

E114 : Principles of Economics

First grade

First term

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Chapter 3

Demand and Supply



Lecture learning outcomes

- 1. Define markets and Describe a competitive market**
- 2. Explain the meaning and determinants of demand**
- 3. Distinguish between a change in demand and the change in quantity demanded**
- 4. Explain the meaning and determinants of Supply**
- 5. Distinguish between a change in supply and the change in quantity supplied**
- 6. Understand market equilibrium and predict future price**

1. Markets and Prices

- When you want to buy any good or service, you must find a place where people sell those goods or offer those services
- A *market* is any arrangement that enables buyers and sellers to get information and do business with each other.



1. Markets and Prices



Some markets are **physical places** where buyers and sellers meet.



Some markets are **groups of people spread around the world who never meet** and know little about each other but are connected through the Internet or by telephone and fax.

amazon

SOQA
.com

1. Markets and Prices

Examples of markets

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graph TD; A[Examples of markets] --> B[Goods market]; A --> C[Services markets]; A --> D[Factors of production markets]; A --> E[Inputs markets]; A --> F[Financial markets]; B --- B1[Such as apples, phones, laptops, ... etc]; C --- C1[Such as haircut, education, banking, insurance, ...etc]; D --- D1[Such as teachers, equipment, ... etc]; E --- E1[Such as memory chips and auto parts, ... etc]; F --- F1[Such as stock markets, bond markets, ..etc];
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Goods market

Such as apples, phones, laptops, ... etc

Services markets

Such as haircut, education, banking, insurance, ...etc

Factors of production markets

Such as teachers, equipment, ... etc

Inputs markets

Such as memory chips and auto parts, ... etc

Financial markets

Such as stock markets, bond markets, ..etc

1. Markets and Prices

An example: To produce a laptop:

Financial market: the firm sells stocks to raise funds to invest in the production of the laptop.

Factors of production market: the firm rents a factory, hire computer programmers and engineers and other related workers, buys machines to be used in the production.

Inputs markets: the firm buys the different components such as processor, CPU, hard disk, sound and screen cards, CPU fan, screens,

Services markets: the firm gets services such operating system (windows), other software,

Goods markets: the firm sells the laptop and consumers buy it

1. Markets and Prices

A **competitive market** is a market that has many buyers and many sellers so no single buyer or seller can influence the price.

The **money price** of a good is the amount of money needed to buy it.

The **relative price** of a good—the ratio of its money price to the money price of the next best alternative good—is its *opportunity cost*.

2. demand

If you demand something, then you

1. Want it,
2. Can afford it, and
3. Have made a definite plan to buy it.

Wants are the unlimited desires people have for goods and services. Demand reflects a decision about which wants to satisfy.

The **quantity demanded** of a good or service is the amount that consumers plan to buy during a particular time period, and at a particular price.

- ▶ For example, suppose that you buy one cup of coffee a day. The quantity of coffee that you demand can be expressed as 1 cup per day, 7 cups per week, or 365 cups per year.

2. Demand

The **law of demand** states: Other things remaining the same, the higher the price of a good, the smaller is the quantity demanded; and, the lower the price of a good, the larger is the quantity demanded.

The law of demand results from:

Substitution Effect

When the relative price (opportunity cost) of a good or service rises, people seek substitutes for it, so the quantity demanded of the good or service decreases.

Income Effect

When the price of a good or service rises relative to income, people cannot afford all the things they previously bought, so the quantity demanded of the good or service decreases.

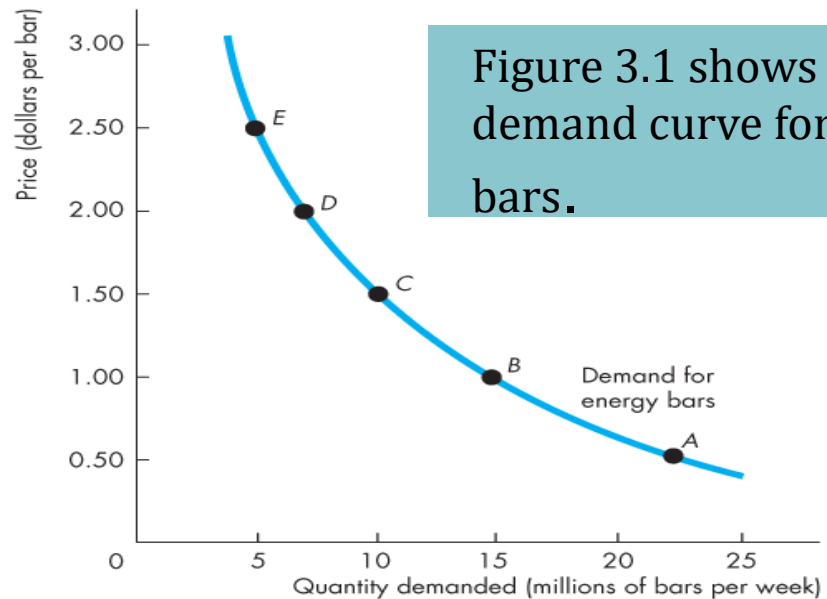
2. Demand

▶ Demand Curve and Demand Schedule

The term **demand** refers to the entire relationship between the price of the good and quantity demanded of the good.

A **demand curve** shows the relationship between the quantity demanded of a good and its price when all other influences on consumers' planned purchases remain the same.

	Price (dollars per bar)	Quantity demanded (millions of bars per week)
A	0.50	22
B	1.00	15
C	1.50	10
D	2.00	7
E	2.50	5



2. Demand

A rise in the price, other things remaining the same, brings a decrease in the quantity demanded and a movement up along the demand curve.

