Prepare by:
Manju Tyagi

Demand, Supply, and Market Equilibrium

Markets

- Markets bring together buyers (“demanders”) and sellers (“suppliers”).
- Some markets are local while others are national or international.
- Markets help to determine the prices and quantities bought and sold of millions of goods and services.

Demand

Demand is a schedule or curve that shows the various amounts of a product that consumers will buy at each of a series of possible prices during a specific period.

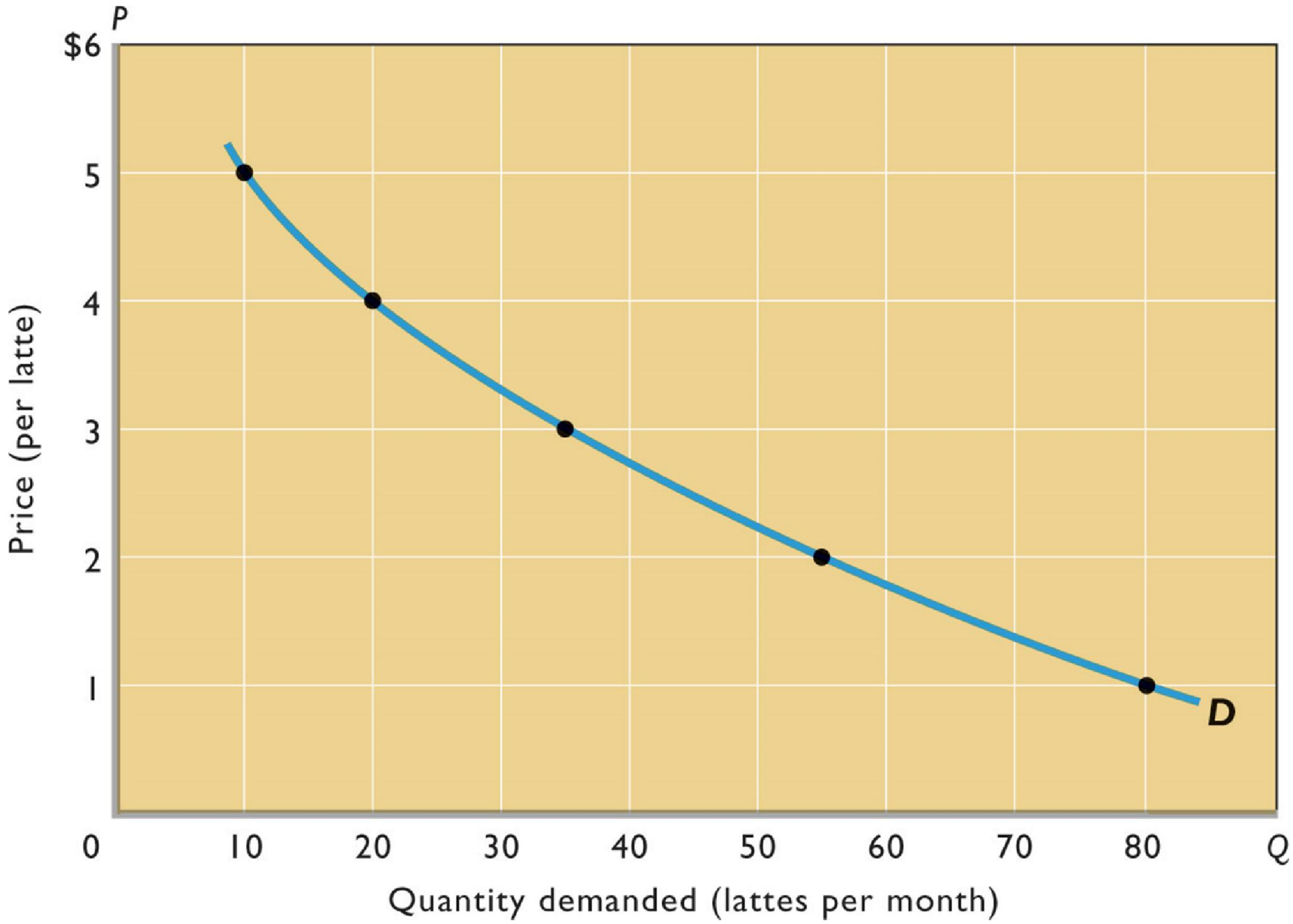
- The **Law of Demand** states that, all else equal, as price falls, the quantity demanded rises, and vice versa.

