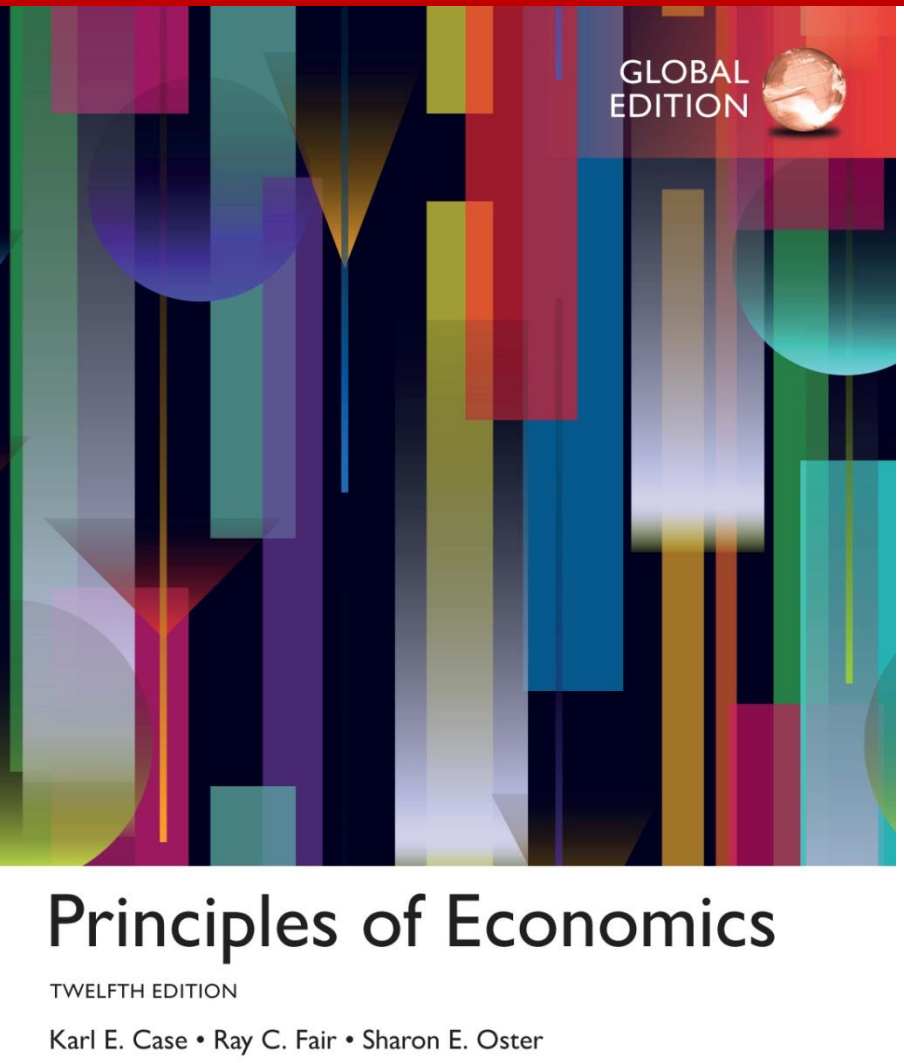
Principles of Economics
Twelfth Edition



Chapter 3
Demand, Supply, and Market Equilibrium

Chapter 3 Demand, Supply, and Market Equilibrium

- Chapter 2 discusses how individuals solve economic problems directly.
- This chapter explains the basic forces at work in market systems.
- This chapter explains how individual decisions answer the three basic economic questions.

Firms and Households: The Basic Decision-Making Units

- **firm** An organization that transforms resources (inputs) into products (outputs). Firms are the primary producing units in a market economy.
- **entrepreneur** A person who organizes, manages, and assumes the risks of a firm, taking a new idea or a new product and turning it into a successful business.
- **households** The consuming units in an economy.