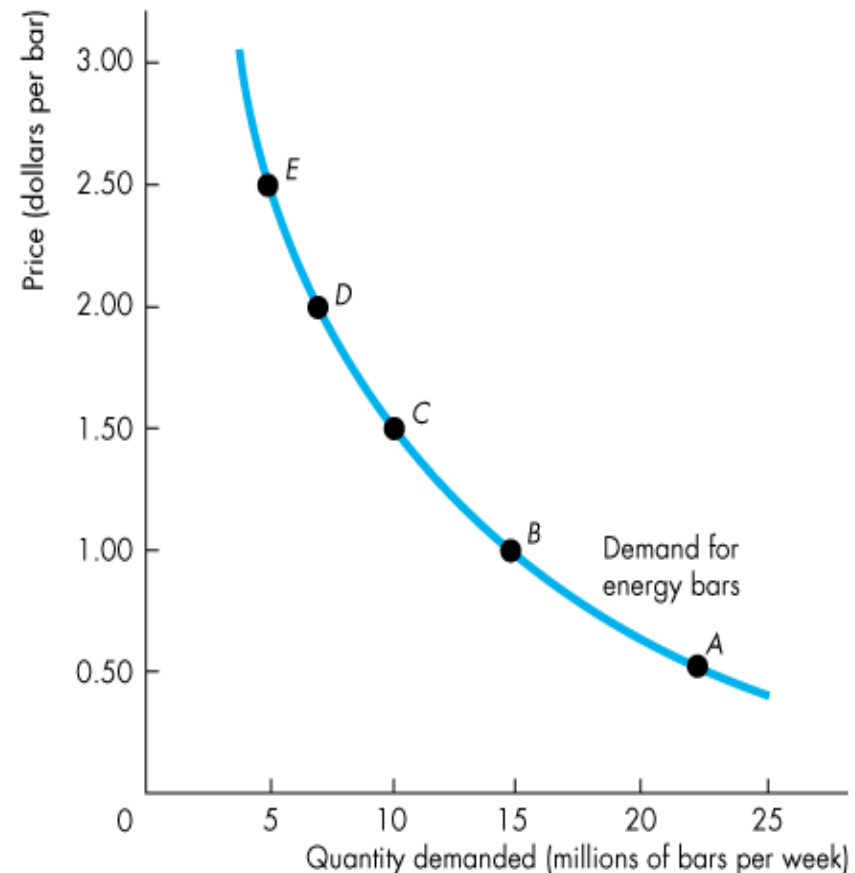
A fall in the price, other things remaining the same, brings an increase in the quantity demanded and a movement down along the demand curve.

Willingness and Ability to Pay

A demand curve is also a *willingness-and-ability-to-pay* curve.

The smaller the quantity available, the higher is the price that someone is willing to pay for another unit.

Willingness to pay measures *marginal benefit*



3. Change in demand vs change in quantity demanded

A Change in Demand

- When some influence on buying plans other than the price of the good changes, there is a **change in demand** for that good.
- The quantity of the good that people plan to buy changes at each and every price, so there is a new demand curve.
- When demand *increases*, the demand curve shifts *rightward*.
- When demand *decreases*, the demand curve shifts *leftward*.

Change in demand

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graph TD; A[Change in demand] --- B[Prices of related goods]; A --- C[Expected future prices]; A --- D[Income]; A --- E[Expected future income]; A --- F[population]; A --- G[preferences];
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Prices of
related
goods

Expected
future
prices

Income

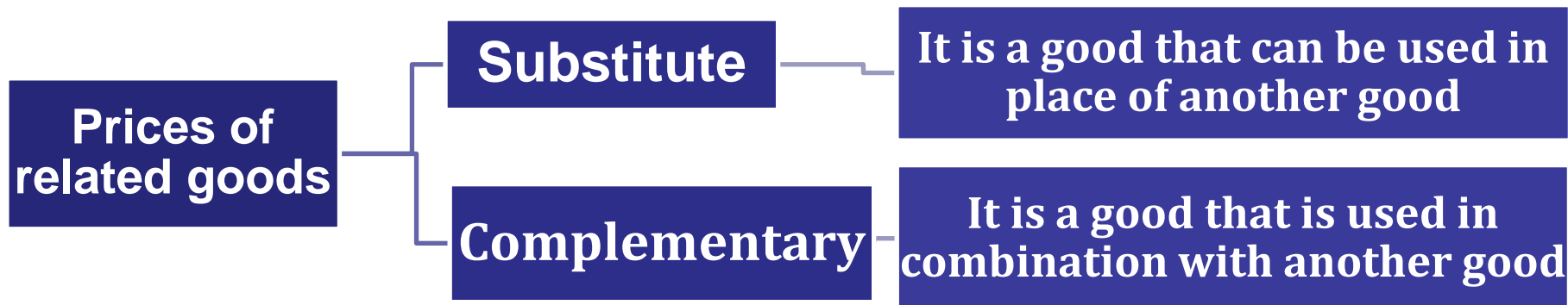
Expected
future
income

population

preferences

3. Change in demand vs change in quantity demanded

A Change in Demand





Examples of Substitute Goods

1. Coca-Cola and Pepsi.
2. Car, motorbike, bike and public transport.
3. Butter and cooking oil.
4. Tea and coffee.
5. Bananas and Apples.
6. Beef and chicken

Examples of Complementary goods:

1. Cars and Petrol.
2. Shoes and Polish.
3. Computer Hardware and Computer Software.
4. Printer and Ink Cartridges.
5. Torch and Battery.
6. Pencils and Erasers.

 Higher price of substitute leads to higher demand on the good

 Higher price of complementary leads to lower demand on the good

3. Change in demand vs change in quantity demanded

A Change in Demand

2- Expected Future Prices

if the expected future price of a good rises, current demand for the good increases and the demand curve shifts rightward.

3- Income

When income increases, consumers buy more of *most* goods and the demand curve shifts rightward.

A **normal good** is one for which demand increases as income increases.

An **inferior good** is a good for which demand decreases as income increases.