Demand

A curve illustrating the inverse relationship between the price of a product and the quantity demanded of it, other things equal, is the **demand curve**.

– It slopes downward to reflect the Law of Demand.

Demand

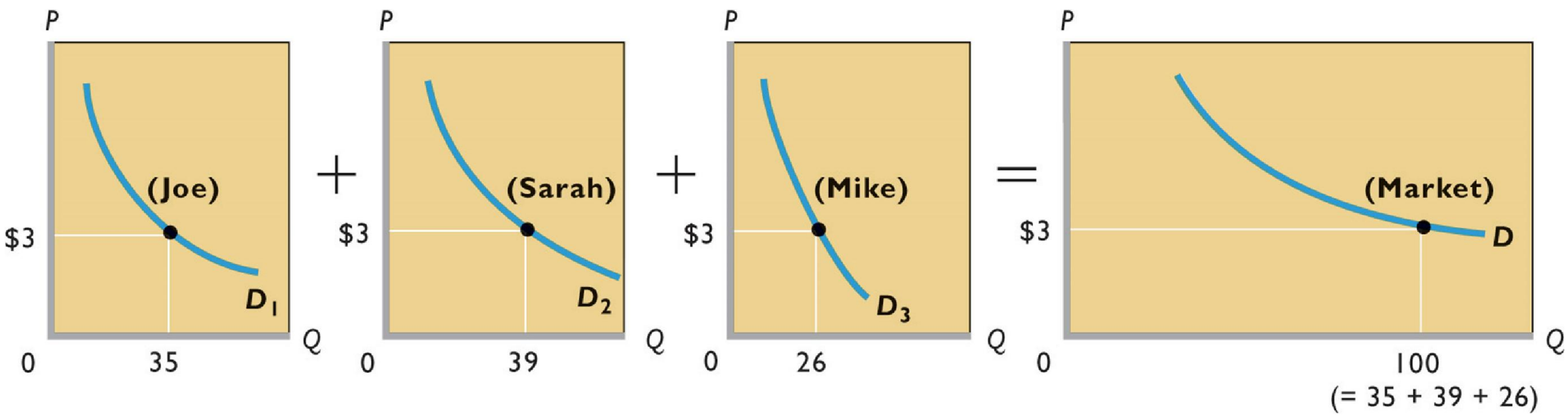


P
$6
5
4
3
2
1
0
10
20
30
40
50
60
70
80
Q
D
Price (per latte)
Quantity demanded (lattes per month)

Demand

- *Individual demand* is the demand schedule or curve of a single consumer.
- **Market demand** is the sum of all the individual demands.
  - By adding the individual quantities demanded by all consumers at each of the various possible prices, we get the market demand.

Demand



P
(Joe)
$3
D_1
0
35
Q
+
P
(Sarah)
$3
D_2
0
39
Q
+
P
(Mike)
$3
D_3
0
26
Q
=
P
(Market)
$3
D
0
100
(= 35 + 39 + 26)
Q

Demand

- When a demand curve is drawn, other factors, called **determinants of demand**, are held constant.
  - Determinants of demand are factors other than price that locate the position of a demand curve.
  - These include: (1) tastes, (2) number of buyers, (3) income, (4) prices of related goods, and (5) expected prices.

Change in Demand

A change in one or more of the determinants will change the underlying demand data and the location of the demand curve.

