Focus: The Problem With Level Playing Fields

The one policy issue that almost all economists agree on is the benefit of free trade based on the principle of comparative advantage. Yet free trade is often not a politically popular position. Many politicians propose the extension of free-trade agreements to foreign countries. Take the North American Free Trade Agreement, designed to dramatically increase international trade between the United States, Mexico, and Canada. The debate was heated. The agreement was negotiated during the George H. W. Bush administration, and narrowly enacted by Congress in 1993 with support from President Bill Clinton.

The arguments against free trade are usually couched in terms of wanting all people in all countries to be on a “level playing field.” In fact, during the 2008 presidential campaign, candidate Hillary Clinton said, “We are the best traders in the world, but we are tired of being treated like patsies. We are going to have reciprocal trade, or we’re not going to let our markets be open when other markets are not” (Postman, 2008). This is a lofty goal and one that, in at least one political sense, is impossible to argue against.

There are several policy problems with the concept of a level playing field. First, there is the political problem. When trade takes place, some people (the ones who would have had the business in the absence of international trade) in both countries are hurt. But as we saw, the aggregate benefits exceed the costs. The level playing field argument is a political effort by those who would be damaged by international trade to get government protection. For example, the United Auto Workers may ask the government for protection from foreign automakers. Second, there is really no such thing as a level playing field. Mexico may have cheap labor, but the United States is rich in natural resources. Finally, and most importantly, economic theories tell us that even if the fields *are not* level, both countries gain from specialization and trade.

Specialization and Exchange

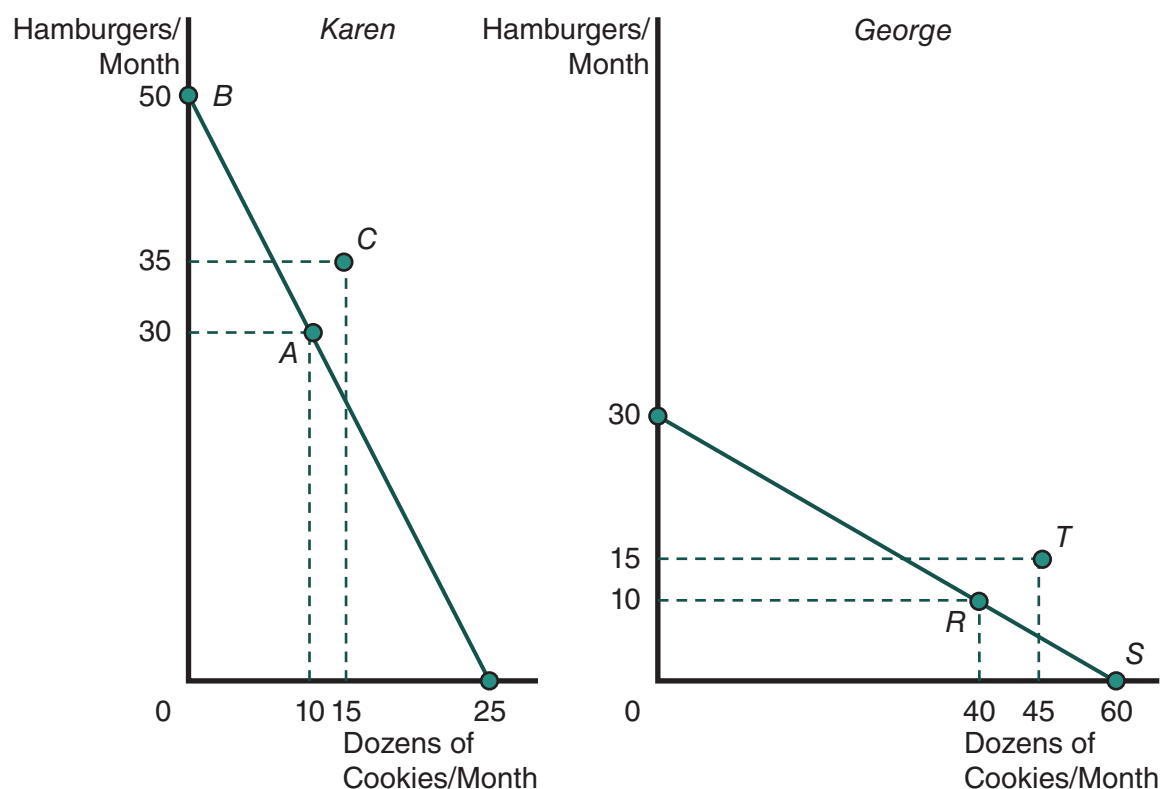
The benefits of specialization require that people or nations engage in exchange. If you choose to specialize, you will have to engage in trade because you will give up producing other goods and services that you need. If you are concentrating on what you do well, you do not have time to spend cutting your own hair, growing your own vegetables, or repairing your own car. You certainly do not have time to build your house or manufacture your car! One thing that distinguishes modern industrial societies from developing countries is the extent of specialization and exchange. The average American produces very little of what he or she consumes. Instead, individuals specialize in one or two products or services and purchase everything else in the market.

