

CHAPTER

4

Supply and Demand

Chapter Goals

- State the law of demand and distinguish shifts in demand from movements along a demand curve.
- State the law of supply and distinguish shifts in supply from movements along a supply curve.
- Explain how the law of demand and the law of supply interact to bring about equilibrium.
- Discuss the limitations of demand and supply analysis.

Demand

The **law of demand** states that the quantity of a good demanded is inversely related to the good's price.

In other words, *other things equal*:

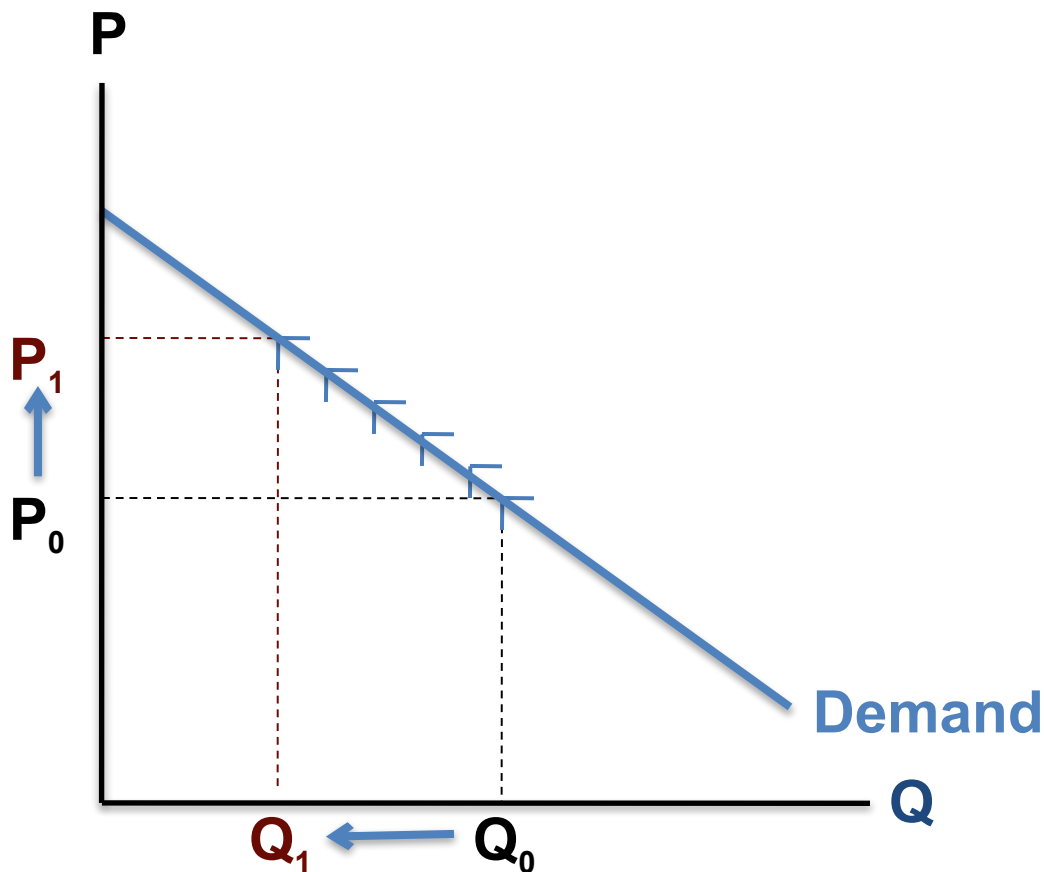
- Quantity demanded rises as price falls.
- Quantity demanded falls as price rises.

As prices change, people change how much they're willing to buy.

The law of demand is based on the fact that when prices for a good rise, people substitute away from that good to other goods.

The Demand Curve

A **demand curve** is the graphic representation of the relationship between price and quantity demanded.



Price and quantity demanded are inversely related

The demand curve is downward sloping

As price increases, quantity demanded decreases

Quantity Demanded: Movements Along a Demand Curve

Quantity demanded refers to a specific amount that will be demanded per unit of time at a specific price, other things constant.

It refers to a specific point on the demand curve.

A change in price causes a change in quantity demanded.

A change in price causes a **movement along** the demand curve.

Shifts in Demand versus Movements Along a Demand Curve

Demand refers to a schedule of quantities of a good that will be bought per unit of time at various prices, other things constant.