Input Markets and Output Markets: The Circular Flow *(1 of 4)*

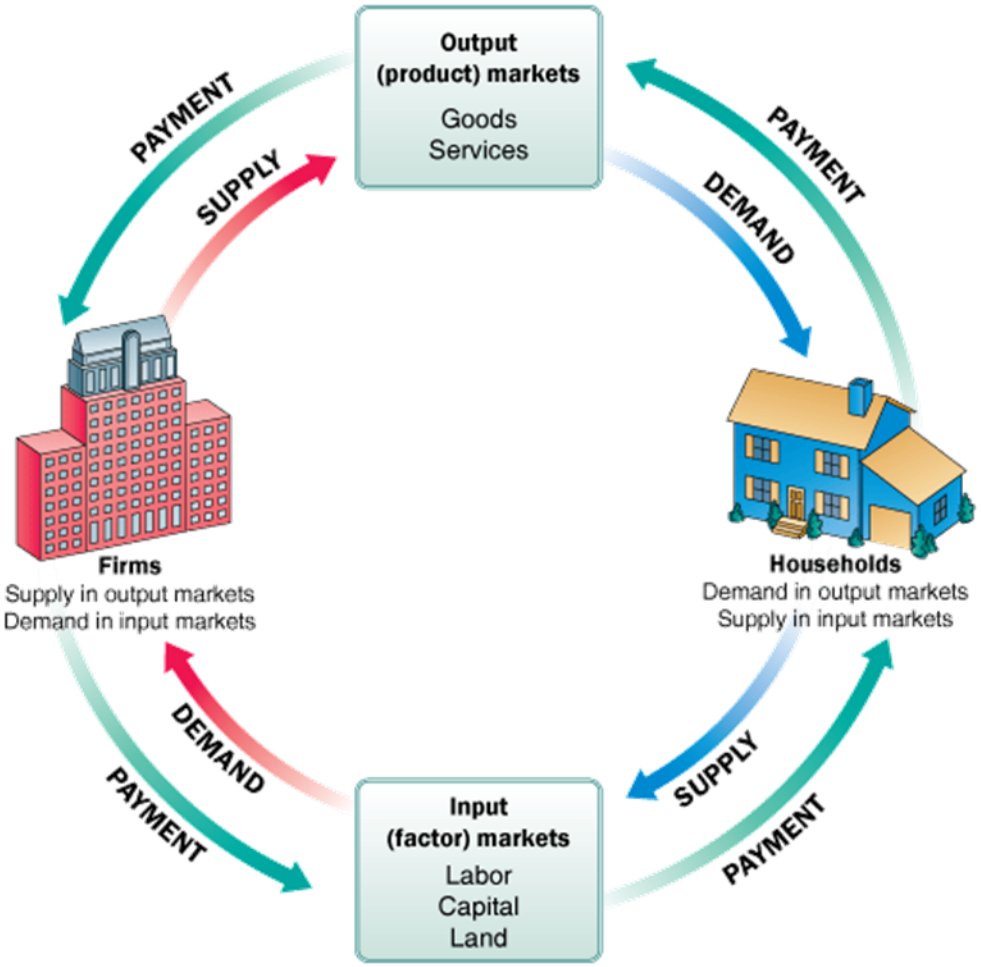
- **product** or **output markets** The markets in which goods and services are exchanged.
- **input** or **factor markets** The markets in which the resources used to produce goods and services are exchanged.

FIGURE 3.1 The Circular Flow of Economic Activity

Diagrams like this one show the circular flow of economic activity, hence the name *circular flow diagram*. Here goods and services flow clockwise: Labor services supplied by households flow to firms, and goods and services produced by firms flow to households.

Payment (usually money) flows in the opposite (counterclockwise) direction: Payment for goods and services flows from households to firms, and payment for labor services flows from firms to households.

Note: Color Guide—In this figure households are depicted in *blue*, and firms are depicted in *red*. From now on, all diagrams relating to the behavior of households will be blue or shades of blue, and all diagrams relating to the behavior of firms will be red or shades of red. The green color indicates a monetary flow.



Input Markets and Output Markets: The Circular Flow *(2 of 4)*

- **labor market** The input/factor market in which households supply work for wages to firms that demand labor.
- **capital market** The input/factor market in which households supply their savings, for interest or for claims to future profits, to firms that demand funds to buy capital goods.

Input Markets and Output Markets: The Circular Flow *(3 of 4)*

- **land market** The input/factor market in which households supply land or other real property in exchange for rent.
- **factors of production** The inputs into the production process. Land, labor, and capital are the three key factors of production.

Input Markets and Output Markets: The Circular Flow *(4 of 4)*

- Input and output markets are connected through the behavior of both firms and households.
- Firms determine the quantities and character of outputs produced and the types and quantities of inputs demanded.
- Households determine the types and quantities of products demanded and the quantities and types of inputs supplied.

