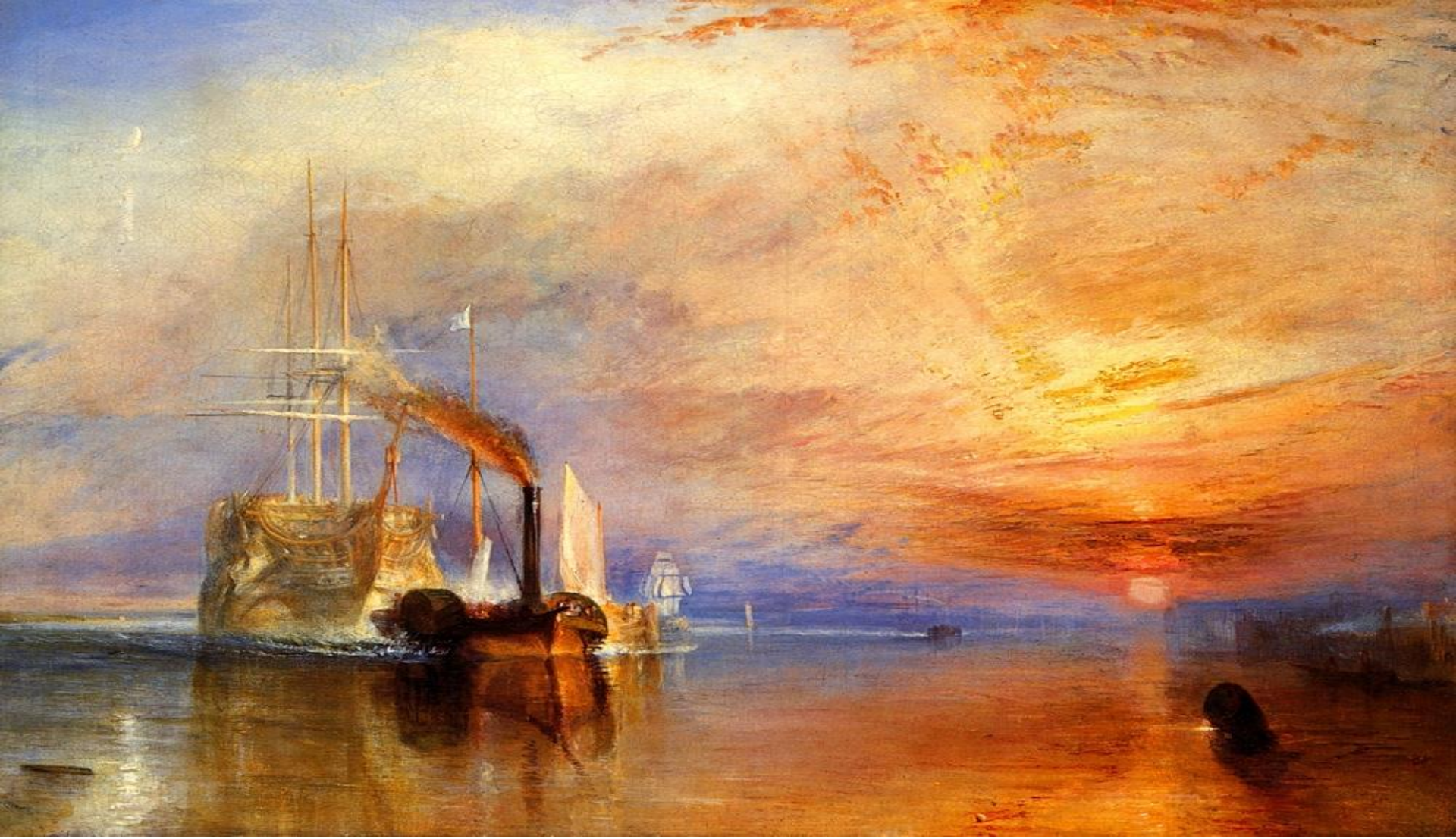
CHAPTER 2

Demand and Supply

When you have completed your study of this chapter, you will be able to

1. Distinguish between quantity demanded and demand, and explain what determines demand.
2. Distinguish between quantity supplied and supply, and explain what determines supply.
3. Explain how demand and supply determine price and quantity in a market, and explain the effects of changes in demand and supply.



Although water is on the whole more useful, in terms of survival, than diamonds, diamonds command a higher price in the market. **Why**?

2.1 DEMAND

Law of Demand

Other things remaining the same,

- If the price of the good rises, the quantity demanded of that good decreases.
- If the price of the good falls, the quantity demanded of that good increases.

2.1 DEMAND

Demand is the relationship between the quantity demanded and the price of a good when all other influences on buying plans remain the same. Demand is illustrated by a *demand schedule* and a *demand curve.*

Quantity demanded is the amount of a good, service, or resource that people are willing and able to buy during a specified period at a specified price.

The quantity demanded is an amount per unit of time. For example, the amount per day or per month.

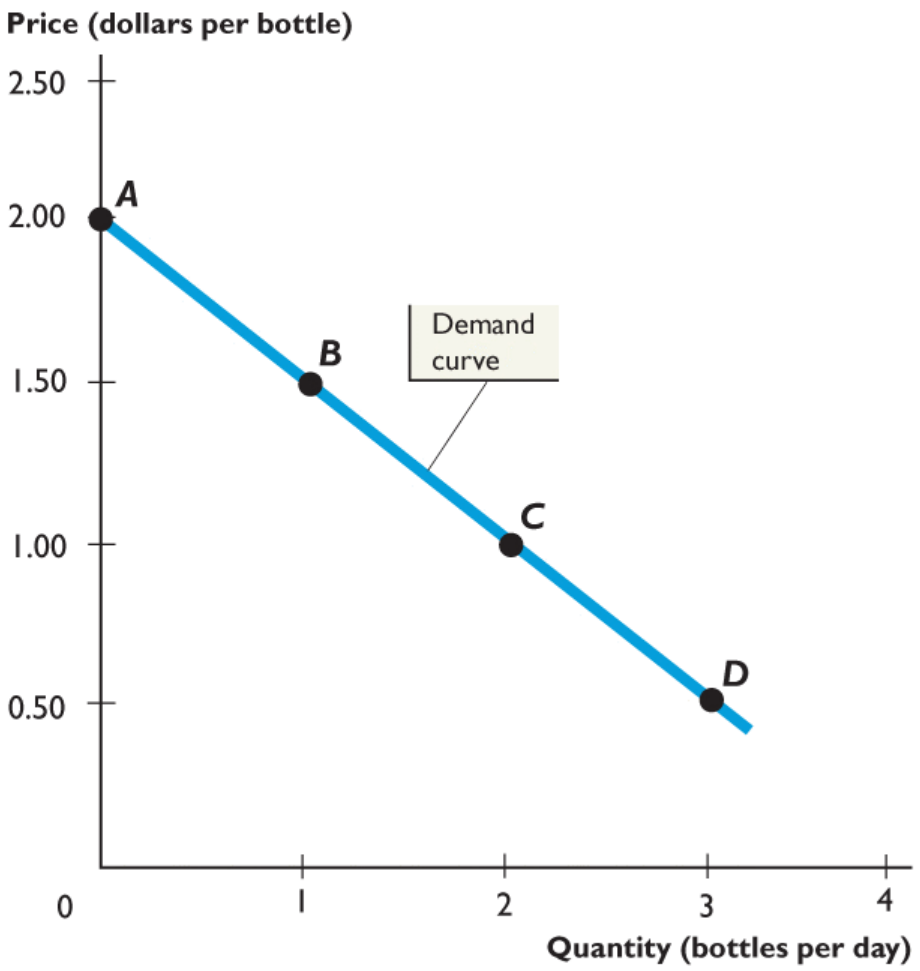
2.1 DEMAND

Demand schedule is a list of the quantities demanded at each different price when all the other influences on buying plans remain the same.

Demand curve is a graph of the relationship between the quantity demanded of a good and its price when all other influences on buying plans remain the same.

