Chapter 2

Supply *and* Demand: The Basics

After reading this chapter, you will understand the following:

1. How the price of a good or service affects the quantity demanded by buyers
2. How other market conditions affect demand
3. How the price of a good affects the quantity supplied by sellers
4. How other market conditions affect supply
5. How supply and demand interact to determine the market price of a good or service
6. Why market prices and quantities change in response to changes in market conditions.

Before reading this chapter, make sure you know the meaning of the following concepts:

1. Spontaneous order
2. Markets
3. Opportunity cost
4. Law of unintended consequences

Frequent ups and downs in the prices of goods and services—corn, oil, gold, medical care—are among the most conspicuous features of economic life. Prices make headlines because they affect the way we live—our jobs, our incomes, the things we buy, and the things we sell. What determines the prices of goods at any time and the way they change from day to day? The short answer: supply and demand.

Economists use the term **supply** to refer to sellers' willingness and ability to provide goods for sale in a market. **Demand** refers to buyers' willingness and ability to purchase goods. This chapter will show how supply and demand work together to determine prices.

2.1 Demand

According to the **law of demand**, there is an inverse relationship between the quantity of a good that buyers demand and its price. The quantity demanded tends to rise as the price falls and to fall as the price rises. We expect that to happen for two reasons. First, if the price of one good falls while the prices of other goods stay the same, people are likely to substitute the cheaper good. Second, when the price of one good falls while incomes stay the same, people feel a little richer. They use their added buying power to buy a bit more of many things, including, in most cases, a little more of the good whose price went down.

Supply
The willingness and ability of sellers to provide goods for sale in a market

Demand
The willingness and ability of buyers to purchase goods

Law of demand
The principle that an inverse relationship exists between the price of a good and the quantity of that good that buyers demand, other things being equal

The terms *demand* and *quantity demanded*, as used in economics, are not the same as want or need. For example, I think a Porsche is a beautiful car. Sometimes when I see one on the street, I think, "Hey, I want one of those!" Alas, my income is limited. Although in the abstract I might want a Porsche, there are other things I want more. As a result, the quantity of Porsches I demand at the going price is zero.

On the other hand, I might *need* dental surgery to avoid losing my teeth. However, suppose I am poor. If I cannot pay for the surgery or find someone to pay for it on my behalf, I am out of luck. The quantity of dental surgery I demand, therefore, would be zero, however great my need.

Demand, then, combines both willingness and ability to buy. It is not desire in the abstract, but desire backed by the means and the intent to buy.

The Demand Curve

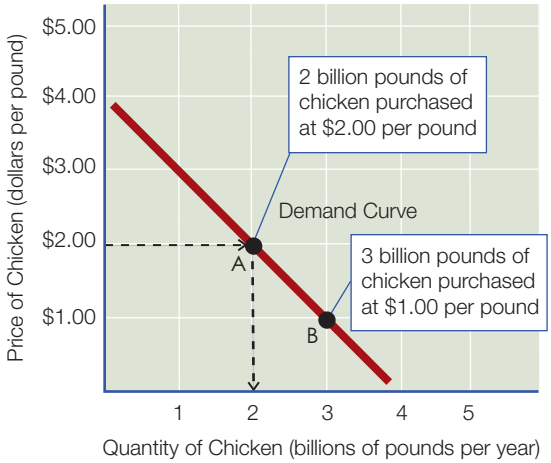
The law of demand defines a relationship between the quantity of a good that people are willing and able to buy, other things being equal, and the price of that good. Figure 2.1 represents this relationship for a familiar consumer good, chicken. It would be possible to discuss a single consumer's demand for chicken; but, more frequently, as in this figure, we focus on the total demand for the good by all buyers in the market.

Figure 2.1 A Demand Curve for Chicken

(a)

	Price of Chicken (dollars per pound)	Quantity of Chicken Demanded (billions of pounds per year)
	$3.50	0.5
	$3.00	1
	$2.50	1.5
A	$2.00	2
	$1.50	2.5
B	$1.00	3
	$0.50	3.5

(b)



Both the table and the chart show the quantity of chicken demanded at various prices. For example, at a price of $2.00 per pound, buyers are willing and able to purchase 2 billion pounds of chicken per year. Row A in Part (a) and point A in Part (b) show this price-quantity combination.

The demand curve is based upon quantity and price.

The figure shows the demand relationship in two different ways. First look at Part (a). The first row of the table shows that when the price of chicken is $3.00 a pound, the quantity demanded per year is 1 billion pounds. Reading down the table, we see that as the price falls, the quantity demanded rises. At $2.50 per pound, buyers are willing and able to purchase 1.5 billion pounds per year; at $1.50, 2.5 billion pounds; and so on.

Part (b) of Figure 2.1 uses a graph to present the same information; we call it the **demand curve** for chicken. Suppose we want to use the demand curve to find out what quantity of chicken buyers will demand at a price of $2.00 per pound. Starting at $2.00 on the vertical axis, we move across, as shown by the arrow, until we reach the demand curve at point A. Continuing to follow the arrow, we drop down to the horizontal axis. Reading from the scale on that axis, we see that the quantity demanded at a price of $2.00 per pound is 2 billion pounds per year. That is the quantity demanded in row A of the table in Part (a).

Demand curve

A graphical representation of the relationship between the price of a good and the quantity of that good that buyers demand

The effect of a change in the price of chicken, other things being equal, takes the form of a movement from one point to another along the demand curve. Suppose that the price drops from $2.00 to $1.00 per pound. In the process, the quantity that buyers plan to buy increases. The point corresponding to the quantity demanded at the new, lower price is point B (which corresponds to row B of the table). Because of the inverse relationship between price and quantity demanded, the demand curve has a negative slope.

Economists speak of a movement along a demand curve as a **change in quantity demanded**. Such a movement represents buyers' reactions to a change in the price of the good, other things being equal.

Change in quantity demanded

A change in the quantity of a good that buyers are willing and able to purchase that results from a change in the good's price, other things being equal, shown by a movement from one point to another along a demand curve

Shifts in the Demand Curve

The demand curve[1] in Figure 2.1 shows a relationship between two variables: the price of chicken and the quantity of chicken demanded. Changes in other variables can also affect people's buying decisions. For example, the prices of beef and pork would affect the demand for chicken. So would changes in consumer incomes. Changes in expectations about the future and changes in consumer tastes are still other factors that affect how much chicken people will buy. We could make a similar list for any good or service—the weather affects the demand for ice, the birthrate affects the demand for diapers, the won-lost record of the home team affects the demand for baseball tickets, and so on.

How do we handle all these other variables graphically? In brief, two rules apply.

1. When drawing a single demand curve for a good, such as the one in Figure 2.1, all other conditions other than the price of chicken are treated as constant, following the "other things being equal" clause of the law of demand. As long as that clause is in force, the

only two variables at work are quantity demanded (on the horizontal axis) and the price of chicken (on the vertical axis). The effect of a change in price on quantity demanded takes the form of a movement along the demand curve.

2. When we look beyond the "other things being equal" clause to discuss the effect of a change in any variable that does not appear on one of the axes, the situation changes. The effect of any other variable, such as a change in consumer income or the price of another good, takes the form of a shift in the demand curve. In its new position, the demand curve still represents a relationship between the price of chicken and the quantity demanded, but it is a slightly different relationship than before because one of the "other things" is no longer equal.