Demand in Product/Output Markets *(1 of 2)*

- A household's decision about what quantity of a particular output, or product, to demand depends on a number of factors, including:
  - The *price of the product* in question
  - The *income available* to the household
  - The household's *amount of accumulated wealth*
  - The prices of *other products* available to the household
  - The household's *tastes and preferences*
  - The household's *expectations* about future income, wealth, and prices

Demand in Product/Output Markets *(2 of 2)*

- **quantity demanded** The amount (number of units) of a product that a household would buy in a given period if it could buy all it wanted at the current market price.
- It is important to focus on the price change alone with the *ceteris paribus*, or "all else equal," assumption.

Changes in Quantity Demanded versus Changes in Demand

- Changes in the price of a product affect the *quantity demanded* per period.
- Changes in any other factor, such as income or preferences, affect *demand*.
- Thus, we say that an increase in the price of Coca-Cola is likely to cause a decrease in the *quantity of Coca-Cola demanded*. However, we say that an increase in income is likely to cause an increase in the *demand* for most goods.

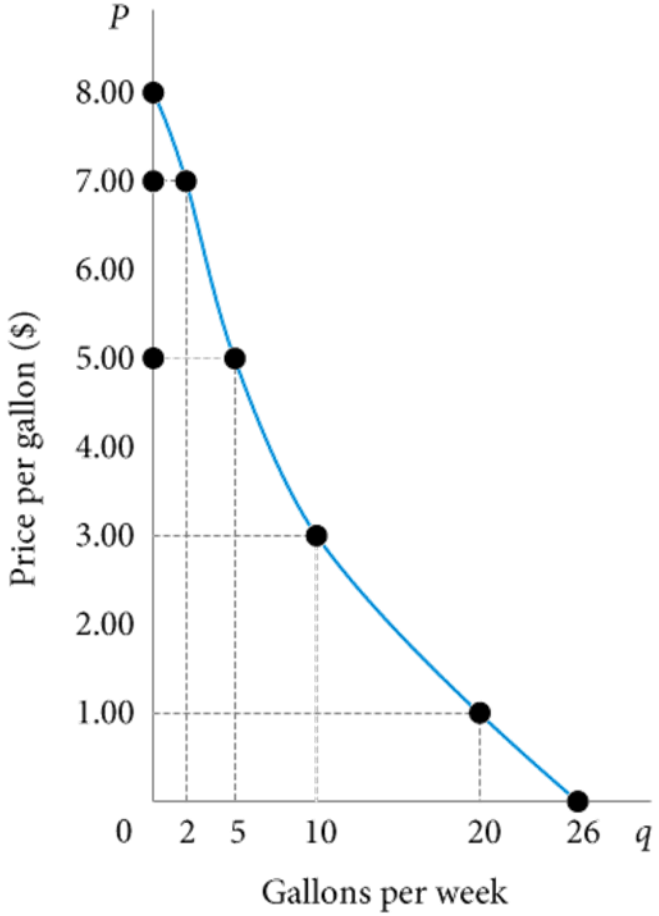
Price and Quantity Demanded: The Law of Demand *(1 of 3)*

- **demand schedule** Shows how much of a given product a household would be willing to buy at different prices for a given time period.
- **demand curve** A graph illustrating how much of a given product a household would be willing to buy at different prices.

TABLE 3.1 Alex's Demand Schedule for Gasoline

Price (per gallon)	Quantity Demanded (gallons per week)
$8.00	0
7.00	2
6.00	3
5.00	5
4.00	7
3.00	10
2.00	14
1.00	20
0.00	26

FIGURE 3.2 Alex's Demand Curve



The relationship between price (P) and quantity demanded (q) presented graphically is called a demand curve.
Demand curves have a negative slope, indicating that lower prices cause quantity demanded to increase.
Note that Alex's demand curve is blue; demand in product markets is determined by household choice.

Price and Quantity Demanded: The Law of Demand *(2 of 3)*

Demand Curves Slope Downward

- **law of demand** The negative relationship between price and quantity demanded: *Ceteris paribus*, as price rises, quantity demanded decreases; as price falls, quantity demanded increases during a given period of time, all other things remaining constant.
- It is reasonable to expect quantity demanded to fall when price rises, *ceteris paribus*, and to expect quantity demanded to rise when price falls, *ceteris paribus*.
- A demand curve has a negative slope.