Change in Income

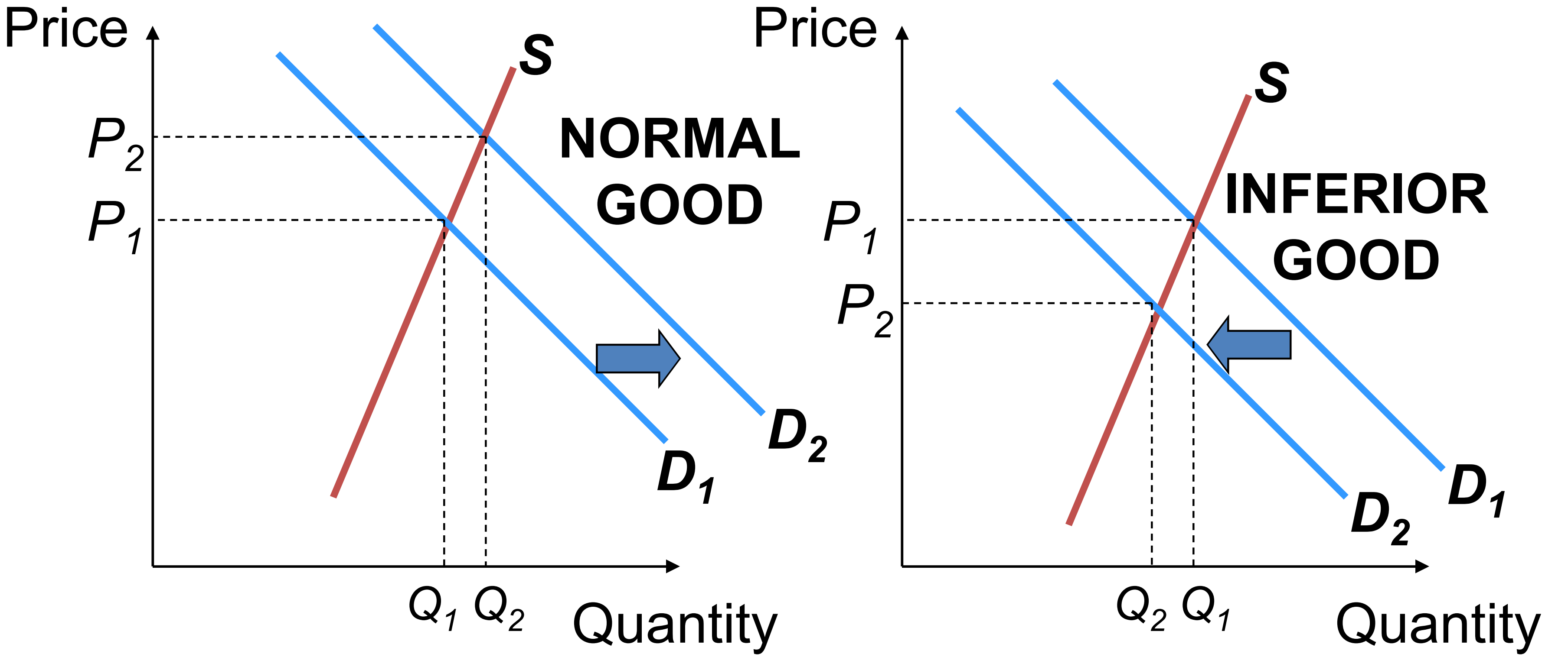
- The effects of changes in income vary depending on the type of product demanded.
- When income rises, all else equal, the demand for **normal goods** increases, while the demand for **inferior goods** decreases.

Change in Income

- Most goods are normal goods, or *superior goods*. The demand for these increases or decreases *directly* with changes in income.
- The demand for inferior goods increases or decreases *inversely* with money income.

Change in Income

If income rises, the demand for a normal good increases and the demand for an inferior good decreases.



Prices of Related Goods

- When two goods are related (as substitutes or complements), a change in the price of one good may either increase or decrease the demand for the other product.
  – A **substitute good** is one that can be used in place of another good.
  – A **complementary good** is one that is used together with another good.

Prices of Related Goods

- If two goods are substitutes, an increase in the price of one will increase the demand for the other.
- If two goods are complements, an increase in the price of one will decrease the demand for the other.
- Most goods are unrelated to one another. For these *independent goods*, a change in the price of one will have virtually no effect on the demand for the other.

Changes in Quantity Demanded

A change in quantity demanded is a movement from one point to another point on a fixed demand curve.

- The cause of such change is an increase or decrease in the price of the product under consideration.

Changes in Demand

A change in demand is a shift of the demand curve to the right (an increase in demand), or to the left (a decrease in demand).

– Shifts are cause by a change in one or more of the determinants of demand.

Supply

Supply is a schedule or curve showing the amounts of a product that producers will make available for sale at each of a series of possible prices during a specific period.