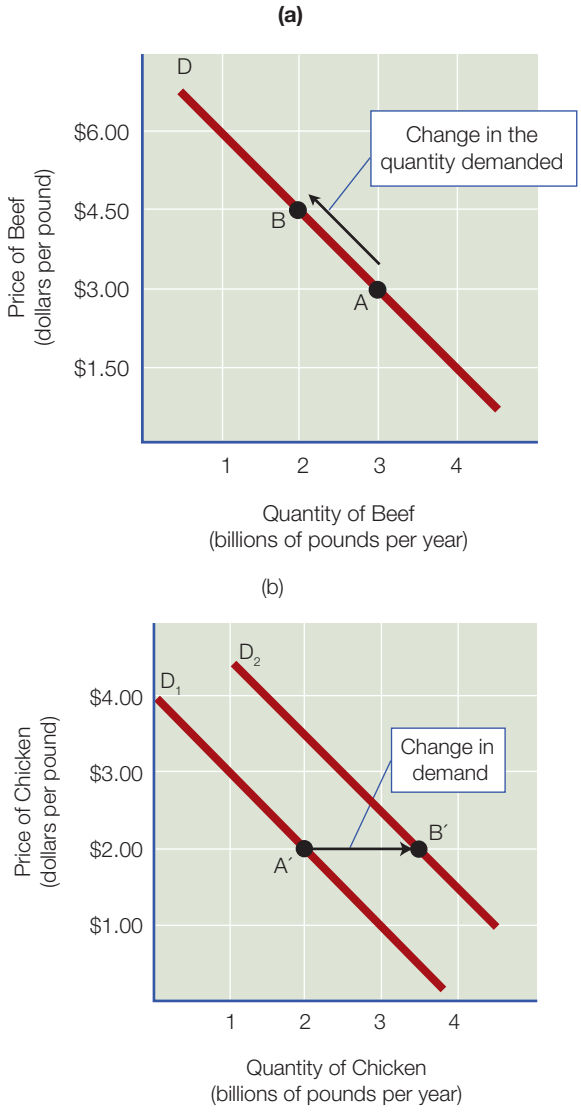
These two rules for demand curves are crucial to understanding the theory of supply and demand. It will be worthwhile to expand on them through a series of examples.

Changes in the Price of Another Good We have already suggested that the demand for chicken depends on the price of beef, as well as the price of chicken. Figure 2.2, which shows demand curves for both goods, provides a closer look at how the two prices interact to determine demand.

Suppose that the price of beef starts at $3.00 per pound and then increases to $4.50. The effect of this change on the quantity of beef demanded appears in Part (a) of Figure 2.2 as a movement along the beef demand curve from point A to point B. Part (b) shows the effect on the demand for chicken. With the price of beef higher than before, people will tend to buy more chicken *even if the price of chicken does not change*. Suppose the price of chicken is steady at $2.00 per pound. When beef was selling at $3.00, consumers bought 2 billion pounds of chicken a year (point A´ on demand curve D_1). After the price of beef goes up to $4.50, they will buy 3.5 billion pounds (point B´ on demand curve D_2).

An increase in the price of beef would cause consumers to buy more chicken regardless of the price of chicken. If the price of chicken had started at $3.00 and remained there while the price of beef went up, people would have increased their chicken consumption from 1 billion pounds a year to 2.5 billion pounds a year. If the price of chicken were $1.00 a pound, the quantity bought would have increased from 3 billion pounds to 4.5 billion, and so on. An economist would say that a change in the price of beef causes the entire demand curve for chicken to shift. The chicken demand curve shifts because one of the "other things," this time the price of beef, is no longer equal. For the new demand curve, D_2, the price of beef is $4.50 a pound, rather than the $3.00 assumed in drawing demand curve D_1.

FIGURE 2.2 EFFECTS OF AN INCREASE IN THE PRICE OF BEEF ON THE DEMAND FOR CHICKEN



An increase in the price of beef from $3.00 to $4.50 per pound, other things being equal, causes a movement from point A to point B on the beef demand curve—a decrease in the quantity of beef demanded. With the price of chicken unchanged at $2.00 per pound, consumers will substitute chicken for beef. That will cause an increase in the demand for chicken, which takes the form of a shift in the chicken demand curve from D_1 to D_2.

Change in demand
A change in the quantity of a good that the buyers are willing and able to purchase that is caused by a change in some condition other than the price of that good; a shift in the demand curve

Substitute goods
A pair of goods for which an increase in the price of one causes an increase in demand for the other

Complementary goods
A pair of goods for which an increase in the price of one causes a decrease in demand for the other

If we call a movement along a demand curve a "change in quantity demanded," what do we call a shift in the curve? The correct term for a shift in a demand curve is a **change in demand**. A change in quantity demanded (a movement along the curve) is the result of a change in the price of the good in question. In our example, that means the price of chicken, which is the variable on the vertical axis. In contrast, a change in demand (a shift in the demand curve) is the result of a change in some variable other than the price of the good in question. In our example, it was the price of beef, a variable that does not appear on either axis.

In the example in Figure 2.2, people bought more chicken when the price of beef went up, replacing one meat with the other in their dinners. Economists call such pairs of goods **substitutes** because an increase in the price of one increases in the demand for the other—a rightward shift in the demand curve.

A different situation arises when consumers tend to use two goods together. One example is cars and gasoline. An increase in the price of gasoline affects people's selection of cars. For example, they buy fewer low-mileage, large SUVs—even if their price does not change. An increase in the price of gasoline thus causes a movement upward along the gasoline demand curve and a *leftward shift* in the demand curve for SUVs. We call pairs of goods that have this relationship to one another **complements**.

Whether a given pair of goods are substitutes or complements depends on buyers' attitudes toward those goods, not the properties of the goods themselves. Some people might regard cheese and beef as substitute sources of protein in their diets; others, who like cheeseburgers, might regard them as complements.

An increase in the price of gasoline will affect a consumer's choice of which vehicle to buy.

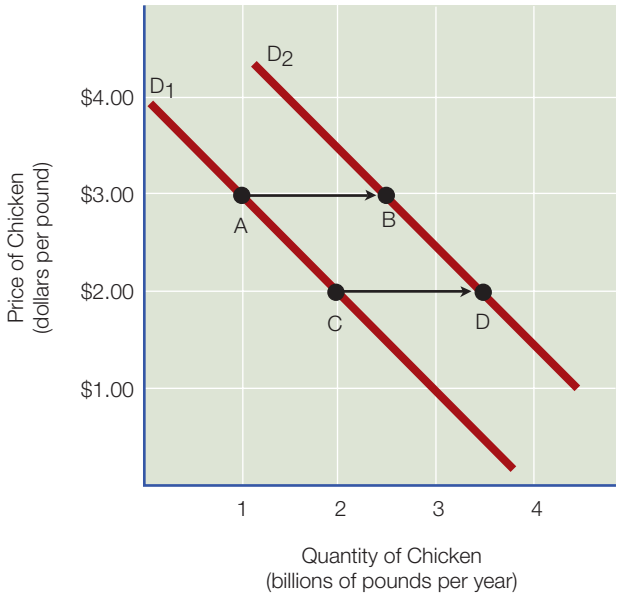
One more point regarding the effects of changes in the prices of other goods: It is the price of a good *relative to those of other goods* that counts for demand. During periods of inflation, when the average level of all prices rises, distinguishing between changes in *relative prices* and changes in *nominal prices* (the number of dollars actually paid per unit of a good) is of key importance. During a time of inflation, a good can become relatively less expensive even though its nominal price rises, if the prices of other goods rise even faster.

For example, between 1950 and 2005 the average retail price of broiler chicken rose by almost 40 percent, from $.59 per pound to $1.05 per pound. Over the same period, the average price of all goods and services purchased by consumers rose by about 600 percent. The relative price of chicken thus fell during the period even though its nominal price rose. The drop in the relative price of chicken had a lot to do with its growing popularity on the dinner table.

Changes in Consumer Incomes Changes in consumer incomes can also affect the demand for a good. People tend to buy larger quantities of many goods when their incomes rise, assuming that prices do not change.

Figure 2.3 shows the effect of an increase in consumer income on the demand for chicken. Demand curve D_1 is the same one as shown in Figure 2.1. Suppose now that consumer income rises. With higher incomes, people become choosier about what they eat. They do not just want calories; they want high-quality calories from foods that are tasty, fashionable, and healthful. Those considerations have made chicken increasingly popular as consumer incomes have risen.