Price and Quantity Demanded: The Law of Demand *(3 of 3)*

Other Properties of Demand Curves

- To summarize what we know about the shape of demand curves:
  1. They have a negative slope.
  2. They intersect the quantity (*X*) axis, a result of time limitations and diminishing marginal utility.
  3. They intersect the price (*Y*) axis, a result of limited income and wealth.
- The actual shape of an individual household demand curve depends on the unique tastes and preferences of the household and other factors.

Other Determinants of Household Demand *(1 of 3)*

Income and Wealth

- **income** The sum of all a household's wages, salaries, profits, interest payments, rents, and other forms of earnings in a given period of time. It is a flow measure.
- **wealth** or **net worth** The total value of what a household owns minus what it owes. It is a stock measure.

Other Determinants of Household Demand *(2 of 3)*

Income and Wealth

- **normal goods** Goods for which demand goes up when income is higher and for which demand goes down when income is lower.
- **inferior goods** Goods for which demand tends to fall when income rises.

Other Determinants of Household Demand *(3 of 3)*

Prices of Other Goods and Services

- **substitutes** Goods that can serve as replacements for one another; when the price of one increases, demand for the other increases.
- **perfect substitutes** Identical products.
- **complements, complementary goods** Goods that "go together"; a decrease in the price of one results in an increase in demand for the other and vice versa.

Other Determinants of Household Demand *(1 of 2)*

Tastes and Preferences

- Changes in preferences can and do manifest themselves in market behavior.
- Within the constraints of prices and incomes, preference shapes the demand curve, but it is difficult to generalize about tastes and preferences.

Other Determinants of Household Demand *(2 of 2)*

Expectations

- What you decide to buy today certainly depends on today's prices and your current income and wealth.
- Increasingly, economic theory has come to recognize the importance of expectations.
- It is important to understand that demand depends on more than just current incomes, prices, and tastes.

Shifts of Demand versus Movement along a Demand Curve *(1 of 2)*

- **shift of a demand curve** The change that takes place in a demand curve corresponding to a new relationship between quantity demanded of a good and price of that good. The shift is brought about by a change in the original conditions.
- **movement along a demand curve** The change in quantity demanded brought about by a change in price.

TABLE 3.2 Shift of Alex's Demand Schedule Resulting from an Increase in Income

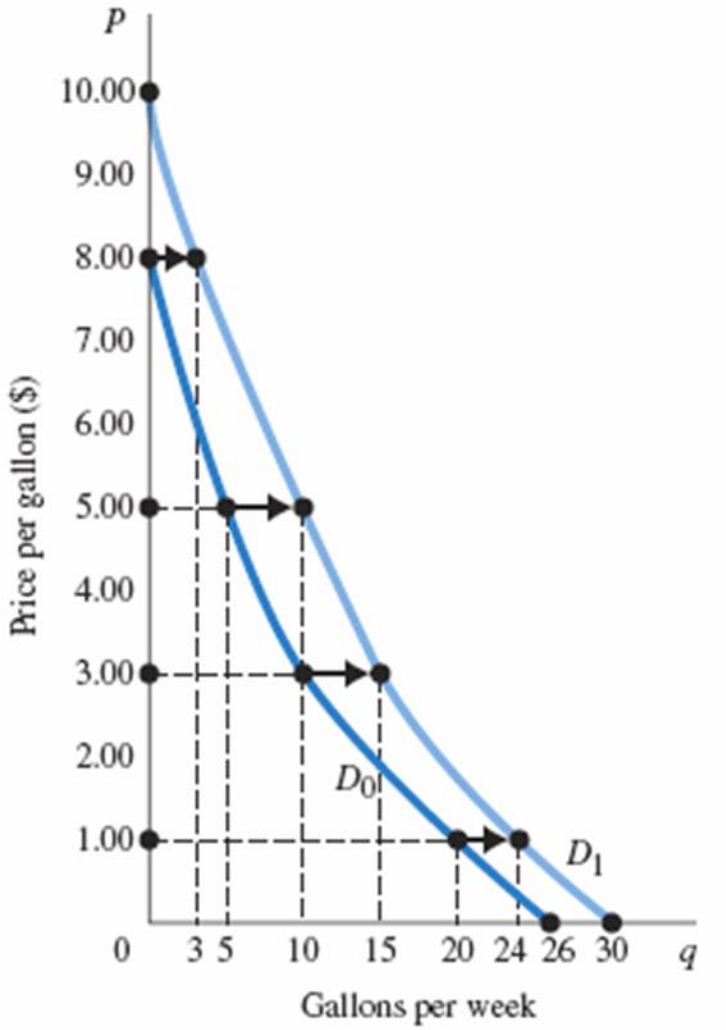
Price (per Gallon)	Schedule D_0 Quantity Demanded (Gallons per Week at an Income of $500 per Week)	Schedule D_1 Quantity Demanded (Gallons per Week at an Income of $700 per Week)
$8.00	0	3
7.00	2	5
6.00	3	7
5.00	5	10
4.00	7	12
3.00	10	15
2.00	14	19
1.00	20	24
0.00	26	30