3. Change in demand vs change in quantity demanded

A Change in Demand

4- Expected Future Income and Credit

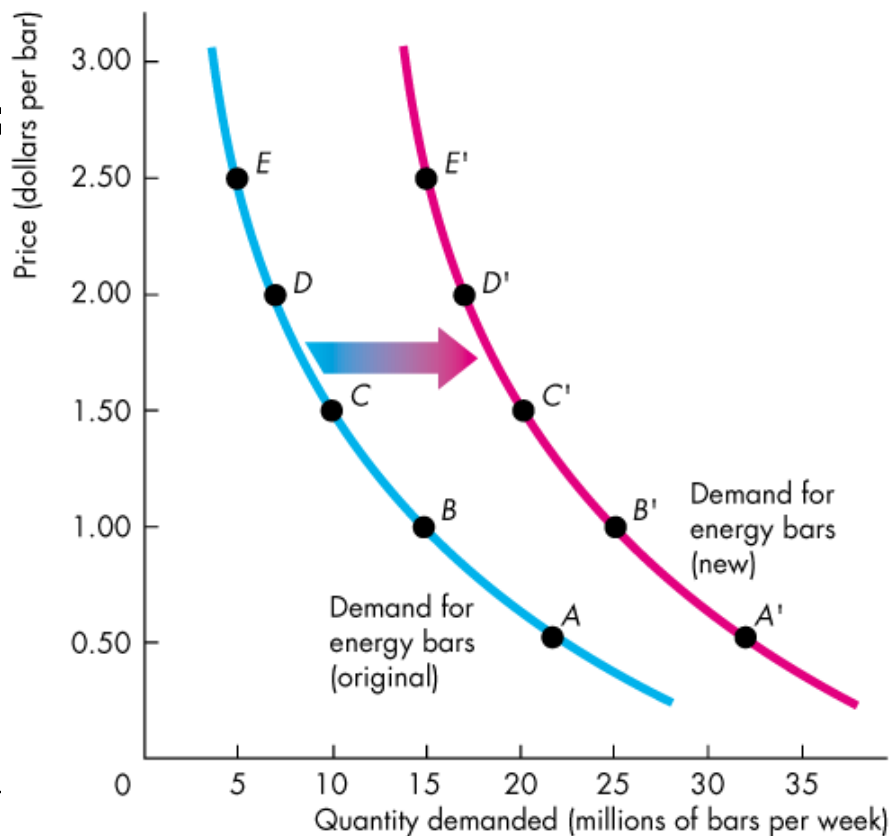
When expected future income increases or when credit is easier to obtain, the demand might increase now.

5- Population

The larger the population, the greater is the demand for all goods.

6- Preferences

People with the same income have different demands if they have different preferences.



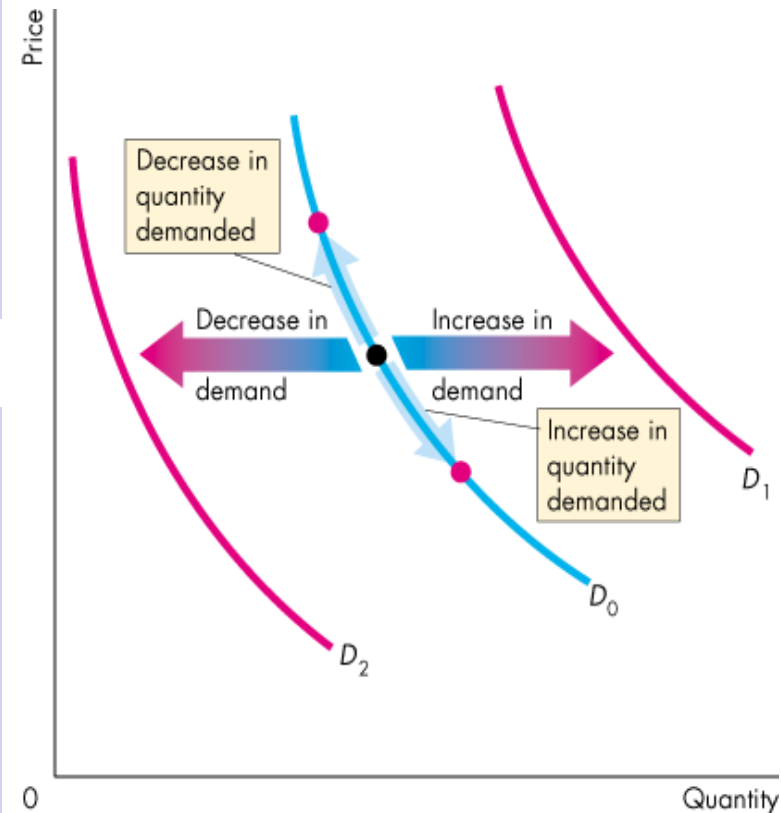
3. Change in demand vs change in quantity demanded

Movement Along the Demand Curve

When the price of the good changes and everything else remains the same, the quantity demanded changes and there is a movement along the demand curve.

A Shift of the Demand Curve

If the price remains the same but one of the other influences on buyers' plans changes, demand changes and the demand curve shifts.



4. Supply

If a firm supplies a good or service, then the firm

1. Has the resources and the technology to produce it,
2. Can profit from producing it, and
3. Has made a definite plan to produce and sell it.

- *Resources and technology* determine what it is possible to produce. Supply reflects a decision about which technologically feasible items to produce.
- The **quantity supplied** of a good or service is the amount that producers plan to sell during a given time period at a particular price.

4. Supply

▶ The Law of Supply states that

Other things remaining the same, the higher the price of a good, the greater is the quantity supplied; and the lower the price of a good, the smaller is the quantity supplied.

The law of supply results from the general tendency for the marginal cost of producing a good or service to increase as the quantity produced increases.

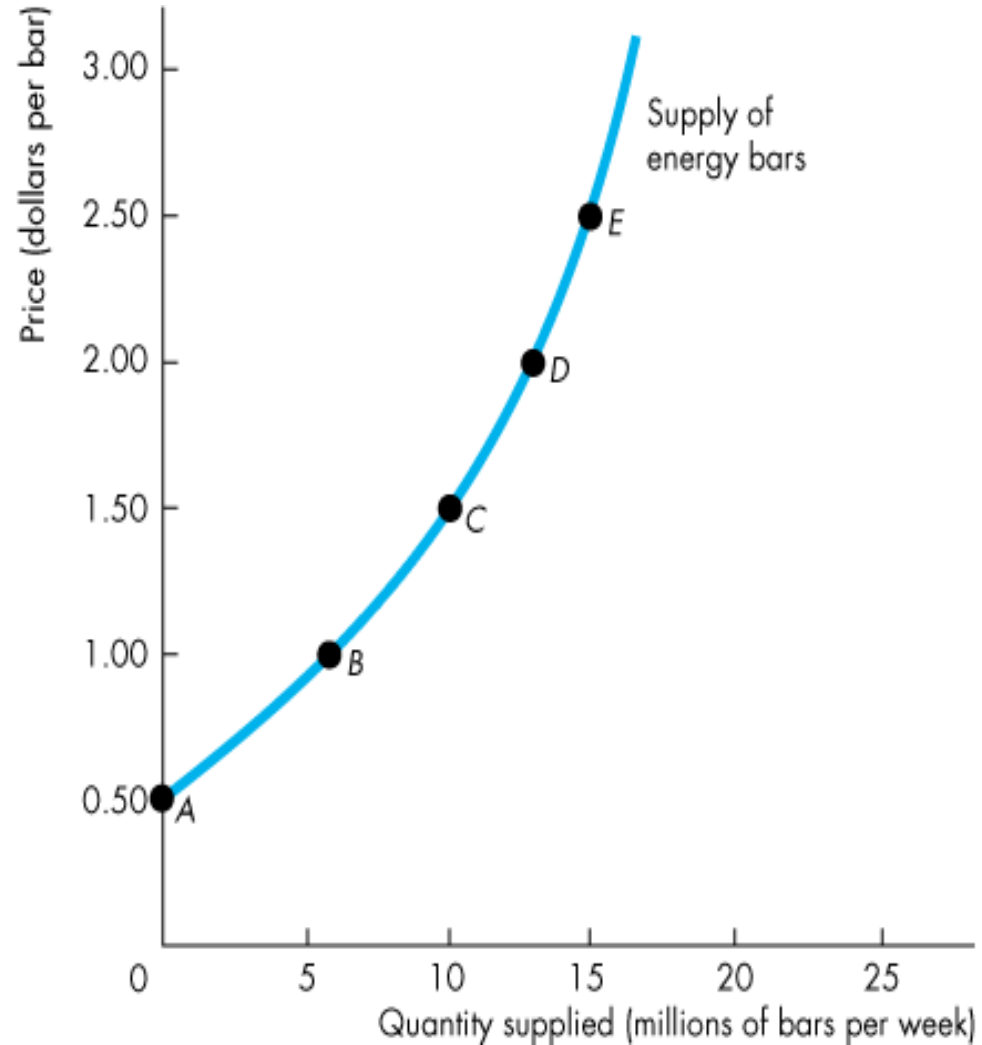
Producers are willing to supply a good only if they can at least cover their marginal cost of production.