FIGURE 2.3 EFFECTS OF AN INCREASE IN CONSUMER INCOME ON THE DEMAND FOR CHICKEN



Demand curve D_1 assumes a given level of consumer income. If their incomes increase, consumers will want to buy more chicken at any given price, other things being equal. That will shift the demand curve rightward to, say, D_2. If the prevailing market price at the time of the demand shift is $3.00 per pound, the quantity demanded increases to 2.5 billion pounds (B) from 1 billion (A); if the prevailing price is $2.00 per pound, the quantity demanded will increase to 3.5 billion pounds (D) from 2 billion (C); and so on.

Suppose that after their incomes rise, people want to buy 2.5 billion pounds of chicken instead of 1 billion at $3.00 per pound. Figure 2.3 shows the change as an arrow drawn from point A to point B. If the price of chicken were instead $2.00, consumers would buy even more chicken at any level of income. When income was at its original low level, consumers

would buy 2 billion pounds, as shown by point C. After their incomes went up, buyers would want 3.5 billion pounds, shown by point D.

The same reasoning applies to any given price of chicken. As a result, the effect of rising income is to shift the entire demand curve to the right, as shown. Later, if consumer incomes stay at the new, higher level but the price changes, the effects would appear as movements along the new demand curve. There is a chicken demand curve for every possible income level. Each represents a one-to-one relationship between price and quantity demanded for that income.

In our example just given, an increase in income causes an increase in demand. Because that is what happens for most goods, economists call goods like chicken **normal goods**.

Normal goods

A good for which an increase in consumer income results in an increase in demand

Not all goods are normal, however. There are some goods that people buy less of when their incomes rise, other things being equal. For example, as the economy slipped into a deep recession in 2008, sales of new shoes fell, but demand for shoe repair services increased sharply. Hormel Foods Corp. reported a surge in sales of staple products like Spam and Dinty Moore beef stew, even while demand for its upscale single-serving microwaveable foods fell. We call goods like shoe repair services and Spam, for which demand increases as income falls, **inferior goods**. An increase in income shifts the demand curve for an inferior good to the left instead of to the right.

Inferior goods

A good for which an increase in consumer incomes results in a decrease in demand

Changes in Expectations Changes in buyers' expectations can also shift demand curves. If people expect the price of a good to rise, they will step up their rate of purchase before the change takes place.

For example, suppose that in May consumers rush to make airline reservations in response to a report saying that prices will go up after June 1. Some of them may be planning to travel late in the summer and would have waited several weeks before booking a flight. As a result, travelers will make more reservations in May than if they had not anticipated the June price increase. The surge in travel bookings sales in May takes the form of as a temporary rightward shift in the demand curve.

U.S. consumers have become more health conscious, leading to greater demand for such products as fish, organic vegetables, and gym memberships.

The same thing can happen if people expect something other than a price increase to raise the opportunity cost of the good. For example, not long ago people learned that starting in June 2009, they would need a passport to travel to Canada—an increased opportunity cost for people who did not already have a passport. Some of those people moved their planned Canadian vacations forward to avoid the extra hassle. The result was a temporary surge in demand for Canadian travel.

Changes in Tastes Changes in tastes are still another source of changes in demand. Sometimes these changes occur rapidly, such as with popular music, clothing styles, and fast foods.

The demand curves for these goods and services shift often. In other cases, changes in tastes take longer but are more permanent. For example, over the years, U.S. consumers have been more health conscious. As that has happened, demand has fallen for cigarettes and fatty foods, while demand for fish, organic vegetables, and gym memberships has risen.

2.2 Supply

The Supply Curve

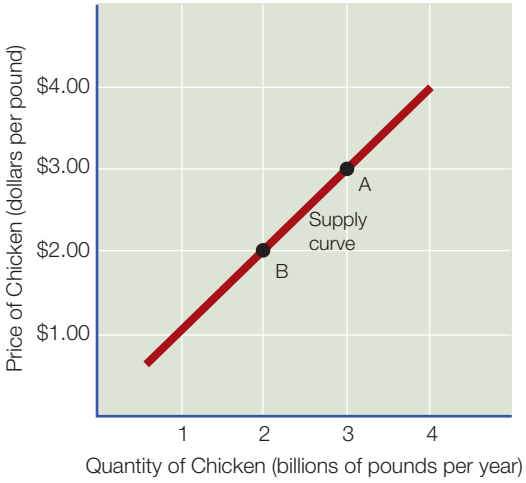
We now turn from the demand side of the market to the supply side. As before, we focus first on a one-to-one relationship between price and quantity, other things being equal. This time, though, the quantity is that which suppliers intend to offer for sale. Figure 2.4 shows such a relationship for chicken.

FIGURE 2.4 A SUPPLY CURVE FOR CHICKEN

(a)

	Price of Chicken (dollars per pound)	Quantity of Chicken Supplied (billions of pounds per year)
	$4.00	4
	$3.50	3.5
A	$3.00	3
	$2.50	2.5
B	$2.00	2
	$1.50	1.5
	$1.00	1

(b)



Parts (a) and (b) of this figure show the quantity of chicken supplied at various prices. As the price rises, the quantity supplied increases, other things being equal. The higher price gives farmers an incentive to raise more chickens, but the rising opportunity cost of doing so limits the supply produced in response to any given price increase.

Supply curve

A graphical representation of the relationship between the price of a good and the quantity of that good that sellers are willing to supply

We call the relationship shown in the figure a **supply curve** for chicken. The supply curve has a positive slope because the quantity supplied increases when the price goes up. Like demand curves, supply curves are based on an "other things being equal" condition. The supply curve shows how sellers respond to a change in the price of chicken, assuming no changes in conditions such as the prices of other goods, production techniques, input prices, expectations, or any other relevant condition.

Why do sellers, other things being equal, plan to supply more chicken when the prevailing market price is higher than when the price is lower? Without going too deeply into a discussion of microeconomic theory, we can consider some common-sense explanations.

One explanation is that the positive slope of the supply curve represents *producers' responses to market incentives*. When the price of chicken goes up, farmers have a reason to expand their capacity. Some who raise chickens as a sideline may decide to make chickens their main business. Other people may enter the chicken business for the first time. The same reasoning applies in every market. If parents are finding it hard to get babysitters, what do they do? They offer a bigger incentive in the form of a higher hourly rate. If a sawmill cannot buy enough timber, it raises the price it offers to loggers, and so on. Exceptions to the rule that a higher price causes a greater quantity supplied are rare.

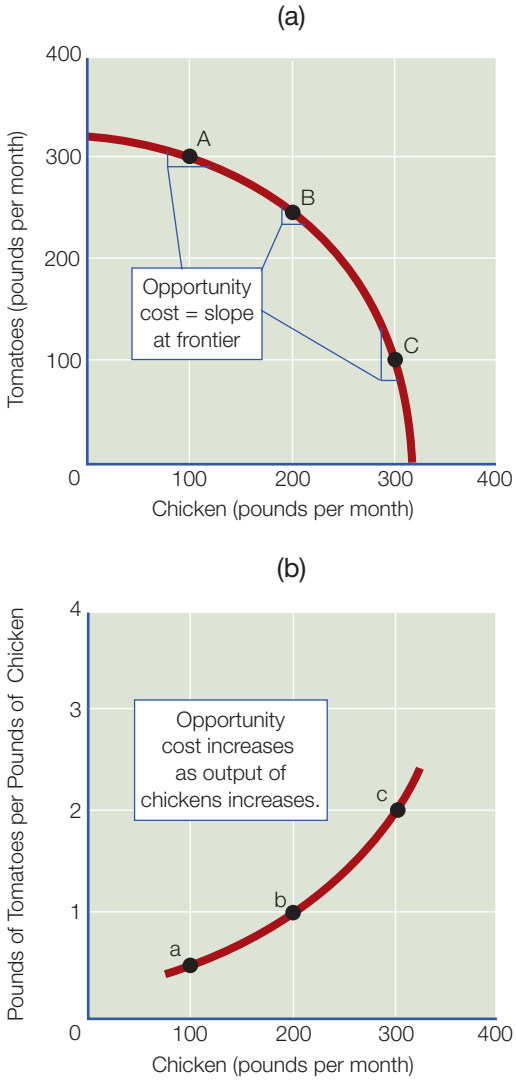
Another way to explain the positive slope of the supply curve stems from the *rising cost of producing additional output in facilities of a fixed size*. A furniture factory with a fixed amount of machinery might be able to produce more chairs only by adding shifts or paying overtime. A farmer trying to grow more wheat on a fixed amount of land could increase the use of fertilizer; but beyond a point, each added ton of fertilizer would yield less additional output.