FIGURE 3.3 Shift of a Demand Curve Following a Rise in Income

When the price of a good changes, we move *along* the demand curve for that good.

When any other factor that influences demand changes (income, tastes, and so on), the demand curve shifts, in this case from D_0 to D_1.

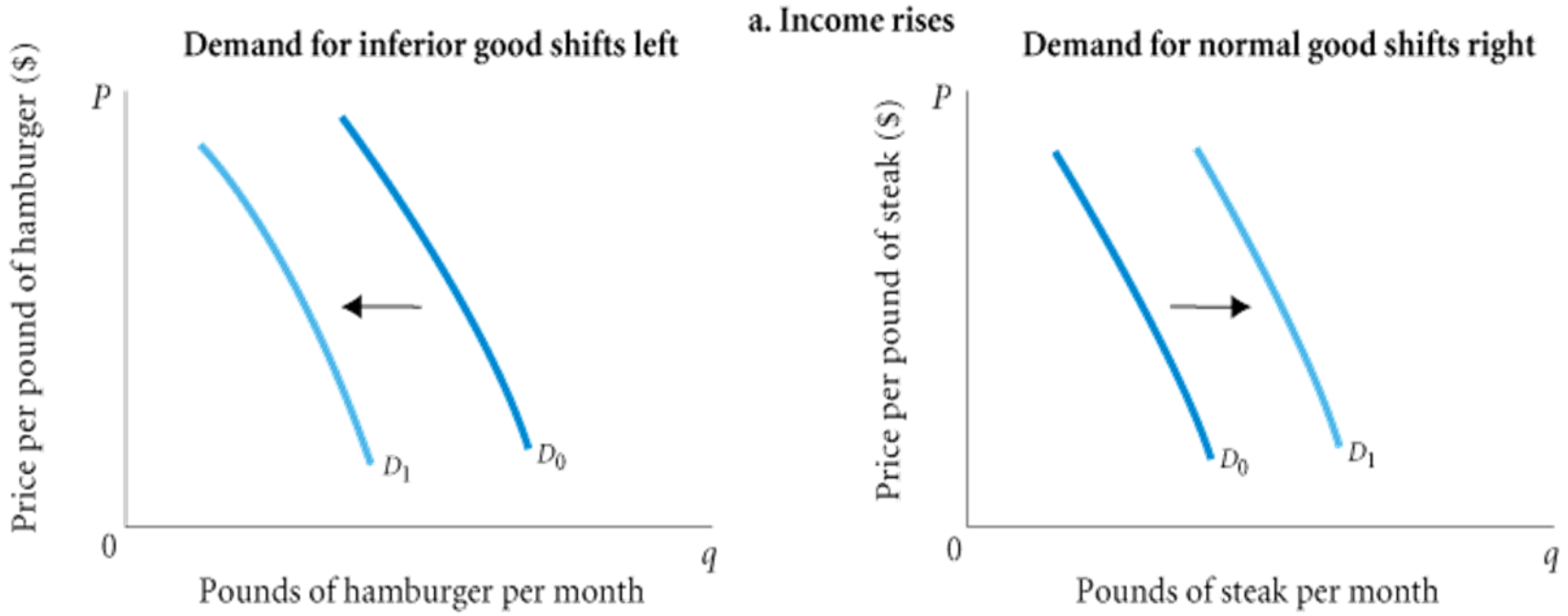
Gasoline is a normal good, so an income increase shifts the curve to the right.