4. Supply

▶ Supply Curve and Supply Schedule

The term **supply** refers to the entire relationship between the quantity supplied and the price of a good.

The **supply curve** shows the relationship between the quantity supplied of a good and its price when all other influences on producers' planned sales remain
ie.



5. Change in supply vs change in quantity supplied

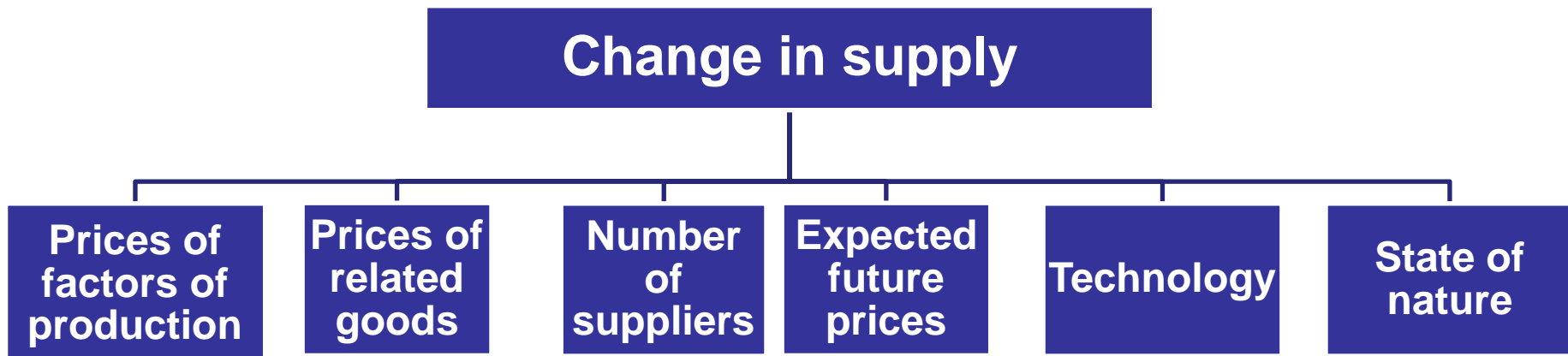
Supply: A Change in Supply

When some influence on selling plans other than the price of the good change there is a **change in supply** of that good.

The quantity of the good that producers plan to sell changes at each and every price, so there is a new supply curve.

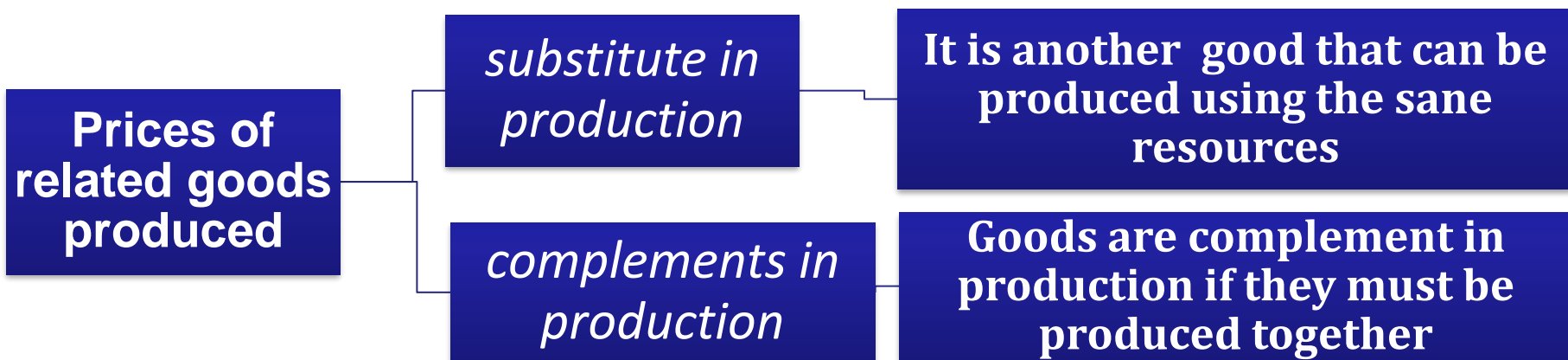
When supply *increases*, the supply curve shifts *rightward*.

When supply *decreases*, the supply curve shifts *leftward*.



5. Change in supply vs change in quantity supplied

Supply: A Change in Supply



Examples of Substitute in production

1. substitute crops, such as corn or wheat
2. multi-family apartment buildings or single-family houses
3. four-door sedans or pickup trucks

Examples of Complementary in production

1. wheat and hay.
2. beef and cowhide (leather from the same cattle resource).
3. Processor and a laptop

— The supply of a good increases if the price of a substitute in production falls



— The supply of a good increases if the price of a complement in production rises.