Finally, we can explain the positive slope of the supply curve in terms of *comparative advantage and opportunity cost*. Figure 2.5a shows a production possibility frontier for an economy the produces tomatoes and chicken. Some farmers have a comparative advantage in one product, some in the other. Suppose we start from a point where farmers produce only tomatoes and then introduce chicken. The first farmers to switch to chicken will be those with the strongest comparative advantage, that is, those able to produce chicken at the lowest opportunity cost relative to tomatoes. They will be willing to switch from tomatoes to chicken even if the price of chicken is low. As farmers add more and more chicken, the point of production moves down and to the right along the frontier. After each adjustment, the price of chicken must rise further to give the needed incentive for farmers with higher opportunity costs to make the switch.

The slope of the frontier at any point represents the price of chicken, relative to the price of tomatoes, that will cause one more farmer to switch. In Figure 2.5, the slopes at points A, B, and C in Part (a) are graphed on a new set of axes in Part (b). We can interpret the graph as a supply curve since it shows that the price of chicken must rise relative to the price of tomatoes to induce more farmers to switch to chicken.

Each of these common-sense explanations fits certain circumstances. Together, they provide an intuitive basis for the positive slope of the supply curve.

FIGURE 2.5 THE PRODUCTION POSSIBILITY CURVE AND THE SUPPLY CURVE



This figure offers an interpretation of the supply curve in terms of the production possibility frontier for an economy that produces two goods, tomatoes and chicken. Part (a) shows a production possibility frontier. The slope of the frontier, at any point, shows the opportunity cost of producing an additional pound of chicken measured in terms of the quantity of tomatoes that farmers could have produced using the same factors of production. The frontier curves because some farmers have a comparative advantage in producing tomatoes and others have a comparative advantage in producing chicken. As farmers raise more chicken, those with the greatest comparative advantage are the first to stop producing tomatoes. Because the frontier gets steeper as the quantity of chicken increases, the opportunity cost rises, as shown in Part (b). We can interpret the curve in Part (b) as a supply curve, in the sense that an incentive, in the form of a higher price, will cause producers to shift factors from tomatoes to chicken despite the rising opportunity cost of chicken.

Shifts in the Supply Curve

Change in quantity supplied
A change in the quantity of a good that suppliers are willing and able to sell that results from a change in the good's price, other things being equal, shown by a movement along a supply curve

Change in supply
A change in the quantity of a good that suppliers are willing and able to sell that results from a change in some condition other than the good's price, shown by a shift in the supply curve

As in the case of demand, we call the effects of a change in the price of chicken, other things being equal, a **change in quantity supplied**, shown as a movement along the supply curve. We call the effects of a change in a condition other than the price of chicken a **change in supply**, shown as a shift in the supply curve. Four sources of change in supply are worth noting. Each of them reflects a change in the opportunity cost of producing the good or service in question.

Changes in Technology A given supply curve is based on a given technology. Entrepreneurs are constantly looking for new ways of doing things that lower costs. When production costs fall, it becomes worthwhile to sell more of the good at any given price. Figure 2.6 shows how new technology affects the supply curve for chicken.

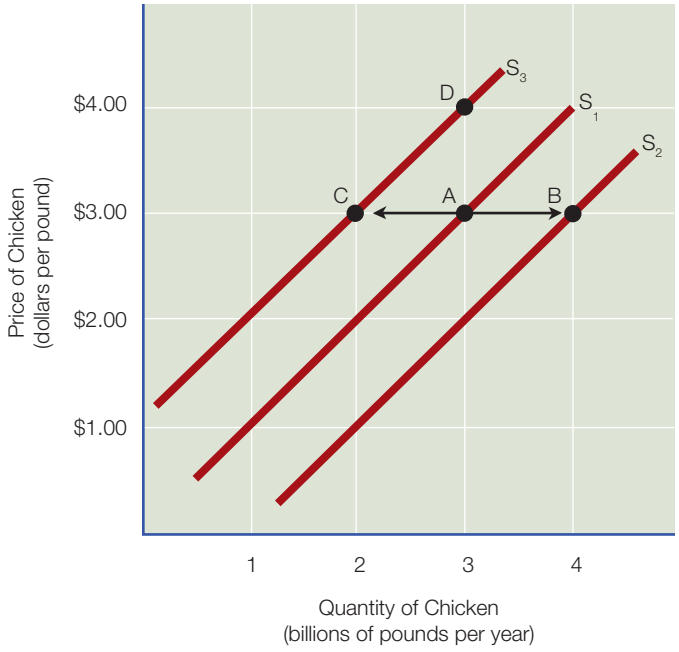
Supply curve S_1 is the same as the one shown in Figure 2.4. It indicates that farmers will plan to supply 3 billion pounds of chicken per year at a price of $3.00 per pound (point A). Now suppose that the development of a faster-growing bird reduces feed requirements. With lower costs per unit, farmers will be willing to supply more chicken at any given price. They may, for example, be willing to supply 4 billion pounds of chicken at $3.00 (point B). The move from A to B is part of a shift in the entire supply curve from S_1 to S_2. Once the new methods of production are established, any increase or decrease in the price of chicken, other things being equal, will cause a movement along the new supply curve.

Changes in Input Prices Changes in input prices are a second item that can cause supply curves to shift. An increase in input prices, other things being equal, increases the cost of producing the good in question and reduces quantity supplied at any given price. Refer again to Figure 2.6. Suppose that starting from point A on supply curve S_1, the price of chicken feed increases and no offsetting changes occur. Now, instead of supplying 3 billion pounds of chicken at $3.00 per pound, farmers will supply just 2 billion pounds (point C). The move from A to C is part of a leftward shift in the supply curve, from S_1 to S_3.

If the price of feed remains at the new level, changes in the price of chicken will cause movements along the new supply curve. For example, farmers could be induced to supply the original quantity of chicken—3 billion pounds—if the price of chicken was raised enough to cover the increased cost of feed. As you can see in Figure 2.6, that would require a price of $4.00 per pound for chicken (point D).

Changes in the Prices of Other Goods Changes in the prices of other goods that producers could make using the same factors of production can also shift the supply curve. In our earlier example, farmers could use available resources for either chickens or tomatoes. Suppose that the price of tomatoes rises while the price of chicken stays at $3.00. The higher price of tomatoes gives some farmers who would otherwise have produced chickens an incentive to shift to tomatoes. The result would be a leftward shift in the chicken supply curve.

FIGURE 2.6 SHIFTS IN THE SUPPLY CURVE FOR CHICKEN



Several kinds of changes can cause the supply of chicken to increase or decrease. For example, a new production method that lowers costs will shift the curve to the right, from S_1 to S_2. The shift is to the right because, taking into account the new, lower cost of production per unit, producers will be willing to supply more chicken at any given price. An increase in the price of inputs, other things being equal, will shift the curve to the left, from S_1 to S_3. The shift is to the left because, taking into account the new, higher price of inputs, producers will be willing to supply less chicken at any given price. Changes in sellers' expectations or in the prices of competing goods can also cause the supply curve to shift.

Changes in Expectations Changes in expectations can cause supply curves to shift for much the same reason that they can cause demand curves to shift. For example, a farmer's selection of crops depends not so much on the prices that prevail at planting time as on those expected at harvest. Expectations over a time horizon longer than one growing season also affect supply. Each crop requires special equipment and know-how. We have just seen that an increase in the price of tomatoes gives farmers an incentive to shift from chicken to tomatoes. The incentive will be stronger if they expect the price of tomatoes to remain high. If it is, farmers are more likely to buy the special equipment needed for that crop and to learn the necessary production techniques.