2.1 DEMAND

	Price (dollars per bottle)	Quantity demanded (bottles per day)
A	2.00	0
B	1.50	1
C	1.00	2
D	0.50	3



2.1 DEMAND

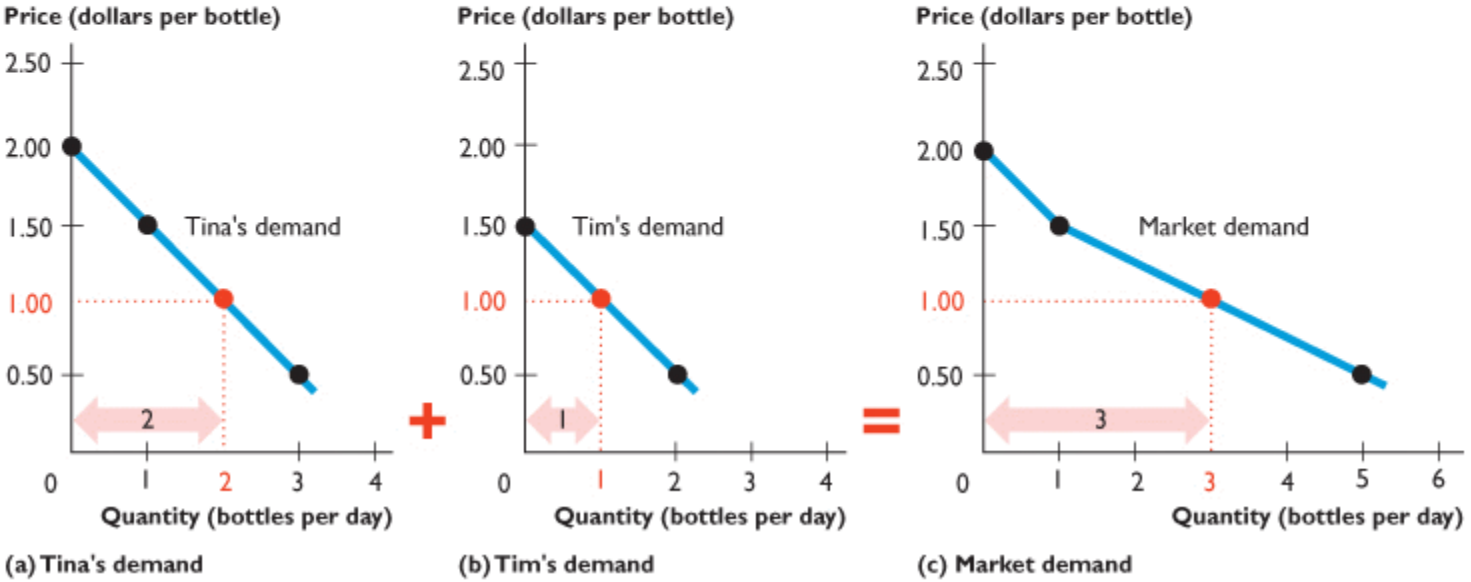
Individual Demand and Market Demand

Market demand is the sum of the demands of all the buyers in a market.

The market demand curve is the horizontal sum of the demand curves of all buyers in the market.

2.1 DEMAND

Price (dollars per bottle)	Quantity demanded (bottles per day)				
	Tina		Tim		Market
2.00	0		0		0
1.50	1		0		1
1.00	2	+	1	=	3
0.50	3		2		5



2.1 DEMAND

Changes in Demand

Change in demand is a change in the quantity that people plan to buy when any influence other than the price of the good changes.

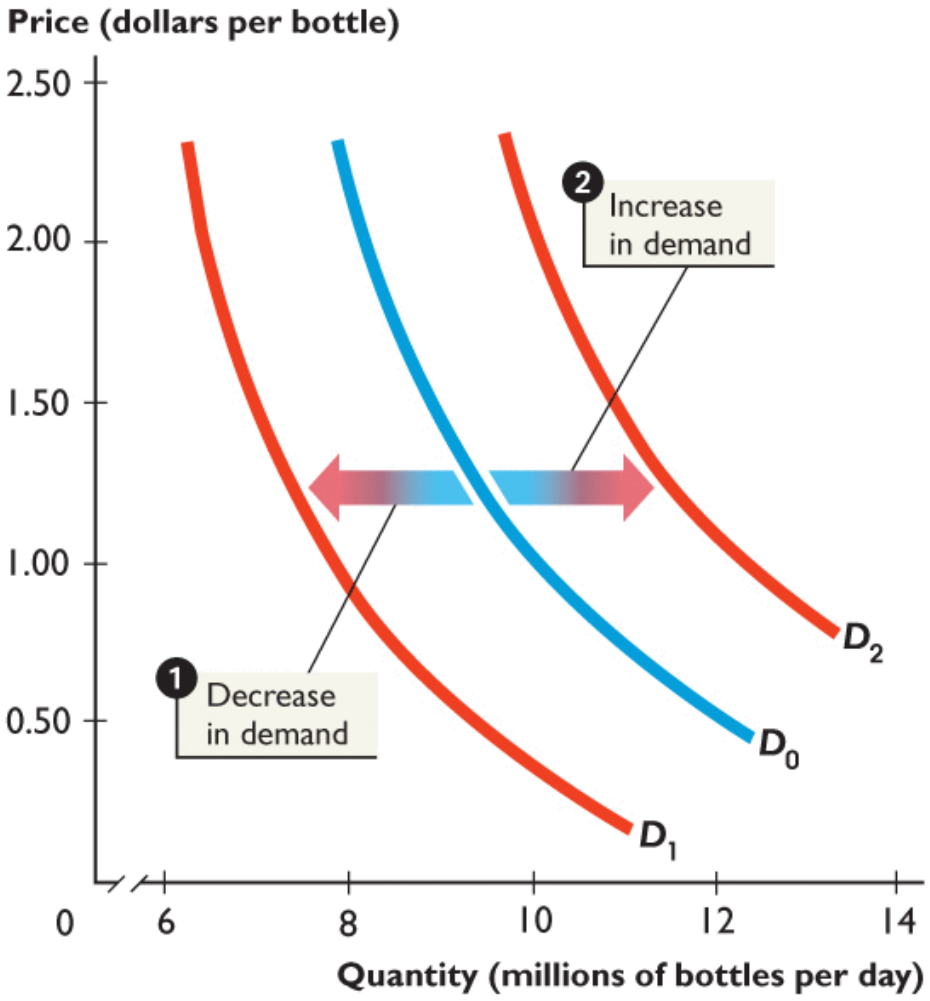
A change in demand means that there is a new demand schedule and a new demand curve.

2.1 DEMAND

Figure(Left) shows changes in demand.

1. When demand decreases, the demand curve shifts leftward from D_0 to D_1.

2. When demand increases, the demand curve shifts rightward from D_0 to D_2.



2.1 DEMAND

The main influences on buying plans that change demand:

- Prices of related goods
- Expected future prices
- Income
- Expected future income and credit
- Number of buyers
- Preferences

2.1 DEMAND

Prices of Related Goods

A **substitute**(替代品) is a good that can be consumed in place of another good.

For example, apples and oranges are substitutes.

The demand for a good *increases*, if the price of one of its substitutes *rises*.

The demand for a good *decreases*, if the price of one of its substitutes *falls*.

2.1 DEMAND

A **complement**(互补品) is a good that is consumed with another good.

For example, ice cream and fudge sauce are complements.

The demand for a good *increases*, if the price of one of its complements *falls*.

The demand for a good *decreases*, if the price of one of its complements *rises*.

2.1 DEMAND

Expected Future Prices

A rise in the expected *future* price of a good increases the *current* demand for that good.

A fall in the expected *future* price of a good decreases *current* demand for that good.

For example, if the price of a computer is expected to fall next month, the demand for computers today decreases.

2.1 DEMAND

Income

A **normal good** is a good for which the demand increases if income increases and demand decreases if income decreases.

An **inferior good** is a good for which the demand decreases if income increases and demand increases if income decreases.

2.1 DEMAND

Expected Future Income and Credit

When income is expected to *increase* in the future, or when credit is easy to get and the cost of borrowing is low, the demand for some goods *increases*.

When income is expected to *decrease* in the future, or when credit is hard to get and the cost of borrowing is high, the demand for some goods *decrease*s.

Changes in expected future income and the availability and cost of credit has the greatest effect on the demand for big ticket items such as homes and cars.

2.1 DEMAND

Number of Buyers

The *greater* the number of buyers in a market, the *larger* is the demand for any good.

Preferences

When preferences change, the demand for one item *increases* and the demand for another item (or items) *decreases*.

Preferences change when:

- People become better informed.
- New goods become available.

2.1 DEMAND

Change in Quantity Demanded Versus Change in Demand

A change in the quantity demanded is a change in the quantity of a good that people plan to buy that results from a change in the price of the good.

A change in demand is a change in the quantity that people plan to buy when any influence other than the price of the good changes.

2.1 DEMAND

Figure(below) illustrates and summarizes the distinction.