5. Change in supply vs change in quantity supplied

Supply: A Change in Supply

2- Prices of Factors of Production

- If the price of a factor of production used to produce a good rises, the cost of production increases, and suppliers are willing to accept higher prices for producing each quantity of that good rises.
- So a rise in the price of a factor of production decreases supply and shifts the supply curve leftward.

3- Expected Future Prices

- If the expected future price of a good rises, the supply of the good today decreases and the supply curve shifts leftward.

5. Change in supply vs change in quantity supplied

Supply: A Change in Supply

4- The Number of Suppliers

- The larger the number of suppliers of a good, the greater is the supply of the good. An increase in the number of suppliers shifts the supply curve rightward.

5- Technology

- Advances in technology create new products and lower the cost of producing existing products leading to increase supply and shift the supply curve rightward.

6- The State of Nature

- The state of nature includes all the natural forces that influence production—for example, the weather.
- A natural disaster decreases supply and shifts the supply curve leftward.

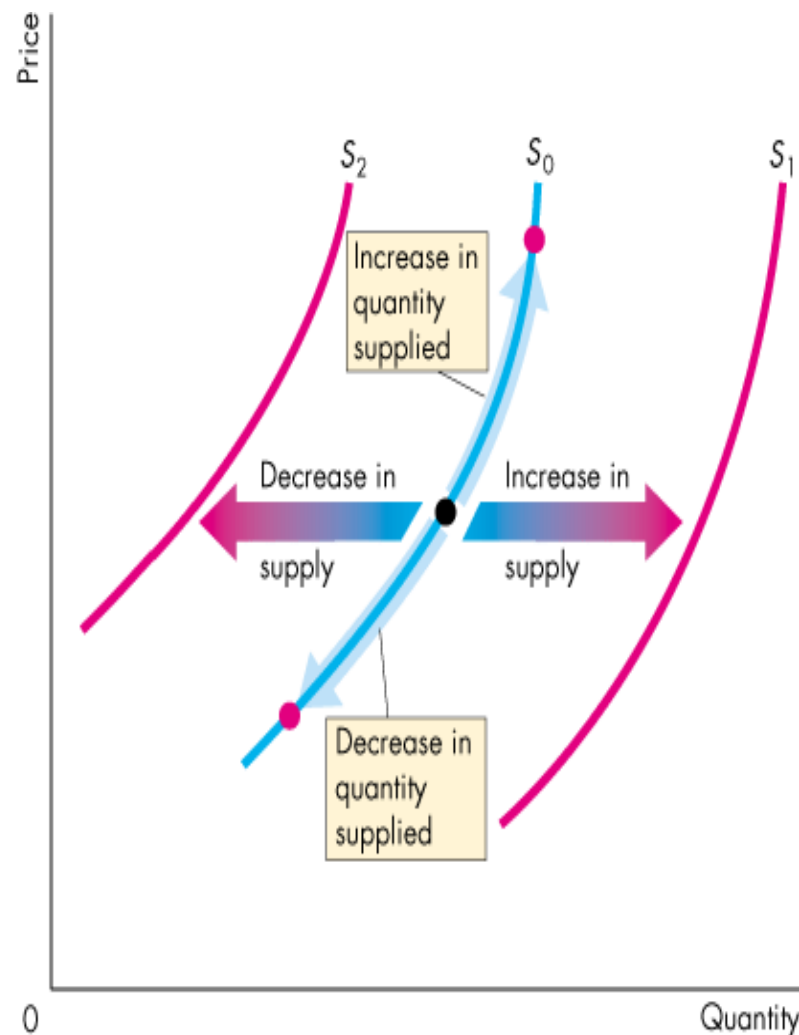
5. Change in supply vs change in quantity supplied

Movement Along the Supply Curve

When the price of the good changes and other influences on sellers' plans remain the same, the quantity supplied changes and there is a movement along the supply curve.

A Shift of the Supply Curve

If the price remains the same but some other influence on sellers' plans changes, supply changes and the supply curve shifts



6. Market equilibrium

Equilibrium is a situation in which opposing forces balance each other. Equilibrium in a market occurs when the price balances the plans of buyers and sellers.

The **equilibrium price** is the price at which the quantity demanded equals the quantity supplied.

The **equilibrium quantity** is the quantity bought and sold at the equilibrium price.

- Price regulates buying and selling plans.
- Price adjusts when plans don't match.

6. Market equilibrium

► Price as a Regulator

Figure 3.7 illustrates the equilibrium price and equilibrium quantity.

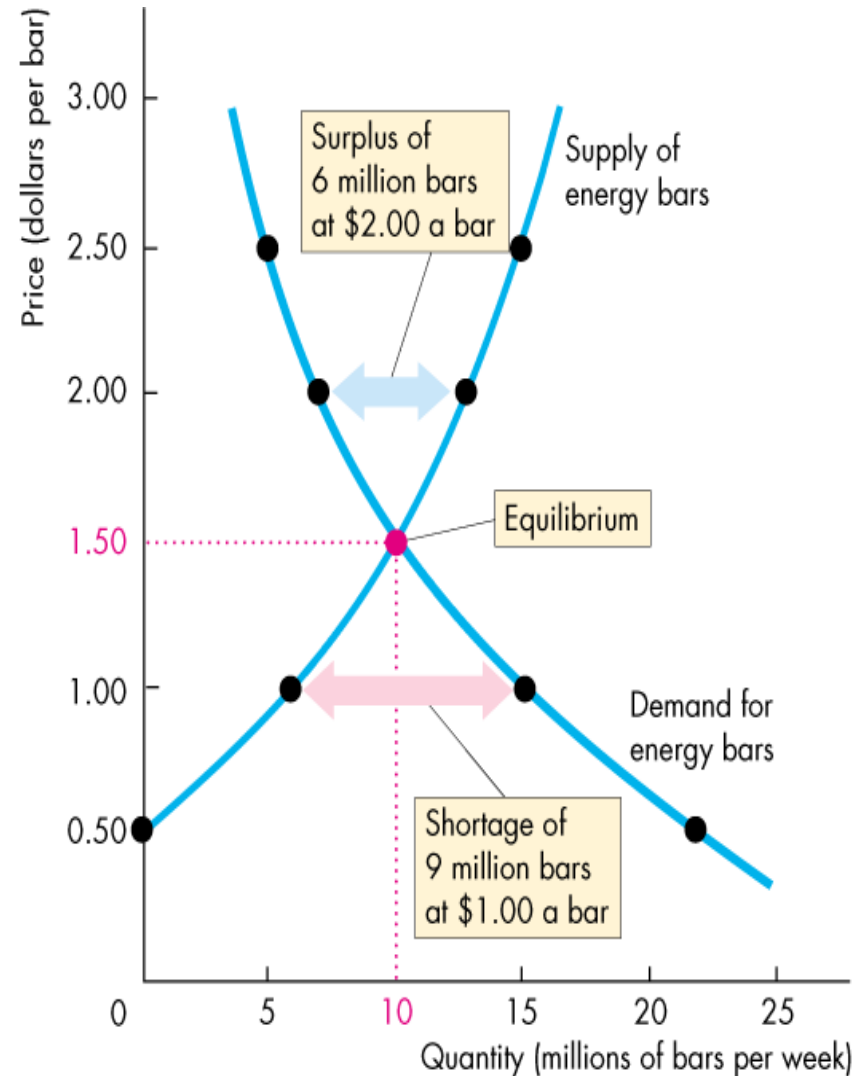
If the price is \$2.00 a bar, the quantity supplied *exceeds* the quantity demanded. There is a *surplus* of 6 million energy bars

