Section 1 Understanding Demand

Preview

Objectives

After studying this section you will be able to:

1. **Explain** the law of demand.
2. **Understand** how the substitution effect and the income effect influence decisions.
3. **Create** a demand schedule for an individual and a market.
4. **Interpret** a demand graph using demand schedules.

Section Focus

According to the law of demand, people buy less of a good when its price rises. Demand schedules and demand curves illustrate how people and markets react to different prices.

Key Terms

demand
law of demand
substitution effect
income effect
demand schedule
market demand schedule
demand curve

In Chapter 2, you read about *economic systems*, which are different ways of answering the three economic questions of *what to produce, how much to produce,* and *who gets what*. In the United States, most goods are allocated through a market system. In a market system, the interaction of buyers and sellers determines the prices of most goods as well as what quantity of a good will be produced. Buyers demand goods, sellers supply those goods, and the interactions between the two groups lead to an agreement on the price and the quantity traded.

Demand is the desire to own something and the ability to pay for it. We will look at the demand side of markets in this chapter. In the next chapter we will look at the actions of sellers, which economists call the supply side. In Chapter 6, we will look at supply and demand together and study how they interact to establish the prices that we pay for most goods.

The Law of Demand

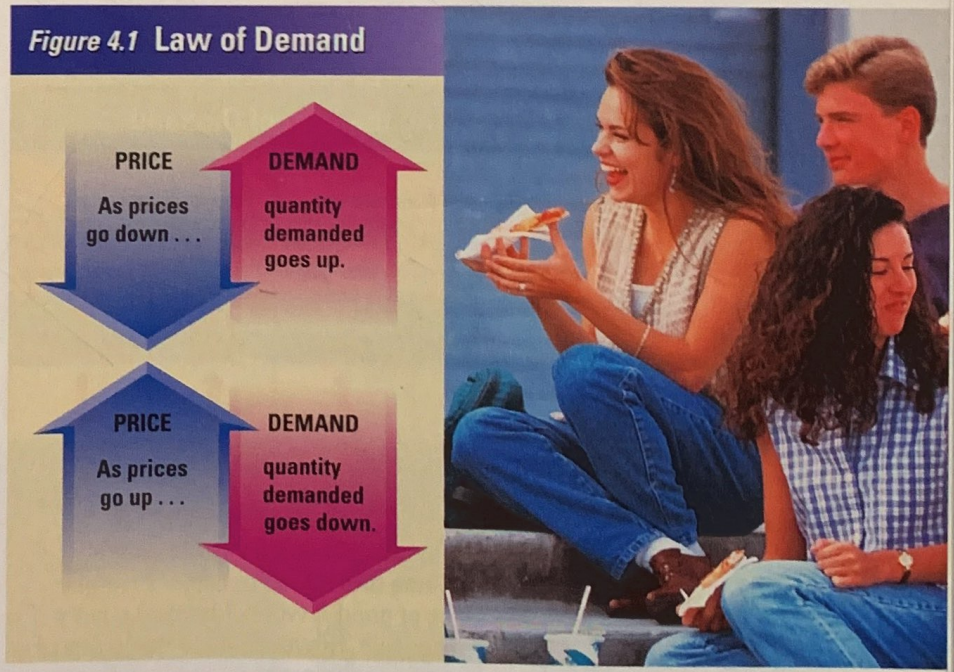
Anyone who has ever spent money will easily understand the **law of demand**. The law of demand says that when a good's price is lower, consumers will buy more of it. When the price is higher, consumers will buy less of it. All of us act out this law of demand in our everyday purchasing decisions. Whether your income is $10 or $10 million, the price of a good will strongly influence your decision to buy.

Ask yourself this question: Would you buy a slice of pizza for lunch if it cost $1? Many of us would, and some of us might

demand *the desire to own something and the ability to pay for it*

law of demand *consumers buy more of a good when its price decreases and less when its price increases*

Figure 4.1 **Law of Demand**



BUILDING KEY CONCEPTS

If the price of pizza rises, people will buy fewer slices.