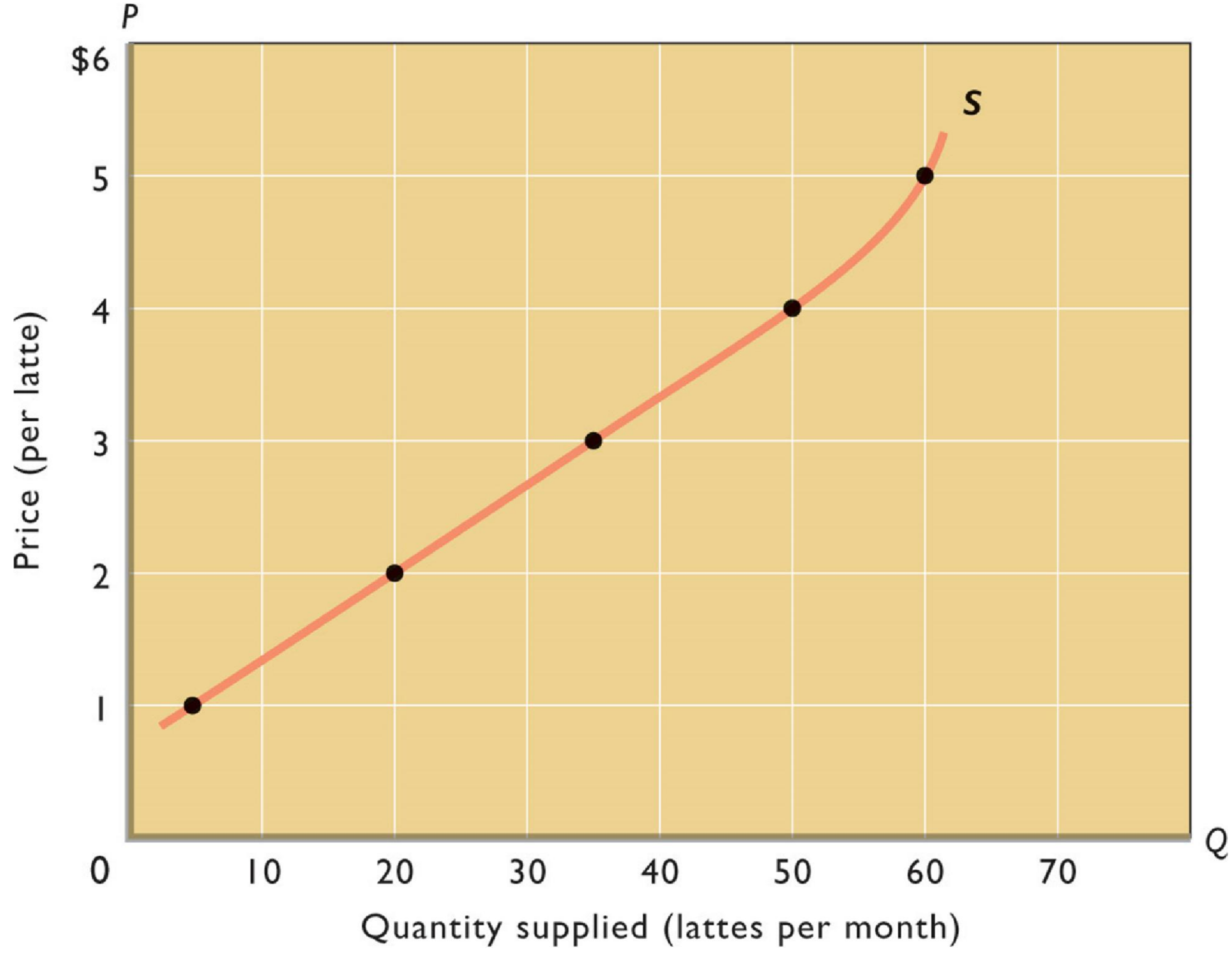
– The **Law of Supply** states that, all else equal, as price rises, the quantity supplied rises, and vice versa.

Supply

A curve illustrating the positive, or direct relationship between the price of a product and the quantity supplied of it, other things equal, is the **supply curve**.

- It slopes downward to reflect the Law of Demand.

Supply


P
$6
5
4
3
2
1
0
Price (per latte)
S
Q
10
20
30
40
50
60
70
Quantity supplied (lattes per month)

Supply

- **Market supply** is derived from individual supply by "horizontally adding" the supply curves of the individual producers.
- **Determinants of supply** are those factors that cause supply to change.
  - The basic determinants of supply are (1) resources prices, (2) technology, (3) taxes and subsidies, (4) price of other goods, (5) expected prices, and (6) the number of sellers in the market.