If the price is \$1.00 a bar, the quantity demanded *exceeds* the quantity supplied.

There is a *shortage* of 9 million energy bars.

If the price is \$1.50 a bar, the quantity demanded *equals* the quantity supplied.

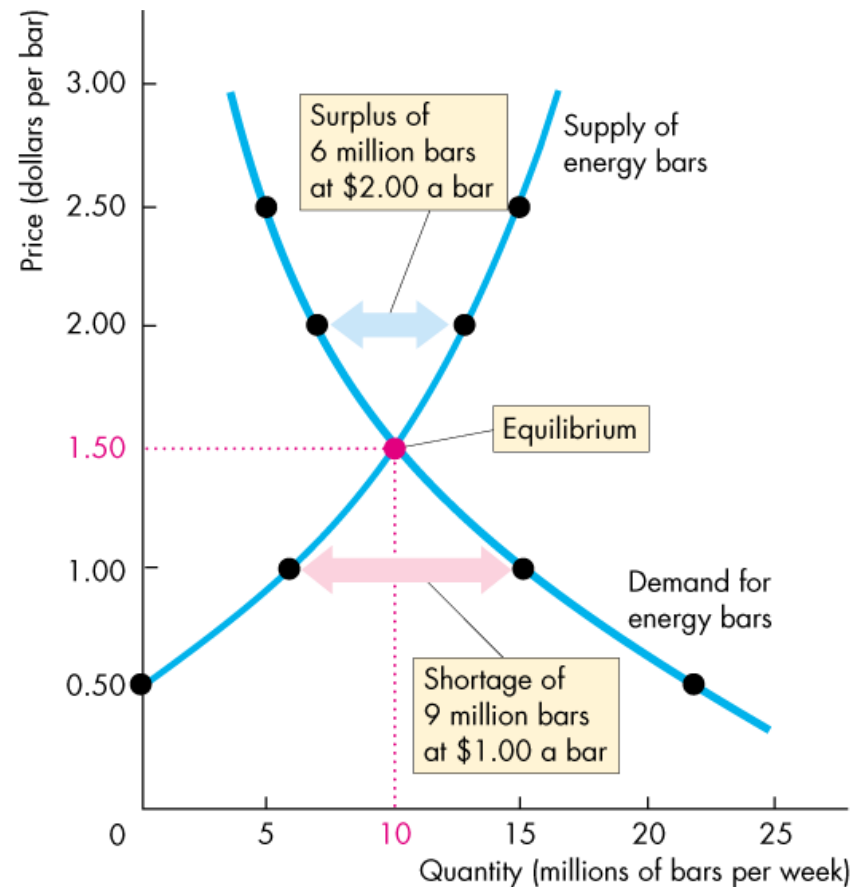
There is neither a shortage nor a surplus of energy bars.



6. Market equilibrium

▶ Price Adjustments

- At any price above the equilibrium price, a **surplus** forces the price down.
- At any price below the equilibrium price, a **shortage** forces the price up.
- At the equilibrium price, buyers' plans and sellers' plans agree and the price doesn't change until some event changes either demand or supply.



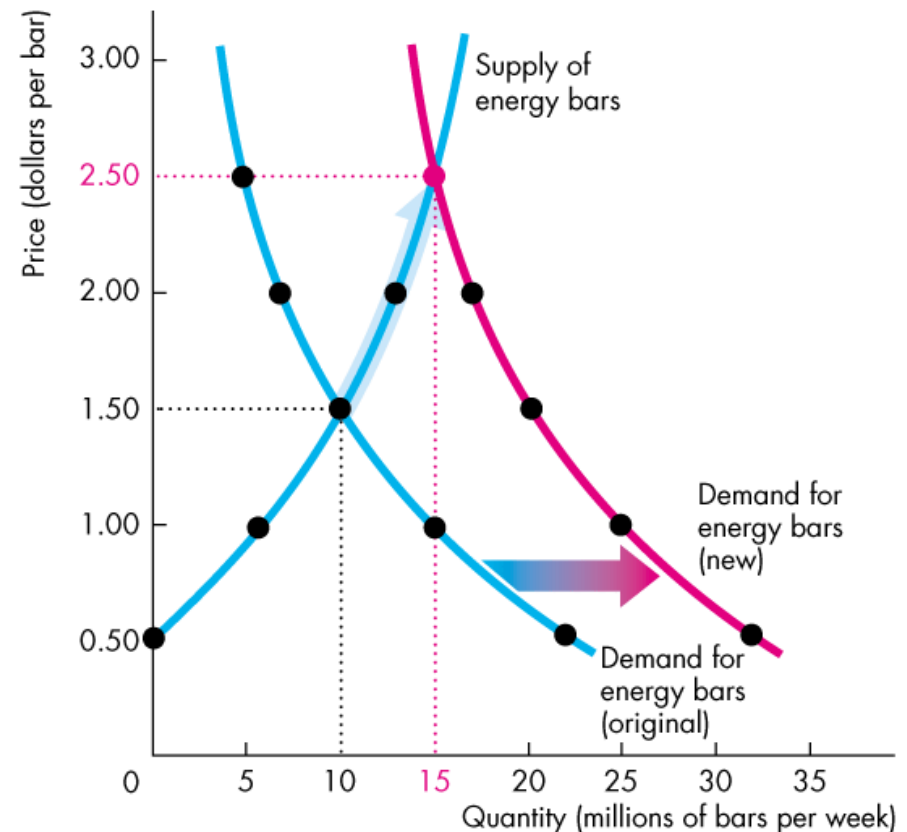
7. Predicting Changes in Price and Quantity

▶ An Increase in Demand

Figure 3.8 shows that when demand increases the demand curve shifts rightward.