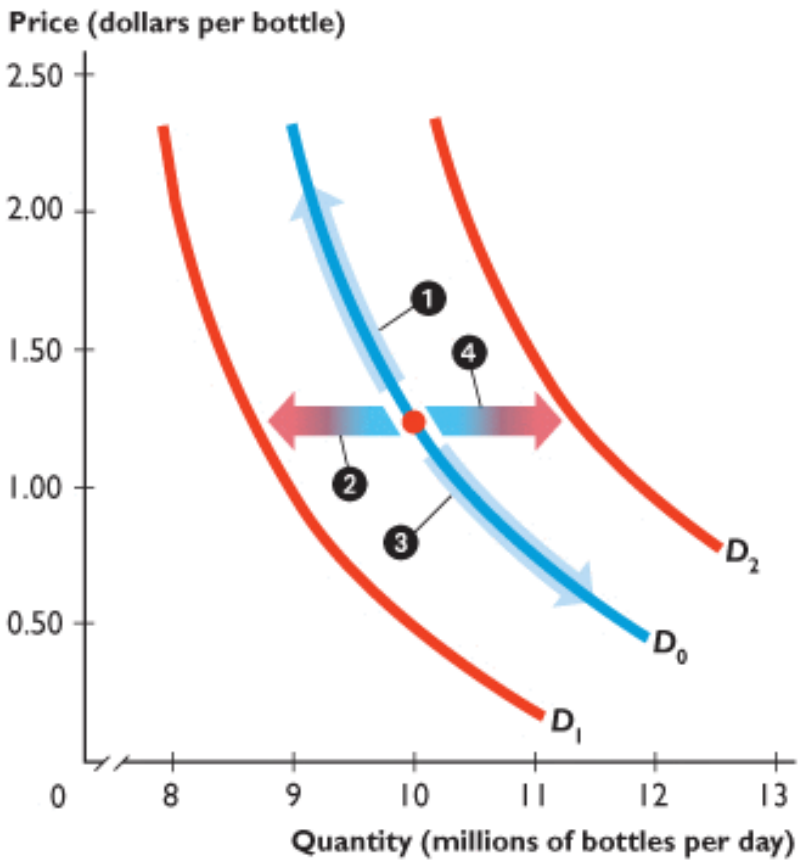
❶ A decrease in the quantity demanded

If the price of a good rises, *cet. par.*, the quantity demanded decreases. There is a movement up along the demand curve D_0.

❷ A decrease in demand

Demand decreases and the demand curve shifts leftward (from D_0 to D_1) if

- The price of a substitute falls or the price of a complement rises.
- The price of the good is expected to fall.
- Income decreases.*
- Expected future income or credit decreases.
- The number of buyers decreases.



❸ An increase in the quantity demanded

If the price of a good falls, *cet. par.*, the quantity demanded increases. There is a movement down along the demand curve D_0.

❹ An increase in demand

Demand increases and the demand curve shifts rightward (from D_0 to D_2) if

- The price of a substitute rises or the price of a complement falls.
- The price of the good is expected to rise.
- Income increases.
- Expected future income or credit increases.
- The number of buyers increases.

* Bottled water is a normal good.

2.2 SUPPLY

Quantity supplied is the amount of a good, service, or resource that people are willing and able to sell during a specified period at a specified price.

The Law of Supply

Other things remaining the same,

- If the price of a good *rises*, the quantity supplied of that good *increases*.
- If the price of a good *falls*, the quantity supplied of that good *decreases*.

2.2 SUPPLY

Supply Schedule and Supply Curve

Supply is the relationship between the quantity supplied of a good and the price of the good when all other influences on selling plans remain the same.

Supply is illustrated by a supply schedule and a supply curve.

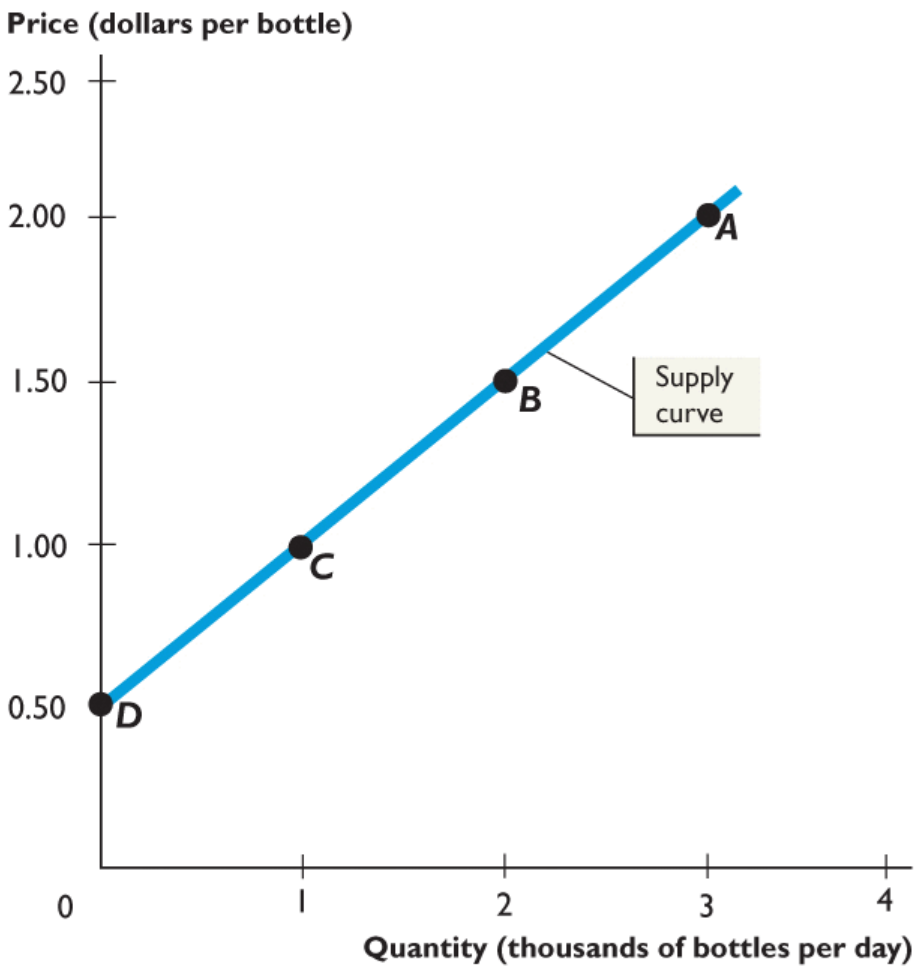
2.2 SUPPLY

A supply schedule is a list of the quantities supplied at each different price when all other influences on selling plans remain the same.

A supply curve is a graph of the relationship between the quantity supplied and the price of the good when all other influences on selling plans remain the same.

2.2 SUPPLY

	Price (dollars per bottle)	Quantity supplied (thousands of bottles per day)
A	2.00	3
B	1.50	2
C	1.00	1
D	0.50	0



2.2 SUPPLY

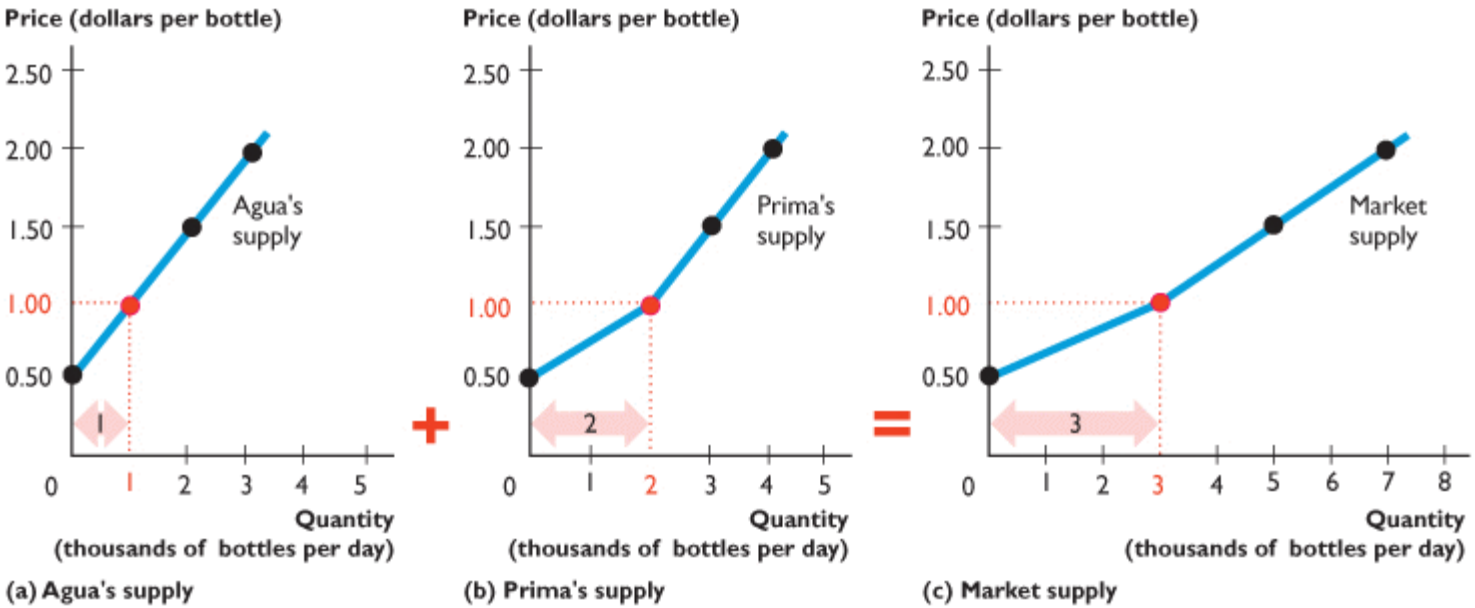
Individual Supply and Market Supply

Market supply is the sum of the supplies of all sellers in a market.