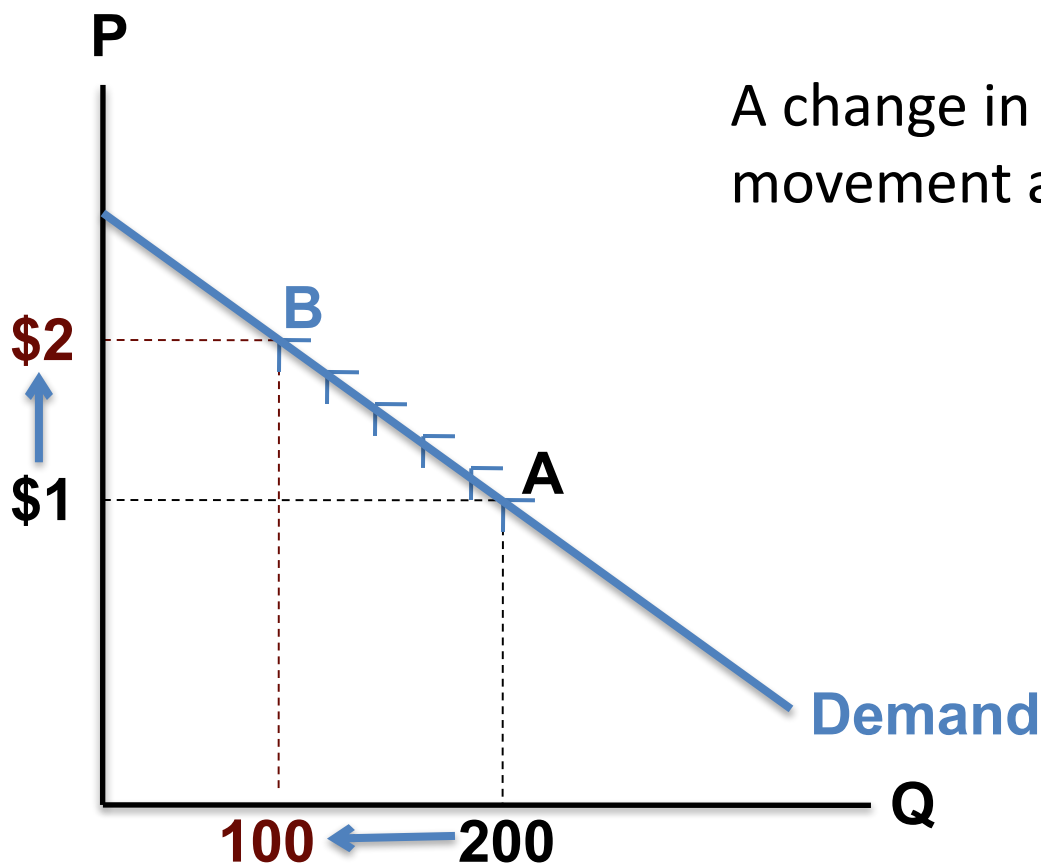
Refers to the entire demand curve.

Demand tells us how much will be bought at various prices.

A change in anything other than price that affects the demand curve changes the entire demand curve.

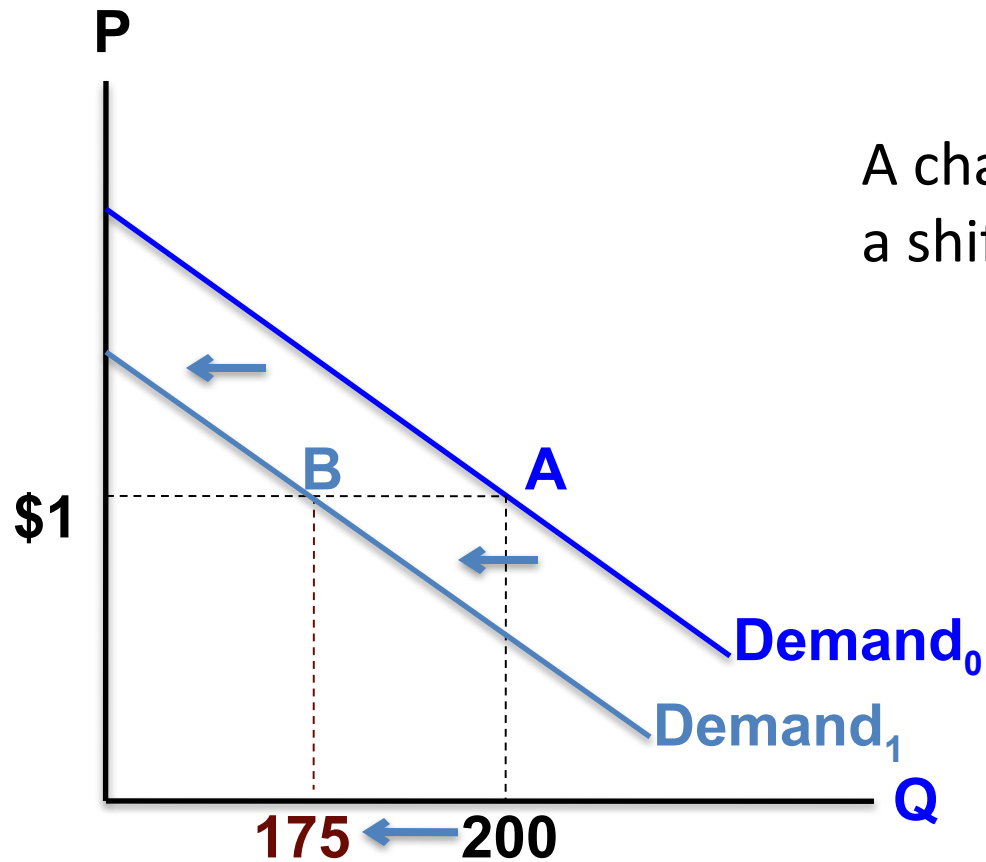
A change in the entire demand curve is a shift in demand.

Movement Along a Demand Curve



A change in **price** causes a movement along the demand curve.

Shift in Demand



A change in a **shift factor** causes a shift in demand.