At the original price, there is now a **shortage**.

The price rises, and the quantity supplied increases along the supply curve.



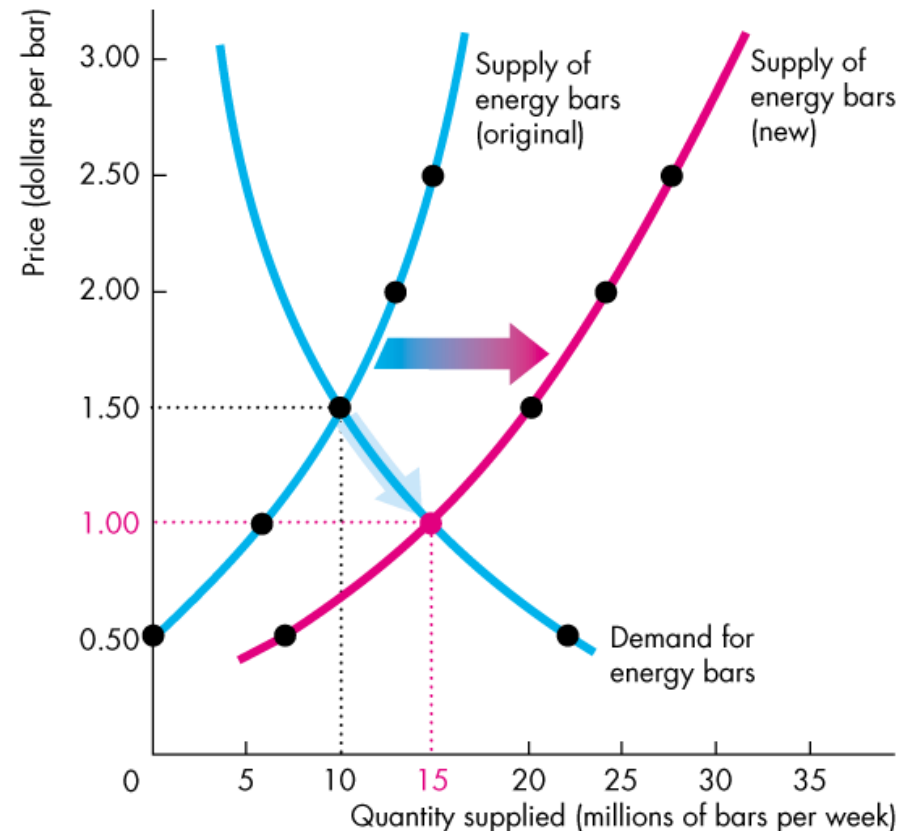
7. Predicting Changes in Price and Quantity

▶ An Increase in Supply

Figure 3.9 shows that when supply increases the supply curve shifts rightward.

At the original price, there is now a *surplus*.

The price falls, and the quantity demanded increases along the demand curve.

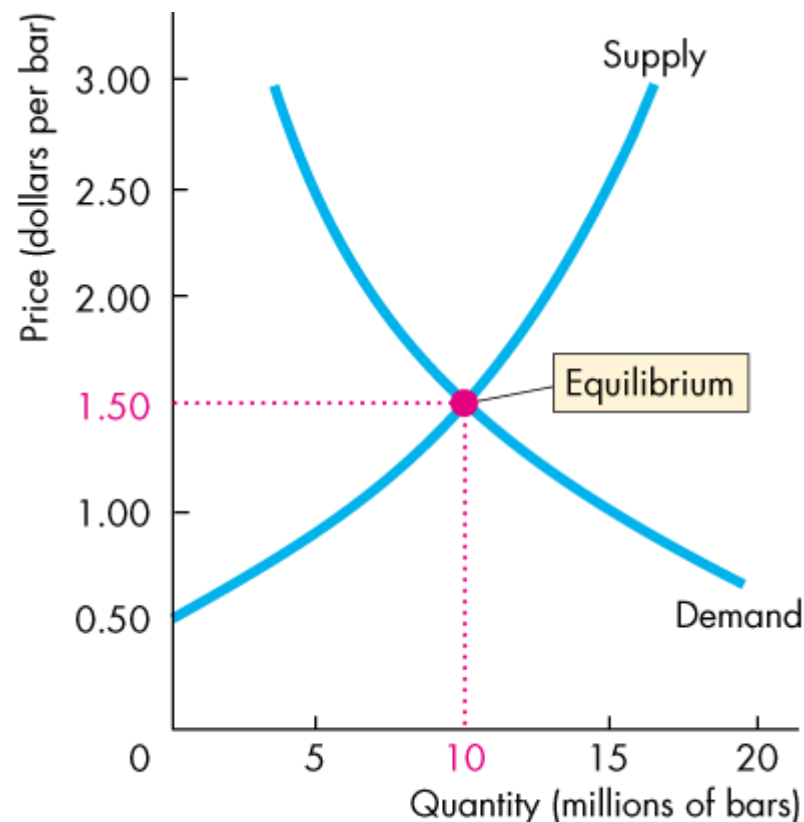


7. Predicting Changes in Price and Quantity



▶ All Possible Changes in Demand and Supply

A change demand or supply or both demand and supply changes the equilibrium price and the equilibrium quantity.