The market supply curve is the horizontal sum of the supply curves of all the sellers in the market.

2.2 SUPPLY

Price (dollars per bottle)	Quantity supplied (thousands of bottles per day)				
	Agua		Prima		Market
2.00	3		4		7
1.50	2		3		5
1.00	1	+	2	=	3
0.50	0		0		0



2.2 SUPPLY

Changes in Supply

A change in supply is a change in the quantity that suppliers plan to sell when any influence on selling plans other than the price of the good changes.

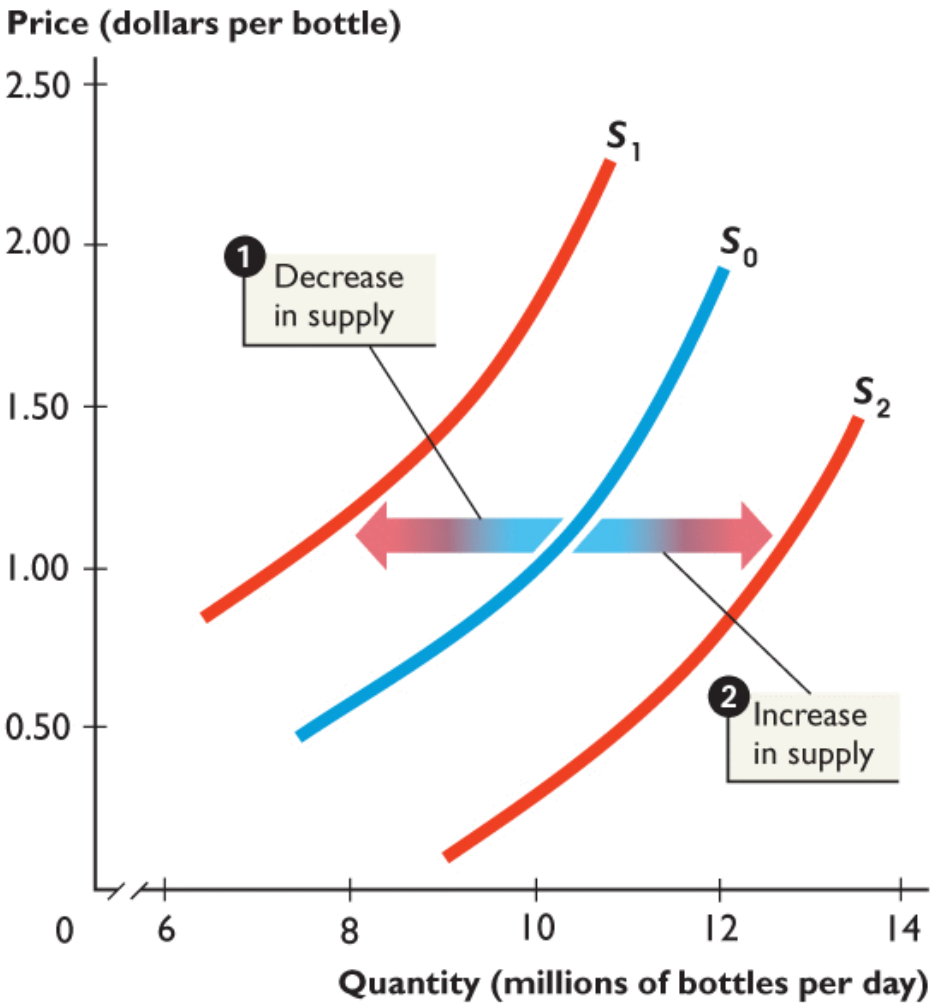
A change in supply means that there is a new supply schedule and a new supply curve.

2.2 SUPPLY

Figure(left) shows changes in supply.

1. When supply decreases, the supply curve shifts leftward from S_0 to S_1.

2. When supply increases, the supply curve shifts rightward from S_0 to S_2.



2.2 SUPPLY

The main influences on selling plans that change supply:

- Prices of related goods
- Prices of resources and other inputs
- Expected future prices
- Number of sellers
- Productivity

2.2 SUPPLY

Prices of Related Goods

A change in the price of one good can bring a change in the supply of another good.

A substitute in production is a good that can be produced in place of another good.

For example, a truck and an SUV are substitutes in production in an auto factory.

- The supply of a good *increases* if the price of one of its substitutes in production *falls*.
- The supply a good *decreases* if the price of one of its substitutes in production *rises*.

2.2 SUPPLY

A complement in production is a good that is produced along with another good.

For example, cream is a complement in production of skim milk in a dairy.

- The supply of a good *increases* if the price of one of its complements in production *rises*.
- The supply a good *decreases* if the price of one of its complements in production *falls*.

2.2 SUPPLY

Prices of Resources and Other Inputs

Resource and input prices influence the cost of production. And the more it costs to produce a good, the smaller is the quantity supplied of that good.

Expected Future Prices

Expectations about future prices influence supply.

Expectations of future prices of resources also influence supply.

2.2 SUPPLY

Number of Sellers

The greater the number of sellers in a market, the larger is supply.

Productivity

Productivity is output per unit of input.

An increase in productivity lowers costs and increases supply. For example, an advance in technology increases supply.

A decrease in productivity raises costs and decreases supply. For example, a severe hurricane decreases supply.

2.2 SUPPLY

Change in Quantity Supplied Versus Change in Supply

A change in quantity supplied is a change in the quantity of a good that suppliers plan to sell that results from a change in the price of the good.

A change in supply is a change in the quantity that suppliers plan to sell when any influence on selling plans other than the price of the good changes.

2.2 SUPPLY

Figure(below) illustrates and summarizes the distinction.

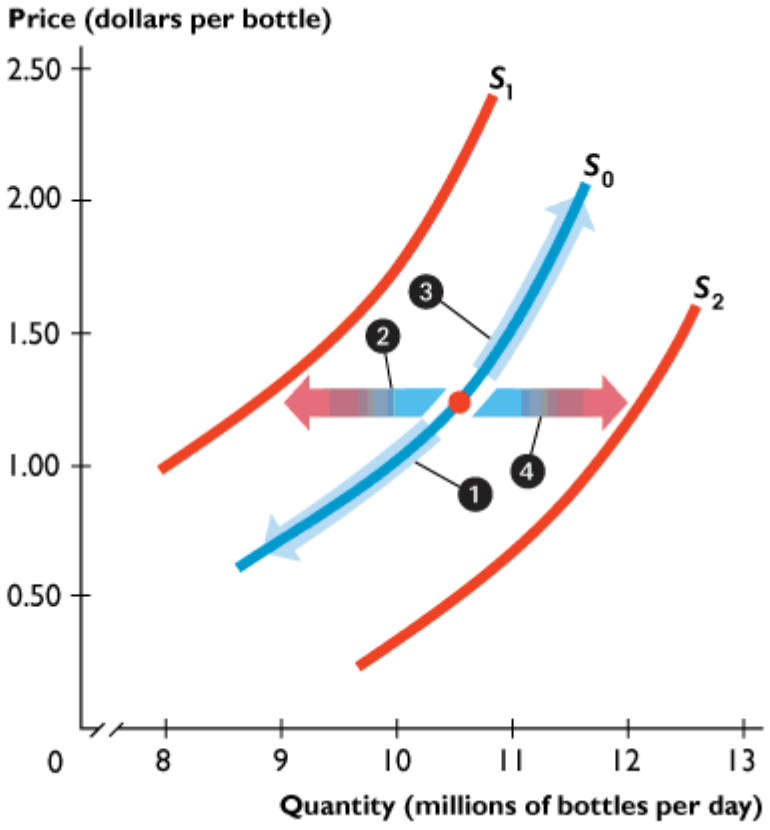
1 A decrease in the quantity supplied

If the price of a good falls, *cet. par.*, the quantity supplied decreases. There is a movement down along the supply curve S_0.