2.3 The Interaction of Supply and Demand

Markets transmit information, in the form of prices, to people who buy and sell. Taking these prices into account, along with other knowledge they have, buyers and sellers make their plans as shown by the supply and demand curves[2].

Each market has many buyers and sellers who all make plans independently. When they meet to trade, there is no guarantee that all of them will be able to carry out their plans on the terms they expected. Perhaps the quantity of a good that buyers want is greater than the quantity suppliers are willing to sell at the given price. In that case, some of the would-be buyers will be disappointed and must change their plans. Perhaps planned sales exceed planned purchases at the given price. In that case, some would-be sellers will be unable to carry out their plans.

Market Equilibrium

Sometimes the total quantity of a good that buyers plan to purchase exactly matches the total quantity that producers plan to sell. When buyers' and sellers' plans exactly mesh when they meet in the marketplace, no one needs be disappointed or needs to change plans. In that case, the market is in **equilibrium**.

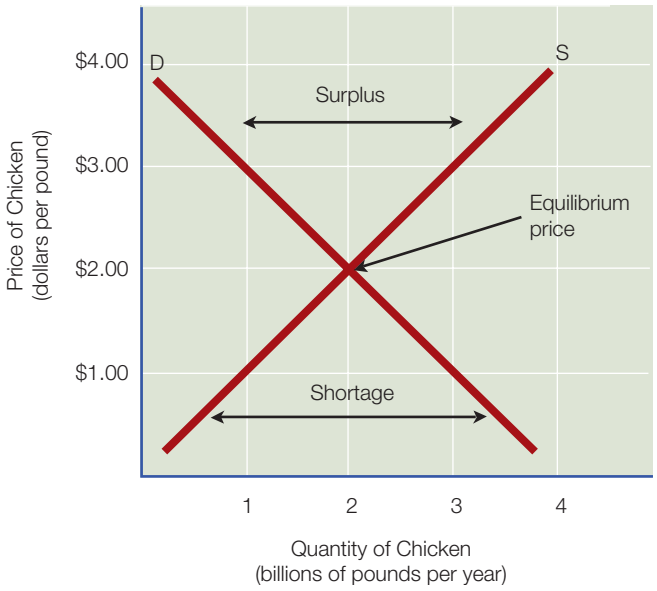
Equilibrium

A condition in which buyers' and sellers' plans exactly mesh in the marketplace, so that the quantity supplied exactly equals the quantity demanded at a given price

To give a graphical illustration of market equilibrium, we draw the supply and demand curves for a good on the same diagram, instead of separately, as in earlier figures. Figure 2.7 does this for the supply and demand curves for chicken. If we compare the quantity of planned sales at each price with the quantity of planned purchases, we can see that there is only one price where the two sets of plans mesh. (We can use either the table or the graph to make the comparison.) That price—$2.00 per pound—is the equilibrium price. If all buyers and sellers make their plans with the expectation of a price of $2.00, no one will be surprised and no one will have to change their plans.

FIGURE 2.7 EQUILIBRIUM IN THE CHICKEN MARKET

(a)



(b)

Price (per pound)	Quantity Demanded (billions of pounds)	Quantity Supplied (billions of pounds)	Shortage (billions of pounds)	Surplus (billions of pounds)	Direction of Pressure on Price
$3.50	0.5	3.5	—	3	Downward
$3.00	1	3	—	2	Downward
$2.50	1.5	2.5	—	1	Downward
$2.00	2	2	—	—	Equilibrium
$1.50	2.5	1.5	1	—	Upward
$1.00	3	1	2	—	Upward
$.050	3.5	0.5	3	—	Upward

This figure shows the supply and demand curves for chicken presented earlier in graphical and numerical form. The demand curve shows how much buyers plan to purchase at a given price. The supply curve shows how much producers plan to sell at a given price. At only one price—$2.00 per pound—do buyers' and sellers' plans exactly match. That is the equilibrium price. A higher price causes a surplus of chicken and puts downward pressure on price. A lower price causes a shortage and puts upward pressure on price.

Shortages

What would happen if people were to base their plans on a price other than $2.00 a pound?[3] Suppose, for example, that they approach the market with plans based on a price of $1.00. As Figure 2.7 shows, planed purchases at that price are 3 billion pounds per year, but farmers plan to supply only 1 billion. When the quantity demanded exceeds the quantity supplied, as in this example, the difference is an **excess quantity demanded** or, more simply, a shortage. In Figure 2.7 the **shortage** at a price of $1.00 is 2 billion pounds per year.

Excess quantity demanded (shortage)

A condition in which the quantity of a good demanded at a given price exceeds the quantity supplied

In most markets, the first sign of a shortage is a decrease in **inventories**. Inventories include all previously produced stocks of a good that are ready for sale or issue. Sellers normally plan to hold a certain level of inventory to allow for minor changes in demand. When they see inventories dropping below the planned level, they change their plans. Some sellers may try to rebuild their inventories by increasing their output. Others may take advantage of strong demand to raise prices. Many sellers are likely to do a little of both. If sellers do not take the initiative, buyers will, offering to pay more if sellers supply more. Whatever the details, the result is an upward movement along the supply curve as both price and quantity increase.

Inventory

A stock of a good awaiting sale or use

As the shortage puts upward pressure on the market price, buyers change their plans, too. As the price rises, they cut back on their planned purchases, moving up and to the left along the demand curve. As both buyers and sellers change their plans, the market moves toward equilibrium. When the price reaches $2.00, both the shortage and the pressure to change buying and selling plans disappears.

In the markets for most goods, sellers hold inventories of goods that they are ready to sell. There are exceptions, though. Inventories are not possible in markets for services—knee surgery, tax preparation, lawn care, and the like. Also, it is not possible to hold some goods, such as custom-built houses and custom-designed machine tools, in inventory. Sellers in these markets do not begin production until they have a contract with a buyer.

One sign of a shortage is a line of people waiting to buy a particular product.

In markets where there are no inventories, the sign of a shortage is a queue of buyers. The queue may take the form of a line of people waiting for service or a list of names in an order book. The queue is a sign that, at the prevailing price, people would like to buy more of the good than is being supplied. When that is the case, buyers cannot carry out all of their plans—at least not right away. They must wait for service on a first-come, first-served basis.

The formation of a queue of buyers has the same effect on the market as a decrease in inventories. Sellers react by increasing their rate of output, raising their prices, or both. Buyers react by reducing planned purchases or by offering higher prices. The market moves up and to the right along the supply curve and, at the same time, up and to the left along the demand curve until it reaches equilibrium.

Surpluses

Let's turn now to the opposite case in which buyers and sellers start their planning from an expected price that is above equilibrium. For example, Figure 2.7 shows that if the expected price is $2.50 per pound, farmers will plan to supply 2.5 billion pounds of chicken—but their customers will plan to buy only 1.5 billion pounds. In that case, we say that there is an **excess quantity supplied,** or a **surplus**. In this case, the surplus at $2.50 per pound is 1 billion pounds per year.

Excess quantity supplied (surplus)

A condition in which the quantity of a good supplied at a given price exceeds the quantity demanded

When there is a surplus, suppliers will be unable to sell all that they had hoped at the expected price. Inventories will begin to grow. Suppliers will react to the inventory buildup by changing their plans. Some will cut back their output. Others will lower their prices in the hope of getting customers to buy more. Still others will do a little of both. These changes in plans will cause a movement down and to the left along the supply curve.

As unplanned inventory buildup puts downward pressure on the price, buyers change their plans, too. Finding that chicken costs less than they had expected, they buy more of it. The figure shows that reaction as a movement down and to the right along the demand curve. Taken together, buyers' and sellers' reactions to the surplus bring the market into equilibrium.

Taxi queues are a sign of a surplus of sellers looking for customers.