Factors in Demand Shift

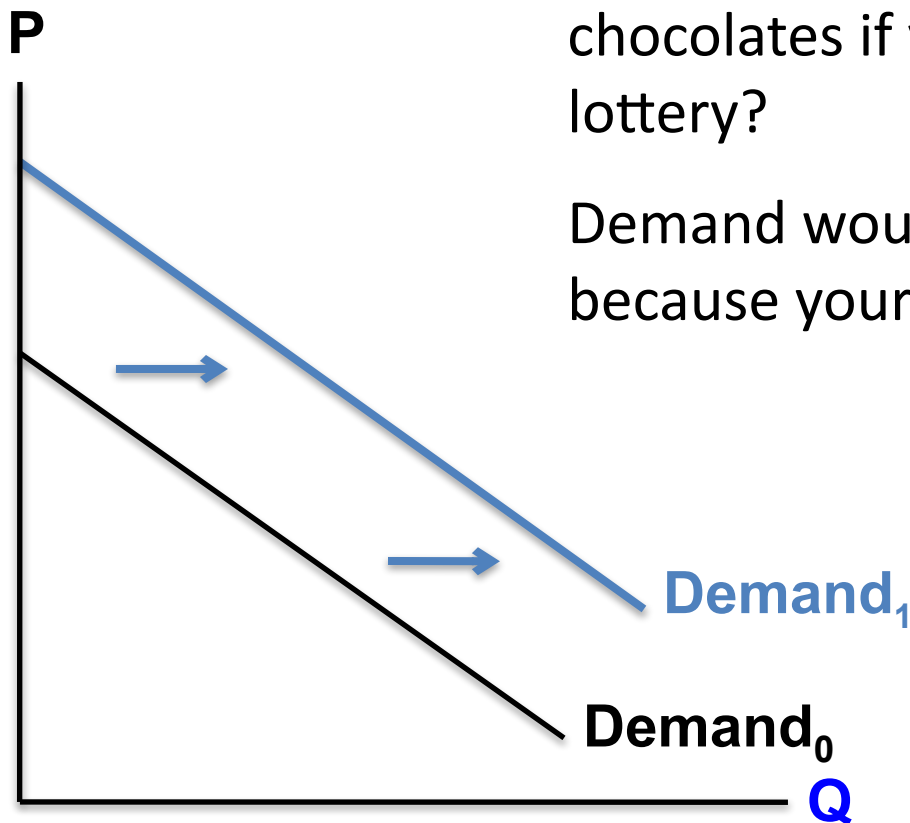
Important shift factors of demand include:

1. Society's income
2. The prices of other goods
3. Tastes
4. Expectations
5. Taxes and subsidies

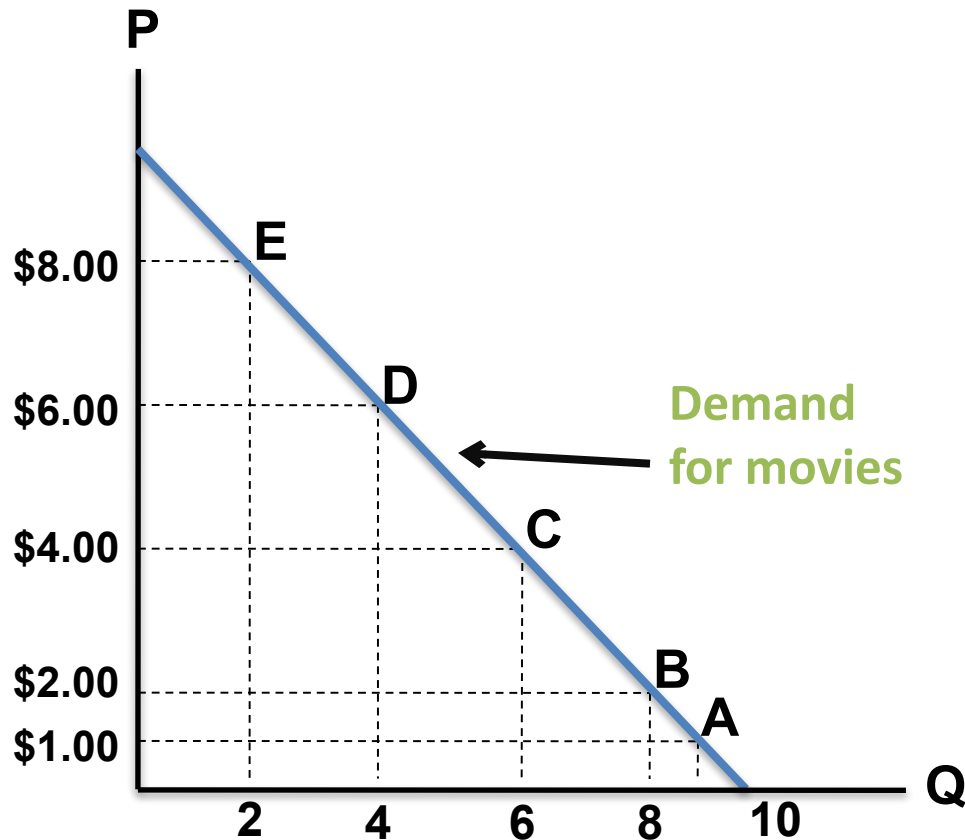
Application: Demand Shift

What happens to demand for Amedei chocolates if you won \$1 million in the lottery?

Demand would shift out to the right because your income increased.