2 A decrease in supply

Supply decreases and the supply curve shifts leftward (from S_0 to S_1) if

- The price of a substitute in production rises.
- The price of a complement in production falls.
- A resource price or other input price rises.
- The price of the good is expected to rise.
- The number of sellers decreases.
- Productivity decreases.



3 An increase in the quantity supplied

If the price of a good rises, *cet. par.*, the quantity supplied increases. There is a movement up along the supply curve S_0.

4 An increase in supply

Supply increases and the supply curve shifts rightward (from S_0 to S_2) if

- The price of a substitute in production falls.
- The price of a complement in production rises.
- A resource price or other input price falls.
- The price of the good is expected to fall.
- The number of sellers increases.
- Productivity increases.

2.3 MARKET EQUILIBRIUM

Market equilibrium occurs when the quantity demanded equals the quantity supplied.

At market equilibrium, buyers' and sellers' plans are consistent.

Equilibrium price is the price at which the quantity demanded equals the quantity supplied.

Equilibrium quantity is the quantity bought and sold at the equilibrium price.

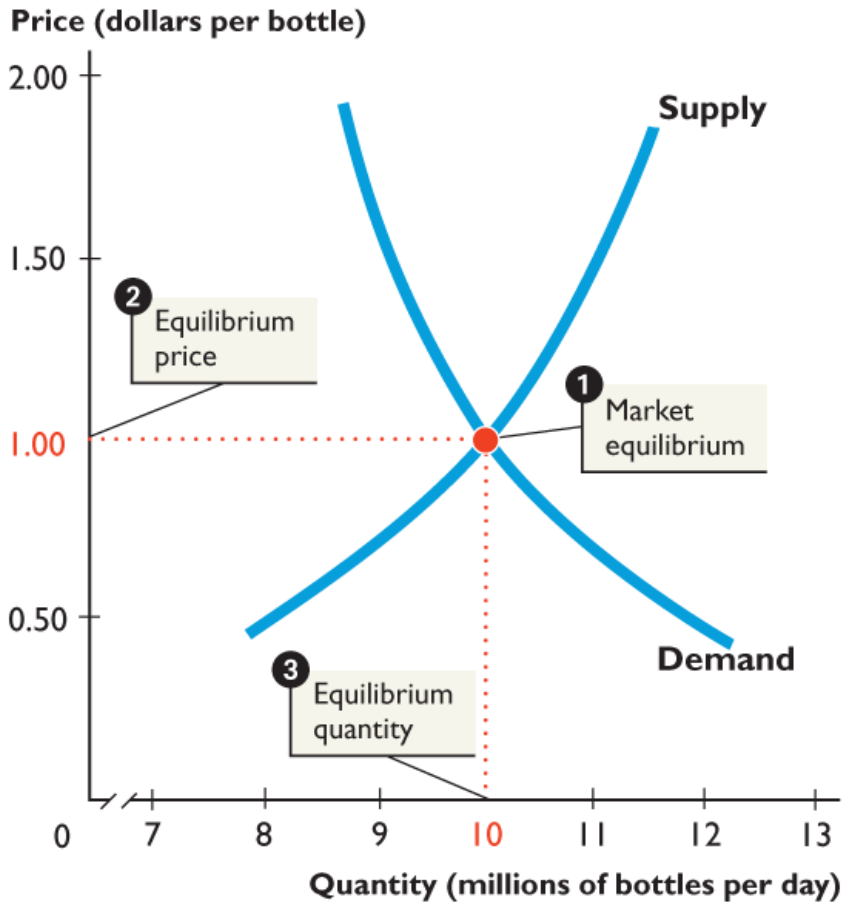
2.3 MARKET EQUILIBRIUM

Figure(left) shows the equilibrium price and equilibrium quantity.

1. Market equilibrium at the intersection of the demand curve and the supply curve.

2. The equilibrium price is $1 a bottle.

3. The equilibrium quantity is 10 million bottles a day.



2.3 MARKET EQUILIBRIUM

■ Price: A Market's Automatic Regulator(调节器)

Law of market forces

- When there is a shortage, the price rises.
- When there is a surplus, the price falls.

Shortage is the quantity demanded exceeds the quantity supplied.

Surplus is the quantity supplied exceeds the quantity demanded.

2.3 MARKET EQUILIBRIUM

Figure(left) market achieves equilibrium.

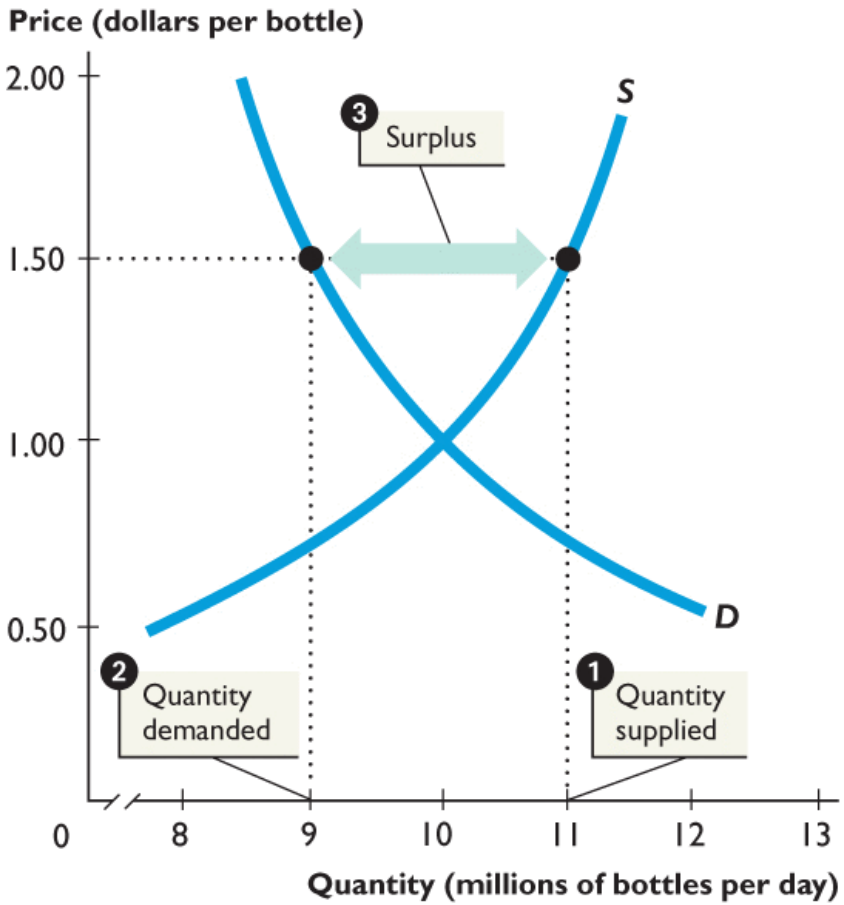
At $1.50 a bottle:

1. Quantity supplied is 11 million bottles.

2. Quantity demanded is 9 million bottles.

3. There is a surplus of 2 million bottles.

4. Price falls until the surplus is eliminated and the market is in equilibrium.



(a) Surplus and price falls

2.3 MARKET EQUILIBRIUM

Figure(left) market achieves equilibrium.