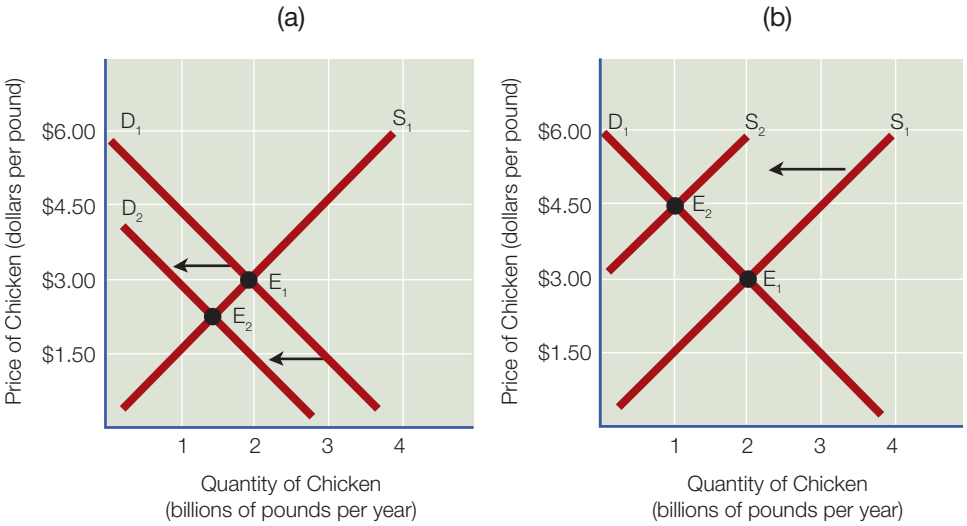
In markets in which there are no inventories, surpluses lead to the formation of queues of sellers looking for customers. Taxi queues at airports are a case in point. At some times of the day, the fare for taxi service from the airport to downtown is more than high enough to attract a number of taxis equal to the demand. A queue of cabs waiting for passengers then forms. In some cities drivers who are far back in the queue try to attract riders by offering cut-rate fares. Often, though, there are rules against fare cutting. The queue then grows until the next peak period when a surge in demand shortens it.

Changes in Market Conditions

In the examples we have given, finding the equilibrium price and quantity looks easy. In real life, though, it is a moving target. The market conditions that are covered by "other things being equal" change frequently. When they do, both buyers and sellers must revise their plans, and the point of equilibrium changes.

Response to a Shift in Demand Let's start by looking at a market's response to a shift in demand. Suppose the news reports that an outbreak of food poisoning has been linked to eating chicken. As the news spreads, the demand for chicken decreases, which appears in Part (a) of Figure 2.8 as a leftward shift of the demand curve.

FIGURE 2.8 EFFECTS OF CHANGING CONDITIONS IN THE CHICKEN MARKET



Part (a) of this figure shows the effects of a decrease in demand for chicken caused by news report linking food poisoning to eating chicken. Initially the market is in equilibrium at E_1. The report causes a shift in the demand curve. At the original equilibrium price of $3.00, there is a temporary surplus of chicken. That causes inventories to rise and puts downward pressure on the price. As the price falls, producers move down along the supply curve to a new equilibrium at E_2. There both the price and quantity of chicken are lower than before the shift in demand. Part (b) shows the effects of a decrease in supply caused by an increase in the price of chicken feed. The shift in the supply curve causes a shortage at the initial price of $3.00 per pound. The shortage puts upward pressure on price. As the price rises, buyers move up and to the left along the demand curve until they reach a new equilibrium at E_2. In each case, note that only one curve needs to shift to bring about the new equilibrium.

After the decrease in demand, there will be a surplus at the original price of $3.00. The price will not stay at that level for long, however. As soon as inventories start to rise, producers begin to revise their plans. They lower their prices and reduce quantities supplied. Their reactions appear as a movement along the supply curve, not a shift in the curve, because the producers are responding to a change in the price of chicken, the variable shown on the vertical axis. Nothing has happened to change the "other things being equal" conditions, such as technology or input prices, which could cause the supply curve to shift.

Eventually the adjustments reach a point where the plans of suppliers once again mesh with those of consumers. That happens at point E_2 in Part (a) of Figure 2.8, where the price has fallen to $2.25 and the quantity sold to 1.5 billion pounds. Later, if the conditions that caused the health warning are corrected, the demand curve will shift back to D_1, and the market will return to its original equilibrium.

Response to a Shift in Supply Alternatively, the market equilibrium might be upset by a change in supply rather than a change in demand. For example, suppose that rising demand for corn used to make ethanol causes the price of chicken feed to increase. That would shift the supply curve to the left while the demand curve remained unchanged, as shown in Part (b) of Figure 2.8.

The shift in the supply curve will cause a shortage to develop if the price of chicken remains unchanged at $3 per pound. Inventories will fall in response to the shortage, putting upward pressure on the price. Producers will increase the amount they plan to sell, moving upward and to the right along the new supply curve. Buyers will move upward and to the left along the demand curve, which remains unchanged. A new equilibrium is established when the price reaches $4.50.

A Shift in One Curve or Both? One of the most common mistakes people make in using supply and demand is to think that *both* curves always must shift in order to restore equilibrium. The examples given in Figure 2.8 show that this is not the case. In Part (a), after the demand curve shifts, a movement along the supply curve is enough to establish the new equilibrium. The supply curve does not need to shift. Similarly, in Part (b), after the supply curve shifts, the demand curve does not need to shift to reach the new equilibrium.

However, in the turmoil of real-world markets, it is easy to find cases where two separate changes occur at the same time, one acting on supply and the other on demand. *Economics in the News 2.1* provides an example of the way both demand and supply conditions affect prices for cocoa. In that market, a steady rightward shift in the demand curve has led to a long-term trend toward higher prices. Superimposed on the long-term, demand-driven trend are short-term changes in supply caused by political disturbances and changes in growing conditions.

BVT Lab

Visit **www.BVTLab.com** to explore the student resources available for this chapter.

Equilibrium as Spontaneous Order

The way that markets adjust to change is an example of economic coordination through spontaneous order. Consider the market for cocoa. The adjustment to changes in income, consumer tastes, political events and growing conditions involves decisions of thousands of farmers, wholesalers, retailers, as well as that of millions of consumers. Somehow their action must all be coordinated. But how?

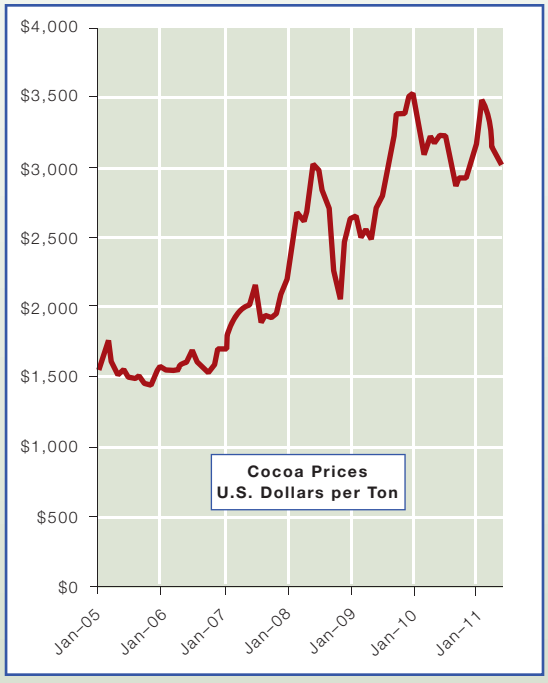
A market economy needs no central planning agency or regulatory bureaucracy. The required changes in the use of scarce resources take place in response to information and incentives transmitted by changing market prices. As prices rise, farmers plant new cocoa trees, where possible. At the same time, researchers redouble their efforts to breed disease-resistant trees. Meanwhile candy makers in Europe and the United States employ new marketing strategies like introducing vintage estate-grown chocolates in an attempt to maintain the product's appeal as its price rises.

Economics in the News 2.1

Chocolate Lovers Keep Nervous Eye on Cocoa Prices

Supply and demand have driven the prices of cocoa, the main ingredient in chocolate, to record highs in recent years. Prices have not only been high but also increasingly volatile.