Changes in Quantity Supplied

A change in quantity supplied is a movement from one point to another point on a fixed supply curve.

- The cause of such a movement is a change in the price of the product being considered.

Changes in Supply

Because supply is a schedule or curve, a change in supply means a change in the schedule and a shift of the supply curve.

- Shifts are cause by a change in one or more of the determinants of supply.

Market Equilibrium

In competitive markets, buyers and sellers have no control over prices. When buyers and sellers interact in a free competitive market, the equilibrium price and equilibrium quantity is determined by the intersection of the demand and supply curves.

Market Equilibrium

- The equilibrium price, or market-clearing price, is the price at which the intentions of buyers and sellers match.
- The equilibrium quantity is the quantity demanded and quantity supplied that occurs at the equilibrium price in a competitive market.

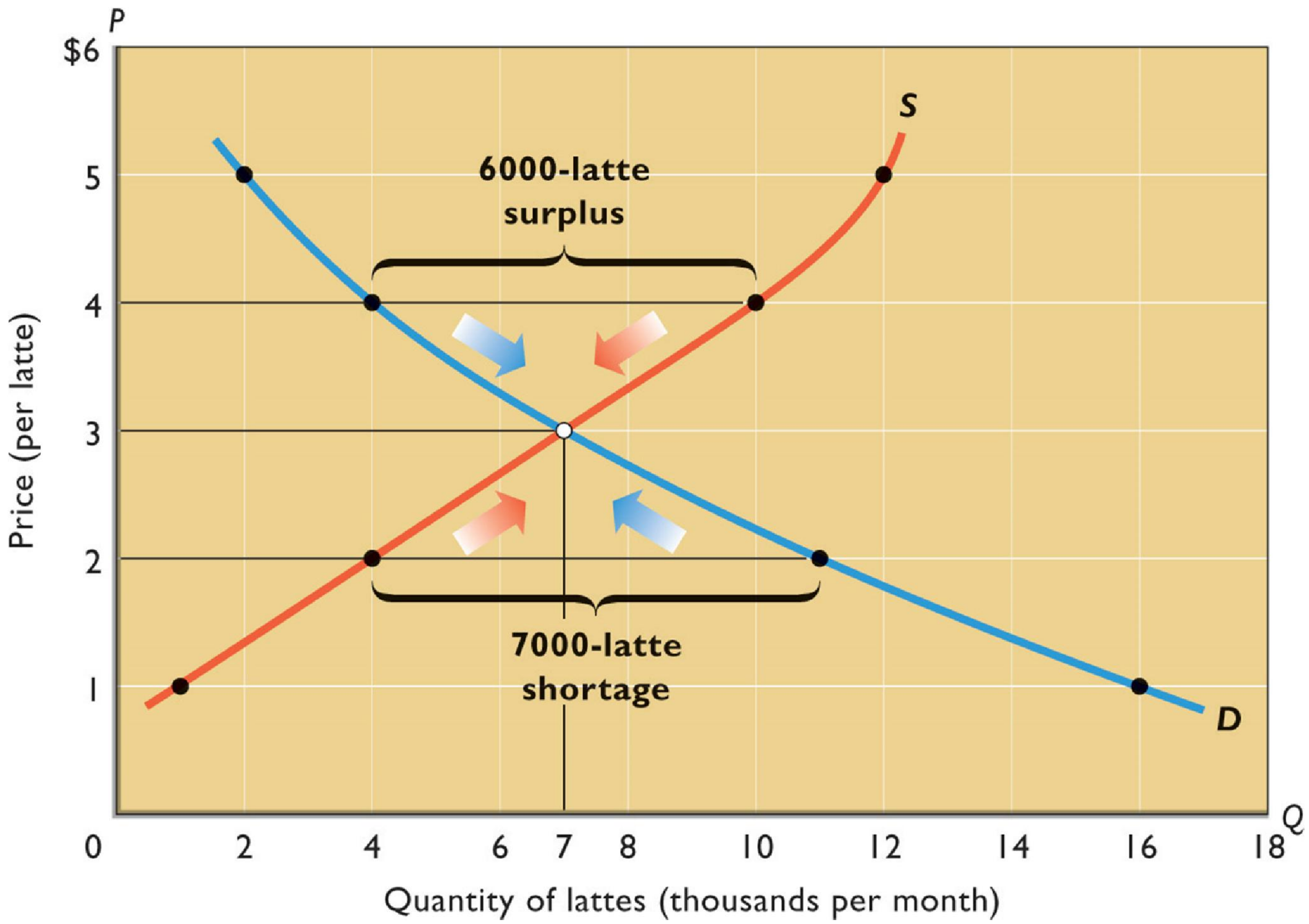
Market Equilibrium

- Any price above the equilibrium price would create a surplus, or *excess supply*; quantity supplied exceeds quantity demanded.
- Surpluses drive prices down to equilibrium.
  - As prices fall, the incentive to produce declines and the incentive for consumers to buy increases.