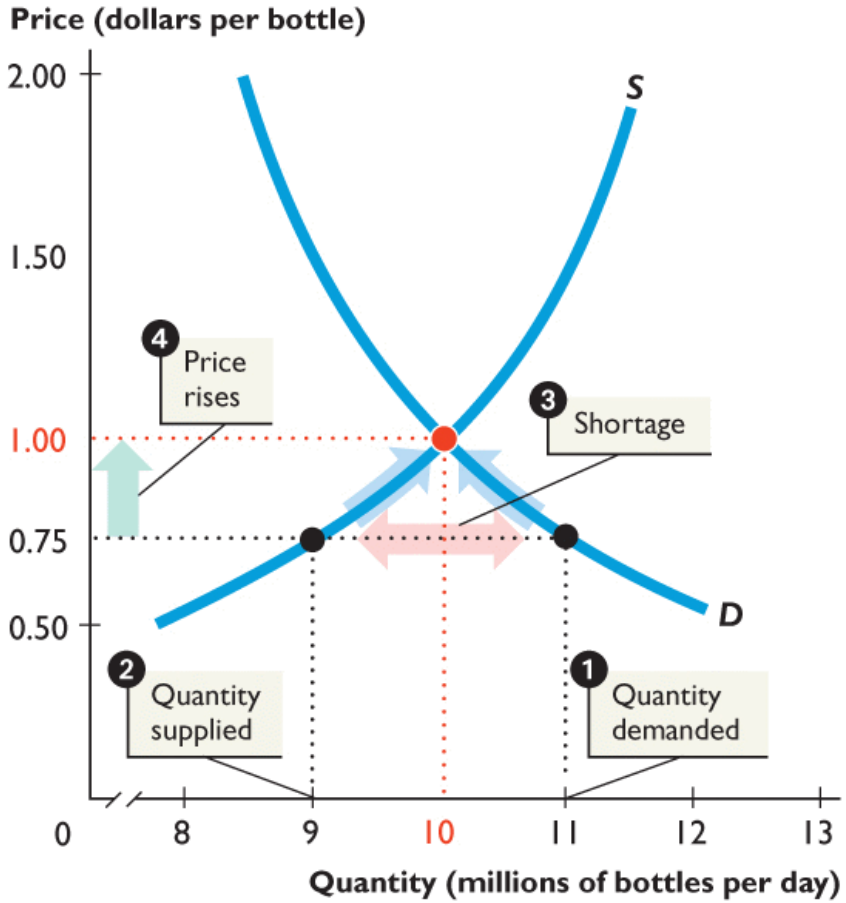
At 75 cents a bottle:

1. Quantity demanded is 11 million bottles.

2. Quantity supplied is 9 million bottles.

3. There is a shortage of 2 million bottles.

4. Price rises until the shortage is eliminated and the market is in equilibrium



(b) Shortage and price rises

2.3 MARKET EQUILIBRIUM

Predicting Price Changes: Three Questions

We can work out the effects of an event by answering:

1. Does the **event** change demand or supply?
2. Does the **event** *increase* or *decrease* demand or supply—shift the demand curve or the supply curve *rightward* or *leftward*?
3. What are the new *equilibrium price* and *equilibrium quantity* and how have they changed?

2.3 MARKET EQUILIBRIUM

Effects of Changes in Demand

Event: A new study says that tap water is unsafe.

In the market for bottled water:

1. With tap water unsafe, demand for bottled water changes.
2. The demand for bottled water *increases*, the demand curve *shifts rightward*.
3. What are the new *equilibrium price* and *equilibrium quantity* and how have they changed?

2.3 MARKET EQUILIBRIUM

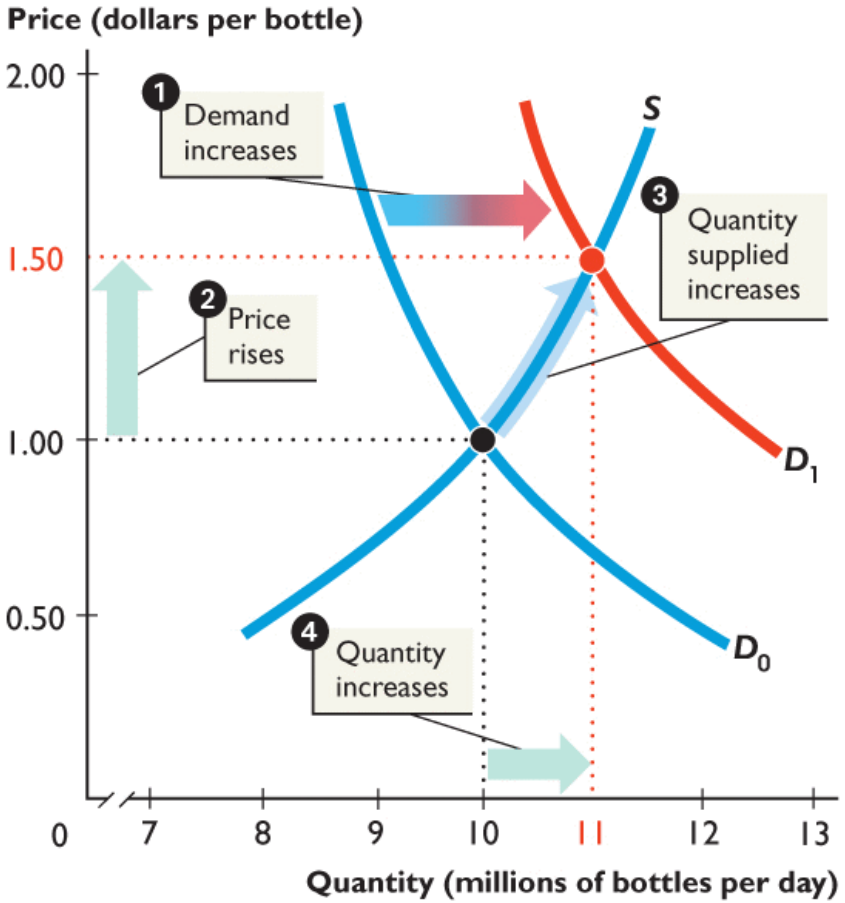
Figure (left) illustrates the outcome.

1. An increase in demand shifts the demand curve rightward.

2. At $1.00 a bottle, there is a shortage, so the price rises.

3. The quantity supplied increases along the supply curve.

4. Equilibrium quantity increases.



(a) An increase in demand

2.3 MARKET EQUILIBRIUM

Event: A new zero-calorie sports drink is invented.

In the market for bottled water:

1. The new drink is a substitute for bottled water, so the demand for bottled water changes
2. The demand for bottled water *decreases*, the demand curve *shifts leftward*.
3. What are the new *equilibrium price* and *equilibrium quantity* and how have they changed?

2.3 MARKET EQUILIBRIUM

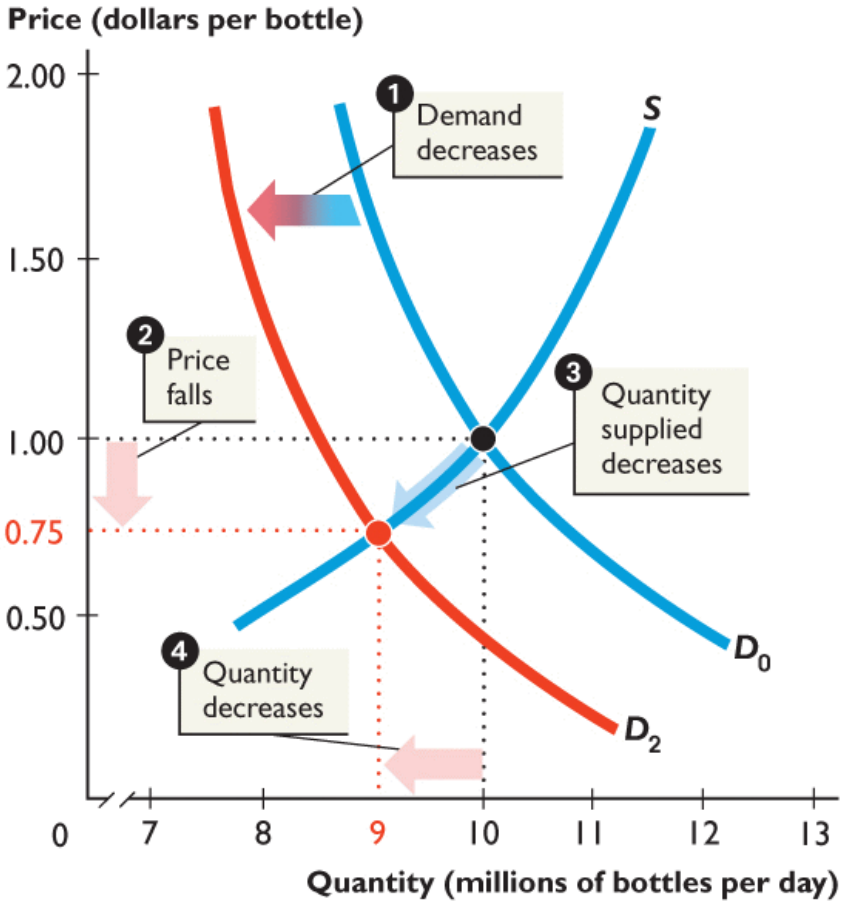
Figure (left) shows the outcome.

1. A decrease in demand shifts the demand curve leftward.

2. At $1.00 a bottle, there is surplus, so the price falls.

3. Quantity supplied decreases along the supply curve.

4. Equilibrium quantity decreases.



(b) A decrease in demand

2.3 MARKET EQUILIBRIUM

When demand changes:

- The supply curve does *not* shift.
- But there is a *change in the quantity supplied*.
- Equilibrium price and equilibrium quantity change in the *same* direction as the change in demand.