From a Demand Table to a Demand Curve



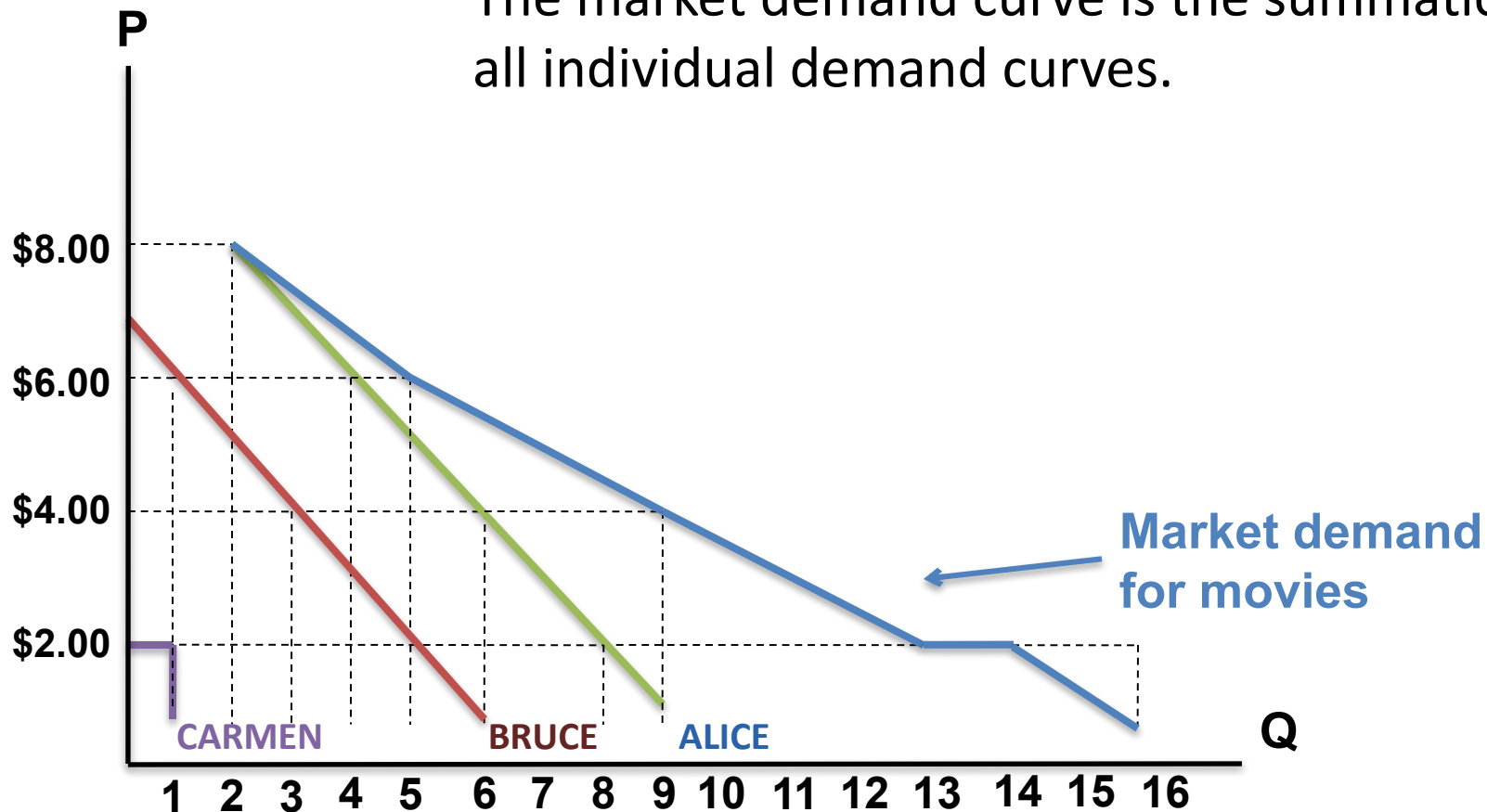
	Price per movie	Movie rentals demanded per week
A	\$1.00	9
B	\$2.00	8
C	\$4.00	6
D	\$6.00	4
E	\$8.00	2

Market Demand: Price per Movie

Price (per movie)	Alice's demand	+	Bruce's demand	+	Carmen's demand	=	Market demand
\$2.00	8		5		1		14
\$4.00	6		3		0		9
\$6.00	4		1		0		5
\$8.00	2		0		0		2

Market Demand Curve: Movies per Week

The market demand curve is the summation of all individual demand curves.



Individual and Market Demand Curves

For the market, the law of demand is based on two phenomena:

1. At lower prices, existing demanders buy more.
2. At lower prices, new demanders enter the market.

Six Things to Remember about a Demand Curve

1. A demand curve follows the law of demand: When price rises, quantity demanded falls, and vice versa.
2. The horizontal axis—quantity—has a time dimension.
3. The quality of each unit is the same.
4. The vertical axis—price—assumes all other prices remain the same.
5. The demand curve assumes everything else is held constant.
6. Effects of price changes are shown by movements along the demand curve. Effects of anything else on demand (shift factors) are shown by shifts of the entire demand curve.

Supply

The **law of supply** states that the quantity of a good supplied is directly related to the good's price.

In other words, *other things equal*:

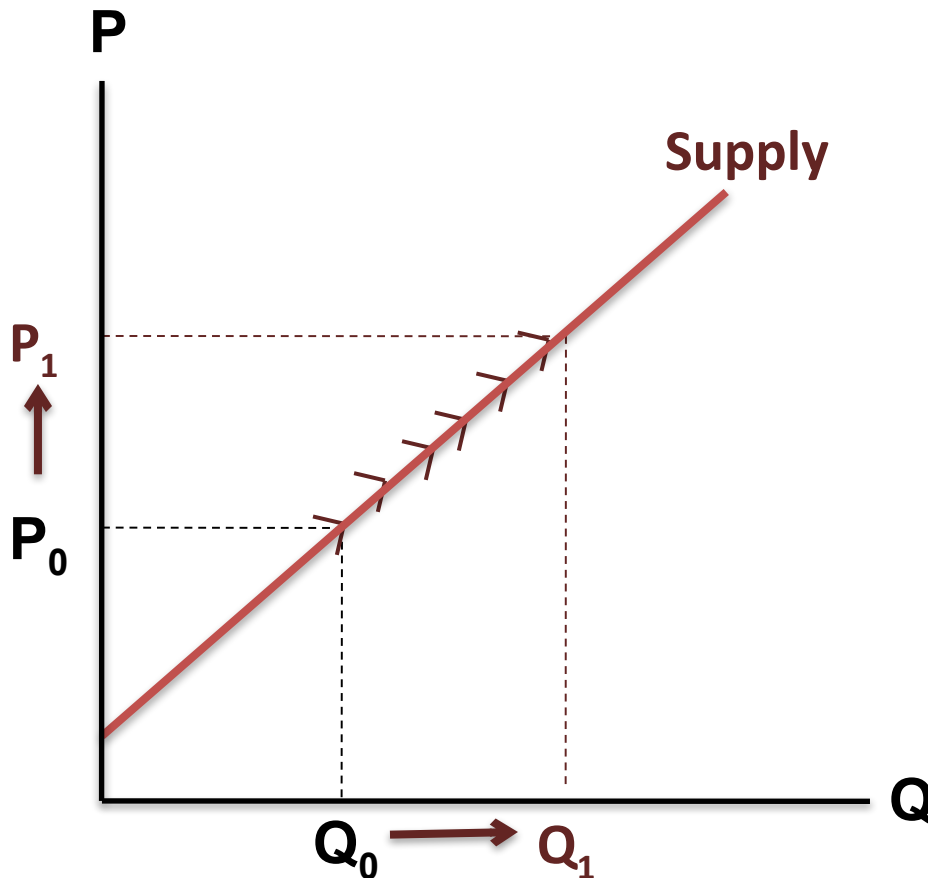
- Quantity supplied rises as price rises.
- Quantity supplied falls as price falls.