Incentives **What does the law of demand say about lower prices?**

FAST FACT

Do you know your rights as an online shopper? The Federal Trade Commission (FTC) requires firms that sell products online to (1) ship the merchandise within 30 days of receiving your order, (2) notify you if the shipment cannot be made on time, and (3) cancel your order and return your payment unless you agree to a delay.

even buy more than one slice. But would you buy the same slice of pizza if it cost $2? Fewer of us would buy it at that price. Even real pizza lovers might reduce their consumption from 3 or 4 slices to just 1 or 2. How many of us would buy a slice for $10? Probably very few. As the price of pizza gets higher and higher, fewer of us are willing to buy it. That is the law of demand in action.

substitution effect *when consumers react to an increase in a good's price by consuming less of that good and more of other goods*

income effect *the change in consumption resulting from a change in real income*

The law of demand is the result of not one pattern of behavior, but of two separate patterns that overlap. These two behavior patterns are the **substitution effect** and the **income effect**. The substitution effect and income effect describe two different ways that a consumer can change his or her spending patterns. Together, they explain why an increase in price decreases the quantity purchased. Figure 4.2 describes how the substitution effect and the income effect can change a consumer's buying habits.

The Substitution Effect

When the price of pizza rises, pizza becomes more expensive compared to other foods, such as tacos and salads. So, as the price of a slice of pizza rises, consumers become more and more likely to buy one of those alternatives as a substitute for pizza. This causes a drop in the amount of pizza demanded. For example, instead of eating pizza for lunch on Mondays and Fridays, a student could eat pizza on Mondays and a bagel on Fridays. This change in spending is known as the substitution effect. The substitution effect takes place when a consumer reacts to a rise in the price of one good by consuming less of that good and more of a substitute good.

The substitution effect can also apply to a drop in prices. If the price of pizza drops, pizza becomes cheaper compared to other alternatives. Consumers will now substitute pizza for tacos, salads, and other lunch choices, causing the quantity of pizza demanded to rise.

The Income Effect

Rising prices have another effect that we have all felt. They make us feel poorer. When the price of movie tickets, shoes, or pizza increases, your limited budget just won't buy as much as it used to. It feels as if you have less money. You can no longer afford to buy the same combination of goods, and you must cut back your purchases of some goods. If you buy fewer slices of pizza without increasing your purchases of other foods, that is the income effect.

One important fact to remember is that economists measure consumption in the amount of a good that is bought, not the amount of money spent to buy it. Although you are spending more on pizza, you are consuming fewer slices, so your consumption has gone down. If the price rises from $1 a slice to $2 a slice, you may decide to pay extra and order your usual lunch, but you certainly would not choose to buy more slices than before. Although people spend more of their money on pizza, when

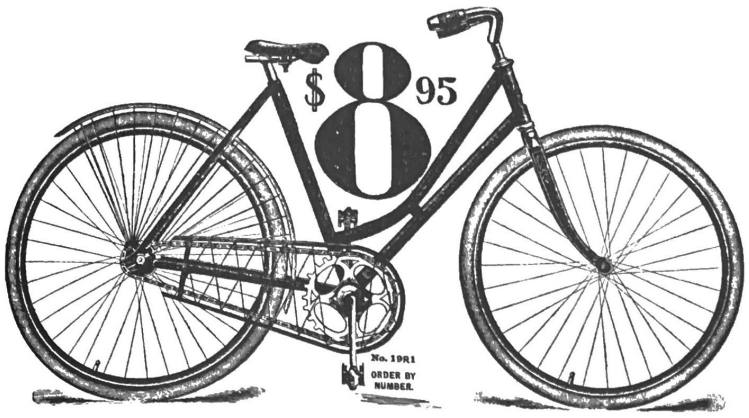
Figure 4.2 **Building the Law of Demand**

	Price of A increases		Price of A decreases	
	Consumption of A	Consumption of other goods	Consumption of A	Consumption of other goods
Income effect	↓	↓	↑	↑
Substitution effect	↓	↑	↑	↓
Combined effect	↓	↕	↑	↕

BUILDING KEY CONCEPTS

Both the substitution effect and the income effect lead consumers to buy less of good A when it becomes more expensive. However, the income effect leads consumers to spend less on other goods so they can afford good A, while the substitution effect encourages consumers to replace expensive good A with other, less expensive substitutes.

Supply and Demand Explain in your own words how an increase in the price of A affects consumption of other goods.