Market Equilibrium

- Any price below the equilibrium price would create a shortage, or *excess demand*; quantity demanded exceeds quantity supplied.
- Shortages push prices up equilibrium.
  - As prices rise, the incentive to produce increases and the incentive for consumers to buy decreases.

Market Equilibrium



Changes in Demand, Supply, and Equilibrium

Changes in Demand

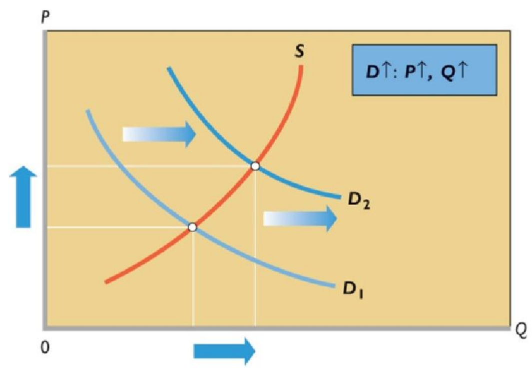
When supply is constant, an increase in demand will result in a higher equilibrium price and quantity. If demand falls, equilibrium price and quantity decrease.

Changes in Demand, Supply, and Equilibrium

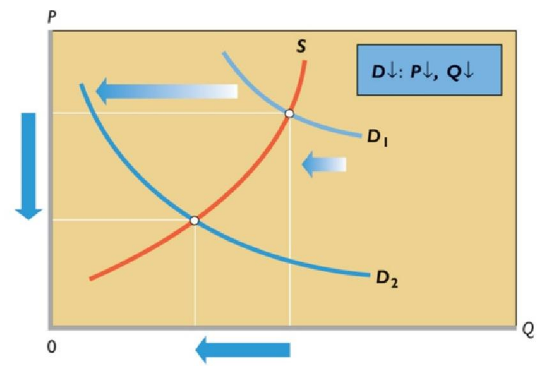
Changes in Supply

With a constant demand, if supply increases, equilibrium price falls while equilibrium quantity rises. If supply decreases, equilibrium price rises, and equilibrium quantity falls.

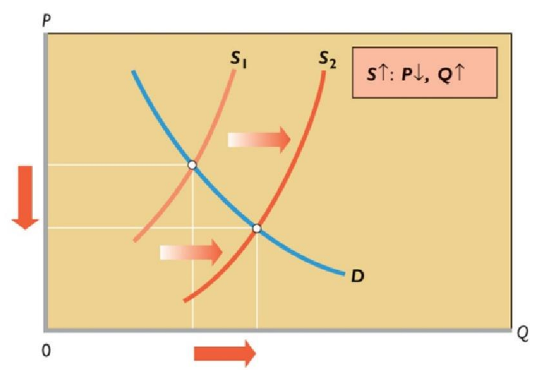
Changes in Demand, Supply, and Equilibrium



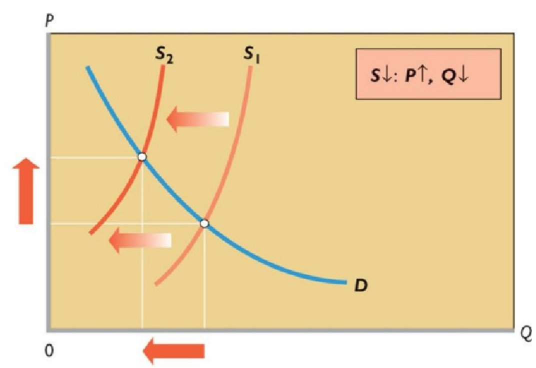
(a)
Increase in demand



(b)
Decrease in demand



(c)
Increase in supply



(d)
Decrease in supply

Changes in Demand, Supply, and Equilibrium

Complex Cases

When both supply and demand change, the effect is a combination of the individual effects.