The long upward trend in cocoa prices is mainly the result of changing demand conditions. Rising incomes are one factor affecting demand. Since chocolate is a normal good, people want more of it at any given price as their incomes rise. Changing tastes also play a role. For example, until recently chocolate was not especially popular in China. Per capita consumption hovered around 100 grams per person, some 100 times less than in Europe and the United States. That is a far bigger difference than income alone could explain. Now Chinese consumers are starting to see chocolate as trendy. Consumption has been growing by more than 10 percent per year.



Both rising incomes and changing tastes shift the chocolate demand curve to the right. If supply conditions remained unchanged, the shift in demand by itself would be enough to push the price of cocoa steadily higher.

Supply conditions do not remain constant, however. Supply, more than demand, is subject to sharp short-term shifts. Politics are one source of these shifts. In 2010, a disputed election in Ivory Coast, the world's largest cocoa producer, threw the market into turmoil. As the country spiraled toward civil war, exports were disrupted, shifting the world supply curve to left and causing a spike in world prices. When the crisis was finally resolved in April 2011, normal supply conditions were restored and prices fell again.

Politics aside, cocoa supply, like that of any farm product, is subject to changes in growing conditions. For example, cocoa crops throughout West Africa, the largest producing region, suffer from periodic outbreaks of swollen shoot disease. The leaves of affected trees turn red, and the cocoa pods are ruined. In the summer of 2011, just as a return of political calm allowed the cocoa price to fall a bit, a new outbreak of swollen shoot disease threatened to shift the supply curve to the left once again, pushing the price back up.

The bottom line? You may have to get ready to pay more for your chocolate—or you may not. Any way you look at it, the complexities of supply and demand are likely to keep chocolate prices volatile. But look at the bright side. If high chocolate prices depress you, just remember that chocolate itself is a reliable cure for depression!

Source: Based on "Chocolate Lovers Keep Nervous Eye on Volatile Prices," Ed Dolan's Econ Blog, Oct. 11, 2010 (http://dolanecon.blogspot.com/2010/10/chocolate-lovers-keep-nervous-watch-on.html)

No central authority has to plan the process of adjustment. Equilibrium is not a compromise negotiated by a committee of consumers and producers. Just as shoppers manage to equalize the length of supermarket checkout lines without the guidance of a central authority, markets like that for cocoa move toward equilibrium spontaneously through the small, local adjustments that people make in their efforts to serve their own interests. As Adam Smith might have put it, we have not the benevolence of the International Cocoa Organization for our dessert; instead it is self-interest that puts that box of chocolates on the table.

2.4 Some Closing Thoughts

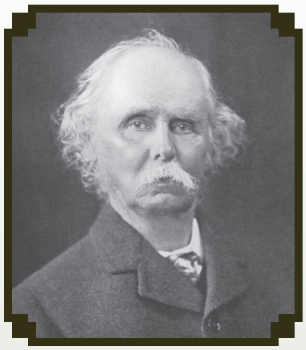
This chapter has covered the basics of the supply-and-demand model and described a few of its applications. There are many more applications in both macro- and microeconomics. In macroeconomics, supply and demand apply to financial markets, labor markets, and the problem of determining the rate of inflation and real output for the economy as a whole. In microeconomics, the model applies to product markets, markets for productive resources, and policy issues ranging from pollution to farm policy to international trade. As the great economist Alfred Marshall once put it, nearly all of the major problems of economics have a "kernel" that reflects the workings of supply and demand (see *Who Said It? Who Did It? 2.1*).

When we turn from the general outline presented in this chapter to some of the underlying details, the supply-and-demand model appears to fit some kinds of markets more closely than others. The fit is best for markets in which there are many producers and many customers, the goods sold by one producer are much like those sold by others, and all sellers and buyers have good information on market conditions. Markets for farm commodities, such as wheat and corn, and financial markets, such as the New York Stock Exchange, meet these standards reasonably well.

However, not all markets display all of these features. The market for chocolate is an example. Cocoa, the basic commodity, fits the supply-and-demand model closely. Markets for high-end chocolate confections do not. In those markets, the products of different producers are not alike, and just a few specialist firms dominate some segments of the market. Even in markets like those, however, the notions of supply and demand provide a useful framework to which we can add refinements and extensions.

Who Said It? Who Did It? 2.1

Alfred Marshall on Supply and Demand



Alfred Marshall, who was probably the greatest economist of his day, was born in London in 1842. His father was a Bank of England cashier who hoped the boy would enter the ministry. Young Marshall had other ideas, however. He turned down a theological scholarship at Oxford to study mathematics, receiving his MA from Cambridge in 1865.

While at Cambridge, Marshall joined a philosophical discussion group. There he became interested in promoting the broad development of the human mind. He soon learned that harsh economic realities would prevent the realization of his ideas. Britain's economic potential as a country could, supposedly, never allow the masses sufficient leisure for education. This disillusioning episode appears to have triggered Marshall's fascination with economics.

At the time, the classical school founded by Adam Smith and David Ricardo dominated British economics. Marshall had great respect for the classical writers. At first, he saw his own work as simply applying his mathematical training to strengthen and systematize the classical system. Before long, however, he was breaking new ground and developing a system of his own. By 1890, when he brought out his famous ***Principles of Economics***, he had laid the foundation of what we now call the neoclassical school.

In an attempt to explain the essence of his approach, Marshall included the following passage in the second edition of his ***Principles***:

> In spite of a great variety in detail, nearly all the chief problems of economics agree in that they have a kernel of the same kind. This kernel is an inquiry as to the balancing of two opposed classes of motives, the one consisting of desires to acquire certain new goods, and thus satisfy wants; while the other consists of desires to avoid certain efforts or retain certain immediate enjoyment … in other words, it is an inquiry into the balancing of the forces of demand and supply.

Marshall's influence on economics—at least in the English-speaking world—was enormous. His ***Principles*** was the leading economics text for several decades, and modern students can still learn much from it. As a professor at Cambridge, Marshall taught a great many of the next generation's leading economists. Today his neoclassical school continues to dominate the profession. Many have challenged it, but so far it has held up.

Summary

1. **How does the price of a good or service affect the quantity of it that buyers demand?** The term demand means the willingness and ability of buyers to purchase goods and services. According to the *law of demand*, there is an inverse relationship between the price of a good and the quantity demanded. The *quantity demanded* is the quantity that buyers are willing and able to pay for. The law of demand can be represented by a negatively sloped *demand curve*. A movement along the demand curve shows a change in the quantity demanded.

2. **How do other market conditions affect demand?** A change in any of the variables covered by the "other things being equal" clause of the law of demand causes a shift in the demand curve, known as a *change in demand*. Examples include changes in the prices of goods that are *substitutes or complements* of the good in question as well as changes in consumer incomes, expectations, and tastes.

3. **How does the price of a good affect the quantity supplied by sellers?** The term *supply* means sellers' willingness and ability to offer products for sale in a market. In most markets an increase in the price of a good will increase the quantity of the good that sellers are willing to supply. This relationship takes the form a positively sloped *supply curve*. The higher price gives producers an incentive to supply more, but rising opportunity costs set a limit on the amount they will supply at any given price.

4. **How do changes in other market conditions affect supply?** A change in any of the items covered by the "other things being equal" clause of the supply curve will shift the curve. Examples include changes in technology, changes in the prices of inputs, changes in the prices of other goods that could be produced with the same resources, and changes in expectations.

5. **How do supply and demand interact to determine the market price of a good or service?** In a market with a positively-sloped supply curve and a negatively-sloped demand curve, there is only one price at which the quantity of a good that sellers plan to supply will exactly match the quantity that buyers plan to purchase. We call that the *equilibrium* price. At any higher price, there will be a surplus; and at any lower price there will be a shortage.

