# ECONOMIC PRINCIPLES

## LECTURE 2

## CHAPTER 3

# DEMAND AND SUPPLY

# LEARNING OBJECTIVES

- Understand the factors that influence ***demand***
- Understand the factors that influence ***supply***
- Explain how demand and supply determine prices and quantities bought and sold
- Use demand and supply to make predictions about changes in prices and quantities

# DEMAND AND SUPPLY ANALYSIS

**Demand & supply analysis can:**

1. Help us understand and predict how world economic conditions affect market price and production

2. Analyze the impact of government policies such as price controls, taxes and tariffs

# WHAT IS A MARKET?

**Most of the interesting questions in economics concern the functioning of markets**

- Why are there a lot of firms in some markets and not in others?
- Why are markets efficient?
- Should the government intervene in markets?

# MARKET

**A *market* is a group of buyers and sellers of a particular good or service.**

- Product
- Buyers
- Sellers
- Voluntary exchange

# MARKET PRICE


**Market price**

**is the price prevailing in a competitive market such as the market for the price of gold**

**Where the market is imperfect market, the same &/or similar products sell at different prices such as Petrol, electrical products, cars**

# *A COMPETITIVE MARKET*

**A competitive market is characterised by:**

1. **Many buyers and sellers**

2. **not controlled by any one person**

3. **in which a narrow range of prices are established**

4. **Firms are the price takers**

5. **Products are homogenous**

6. **Free entry and exit by firms**

# PRICE

**Price is the number of dollars that must be given up in exchange for an item — this is referred to as the money price**

**The ratio of one price to another is referred to as the relative price**

**e.g. P(coke) = $1 and P(coffee) = $3**

# DEMAND

**Demand for a commodity is essentially consumers' attitude and reaction towards that commodity.**

**Demand for a commodity is the amount of it that a consumer will purchase or will be ready to take off from the market at various given prices in a given period of time.**

**Demand in Economics implies both the desire to purchase and the ability to pay for a good.**

# DEMAND

The term **demand** refers to the relationship of all the buyers as a total group 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 (ceteris paribus)*.**

**Demand Schedule:** a table showing various levels of demand at different prices

# LAW OF DEMAND

- **Law of Demand expresses the functional relationship between price and commodity demanded.**

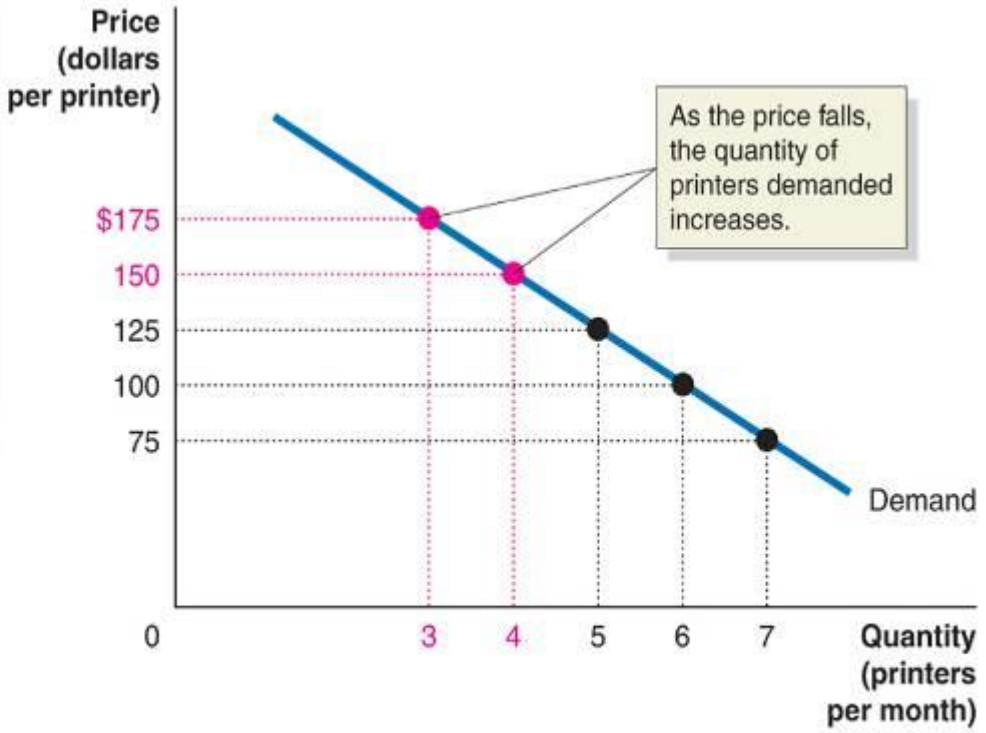
- **Law of Demand implies that there is inverse or negative relationship between price and quantity demanded, other things remaining the same.**

- **When the price of a product increases the quantity demanded will decrease, and when the price of a product decreases, the quantity demanded will increase, ceteris paribus ( i.e. holding all other things as constant)**

# The demand side of the market

## Demand schedule and demand curve

| Demand schedule | |
|---|---|
| Price (dollars per printer) | Quantity (printers per month) |
| $175 | 3 |
| 150 | 4 |
| 125 | 5 |
| 100 | 6 |
| 75 | 7 |



# DEMAND

**A demand curve is a *willingness-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.***

# THE DEMAND SIDE OF THE MARKET

**Market demand:** The demand by all the consumers of a given good or service.

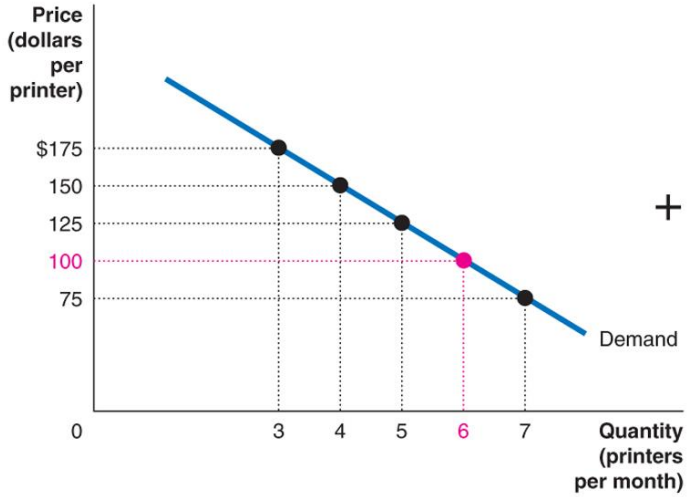
The market demand curve is derived by ***horizontally summing*** all the individual demand curves for a good or service.

# Deriving market demand curve from individual demand curves

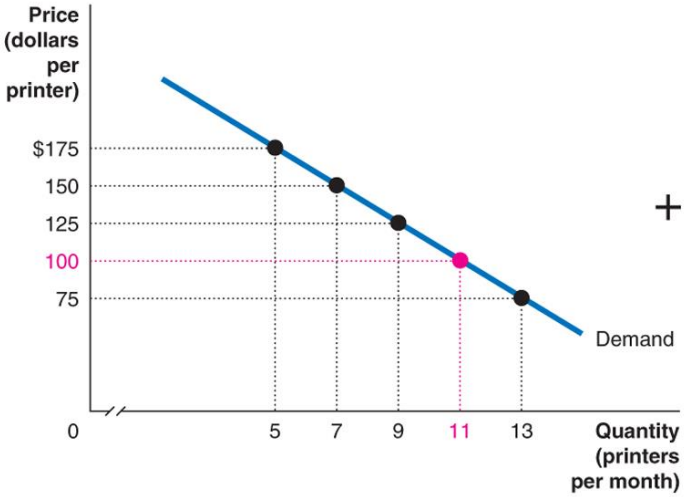
● **Figure 3.3 Deriving the market demand curve from individu**

The table shows that the total quantity demanded in a market is the sum of the quantities demanded by each buyer at each price. We find the market demand curve by adding horizontally the individual demand curves in parts (a), (b) and (c). At a price of $100, Group A demands 6 printers, Group B demands 11 printers and Group C demands 9 printers. Therefore, part (d) shows that a price of $100 and a quantity demanded of 26 is a point on the market demand curve

| | Quantity (printers per month) | | | |
|---|---|---|---|---|
| Price (dollars per printer) | Group A | Group B | Group C | Market |
| $175 | 3 | 5 | 6 | 14 |
| 150 | 4 | 7 | 7 | 18 |
| 125 | 5 | 9 | 8 | 22 |
| 100 | 6 | 11 | 9 | 26 |
| 75 | 7 | 13 | 10 | 30 |