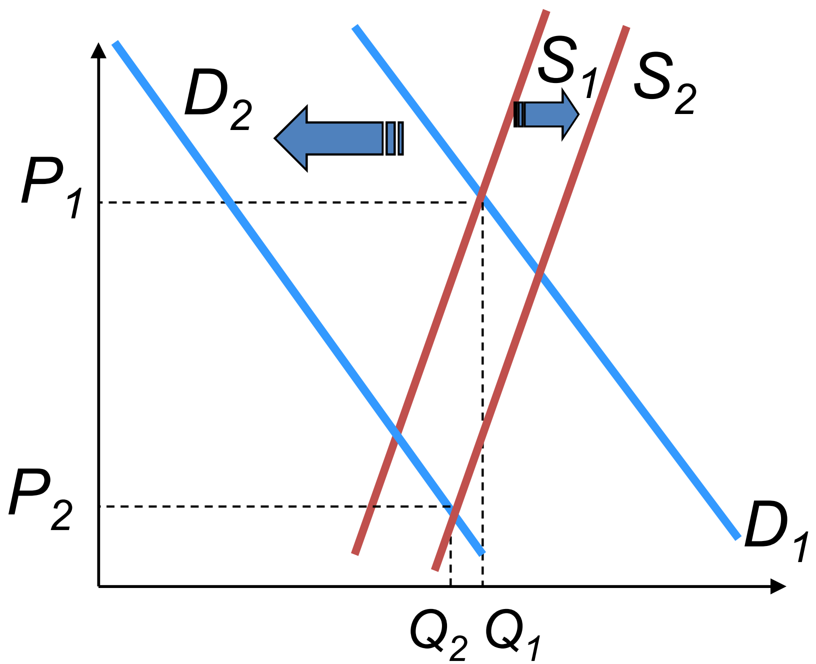
The relative sizes of the change in demand and supply will determine the effect on equilibrium price and quantity.

- In some cases, the effect is certain; in others the effect depends on the size of the shifts.

Changes in Demand, Supply, and Equilibrium

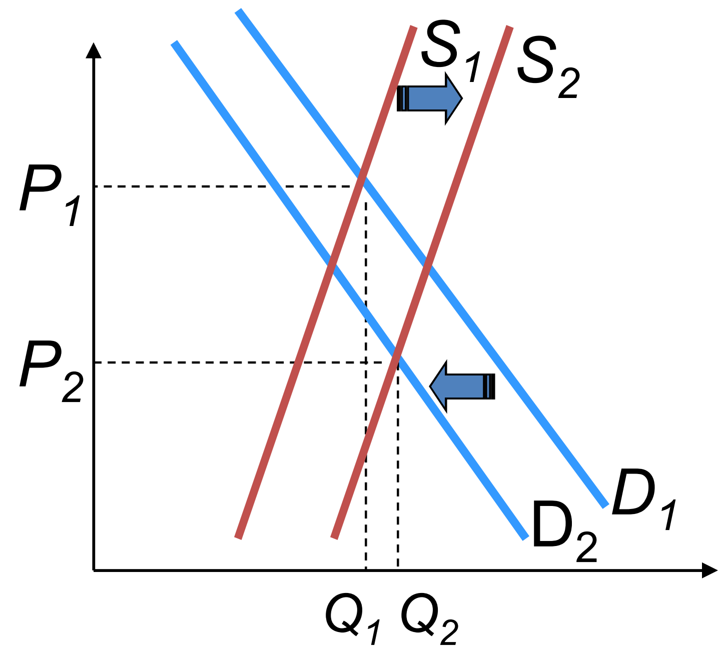
Example: Supply Increases, Demand Decreases

CASE 1



Price decreases, **quantity decreases**

CASE 2



Price decreases**, quantity increases**

Changes in Demand, Supply, and Equilibrium

Example: Supply Increases, Demand Decreases

CASE 3

If the shift in the supply curve to the right (an increase) is equal to the shift in the demand curve to the left (a decrease), then the equilibrium price will decrease and the equilibrium quantity *will not change*.