Shifts of Demand versus Movement along a Demand Curve *(2 of 2)*

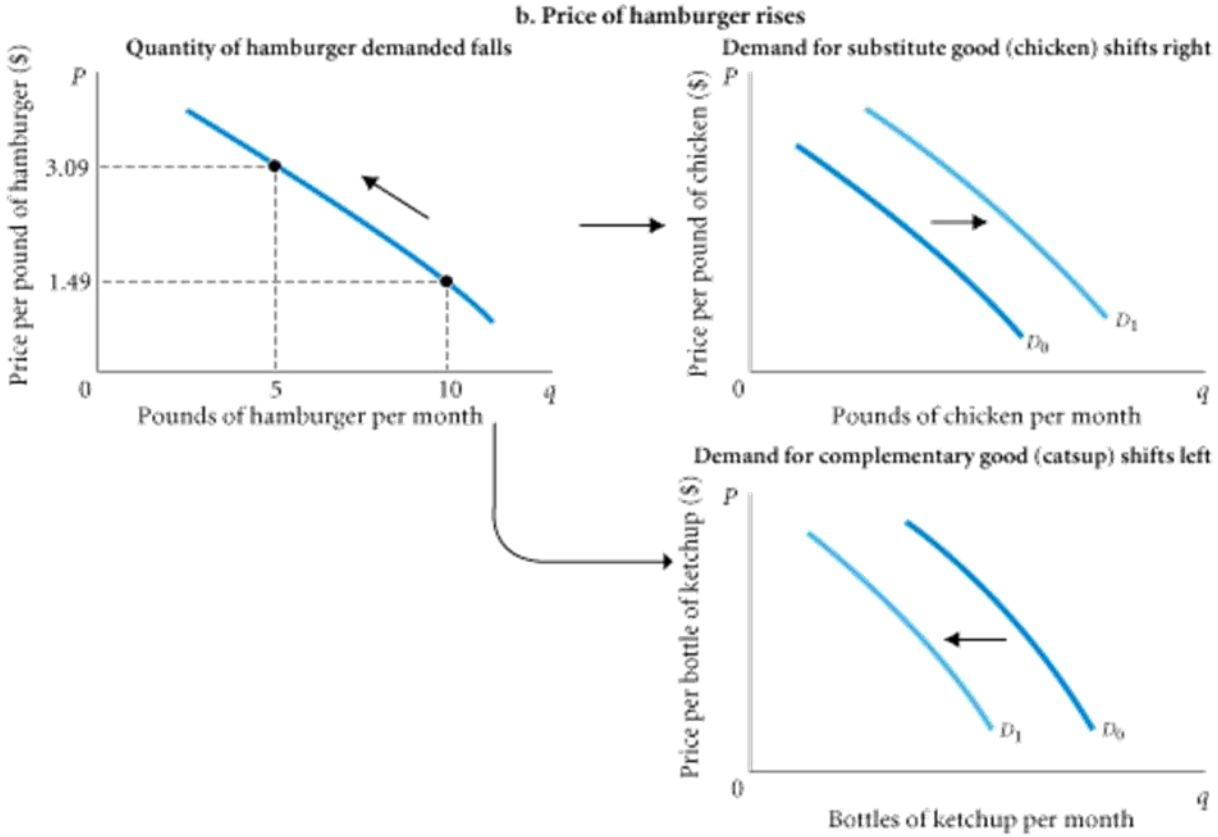
- Change in price of a good or service leads to
  ⟶ change in *quantity demanded* (**movement along a demand curve**).
- Change in income, preferences, or prices of other goods or services leads to
  ⟶ change in *demand* (**shift of a demand curve**).

FIGURE 3.4 Shifts versus Movement along a Demand Curve *(1 of 2)*



a. When income increases, the demand for inferior goods *shifts to the left*, and the demand for normal goods *shifts to the right*.

FIGURE 3.4 Shifts versus Movement along a Demand Curve (*cont'd 2 of 2*)



b. If the price of hamburger rises, the quantity of hamburger demanded declines; this is a movement along the demand curve.
The same price rise for hamburger would shift the demand for chicken (a substitute for hamburger) to the right and the demand for ketchup (a complement to hamburger) to the left.