◀ Today, a bicycle might cost $100, and most people purchase only one. If bikes still cost $8.95, as they did in 1902, you might buy two or more and spend the rest on other goods. This is the income effect in action.

the price goes up, the quantity demanded goes down. In this sense, the income effect leads to the law of demand.

Remember, too, that the income effect also operates when the price is lowered. If the price of pizza falls, all of a sudden you feel wealthier. If as a result you buy more pizza, that's the income effect.

A Demand Schedule

The law of demand explains how the price of any item affects the quantity demanded of that item. Before we look at the relationship between price and quantity demanded for a specific good, we need to look more closely at how economists use the word *demand*.

Understanding Demand

To have demand for a good, you must be willing and able to buy it at the specified price. This means that you want the good, and you can afford to buy it. You may desperately want a new car, a laptop computer, or a trip to Alaska, but if you can't truly afford any of these goods, then you do not demand them. You might demand compact discs, though, if at the current price you have enough money and want to buy some.

A **demand schedule** is a table that lists the quantity of a good that a person will purchase at each price in a market. For example, the table on the left in Figure 4.3 illustrates individual "demand for pizza." The schedule shows specific quantities that a student named Ashley is willing and able to purchase at specific prices. For example, at a price of $2.00, Ashley's "quantity demanded" of pizza is two slices per day.

demand schedule *a table that lists the quantity of a good a person will buy at each different price*

Market Demand Schedules

If you owned a store, knowing the demand schedule of one customer might not be very helpful. You would want to know how

Figure 4.3 **Demand Schedules**

Individual Demand Schedule		Market Demand Schedule	
Price of a slice of pizza	Quantity demanded per day	Price of a slice of pizza	Quantity demanded per day
$.50	5	$.50	300
$1.00	4	$1.00	250
$1.50	3	$1.50	200
$2.00	2	$2.00	150
$2.50	1	$2.50	100
$3.00	0	$3.00	50

Demand schedules show that demand for a good falls as the price rises.

Supply and Demand How does the market demand for pizza change when the price falls from $2.50 to $1.00 a slice? Be specific.

▲ **A sale can encourage consumers to buy more.**

customers as a whole would react to price changes. When you add up the demand schedules of every buyer in the market, you can create a market demand schedule. A **market demand schedule** shows the quantities demanded at each price by all consumers in the market. A market demand schedule for pizza would allow a restaurant owner to predict the total sales of pizza at several different prices.

market demand schedule *a table that lists the quantity of a good all consumers in a market will buy at each different price*

demand curve *a graphic representation of a demand schedule*

The owner of a pizzeria could create a market demand schedule for pizza slices by surveying his or her customers and then adding up the quantities demanded by all individual consumers at each price. The resulting market demand schedule will look like Ashley's demand schedule, but the quantities will be larger, as shown in Figure 4.3.

Note that the market demand schedule on the right in Figure 4.3 contains the same prices as Ashley's individual demand schedule, since those are the possible prices that may be charged by the pizzeria. The schedule also exhibits the law of demand. At higher prices the quantity demanded is lower. The only difference between the two demand schedules is that the market schedule lists larger quantities demanded. This is the case, since now we are talking about the purchase decisions of *all* potential consumers in the market.

The Demand Graph

What if you took the numbers in Ashley's demand schedule in Figure 4.3 and plotted them on a graph? The result would be a **demand curve.** A demand curve is a graphic representation of a demand schedule.

How do economists create a demand curve? When they transfer numbers from a demand schedule to a graph, they always label the vertical axis with the lowest possible prices at the bottom and the highest at the top. Likewise, they always label the quantities demanded on the horizontal axis with the lowest possible quantity at the left and the highest possible quantity at the right. As Figure 4.4 shows, each pair of price and quantity-demanded numbers on the schedule is plotted as a point on the graph. Connecting the points creates a demand curve.

Reading a Demand Curve

Note two facts about the graph shown in Figure 4.4. First, the graph shows only the relationship between the price of this good and the quantity that Ashley will purchase. It assumes that all other factors that would affect Ashley's demand for pizza—like the price of other goods, her income, and the quality of the pizza—are held constant.