Comparative Advantage

How do individuals, regions, or nations decide what products to produce for exchange? Sometimes the answer is obvious, determined by climate or other resources. In general, the answer lies in the **principle of comparative advantage**. This principle states that each person, group, or country should specialize in that product or service for which the opportunity cost of production is lowest. If this principle is followed, the total output of a group of people, an entire economy, or, for that matter, the entire world will be maximized. Higher total output will result, with no increase in resources or improvement in technology.

Figure 2.6 illustrates comparative advantage using two linear production possibilities curves. Both George and Karen can produce various combinations of cookies and hamburgers with their available resources, as the curves illustrate. Before specializing, Karen is producing 30 hamburgers and 10 dozen cookies a month for her own consumption (Point A). George is producing 10 hamburgers a month and 40 dozen cookies for himself (Point R). Karen, who has had some experience working in a restaurant, is better at making hamburgers. Each hamburger she makes requires that she give up production of only half a dozen cookies. George's hamburgers cost him two dozen cookies each. Karen has a lower opportunity cost for hamburgers, which means that George must have a lower opportunity cost for cookies. It seems they should specialize and trade.

Figure 2.6: Specialization and exchange



When Karen and George specialize, their total output increases from 40 hamburgers and 50 dozen cookies to 50 hamburgers and 60 dozen cookies. After exchange, both can consume more than before. Karen is at Point C instead of A, and George is at Point T instead of R.

If they decide to specialize, Karen will produce 50 hamburgers (Point B). George will turn out 60 dozen cookies (Point S). Total output increases by 10 hamburgers and 10 dozen cookies. All that remains is to divide up the gains. One combination that makes both better off is to split the increase equally. Thus, Karen consumes at Point C and enjoys 35 hamburgers and 15 dozen cookies. George consumes at Point T, with 15 hamburgers and 45 dozen cookies. Both have gained, because they are consuming more than before. There is more total output without any new resources or improvement in technology!

The principle of comparative advantage means that both trading partners gain when individuals and nations specialize in the products for which their opportunity cost is lower and trade for what others produce more efficiently. Comparative advantage is the basis of all trade, not just international trade.

Check Point: The Benefits of Specialization and Trade

- All nations engage in trade with other nations to obtain goods and services they cannot produce for themselves or can produce only at a very high cost.
- A nation can attain larger combinations of output through specialization and exchange.
- The principle of comparative advantage states that each person, group, or country should specialize in that product or service for which the opportunity cost of production is lowest.
- If the principle of comparative advantage is followed, the total output of a group of people, an entire economy, or the entire world will be maximized.

Economics in Action: What One Can Gain With a Comparative Advantage

The Khan Academy introduces Charlie and Patty, who produce cups and plates. Through looking at their individual production possibility frontier and opportunity costs, Charlie and Patty learn where they have the comparative advantage, and how specializing in their trades can be beneficial. Follow the link to learn more about comparative advantages at <http://www.khanacademy.org/finance-economics/microeconomics/v/comparative-advantage-specialization-and-gains-from-trade>.