The law of supply occurs because:

- When prices rise, firms substitute production of one good for another.
- Assuming a firm's costs are constant, a higher price means higher profit.

The Supply Curve

A **supply curve** is the graphic representation of the relationship between price and quantity supplied.



Price and quantity supplied vary directly.

The supply curve is upward sloping.

As price increases, quantity supplied increases.

Quantity Supplied

Quantity supplied refers to a specific amount that will be supplied per unit of time at a specific price, other things constant.

It refers to a specific point on the supply curve.

A change in price changes quantity supplied.

A change in price causes a change in quantity supplied.

A change in price causes a **movement along** the supply curve.

Shifts in Supply versus Movements Along a Supply Curve

Supply refers to a schedule of quantities of a good a seller is willing to sell per unit of time at various prices, other things constant.

It refers to the entire supply curve.

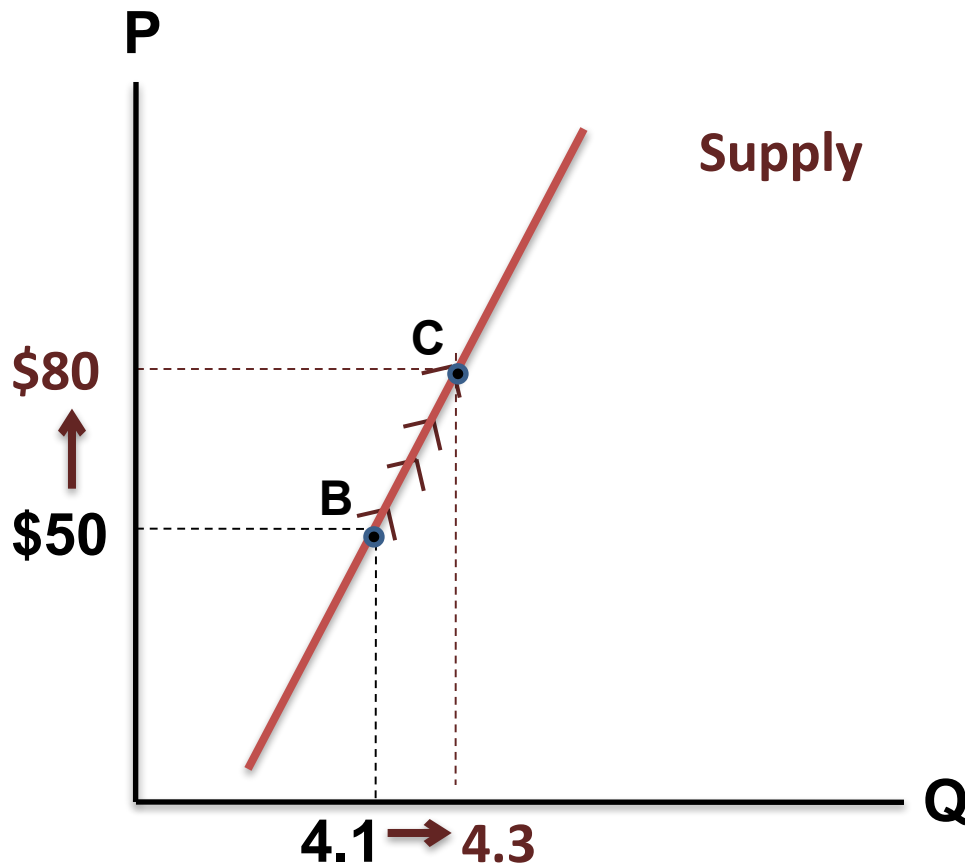
Supply tells us how much will be sold at various prices.

A change in anything other than price that affects the supply curve changes the entire supply curve.

A change in the entire supply curve is a shift in supply.