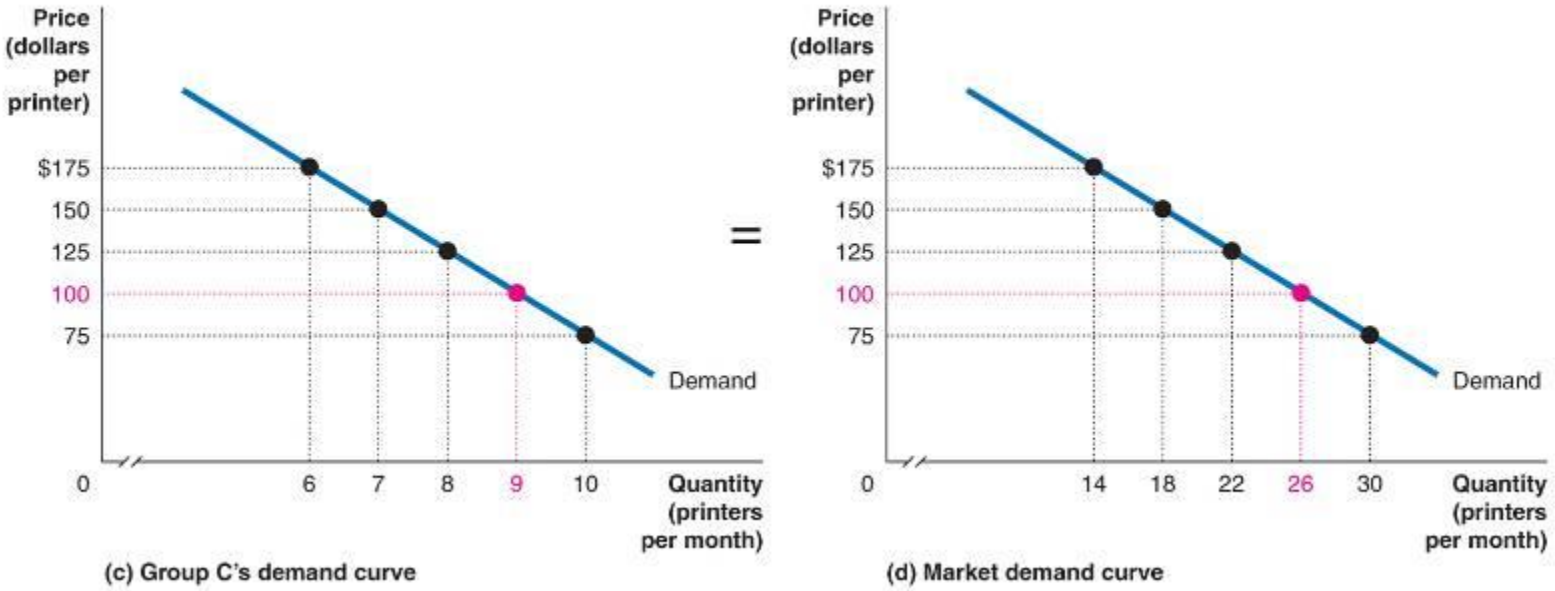

(a) Group A's demand curve




(b) Group B's demand curve

# Deriving market demand curve from individual demand curves

● **Figure 3.3 continued**




(c) Group C's demand curve

(d) Market demand curve

# LAW OF DEMAND

- **Why are price and quantity demanded negatively related?**

  1. ***Substitution effect***
  2. ***Income effect***

# SUBSTITUTION EFFECT

When the price of a good rises, consumers are more willing to *substitute* other relatively less expensive (cheaper) goods for this expensive good and - quantity demanded falls

# INCOME EFFECT

**When the price of a good rises, a consumer's purchasing power or real income falls, causing them to decrease consumption**

**Income = $100**

**P(coke) = $1; real income = 100 cokes**

**If P(coke) = $2; real income = 50 cokes**

# LAW OF DEMAND

**Are there any exceptions to the law of demand ? ? ? (i.e. the price goes down and *less* is purchased or price goes up and *more* is purchased)**

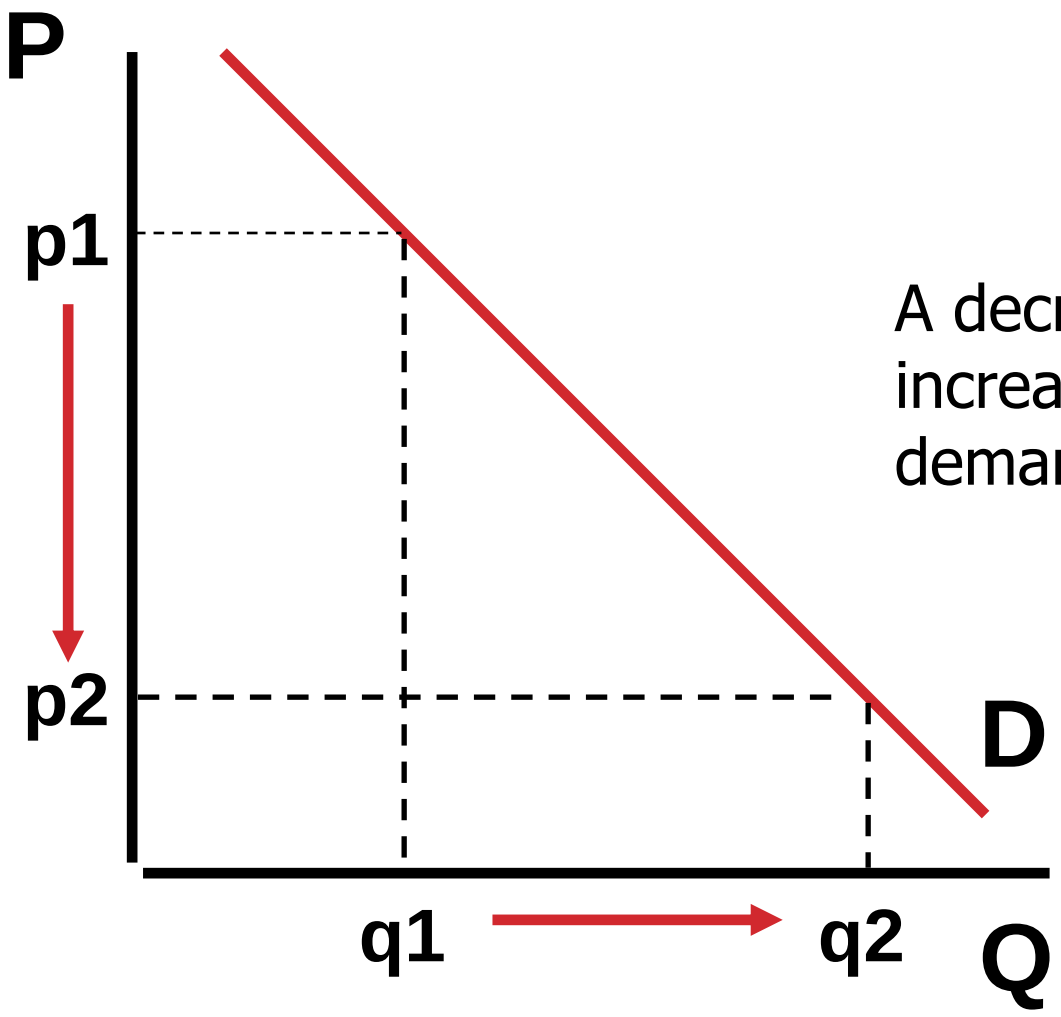
- *Any Suggestions?* (discuss with your neighbours)

# MOVEMENT V/S SHIFT IN DEMAND

**A change in price - Causes a movement along the demand curve**

- If price falls, there is an increase in quantity demanded (movement _____ the curve).
- If price rises, there is a decrease in quantity demanded (movement _____the curve).

# A CHANGE IN PRICE RESULTS IN A MOVEMENT ALONG THE D CURVE




A decrease in price increases qty demanded

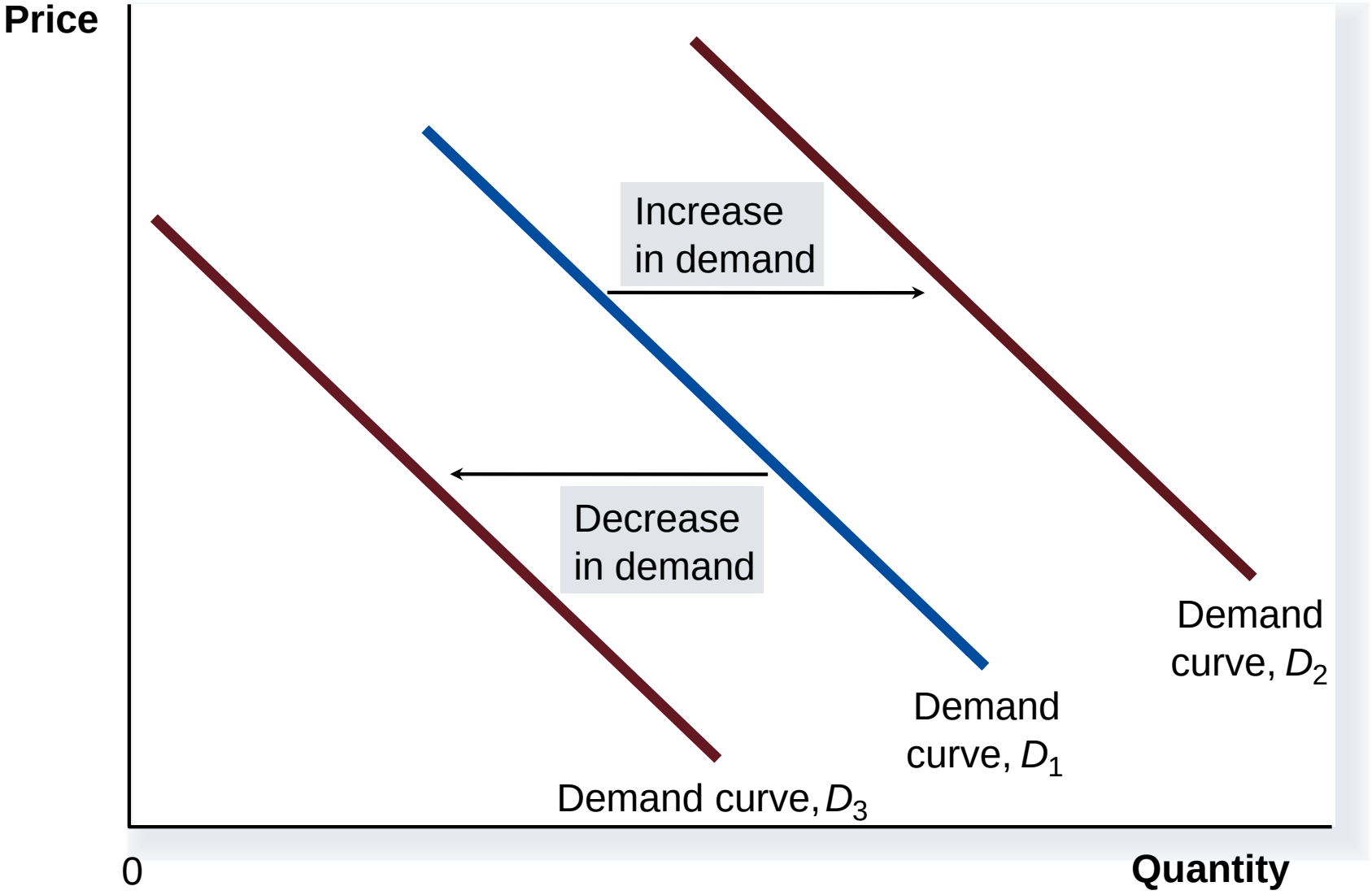
# DETERMINANTS OF DEMAND / SHIFT IN DEMAND CURVE