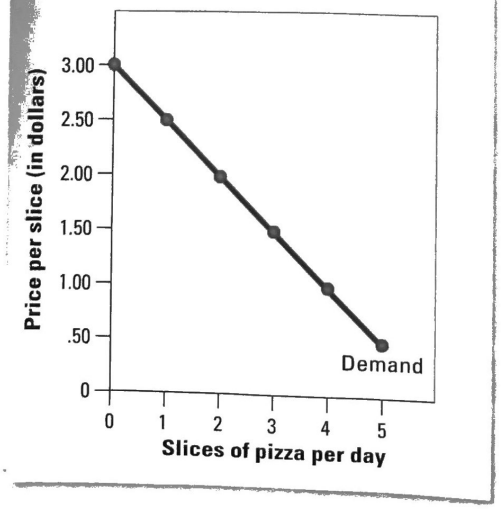
Second, the demand curve on the graph slopes downward to the right. If you follow the curve with your finger from the top left

BUILDING KEY CONCEPTS

Ashley's demand curve shows the number of slices of pizza she is willing and able to buy at each price.

Supply and Demand
How many slices of pizza does she demand when the price is $1.50?

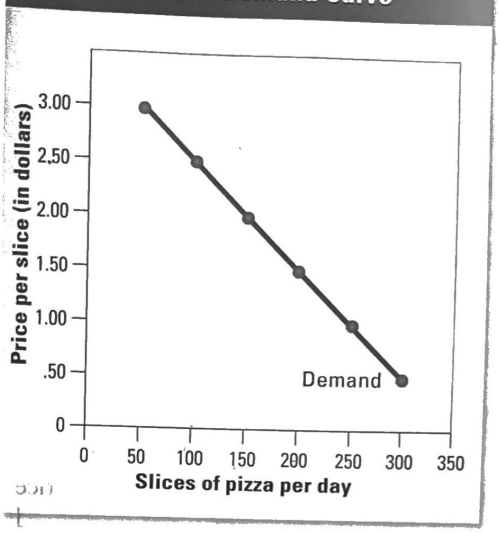
***Figure 4.4* Ashley's Demand Curve**



to the bottom right, you will notice that as price decreases, the quantity demanded increases. This is just another way of stating the law of demand, which states that higher prices will always lead to lower quantities demanded. All demand schedules and curves reflect the law of demand.

The demand curve in Figure 4.4 shows Ashley's demand for slices of pizza. A market demand curve shows the quantities demanded by all consumers at the same prices. Thus, in Figure 4.5, the prices listed on the vertical axis are identical to those in Ashley's demand curve. The quantities listed on the horizontal axis are much larger, corresponding to those in the market demand schedule in Figure 4.3.

Figure 4.5 Market Demand Curve



BUILDING KEY CONCEPTS

The market demand curve illustrates demand for pizza in an entire market.

Supply and Demand
How is the market demand curve similar to Ashley's demand curve?

Limits of a Demand Curve

The market demand curve can be used to predict how people will change their buying habits when the price of a good rises or falls. For example, if the price of pizza is $1.50 a slice, the pizzeria will sell 200 slices a day.

This market demand curve is only accurate for one very specific set of market conditions. If a nearby factory were to close, so that fewer people were in the area at lunchtime, the pizzeria would sell less pizza even if the price stayed the same. In the next section, you will read about how demand curves can shift because of changes in factors other than price.

Section 1 Assessment

Key Terms and Main Ideas

1. Define and give an example of the **income effect.**
2. What are three characteristics of a **demand curve?**

Applying Economic Concepts

3. ***Critical Thinking*** Explain why the law of demand can apply only in a free market economy.
4. ***Try This*** Create an individual demand schedule like the one in Figure 4.3 for your demand for CDs. Fill in six different prices for CDs. Assume that you have a part-time job that pays $80 a week. How many CDs would you buy at each of the six different prices? Compare your demand schedule to those of your classmates.
5. ***Critical Thinking*** Some economists believe that there are goods that do not obey the law of demand, because the demand for them would actually drop if their price fell. One example is a top-of-the-line luxury car. Why do you think prospective buyers might feel differently about these goods?
6. ***Math Practice*** Use the market demand schedule below to draw a demand curve for miniature golf.

Cost to Play a Game	Games Played per Month
$1.50	350
$2.00	250
$3.00	140
$4.00	80

Take It to the NET

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