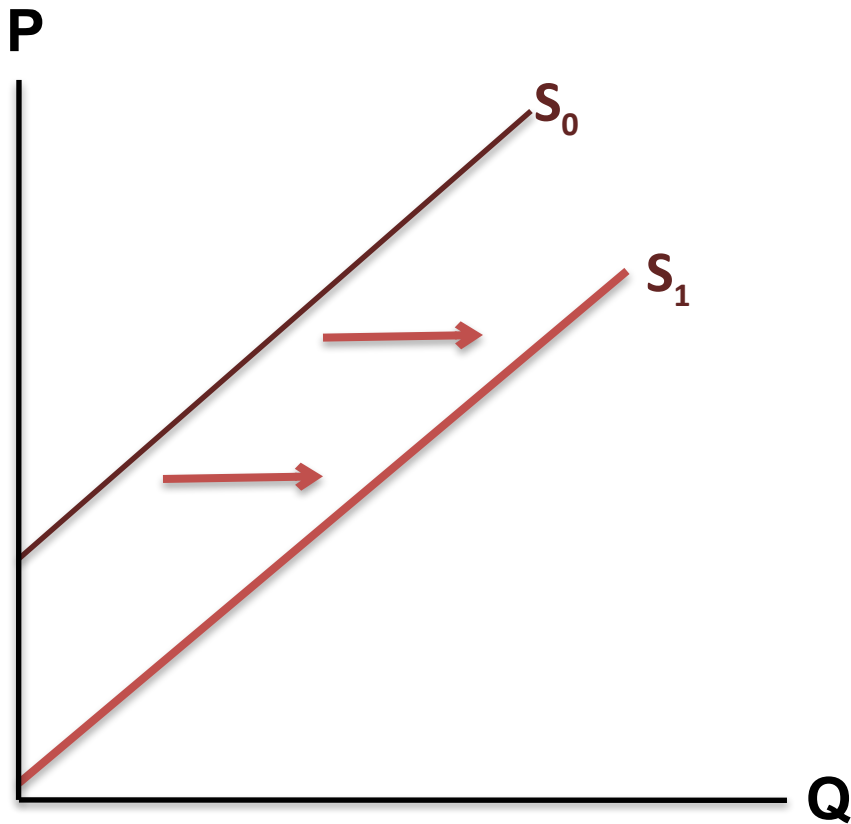
Movement Along a Supply Curve

A change in **price** causes a movement along the supply curve.



Shift in Supply

A change in a **shift factor** causes a shift in supply.



Factors in Supply Shift

Important shift factors of supply include:

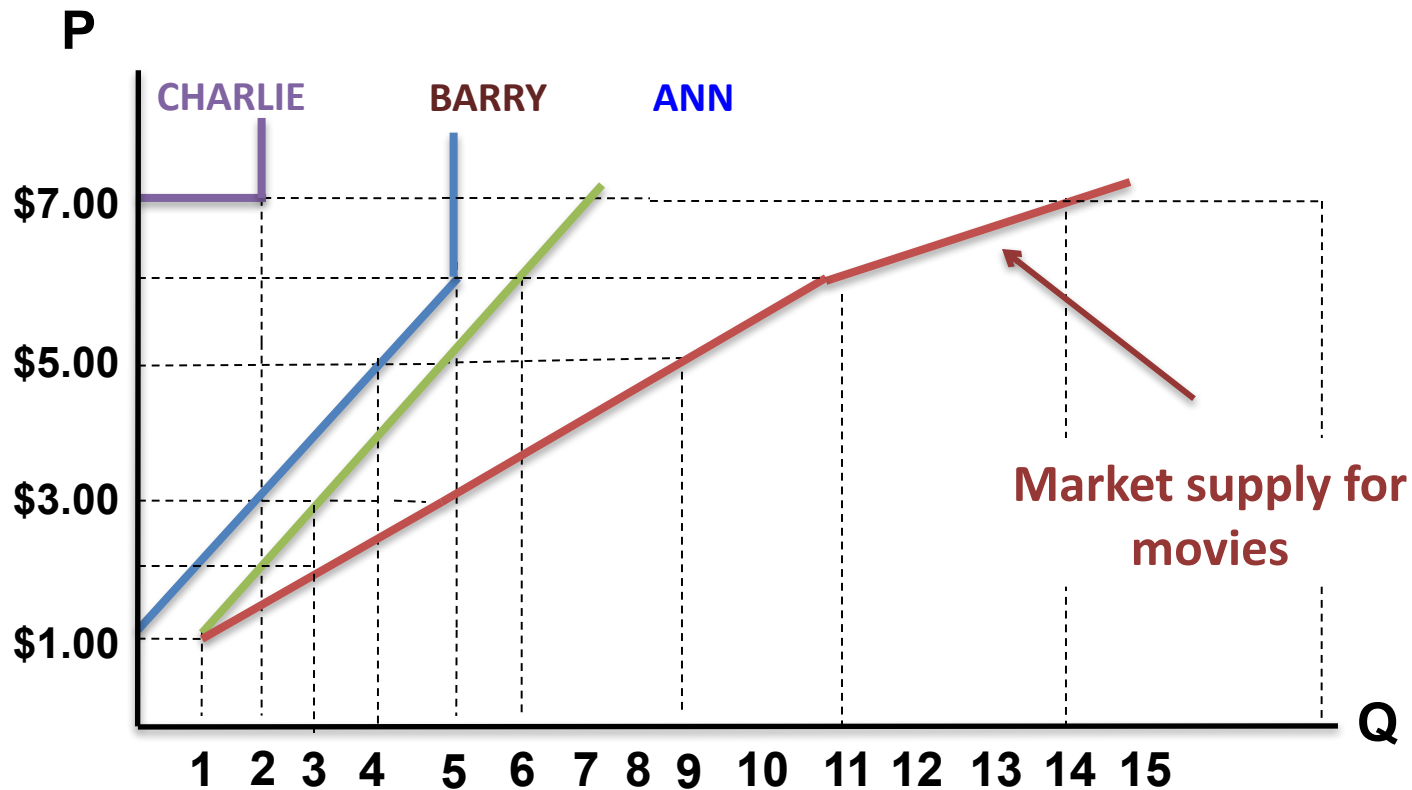
1. Price of inputs
2. Technology
3. Expectations
4. Taxes and subsidies

Market Supply: Price per Movie

Price (per movie)	Ann's Supply	+ Barry's supply	+ Charlie's supply	= Market supply
\$1.00	1	0	0	1
\$3.00	3	2	0	5
\$5.00	5	4	0	9
\$7.00	7	5	2	14

Market Supply Curve: Movies per Week

The market supply curve is the summation of all individual supply curves.