**Other than price, the 5 most important variables affecting demand are**

- ***Prices of related goods*** ***(substitute commodities and complementary commodities)***
- ***Consumer income***
- ***Tastes (preferences)***
- ***Population & demographics***
- ***Expected future prices / anticipated prices***

***A change in any of these factors will cause a <u>Shift</u> of the demand curve***

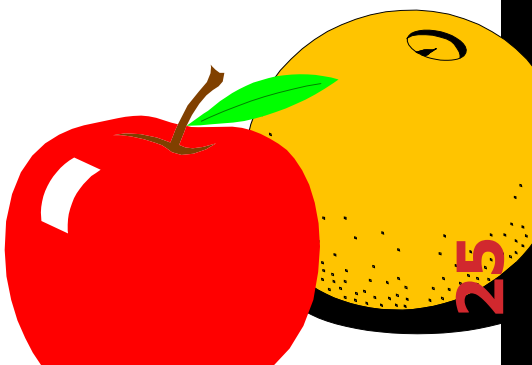
# SHIFTS IN THE DEMAND CURVE



# DETERMINANTS OF DEMAND

## 1. Prices of related goods

- ***Substitutes*: Goods or services that can be used in place of other goods or services.**
- The demand for a good will _____when there is a fall in the price of the substitute good.

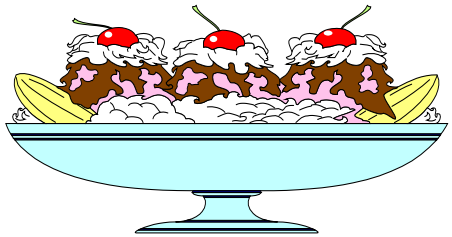


# DETERMINANTS OF DEMAND

**1. Prices of related goods**

***Complements*: Goods and services that are consumed together.**

The demand for a good will _____ when there is a fall in the price of the complement good.



# DETERMINANTS OF DEMAND

2. ***Consumer Income -***

– **Normal good: a good whose demand is a positive function of income. A good for which the demand increases as income rises and decreases as income falls.**

– **Inferior good: where demand is a negative function of income. A good for which the demand increases as income falls and decreases as income rises.**

– **Example _____**

# DETERMINANTS OF DEMAND

3. ***Tastes (preferences)*** –

   A broad category that refers to the many ***subjective elements*** that can influence a consumer's plans to buy a good or service.

   Influenced by advertising & marketing

# DETERMINANTS OF DEMAND

4. ***Population and demographics*** -

– **Population:** As population increases the demand for most goods and services will_____.

– **Demographics:** Changes in the characteristics of the population (age and gender) will influence demand for various goods and services.

# DETERMINANTS OF DEMAND

5. ***Expected future prices*** -

   Consumers choose when to buy goods and services based on their expectations regarding future prices relative to present prices.

   If consumers expect prices to increase in the future, they have an incentive to _____purchases now, and *vice versa*.

# WHAT CAN CAUSE AN INCREASE IN DEMAND?

**a _____ change in preferences**

**_____ in real income**

**price of a complement good _____**

**price of a substitute good _____**

**number of buyers _____**

**expectation that price will _____ in future**

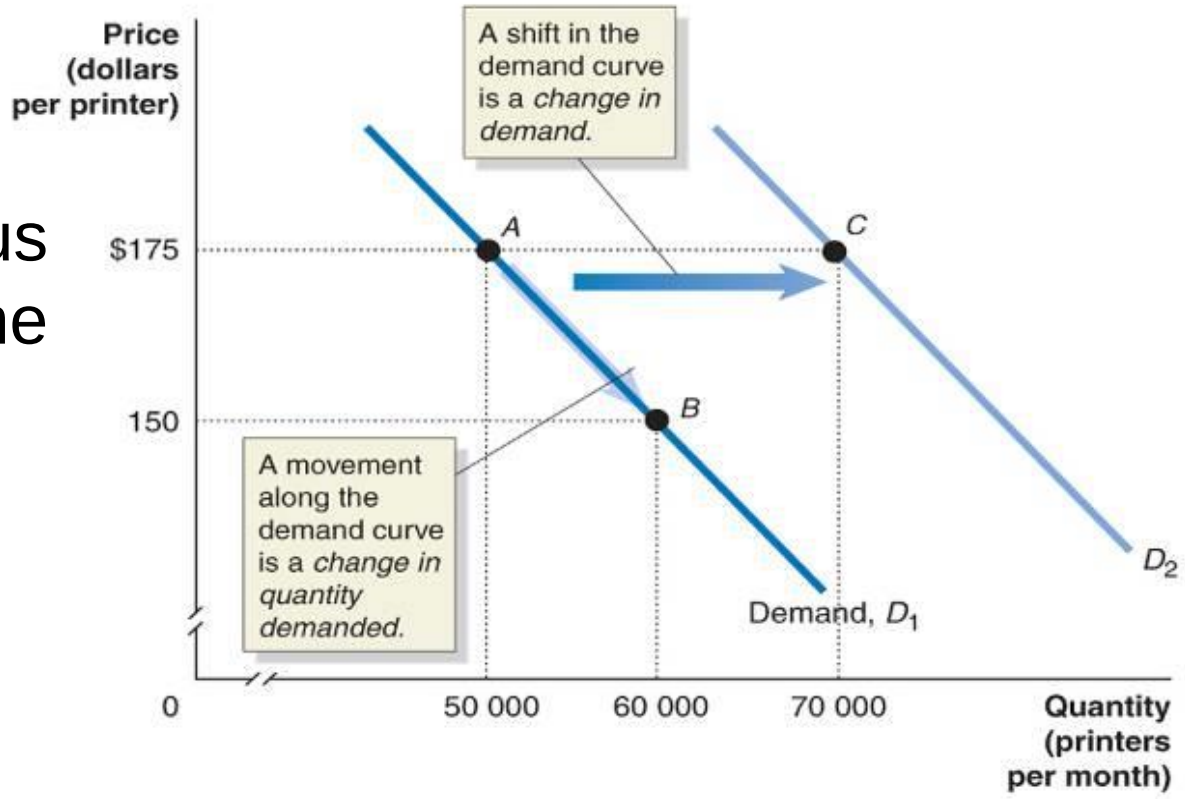
# VARIABLES THAT INFLUENCE BUYERS

| *Factors affecting Demand* | *A change in this variable …* |
|---|---|
| **Price** | **Represents a *movement along* the demand curve** |
| **Income** | ***Shifts the demand curve*** |
| **Prices of related goods** | ***Shifts the demand curve*** |
| **Tastes** | ***Shifts the demand curve*** |
| **Expectations** | ***Shifts the demand curve*** |
| **Number of buyers** | ***Shifts the demand curve*** |

**Ceteris paribus factors**

# TWO TYPES OF CHANGE

A change in demand versus a change in the quantity demanded



# Review

Explain whether each of the following causes a movement along or a shift in the demand curve for Dell laptops

a) The price of Toshiba laptops decreases.

*Answer: Toshiba laptops are a _____for Dell laptops. A decrease in the price of Toshiba laptops will _____demand for Dell laptops, shifting the demand curve for Dell laptops to the _____.*

# Review

Explain whether each of the following causes a movement along or a shift in the demand curve for Dell laptops

b) A fall in the value of the Australian dollar against the US dollar increases the price of Dell laptops in Australia.

*Answer: The quantity demanded will _____, resulting in a movement ___ the demand curve.*

# Review

Explain whether each of the following causes a movement along or a shift in the demand curve for Dell laptops

c) Dell's customized laptops become increasingly appealing.