Summary

Consider again. . . You are now on the plane on your way to Havana to meet with Raúl Castro. You have a better understanding of the problems he faces. Trying to gradually transition a planned economy that has not engaged in international specialization and exchange is not an easy task. It is clear that the Cuban leader will not adopt a pure market economy, but how much government planning should he retain in the system? Perhaps it is better to ask Castro how much market interaction he wants to introduce and how fast. Or, better yet, perhaps you should ask the Cuban people the same question.

Key Points

1. Productive resources consist of labor, land, capital, and enterprise. Labor receives wages, land receives rent, capital receives interest, and enterprise receives profit.
2. Every economy must address three basic economic questions: what to produce, how to produce it, and for whom to produce it.
3. A traditional economy answers the basic economic questions by tradition, or custom. In a command economy, a central planning authority makes all decisions regarding what and how to produce. A market economy relies on incentives and

- the self-interested behavior of individuals to direct production and consumption through market exchanges. Consumers vote with their dollars and determine what is produced. In different degrees, industrial nations have tried to answer the basic economic questions by using mixed economies, where the market is the primary method but government officials often intervene in the marketplace in an attempt to improve economic performance.
4. The circular flow model is a useful overview of the relations among resources and products in a market economy. The basic model shows the interactions of households and businesses in the resource and product markets. More realistic versions add savings and investment, government, and a foreign sector.
 5. There are some necessary functions that the market cannot perform or cannot perform well. These include defining and protecting property rights, providing public goods and correcting for external effects, bringing about a more equal distribution of income, and stabilizing against sudden change. Allocation by government includes not only the production of public goods and the reduction of public bads but also any activities that affect private decisions about production and consumption. These activities include imposing taxes, providing subsidies, and enacting regulation. Different societies make different choices about how much allocation is carried out by government. Redistribution changes the unequal distribution of income that results from the market. Redistribution occurs mainly through taxes and transfer payments, but any action of government will have redistributive effects. Stabilization refers to the activities of government aimed at creating full employment, stable prices, and a satisfactory rate of economic growth. These actions include changes in taxes, transfer payments, and spending, as well as changes in the size of the money supply.
 6. International trade in goods, services, and resources benefits both trading partners. Some workers and firms in a nation experience losses because of foreign competition. The gains usually exceed the losses, but the losers may succeed in persuading the government to restrict trade for their own protection. Individuals and nations can gain a higher standard of living with the same resources and technology if they engage in specialization and exchange. Total output will be larger if individuals, regions, and nations produce those goods for which their opportunity costs are lowest and trade for other things. This is the principle of comparative advantage.

Key Terms

allocation Any activities by government or its agents that affect the distribution of resources and the combination of goods and services produced.

capital The durable inputs into the production process created by people. Machines, tools, and buildings are examples of capital.

circular flow model A visual representation of the relationships between the resource market (in which income is obtained) and the product market (in which income is used to purchase goods and services).

command economy An economy in which the three basic questions are answered through central planning and control (also called a planned economy).

comparative economic systems The study of the different ways of organizing economic activity or answering these questions.

entrepreneurship A factor of production, which consists of the activities of combining the other productive resources to produce goods and services, taking risks, and introducing new methods and new products (innovation).

free riders People or business firms who consume collective goods without contributing to the cost of their production.

goods Objects that people value.

human capital The investment made to improve the quality of people's labor skills through education, training, health care, and so on.

interest The return to capital, one of the productive resources.

investment Purchase of real tangible assets, such as machines, factories, or inventories, that are used to produce goods and services.

labor The physical and mental exertion that human beings put into production activities.

land Natural resources that can be used as inputs to production.

market A place where buyers and sellers meet to exchange goods, services, and productive resources.

market economy An economy in which the three basic questions are answered through the market, by relying on self-interested behavior and incentives.

mixed economies Economies in which the three basic questions are answered partly by market forces and partly through government.

negative externalities Harmful spillovers to third parties that result from production or consumption of certain goods.

positive externalities Spillover benefits to third parties (free riders) that result from production or consumption of certain goods.

principle of comparative advantage The idea that output will be maximized if people specialize in producing those goods or services for which their opportunity costs are lowest and engage in exchange to obtain other things they want.

product market Set of markets in which goods and services produced by firms are sold.