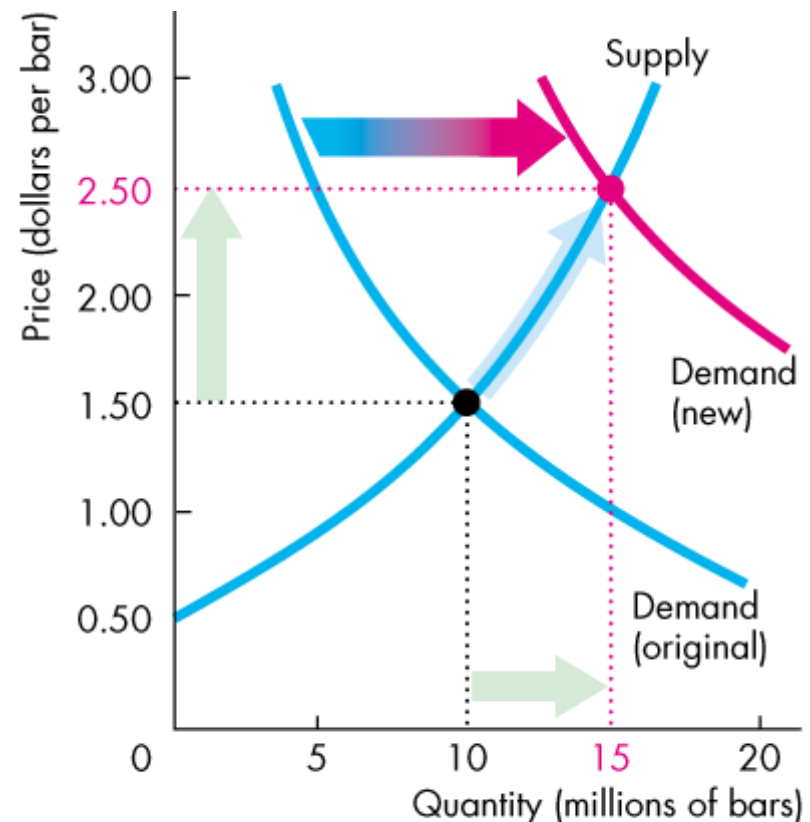
(a) No change in demand or supply

7. Predicting Changes in Price and Quantity

Change in Demand with No Change in Supply

When demand increases, there is a movement up along the supply curve.

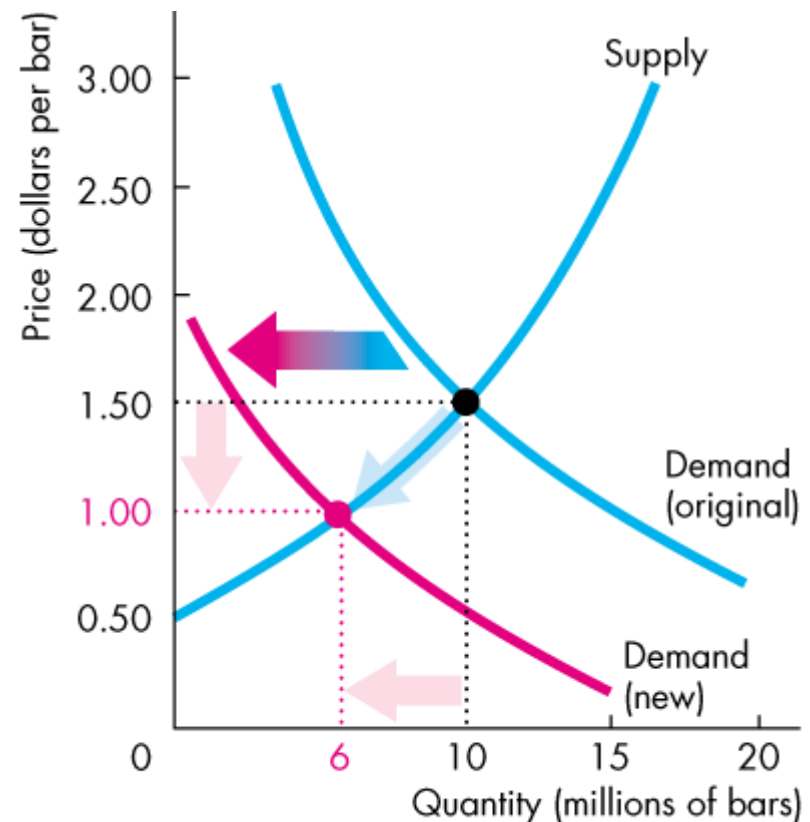
The equilibrium price *rises* and the equilibrium quantity *increases*.



(b) Increase in demand

7. Predicting Changes in Price and Quantity

When demand decreases, the equilibrium price *falls* and the equilibrium quantity *decreases*.



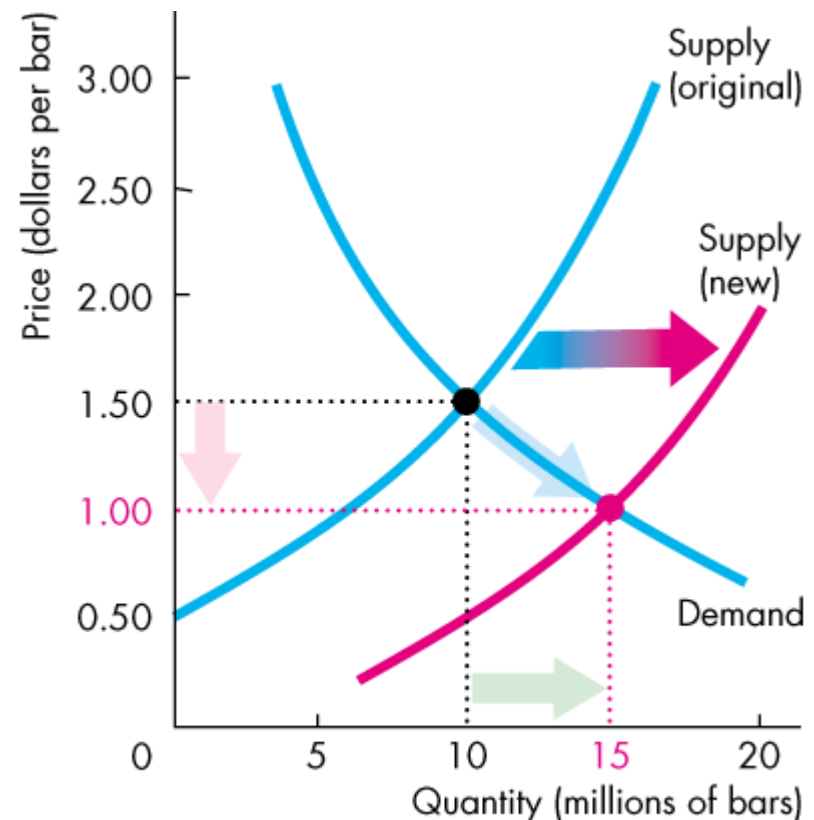
(c) Decrease in demand

7. Predicting Changes in Price and Quantity

Change in Supply with No Change in Demand

When supply increases, there is a movement down along the demand curve.

The equilibrium price *falls* and the equilibrium quantity *increases*.



(d) Increase in supply