*Answer: This change is an example of a change in consumer _____. The result will be an _____ in demand for Dell laptops, which will shift the demand curve to the _____.*

# REVIEW

**Researchers at Curtin University announce that men who shave their heads are less likely to die of heart failure. We would expect**

**a. the demand for razor blades to decrease.**

**b. the demand for combs to increase.**

**c. the demand for razor blades to increase.**

**d. the demand for hair dye by men to increase.**

# REVIEW

**What will happen in the rice market if buyers are expecting higher prices in the near future?**

**a. The demand for rice will increase.**

**b. The demand for rice will decrease.**

**c. The demand for rice will be unaffected.**

**d. The supply of rice will increase.**

# SUPPLY

**Supply** **for a commodity is essentially producer's attitude and reaction towards that commodity.**

**Supply for a commodity is the amount of it that a produces will sell or will be ready to sell in the market at various given prices in a given period of time.**

# SUPPLY

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

**A supply curve shows the relationship between the quantity supplied of a good and its price, when all other influences on producers' planned sales *remain the same (ceteris paribus)*.**

# LAW OF SUPPLY

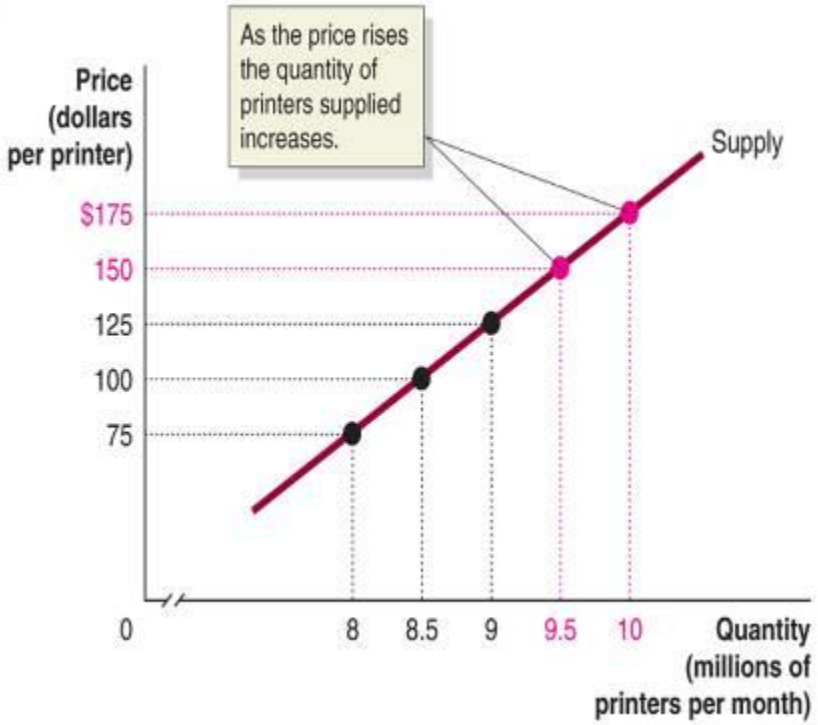
**Law of supply** refers to the positive relation between the price of a commodity and quantity supplied of that commodity.

Holding everything else constant, when the price of a product increases the quantity supplied will increase, and when the price of a product decreases, the quantity supplied will decrease.

# The supply side of the market

Hewlett-Packard's (HP's) supply schedule and supply curve

| Supply schedule | |
|---|---|
| Price (dollars per printer) | Quantity (millions of printers per month) |
| $175 | 10 |
| 150 | 9.5 |
| 125 | 9 |
| 100 | 8.5 |
| 75 | 8 |

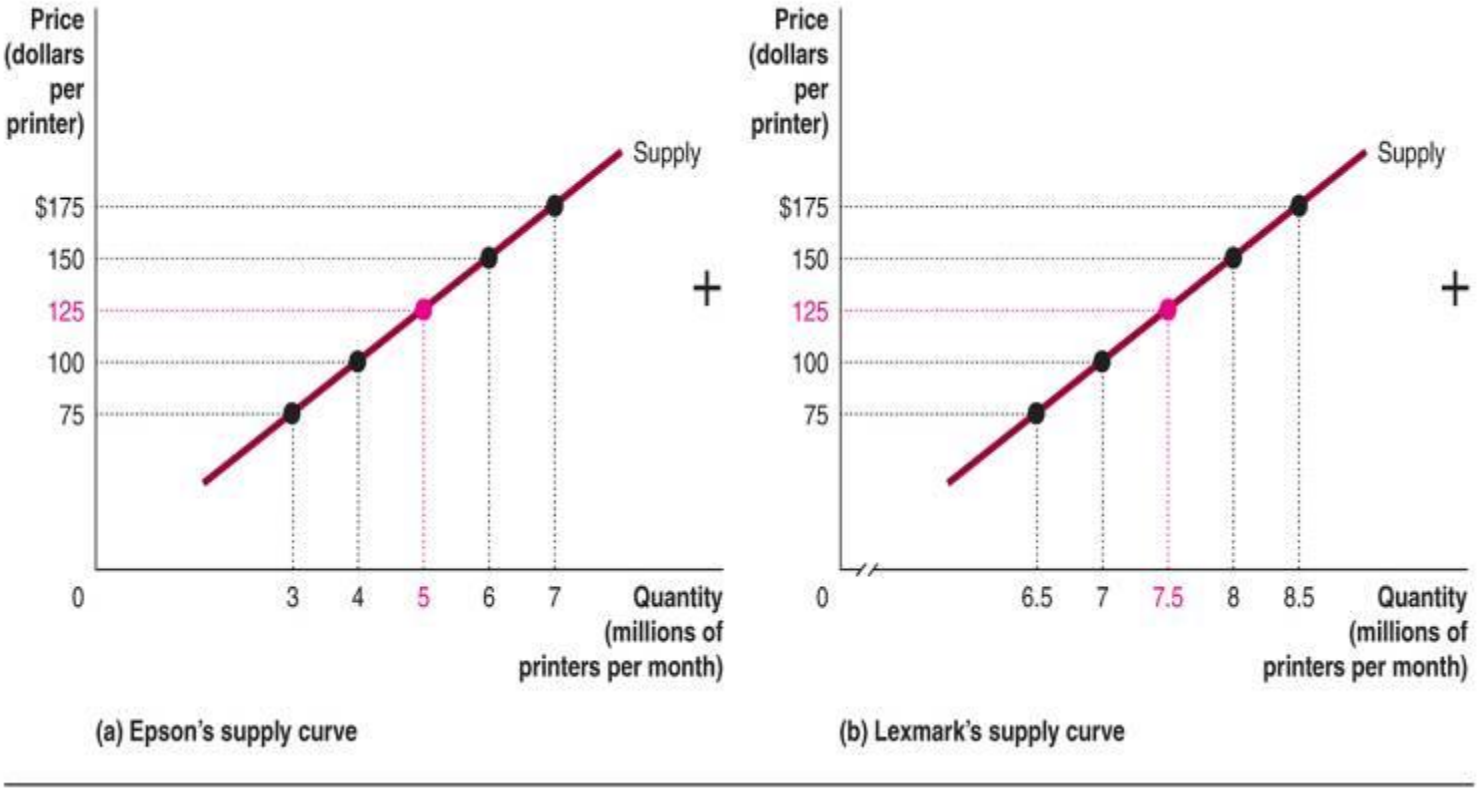


# The supply side of the market

**Market supply:** The supply by all the firms of a given good or service.

The market supply curve is derived by horizontally summing all the individual supply curves for a good or service.