Six Things to Remember about a Supply Curve

1. A supply curve follows the law of supply. When price rises, quantity supplied increases, and vice versa.
2. The horizontal axis—quantity—has a time dimension.
3. The quality of each unit is the same.
4. The vertical axis—price—assumes all other prices remain constant.
5. The supply curve assumes everything else is constant.
6. Effects of price changes are shown by movements along the supply curve. Effects of nonprice determinants of supply are shown by shifts of the entire supply curve.

Equilibrium

Equilibrium is a concept in which opposing dynamic forces cancel each other out.

In the free market, the forces of supply and demand interact to determine:

- **Equilibrium quantity** is the amount bought and sold at equilibrium price.
- **Equilibrium price** is the price toward which the invisible hand drives the market.

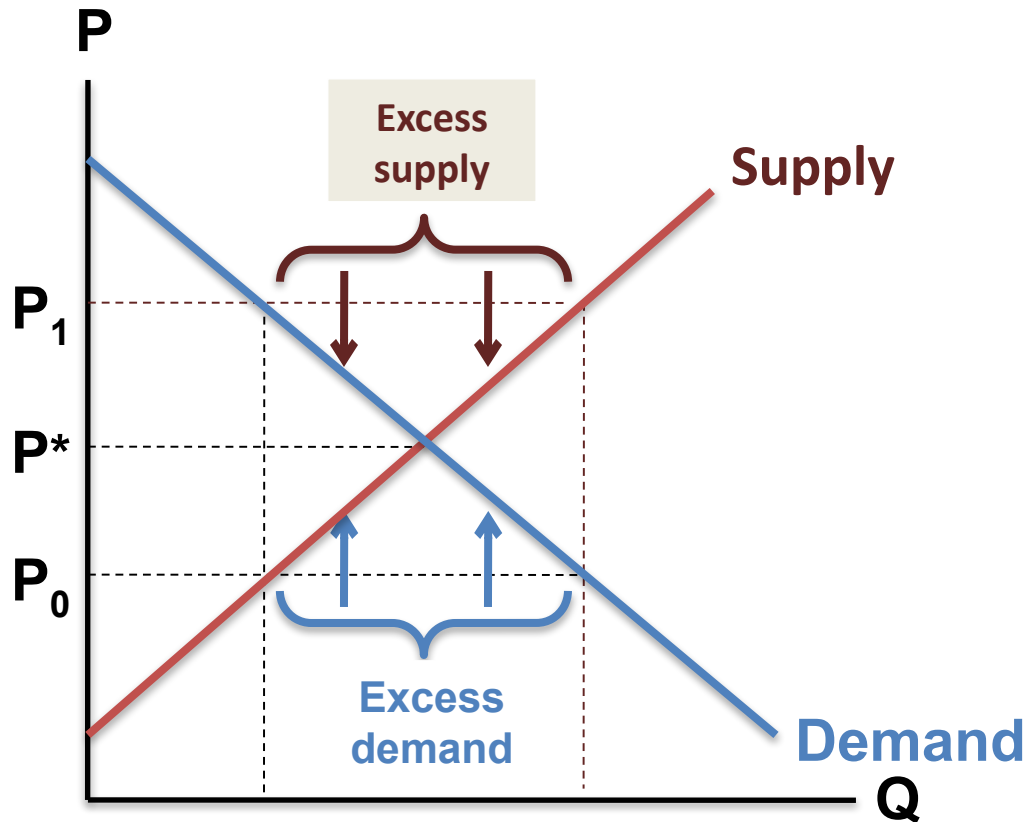
The Interaction of Supply and Demand

If there is an **excess supply (a surplus)**, quantity supplied is greater than quantity demanded.

If there is an **excess demand (a shortage)**, quantity demanded is greater than quantity supplied.

Prices adjust and tend to rise when there is excess demand and fall when there is excess supply to reach an equilibrium.

The Interaction of Supply and Demand: Graphed



Excess supply causes **downward** pressure on price.

Excess demand causes **upward** pressure on price.

Political and Social Forces and Equilibrium

If social and political forces were included in the analysis, they'd provide a counter-pressure to the dynamic forces of supply and demand.

For example:

Social pressures often offset economic pressures and prevent unemployed individuals from accepting work at lower wages than currently employed workers receive.

Renters often organize to pressure local government to set caps on the rental price of apartments.

Shifts in Supply and Demand

Shifts in either supply or demand change equilibrium price.

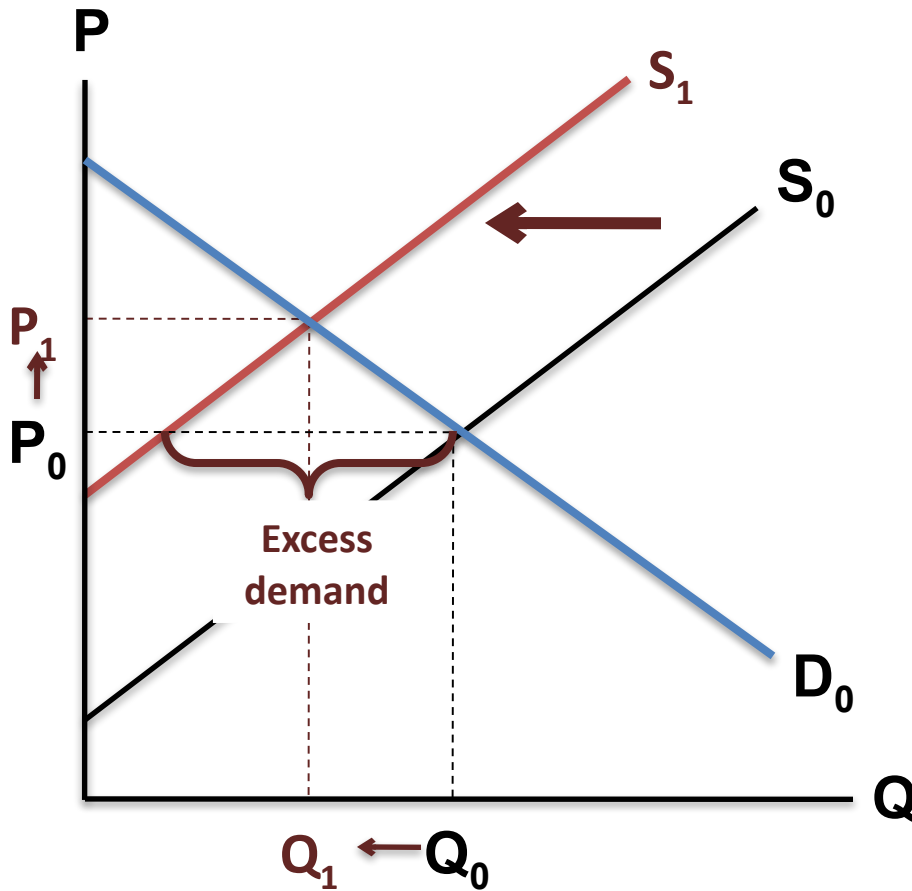
An increase in demand or a decrease in supply:

- Creates excess demand at the original equilibrium price.
- Excess demand increases price until a new higher equilibrium price is reached.

A decrease in demand or an increase in supply:

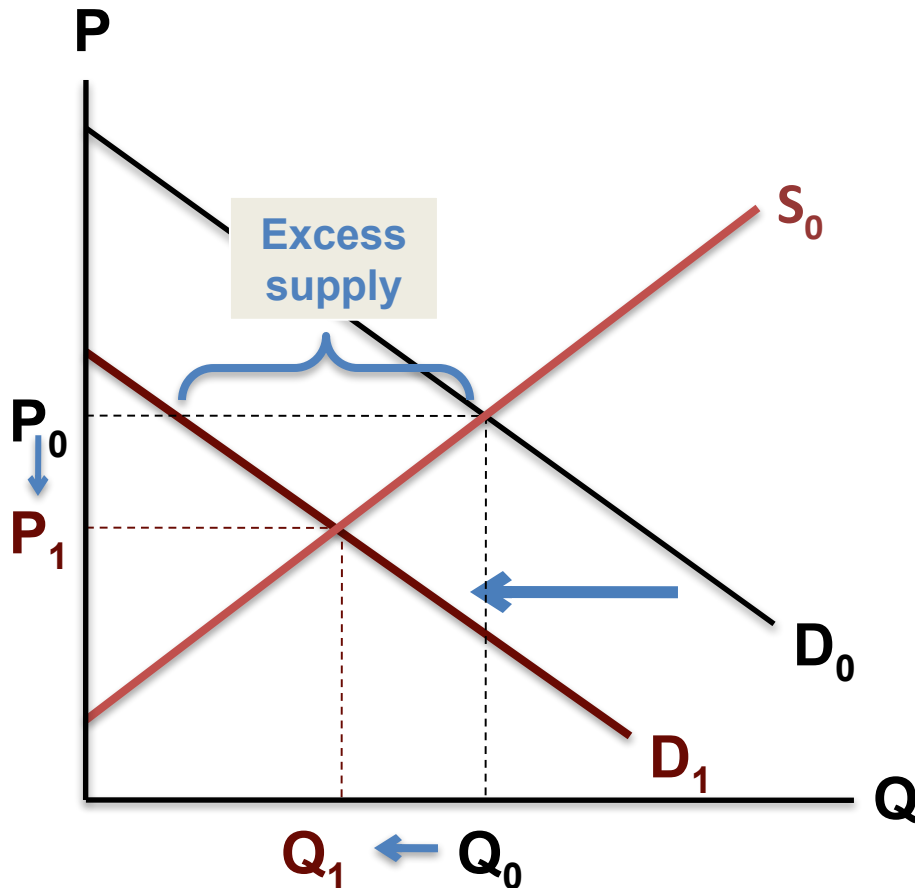
- Creates excess supply at the original equilibrium price.
- Excess supply decreases price until a new lower equilibrium price is reached.

Application: A Decrease in Supply



A decrease in supply generates excess demand. Price will increase until a new, higher, equilibrium price is reached.

Application: A Decrease in Demand



A decrease in demand generates excess supply. Price will decrease until a new, lower, equilibrium price is reached.

Limitations of Supply/Demand Analysis

Sometimes supply and demand are interconnected.

The other things held constant assumption is not likely to hold when the goods represent a large percentage of the entire economy.

The fallacy of composition is the false assumption that what is true for a part will also be true for the whole.

Chapter Summary (1 of 3)

The law of demand states that the quantity demanded rises as price falls, other things constant.

The law of supply states that the quantity supplied rises as price rises, other things constant.

Factors that affect supply and demand other than price are called shift factors.

Important demand shift factors include society's income, the price of other goods, tastes, expectations, and taxes and subsidies to consumers.

Important supply shift factors include price of inputs, technology, expectations, and taxes and subsidies to producers.

Chapter Summary (2 of 3)

A change in quantity demanded (supplied) is a movement along the demand (supply) curve.

A change in demand (supply) is a shift of the entire demand (supply) curve.

The laws of supply and demand hold true because individuals can substitute.

A market demand (supply) curve is the horizontal sum of all individual demand (supply) curves.

Chapter Summary (3 of 3)

When quantity demanded equals quantity supplied at equilibrium, prices have no tendency to change.

When quantity demanded is greater than quantity supplied, prices tend to rise; when quantity supplied is greater than quantity demanded, prices tend to fall.

When the demand curve shifts to the right (left), equilibrium price rises (declines) and equilibrium quantity rises (falls).

When the supply curve shifts to the right (left), equilibrium price declines (rises) and equilibrium quantity rises (falls).