Changes in Demand, Supply, and Equilibrium

Change in Supply	Change in Demand	Change in Price	Change in Quantity
Increases	Decreases	↓	↑, ↓, or no change
Decreases	Increases	↑	↑, ↓, or no change
Increases	Increases	↑, ↓, or no change	↑
Decreases	Decreases	↑, ↓, or no change	↓

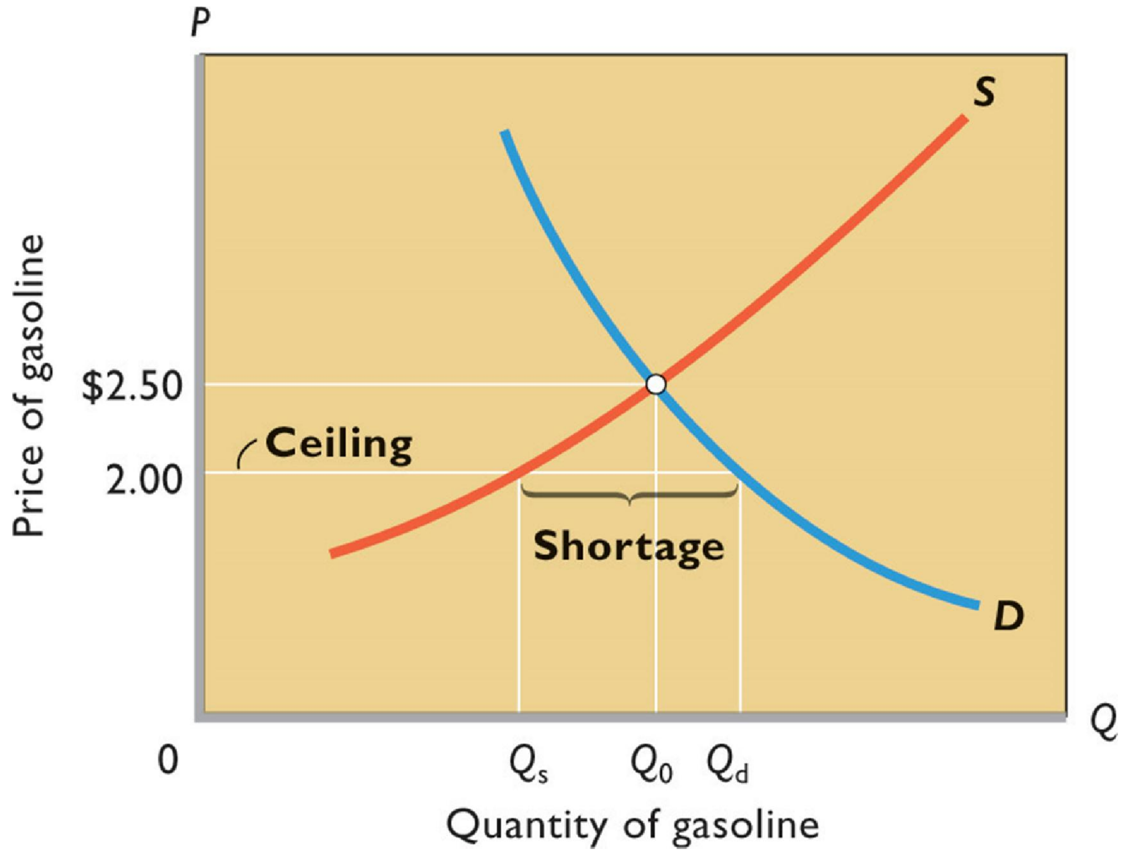
Government-Set Prices

- In most markets, prices are free to rise or fall with changes in demand and supply.
- However, sometimes the resulting price in a market is “too high” or “too low”.
  - Government may place legal limits on how high or how low a price or prices may go.
  - High prices may be unfair to buyers whereas low prices may be unfair to sellers.

Price Ceiling

- If the price of a product is unfairly high, the government can set a **price ceiling**, or a legal maximum price a seller may charge for a product.
- This purportedly enables consumers to obtain some “essential” good or service that they could not afford at the equilibrium price; however, it also creates a **shortage** of the good.

Price Ceiling Example



Price Floor

- When the price of a good or service is “too low”, the government can set a **price floor**, or a minimum fixed price that sellers can charge.
- The goal is to provide a sufficient income for certain groups of resource suppliers, or producers who would otherwise receive very low incomes at the equilibrium price. However, a **surplus** of the good is created.

Price Floor Example