# Deriving the market supply curve from individual curves

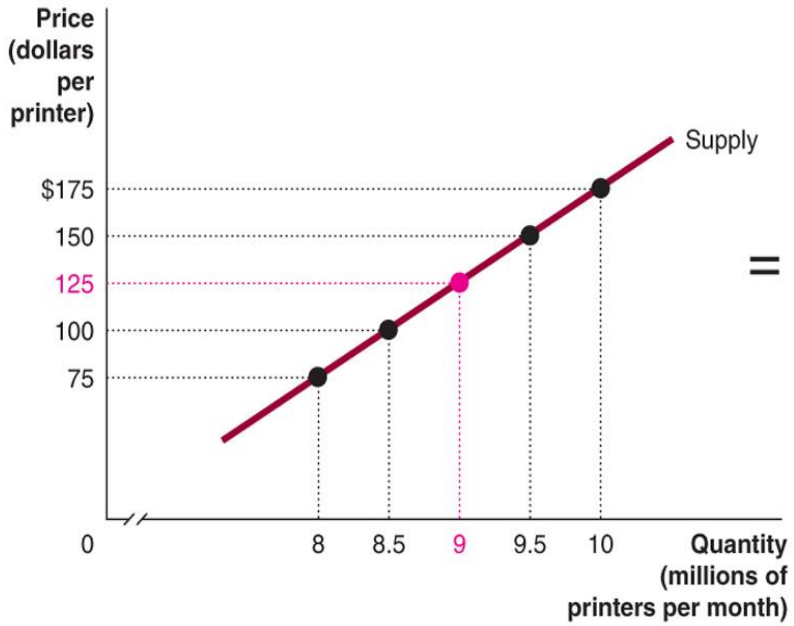



(a) Epson's supply curve

(b) Lexmark's supply curve

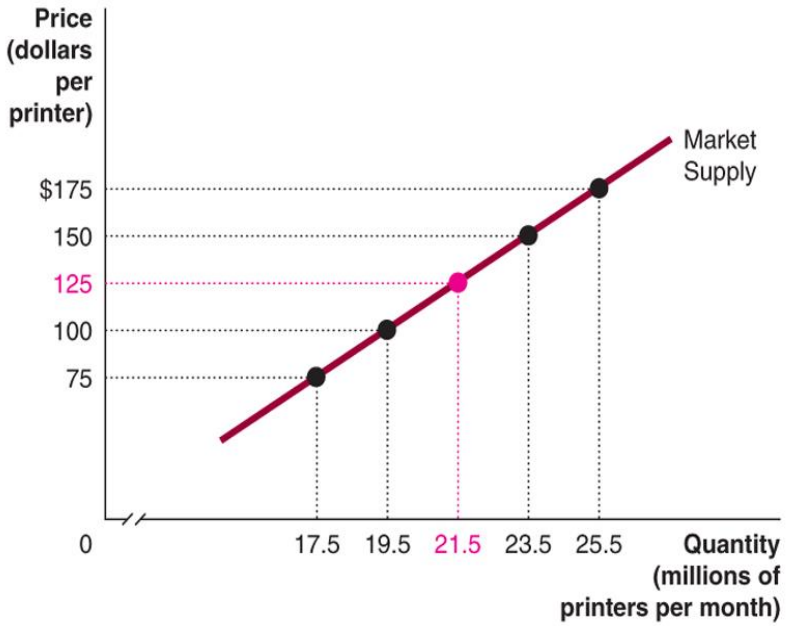
# The supply side of the market

| Quantity (millions of printers per month) | | | | |
|---|---|---|---|---|
| Price (dollars per printer) | Epson | Lexmark | Hewlett-Packard | Market |
| $175 | 7 | 8.5 | 10 | 25.5 |
| 150 | 6 | 8 | 9.5 | 23.5 |
| 125 | 5 | 7.5 | 9 | 21.5 |
| 100 | 4 | 7 | 8.5 | 19.5 |
| 75 | 3 | 6.5 | 8 | 17.5 |




(c) Hewlett-Packard's supply curve

=




(d) Market supply curve

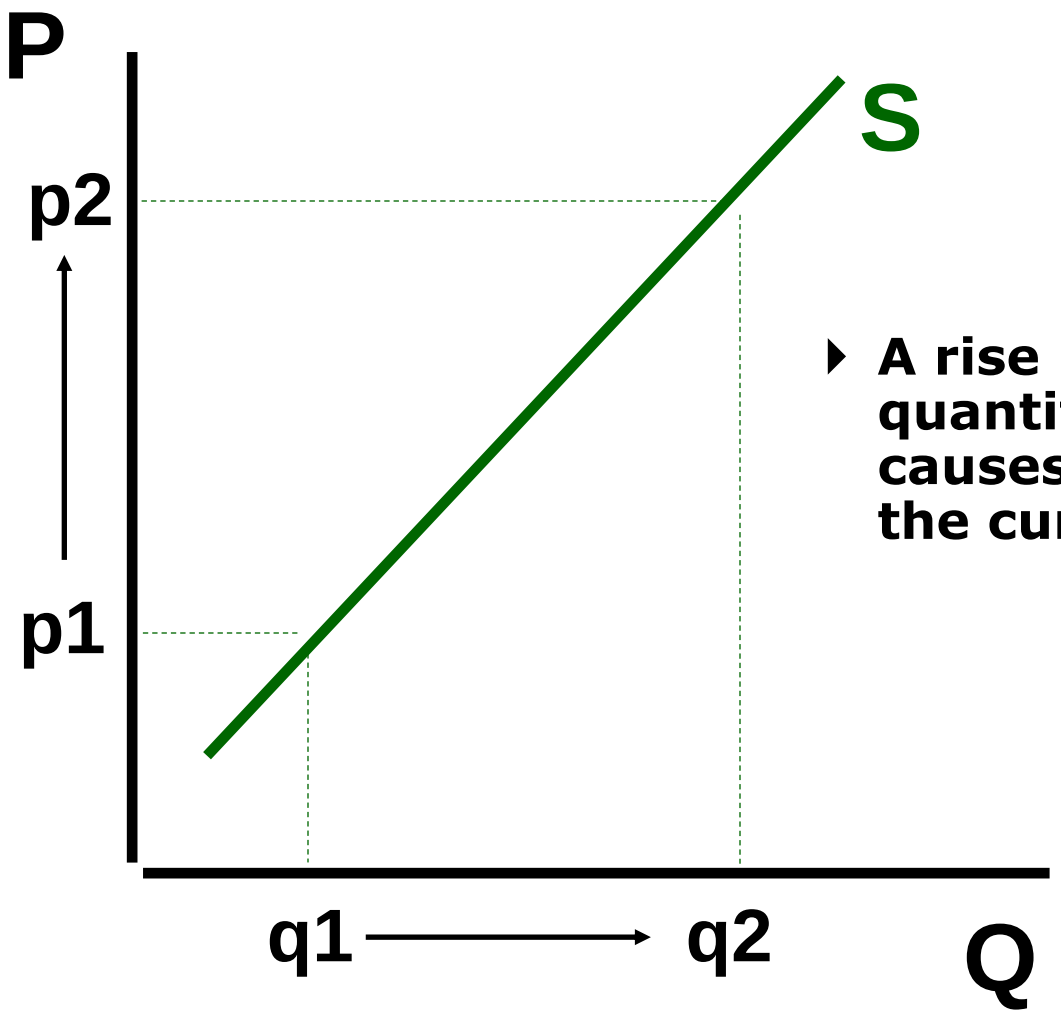
# MOVEMENTS IN THE SUPPLY CURVE

**Changes in price causes a movement along the supply curve**

- If price rises, there is an increase in quantity supplied (move up the curve).

- If price falls, there is a decrease in quantity supplied (move down the curve).

# MOVEMENT ALONG SUPPLY CURVE




- **A rise in price increases quantity supplied and causes movement along the curve**

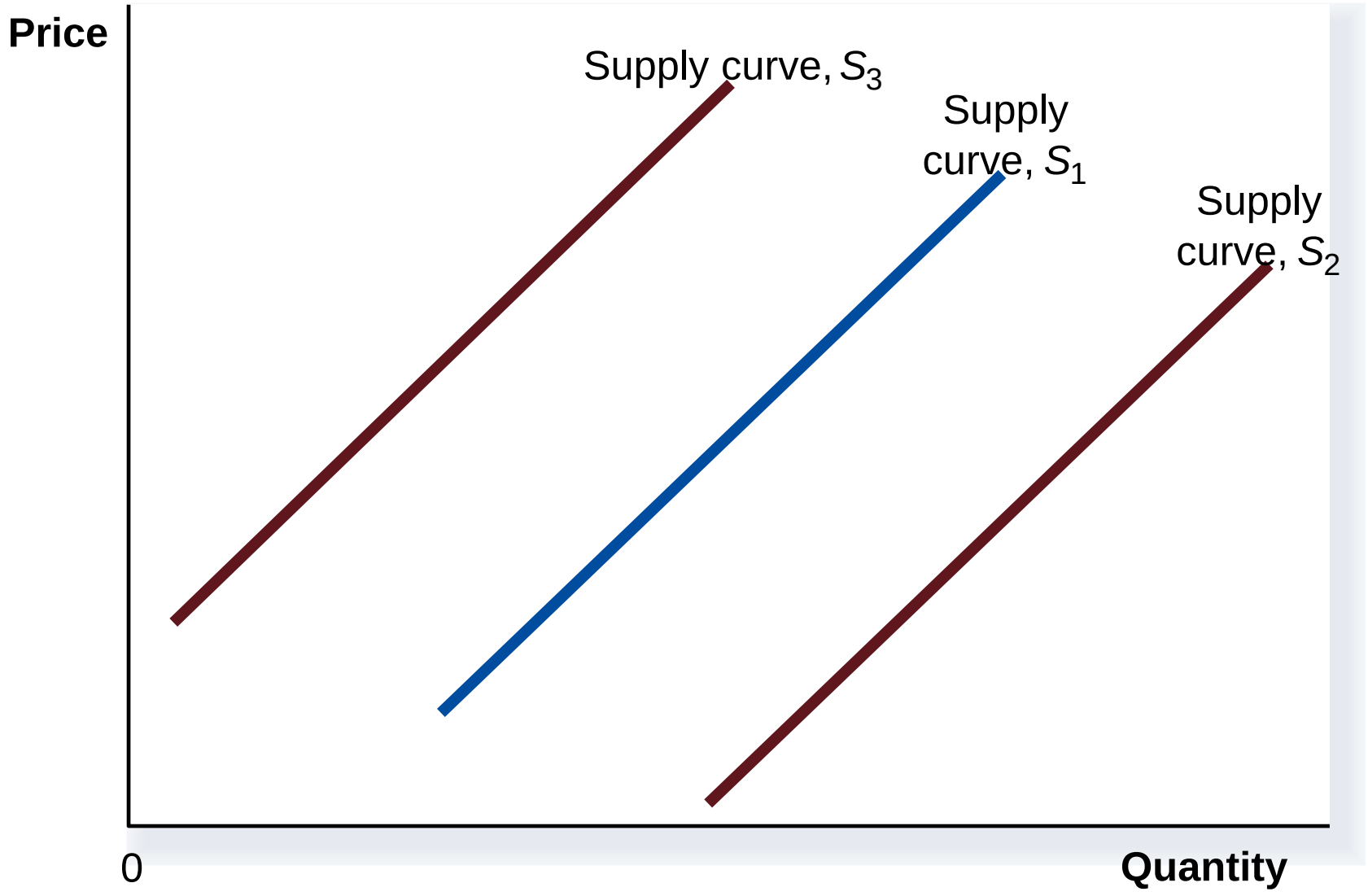
# DETERMINANTS OF SUPPLY / SHIFTS IN SUPPLY CURVE

**Other than price, the 5 most important variables affecting supply are**

1. ***Prices of inputs***
2. ***Technological change***
3. ***Prices of substitutes in production***
4. ***Expected future prices***
5. ***Number of firms in the market***

***Note: a change in any of these variables causes a shift of the supply curve.***

# SHIFTS IN THE SUPPLY CURVE



# DETERMINANTS OF SUPPLY

## 1. *Prices of inputs*

- An input is anything used in the production of a good or service.
- An increase in the cost of an input increases the cost of production. The firm supplies less – the supply curve shifts to the ____.