profit The return to enterprise, one of the productive resources of production. Profit is whatever remains after all other resources have been paid.

property rights The legal rights to a specific piece of property, including the rights to own, buy, sell, or use in specific ways. Markets can exist and exchanges can occur only if individuals have property rights to goods, services, and productive resources.

public bads Negative external effects of production or consumption that impact a large number of individuals—for example, acid rain.

public goods Goods that are nonrival in consumption and not subject to exclusion.

redistribution Actions by government that transfer income from one group to another.

rent The return to land, one of the productive resources.

resource market Set of markets in which owners of productive resources sell these to producers.

services Tasks performed for people.

specialization Limiting production activities to one or a few goods and services that one produces best in order to exchange for other goods.

stabilization Actions by the government to reduce changes in output, employment, and prices.

traditional economy An economy in which the three basic questions are answered by custom, or how things have been done in the past.

wages The return to labor, one of the productive resources.

Critical Thinking and Discussion Questions

1. Is your college education an investment in human capital? What is the opportunity cost of your degree?
2. How are macroeconomic problems handled in a mixed economy?
3. In what ways are resource markets and product markets similar? In what ways are they different?
4. List all the leakages and all the injections you have observed in circular flow diagrams.
5. Which of the following institutions or actions represent traditional, command, or market processes?
 - a. the military draft
 - b. the volunteer army
 - c. encouraging daughters to become teachers and nurses
 - d. requiring women to be teachers and nurses
 - e. offering financial incentives to anyone who becomes a teacher or nurse
 - f. five generations of farmers tilling the same land
 - g. prohibiting the sale of marijuana
 - h. taxing the sale of alcoholic beverages
6. Classify each of the following government actions as primarily allocation, redistribution, or stabilization:
 - a. cutting taxes to end a recession
 - b. making Social Security payments to the elderly
 - c. paying farmers not to produce corn
 - d. putting restrictions on the amount of sulfur dioxide that factories are allowed to emit into the air
 - e. buying paper shredders for government offices
7. Why is specialization necessary for exchange, and vice versa?
8. Angela and Arthur have been assigned the tasks of filing folders and grading papers. Angela can file 50 folders an hour and grade 20 papers. Arthur can file 25 folders per hour and grade 25 papers. The total output for these two work-study students is to file 200 folders and grade 100 papers. How long will it take if they divide the task equally? How long will it take if they specialize based on the principle of comparative advantage? How much time do they gain by specializing?

9. In Question 8, what is Angela's opportunity cost for filing in terms of grading not done? What is Arthur's? How does this information help you to determine comparative advantage?
10. Use the information in the table on the production of bushels of peaches and tomatoes in two countries, Upland and Downland. Plot a pair of production possibilities curves like those in Figure 2.6. Before trade, each country is producing 20 bushels of peaches and 30 bushels of tomatoes. Locate their initial production combinations on the graphs. Determine who should specialize in what, locate the production points after specialization, and determine how much the total output will increase.

Upland		Downland	
Peaches	Tomatoes	Peaches	Tomatoes
40	0	50	0
30	15	40	10
20	30	30	20
10	45	20	30
0	60	10	40
		0	50

11. Suppose you own a farm with buildings and machinery, all five members of your family work on the farm, and you take the risks and manage the production. Identify all the productive resources involved and classify them correctly.
12. What should be the role of government in providing education? Should it produce, subsidize, or get out of education altogether? Why do you suppose that education through the twelfth grade is "free" (actually paid for through taxes) but only subsidized beyond that level? Does it have anything to do with who gets the benefits?
13. Can you find examples of services produced in the public sector in your area that are produced in the private sector elsewhere, or vice versa? Can you explain why the choice might not be the same in different sections of the country or in communities of different sizes?
14. Where would you put each of the following items on the spectrum in Figure 2.5? Would you expect any of them to be produced by government as opposed to being public goods? Why?
 - a. hospital wastes that wash up on beaches
 - b. noise from a student apartment complex that bothers the neighbors
 - c. highways
 - d. holiday decorations that make a house more attractive
 - e. flu shots
15. Individuals, as well as nations, have comparative advantages, which can change. How will going to college and getting a degree change your comparative advantage?