2.3 MARKET EQUILIBRIUM

Effects of Changes in Supply

Event: European water bottlers buy springs and open plants in the United States.

In the market for bottled water:

1. With more suppliers of bottled water, supply changes.
2. The supply of bottled water *increases,* the supply curve shifts *rightward.*
3. What are the new *equilibrium price* and *equilibrium quantity* and how have they changed?

2.3 MARKET EQUILIBRIUM

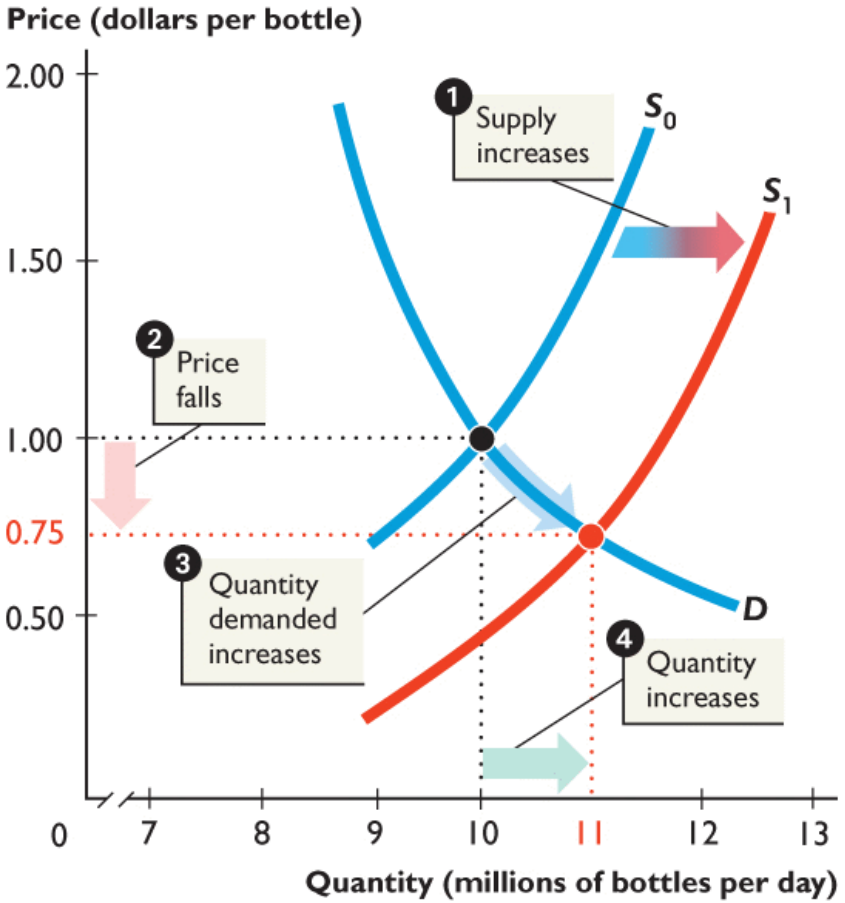
Figure (left) shows the outcome.

1. An increase in supply shifts the supply curve rightward.

2. At $1 a bottle, there is a surplus, so the price falls.

3. Quantity demanded increases along the demand curve.

4. Equilibrium quantity increases.



(a) An increase in supply

2.3 MARKET EQUILIBRIUM

Event: Drought dries up some springs in the United States.

In the market for bottled water:

1. Drought changes the supply of bottled water.

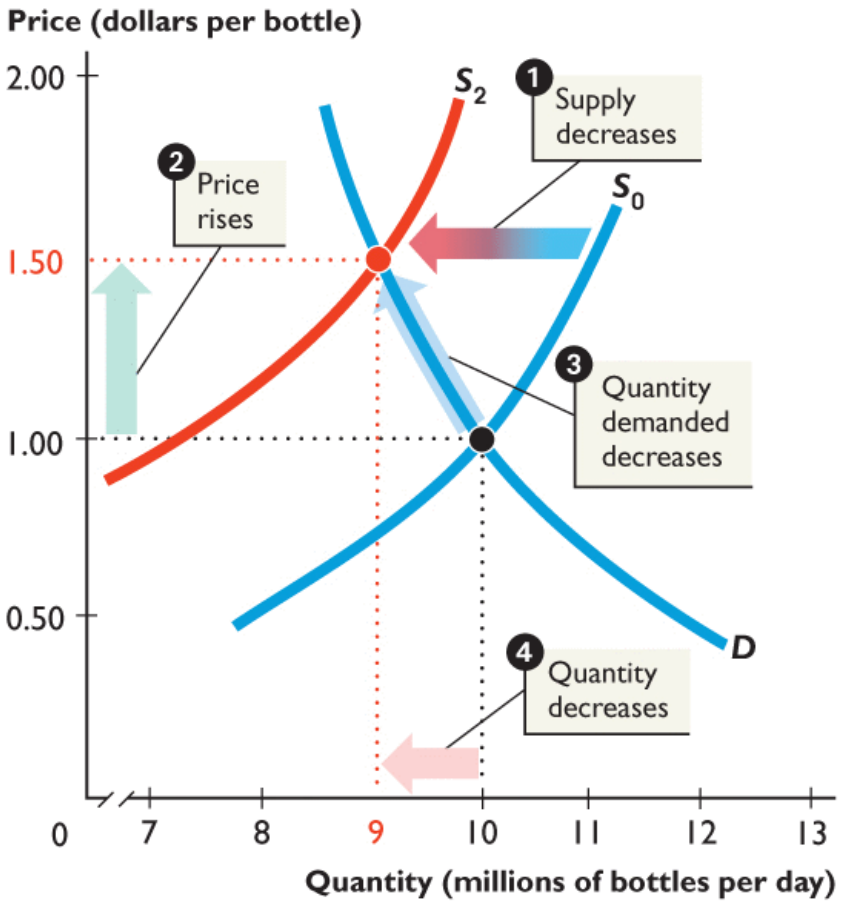
2. The supply of bottled water *decreases,* the supply curve shifts *leftward.*

3. What are the new *equilibrium price* and *equilibrium quantity* and how have they changed?

2.3 MARKET EQUILIBRIUM

Figure (left) shows the outcome.

1. A decrease in supply shifts the supply curve leftward.
2. At $1.00 a bottle, there is a shortage, so the price rises.
3. Quantity demanded decreases along the demand curve.
4. Equilibrium quantity decreases.



(b) A decrease in supply

2.3 MARKET EQUILIBRIUM

When supply changes:

- The demand curve does *not* shift.
- But there is a *change in the quantity demanded.*
- Equilibrium price changes in the *same* direction as the change in supply.
- Equilibrium quantity changes in the *opposite* direction to the change in supply.

2.3 MARKET EQUILIBRIUM

Changes in Both Demand and Supply

When two events occur at the same time, work out how each event influences the market:

1. Does each event change demand or supply?
2. Does either event increase or decrease demand or increase or decrease supply?
3. What are the new *equilibrium price* and *equilibrium quantity* and how have they changed?

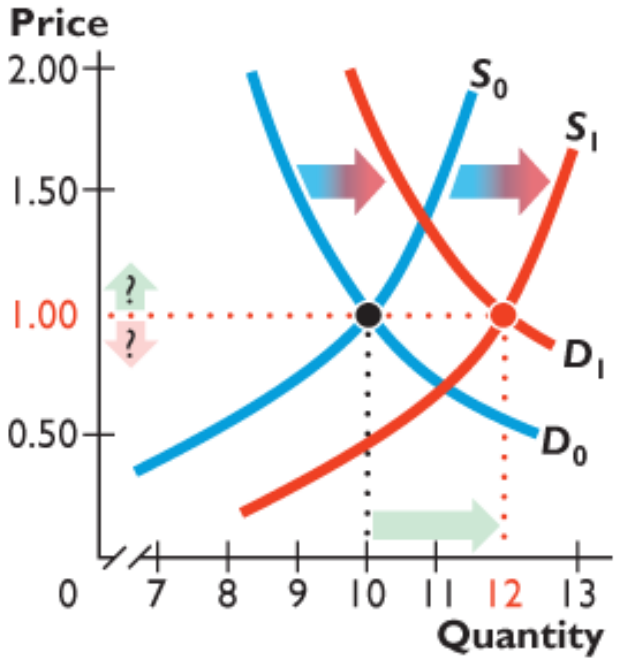
2.3 MARKET EQUILIBRIUM

The figure shows the effects of an increase in both demand and supply.

An increase in demand shifts the demand curve rightward; an increase in supply shifts the supply curve rightward.