# DETERMINANTS OF SUPPLY

## 2. *Technological change*

- A change in the ability of a firm to produce a given level of output with a given quantity of inputs.
- Positive technological change allows the firm to produce more output with the same amount of inputs – the supply curve shifts to the _____ .

# DETERMINANTS OF SUPPLY

## 3. *Prices of substitutes in production*

- Alternative products a firm can produce with the same resources are substitutes in production.(eg wheat/sheep farmers)
- An increase in the price of a substitute in production _____ the supply of the initial good – the supply curve shifts to the _____ .

# DETERMINANTS OF SUPPLY

## 4. *Expected future prices*

- If firms expect the price of its product will increase in the future they have an incentive to ____ supply now.

## 5. *Number of firms in the market*

- When new firms enter the market supply _____.

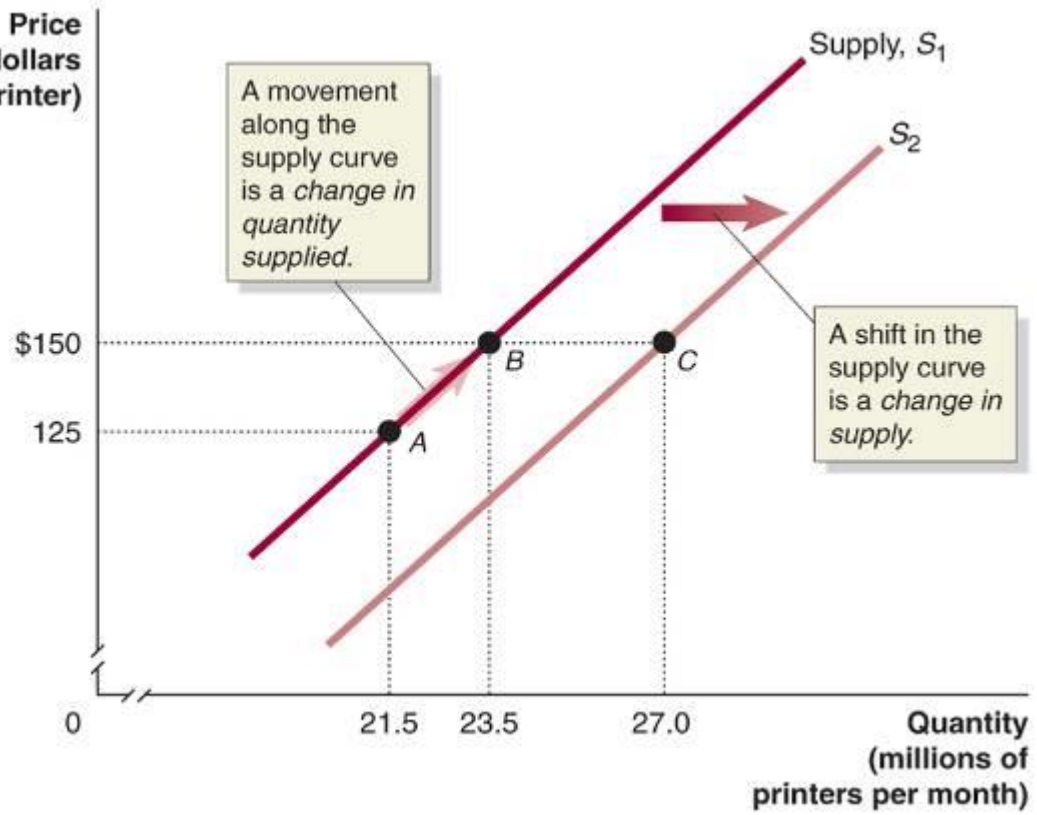
# Variables that influence sellers

| *Factors affecting supply* | *A change in this variable…* |
|---|---|
| **Price** | **Represents a movement along the supply curve** |
| **Input prices** | **Shifts the supply curve** |
| **Technology** | **Shifts the supply curve** |
| **Expectations** | **Shifts the supply curve** |
| **Number of sellers** | **Shifts the supply curve** |

**Ceteris paribus factors**

# TWO TYPES OF CHANGE

A change in supply versus a change in quantity supplied



# WHAT CAN CAUSE AN INCREASE IN SUPPLY?

**Number of sellers _____**

**Technology _____**

**Production costs _____**

**Price of production substitutes _____**

**Price is expected to _____ in the future**

# REVIEW

**Which of the following causes the supply of leather jackets to decrease?**

**a. an increase in the price of leather jackets**

**b. an increase in the price of leather**

**c. a decrease in the price of zippers**

**d. an increase in the number of motorcycles**

# REVIEW

**A dress manufacturer is expecting higher prices for dresses in the near future. We would expect:**

**A. the dress manufacturer to supply more dresses now.**

**B. the demand for this manufacturer's dresses to fall.**

**C. the dress manufacturer to supply fewer dresses now.**

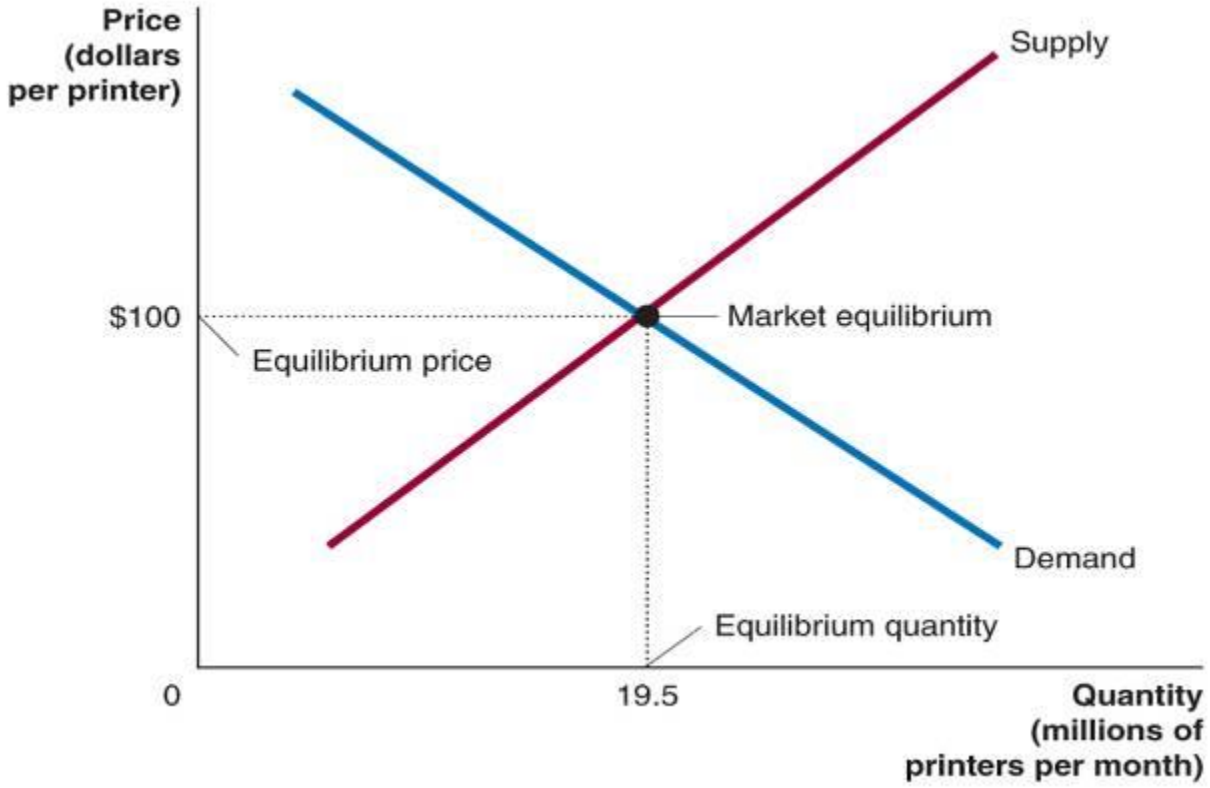
**D. the demand for this manufacturer's dresses to rise.**

# MARKET EQUILIBRIUM

Market clearing Equilibrium in a market occurs when the price balances the plans of buyers and sellers.