(Continues)

6. **Why do market prices and quantities change in response to changes in market conditions?** A change in any market condition that shifts the supply or demand curve will change the equilibrium price and quantity in a market. For example, the demand curve may shift to the right as a result of a change in consumer incomes. That causes a shortage at the old price, and the price begins to rise. As the price rises, suppliers move up along the supply curve to a new equilibrium. No shift in the supply curve is required. On the other hand, better technology may shift the supply curve to the right. In that case, there is a surplus at the old price, and the price will fall. As the price decreases, buyers will move down along their demand curve to a new equilibrium. No shift in the demand curve is required.

Key Terms

Problems and Topics for Discussion

1. **A shifting demand curve** A vending machine company has studied the demand for soft drinks sold in cans from machines. On a 70-degree day consumers in the firm's territory will buy about 2,000 cans at a price of $0.75. For each $.05 rise in price, the quantity sold falls by 200 cans per day; for each 5-degree rise in the temperature, the quantity sold rises by 150 cans per day. The same relationships hold for decreases in price or temperature. Using this information, draw a set of curves showing the demand for soft drinks on days when the temperature is 60, 70, and 85 degrees. Then draw a separate diagram with temperature on the vertical axis and quantity on the horizontal axis. Draw a line representing the relationship between temperature and quantity when the price is $0.75. Next, draw additional temperature-quantity lines for prices of $0.50 and $1.00. Do the two diagrams give the same information? Discuss. (Note: If you have any trouble with this exercise, review the appendix to Chapter 1, "Working with Graphs," especially the section entitled "Packing Three Variables into Two Dimensions.")

2. **Demand and the price of motor fuel** From 2007 to 2008, the price of gasoline in the United States rose from $2.76 per gallon to $3.20 per gallon. The quantity used decreased from 3,389 million barrels to 3,290 million barrels. In 2009, the price fell again, to $2.30 per gallon, but the quantity used continued to decline, to $3,283 million barrels. Each year from 2007 to 2009, personal income of U.S. households increased.

   Which one or more of the following hypotheses do you think best explain(s) the behavior of motor fuel sales in 2007 and 2008? Illustrate your chosen hypothesis with an appropriate diagram.

   a. In 2008 the demand curve for gasoline had the usual negative slope. However, in 2009 the demand curve shifted to a positively sloped position.

   b. The demand curve had a negative slope throughout the period. However, it appears that gasoline changed from a normal good to an inferior good between 2008 and 2009.

   c. The demand curve has a negative slope at all times, but the shape depends partly on how much time consumers have to adjust to a change in prices. Over a short period, the demand curve is fairly steep because few adjustments can be made. Over the long term, it has a somewhat flatter slope because further adjustments, such as buying more fuel-efficient cars or moving closer to the job, can be made. As a result, falling gasoline sales in 2009 were a delayed reaction to the price increase the previous year.

(Continues)

3. **Shortages, price controls, and queues** During the late 1980s and early 1990s, economic reforms initiated by Soviet President Mikhail Gorbachev began to raise consumer incomes; however, the Soviet government continued to impose price ceilings on basic goods like food, clothing, and household goods. As higher income led to increased demand, severe shortages of many goods and long lines at all kinds of stores became common. Finally, in January 1992, a new Russian government, under President Boris Yeltsin, removed retail price controls on most goods. Within a month, prices more than doubled on average and lines disappeared. Analyze these events using the supply and demand model. First draw a supply and demand diagram for some normal good such as butter. Show the market in equilibrium at a price of 1 ruble per kilo before the beginning of the Gorbachev reforms. Draw a horizontal line at that level to represent the price ceiling; no butter can be sold for more than 1 ruble per kilo. Next, show the effect of rising income. Does it shift the supply curve? Does it shift the demand curve? What is the shortage or surplus at the controlled price? After the price control ends, assuming no further shift in the supply and demand curve, what happens to the price? What happens to the shortage or surplus?

4. **Eliminating queues through flexible pricing** You are a member of the Metropolitan Taxi Commission, which sets taxi fares for your city. You learn that long lines of taxis form at the airport during off-peak hours. At peak hours, in contrast, few taxis are available and there are long lines of passengers waiting for cabs. The Commission is considering a proposal to cut taxi fares from the airport to downtown by 10 percent during off-peak hours and raising them by 10 percent during peak hours. How do you think these changes would affect the queuing patterns of taxis and passengers? Do you think the proposal is a good one from the passengers' point of view? From the cabbies' point of view? From the standpoint of economic efficiency? What do you think would happen if the Taxi Commission stopped setting fares altogether, and allowed passengers and drivers to negotiate any price they wanted? Discuss.

Case for Discussion:

Will CNG Power Your Next Car?

There has been a lot of talk in the United States about the automotive fuel of the future. Most of it has centered on ethanol, electricity, and to some extent hydrogen. Yet the real fuel of the future may turn out to be compressed natural gas, or CNG.

CNG as an automotive fuel is not new technology. Thousands of busses and delivery vehicles use it every day in the United States. So do millions of passenger cars in other countries. Now market forces favor CNG as an automotive fuel in the United States. In 2011, while the price of crude oil soared to $100 per barrel, the price of the quantity of natural gas needed to supply the same energy fell under $25. It was a record gap between the two fuels. As recently as 2005, natural gas actually cost more than oil on an energy-equivalent basis.

What is behind the radical change in relative price? On the supply side, the main change is new technologies that allow greater production of nonconventional gas from shales, coal beds, and other sources. On the demand side, the change arises from greater environmental awareness on the part of consumers, regulations that encourage alternative fuels, and, yes, the rising price of oil.

So what is holding back widespread use of CNG for cars, an off-the-shelf technology already in wide use elsewhere? Two factors are causing the problem.

First, there is a chicken-and-egg issue. There are not enough filling stations that dispense natural gas. With the right kind of pump, filling you car's tank with CNG is just as quick and easy as using gasoline; however, it is not worth it for gas stations to install the pumps until there are lots of CNG-powered cars on the road. CNG cars, including a CNG-powered Honda, are already on the market, but demand will be limited until there are more filling stations.

Second, Federal regulations make it expensive to bring conversion kits to market that let people convert old cars and trucks to CNG. The technology is simple, but the regulations are not.

CNG will have its day, though, provided its price remains low. Over time, market forces will produce pressure to install more CNG pumps and simplify regulations. Then the fuel of the future—already quite ordinary in many parts of the world—will finally arrive in the United States.

Sources: Ed Dolan's Econ Blog (http://dolanecon.blogspot.com), "Technology, Environment, and the Future of Natural Gas," Feb. 27, 2010, and "Move Over Ethanol: Market Forces Favor CNG," March 16, 2011. Used by permission of author

Questions

1. Beginning from a position of equilibrium, use supply and demand curves to show how the natural gas market is affected by new technologies that reduce the cost of producing gas from unconventional deposits. Does the supply curve shift? The demand curve? Both? Explain.

2. Now, starting from the end point of your answer to Question 1, show the effects of increased consumer preference for alternative fuels. Does the supply curve shift? The demand curve? Both? Explain.

3. Finally, draw a diagram that includes both long-term and short-term demand curves. How do the two differ, and why?

Endnotes

1. Before continuing, the reader may want to review the Chapter 1 appendix, "Working with Graphs," especially the section entitled "Packing Three Variables into Two Dimensions."
2. The "plans" referred to need not be formal, or thought out in detail, and are subject to change. A consumer might, for example, make out a shopping list for the supermarket based on the usual prices for various foods, but then revise it to take into account unexpected price increases or sales on certain items. On specific occasions, consumer decisions may even be completely impulsive, with little basis in rational calculation. The model of supply and demand does not require that every decision be based on precise analysis, only that consumer intentions, on the average, are influenced by prices and other economic considerations.
3. Why might buyers and sellers enter the market expecting a price other than the one that permits equilibrium? It may be, for example, that market conditions have caused the supply or demand curve to shift unexpectedly, so that a price that formerly permitted equilibrium no longer does so. It may be that buyers or sellers expect conditions to change, but they do not change after all; or it may be that government policy has established a legal maximum or minimum price that differs from the equilibrium price. Later sections of the chapter will explore some of these possibilities.