1. Equilibrium quantity increases.

2. Equilibrium price might rise or fall.



(e) Increase in both demand and supply

2.3 MARKET EQUILIBRIUM

Increase in Both Demand and Supply

- Increases the equilibrium quantity.
- The change in the equilibrium price is ambiguous because the:

  Increase in demand *raises* the price.

  Increase in supply *lowers* the price.

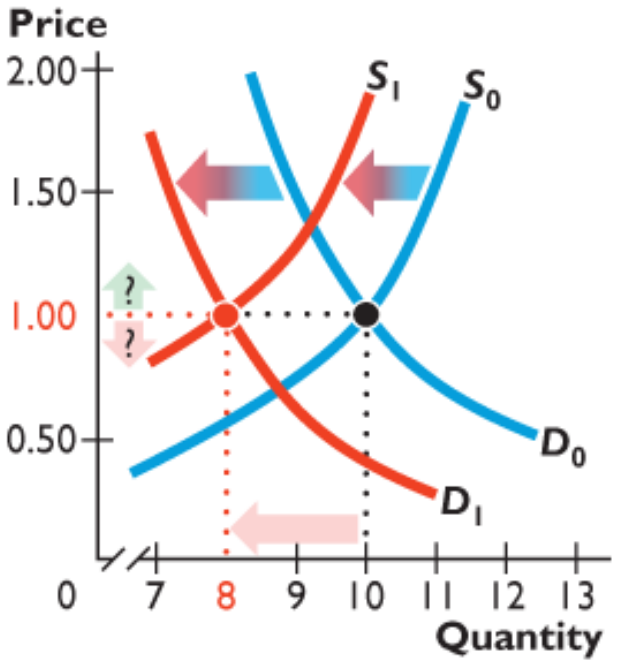
2.3 MARKET EQUILIBRIUM

This figure shows the effects of a decrease in both demand and supply.

A decrease in demand shifts the demand curve leftward; a decrease in supply shifts the supply curve leftward.

1. Equilibrium quantity decreases.

2. Equilibrium price might rise or fall.



(i) Decrease in both demand and supply

2.3 MARKET EQUILIBRIUM

Decrease in Both Demand and Supply

- Decreases the equilibrium quantity.
- The change in the equilibrium price is ambiguous because the:

  Decrease in demand *lowers* the price

  Decrease in supply *raises* the price.

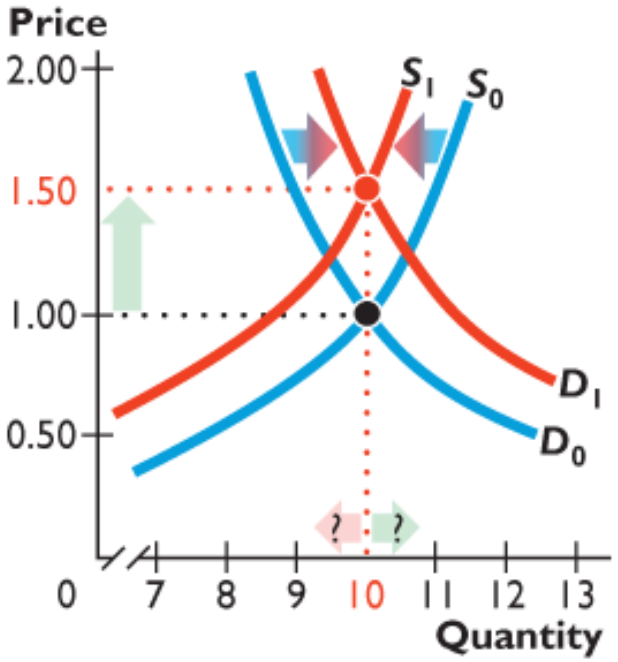
2.3 MARKET EQUILIBRIUM

The figure shows the effects of an increase in demand and a decrease in supply.

An increase in demand shifts the demand curve rightward; a decrease in supply shifts the supply curve leftward.

1. Equilibrium price rises.

2. Equilibrium quantity might increase, decrease, or not change.



(h) Increase in demand and decrease in supply

2.3 MARKET EQUILIBRIUM

Increase in Demand and Decrease in Supply

- Raises the equilibrium price.
- The change in the equilibrium quantity is ambiguous because the:

  Increase in demand *increases* the quantity.

  Decrease in supply *decreases* the quantity.

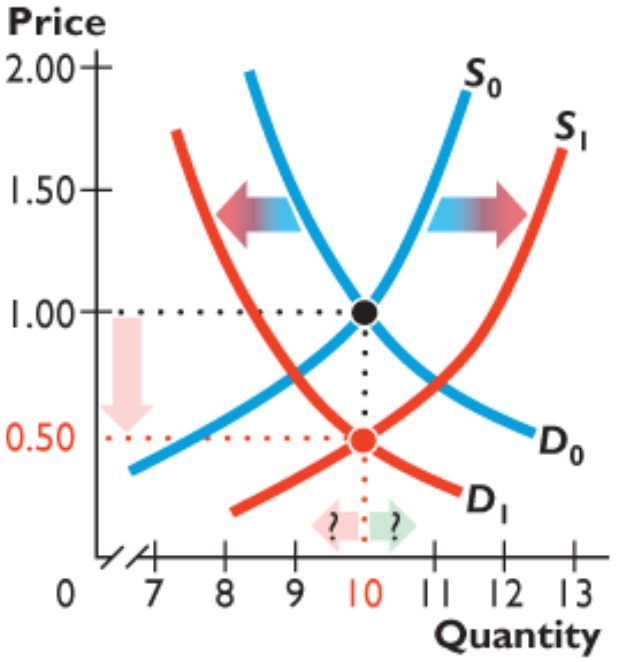
2.3 MARKET EQUILIBRIUM

This figure shows the effects of a decrease in demand and an increase in supply.

A decrease in demand shifts the demand curve leftward; an increase in supply shifts the supply curve rightward.

1. Equilibrium price falls.

2. Equilibrium quantity might increase, decrease, or not change.



(f) Decrease in demand and increase in supply

2.3 MARKET EQUILIBRIUM

Decrease in Demand and Increase in Supply

- Lowers the equilibrium price.
- The change in the equilibrium quantity is ambiguous because the:

  Decrease in demand *decreases* the quantity.

  Increase in supply *increases* the quantity.

Paradox of Value

The **paradox of value** (also known as the **diamond–water paradox**) is the contradiction that, although water is on the whole more useful, in terms of survival, than diamonds, diamonds command a higher price in the market.

Why?

Remarks

The philosopher Adam Smith is often considered to be the classic presenter of this paradox, although it had already appeared as early as Plato's *Euthydemus* and others had previously tried to explain the disparity.

Paradox of Value

Thinking

What are the rules which men naturally observe in exchanging goods for money or for one another, I shall now proceed to examine. These rules determine what may be called the relative or exchangeable value of goods. The word **VALUE**, it is to be observed, has two different meanings, and sometimes expresses the utility of some particular object, and sometimes the power of purchasing other goods which the possession of that object conveys. The one may be called "**value in use**;" the other, "**value in exchange**." The things which have the greatest value in use have frequently little or no value in exchange; on the contrary, those which have the greatest value in exchange have frequently little or no value in use. Nothing is more useful than water: but it will purchase scarcely anything; scarcely anything can be had in exchange for it. A diamond, on the contrary, has scarcely any use-value; but a very great quantity of other goods may frequently be had in exchange for it.*?*

Conclusion

Key Terms

Demand, Law of demand,
Change in demand, Change in the quantity demanded,
Demand curve, Demand schedule, Quantity demanded,

Supply, Law of supply,
Change in supply, Change in the quantity supplied,
Supply curve, Supply schedule, Quantity supplied,

Complement, Complement in production,
Substitute, Substitute in production,

Equilibrium price, Equilibrium quantity,
Law of market forces,
Market demand,
Market equilibrium,
Market supply,
Normal good, Inferior good,

Assignments

Questions for thinking

Referring the relationship of **Demand** and **Supply**, trying to think the Law of Software Demand and Software Supply.

Is it ***different*** from the general Law of Supply and Demand?

This exercises will be discussed in the next lessons. You should not submit this exercise to the teacher.

Preview

Chapter 1 The Rise of Platform Ecosystems
Chapter 2 Core Concepts and Principles
Chapter 3 Why Platform Businesses Are Unlike Product or Service Businesses
from the reference book "Platform Ecosystems Aligning Architecture, Governance, and Strategy, written by Amrit Tiwana.

Exercise

Chapter Checkpoint of Chapter Four,

Stored as the name Ch02_Clicker Questions in course Wechat group.