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

# Market equilibrium



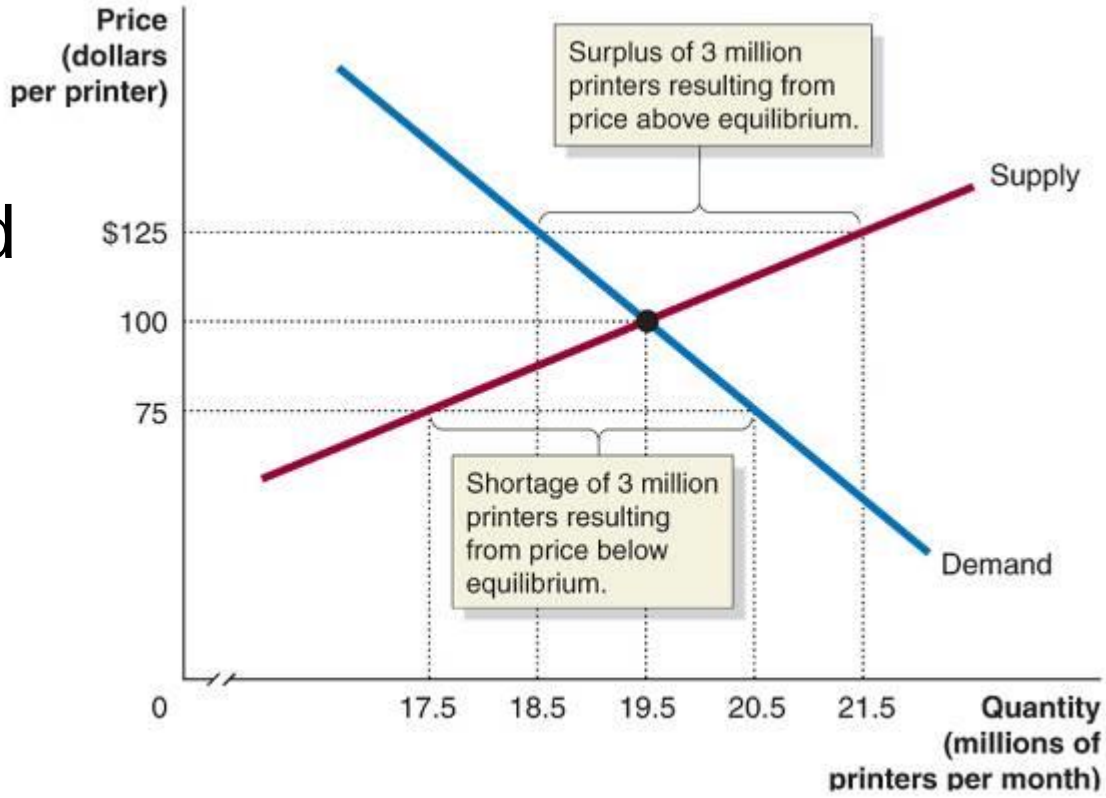
# MARKET EQUILIBRIUM

What happens if price is above equilibrium?

- quantity supplied > quantity demanded
- There will be a ***surplus***
- Price will automatically _____ to clear the surplus

# Market equilibrium

The effect of surpluses and shortages on the market price



# MARKET EQUILIBRIUM

What happens if price is below equilibrium?

- quantity demanded > quantity supplied
- There will be a ***shortage***
- Price will automatically _____ to clear the shortage

# CHANGES IN EQUILIBRIUM

**There are 4 types of changes**

**Increase in D**

**Decrease in D**

**Increase in S**

**Decrease in S**

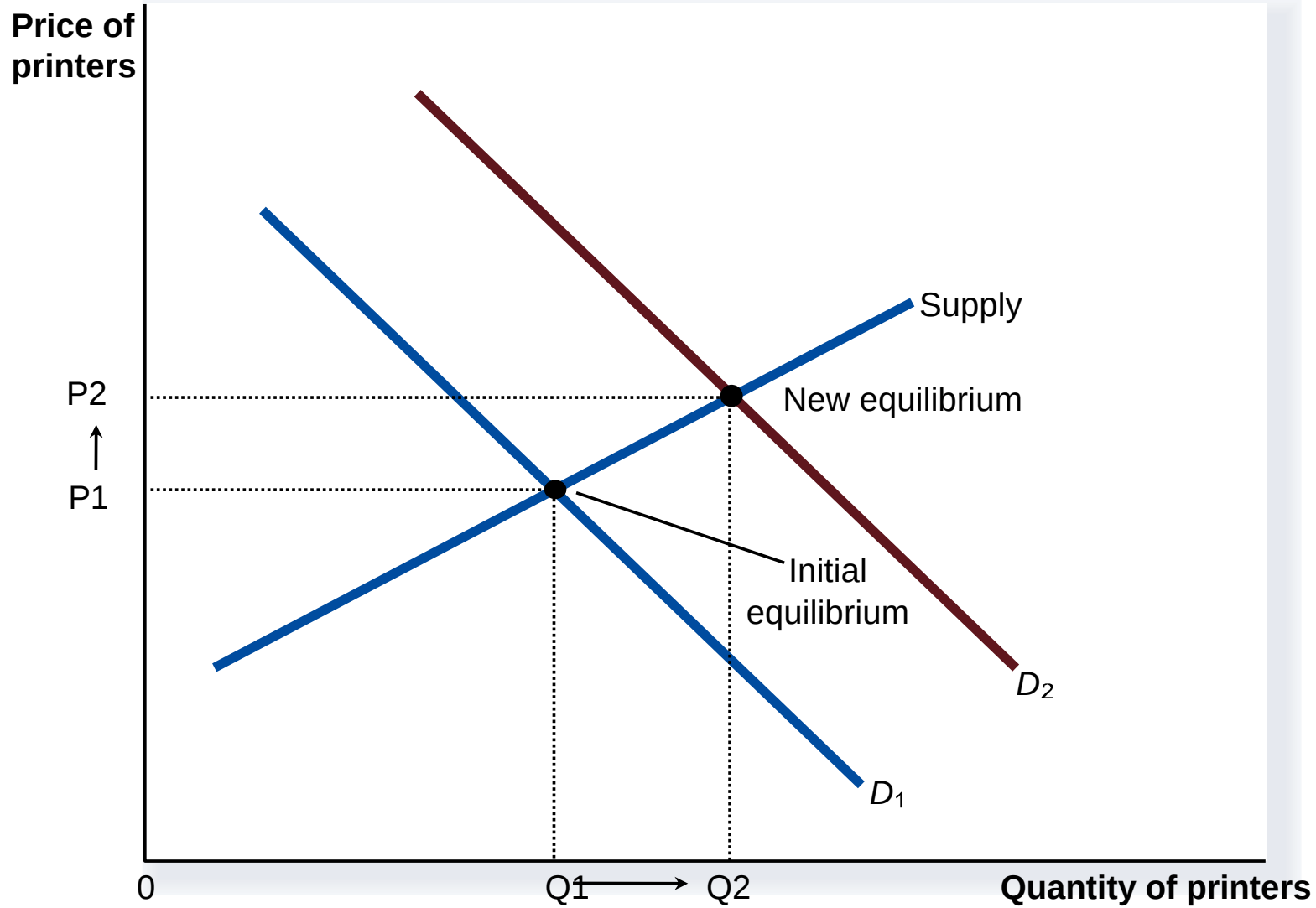
# CHANGES IN EQUILIBRIUM

**What could cause market price to increase?**

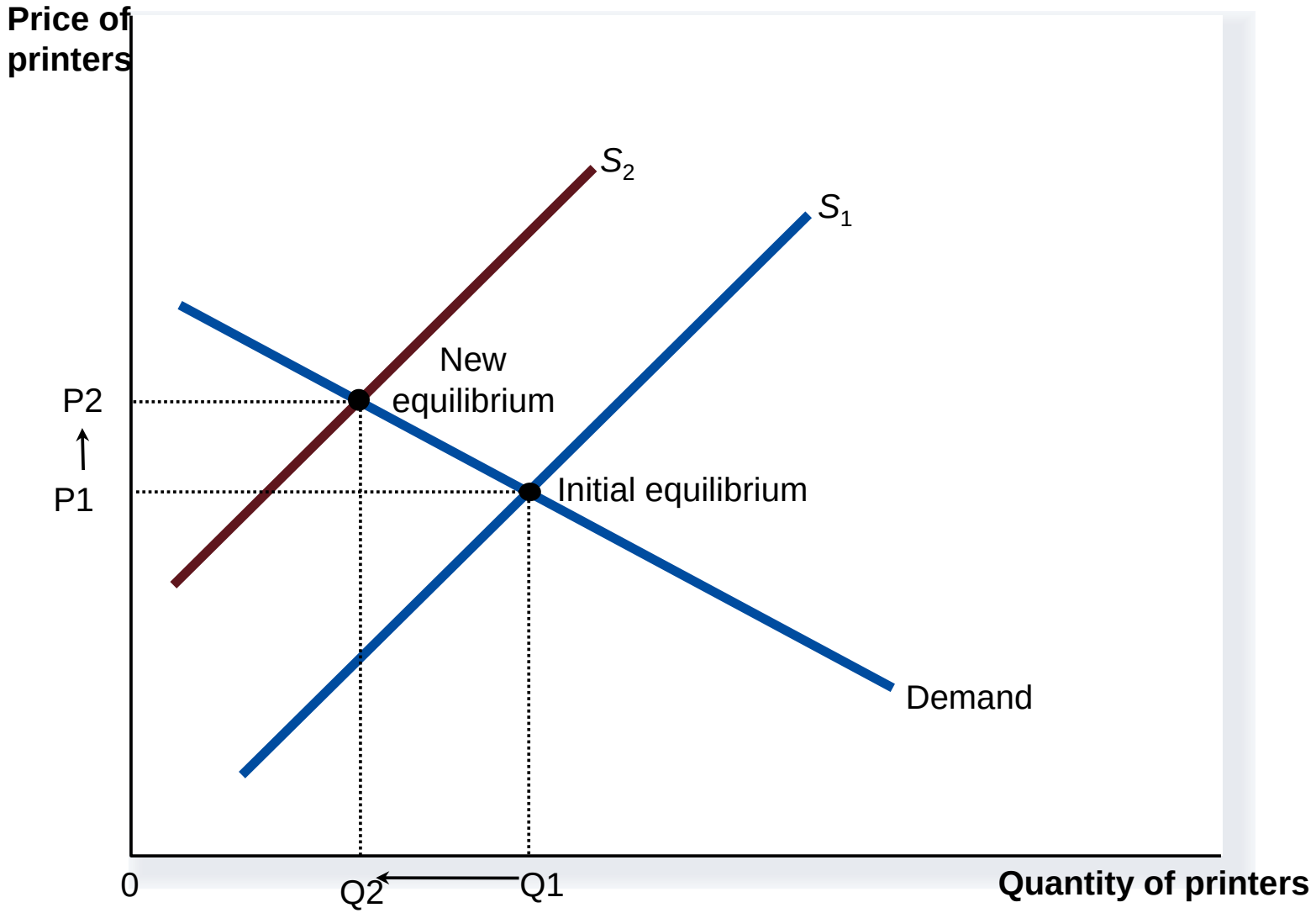
**1 Increase in D and/or**

**2 decrease in S**

# AN INCREASE IN DEMAND



# A DECREASE IN SUPPLY



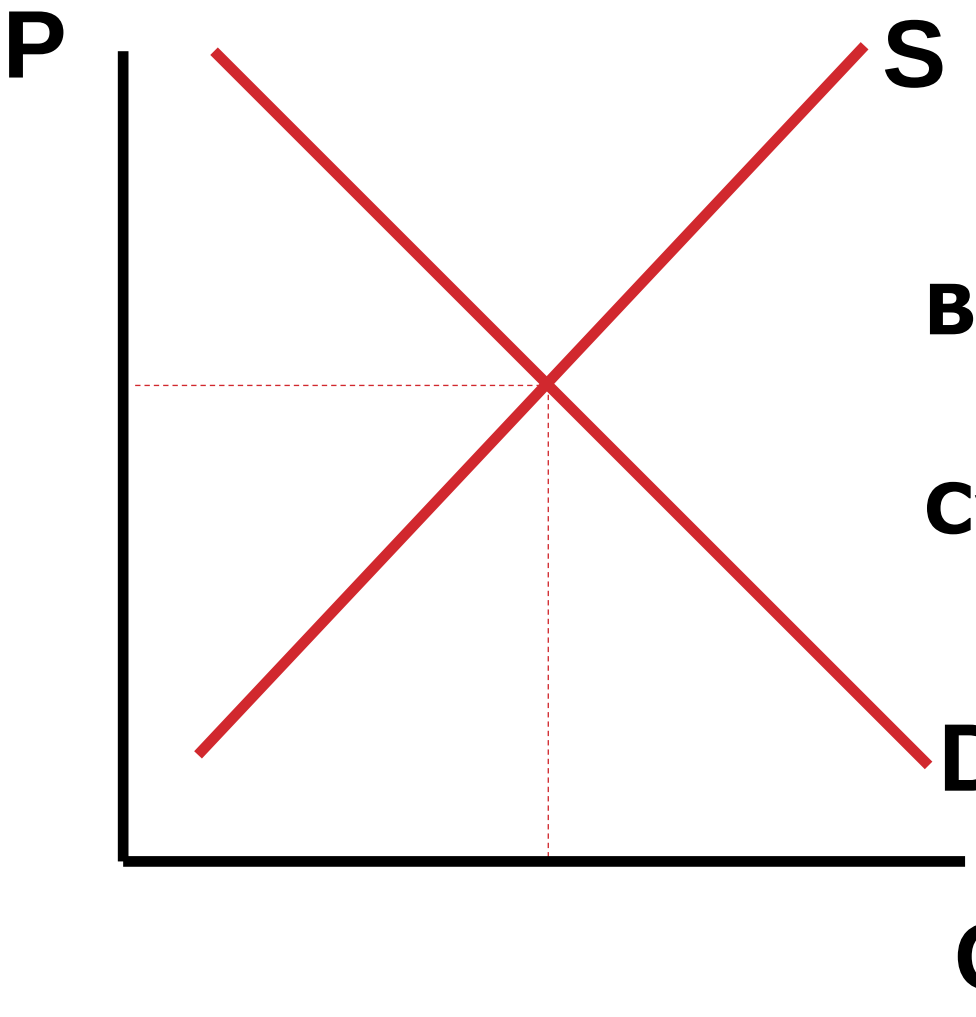
# MARKETS ARE INTERRELATED

**Banana prices soar as cyclone hits Queensland**

**A cyclone that devastated banana plantations caused banana prices to increase which then caused apple prices to rise.**

**Explain…**

# BANANA MARKET




**Banana market initially**

**Cyclone – show effects**

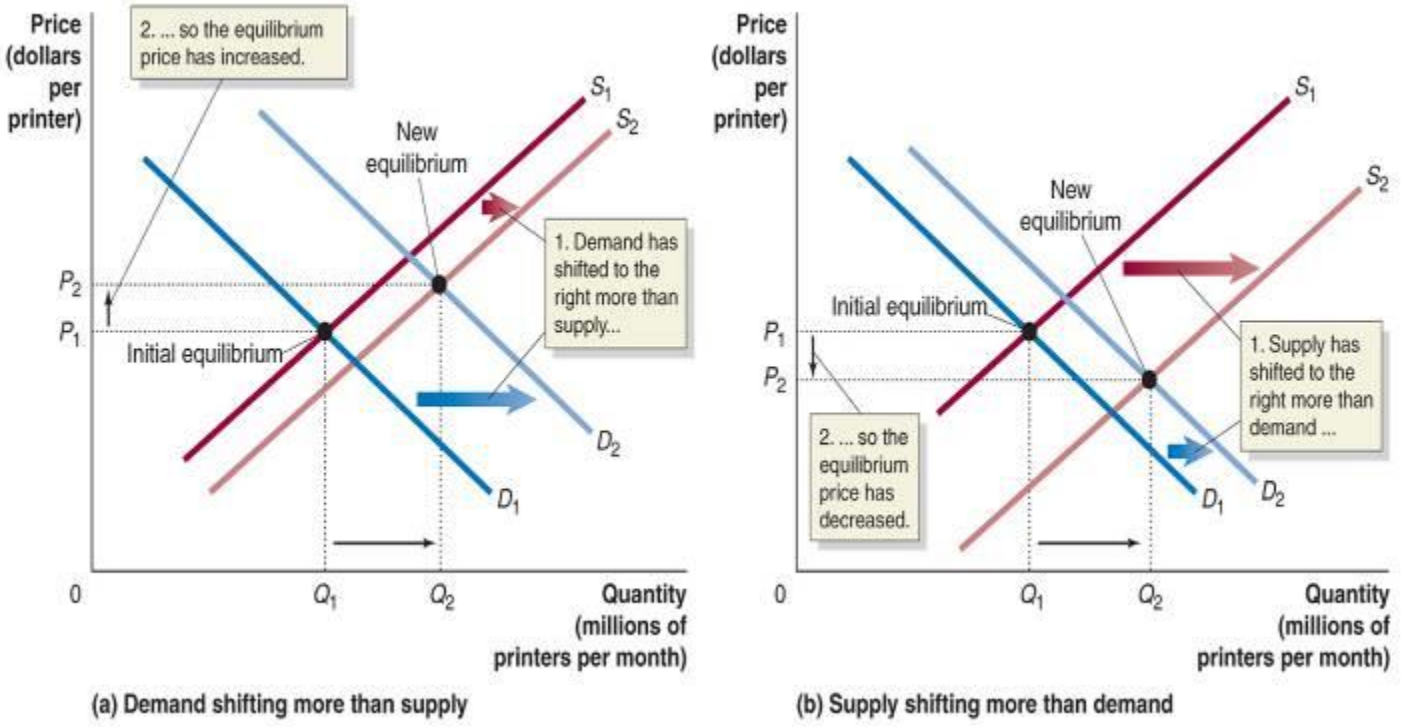
# TRICKY BIT - CHANGE IN BOTH D & S

**What happens if both demand and supply shift at the same time?**

**What if there is an increase in D and an increase in S**

**What will happen to P & Q ?**

# The effect of demand and supply shifts on equilibrium



# INCREASE IN D & DECREASE IN S

**An increase in D combined with an increase in S will change quantity**

**But the effect on price is *indeterminate***

**If D increases more than S increases, then equil P will increase**

**If S increases more than D increases, then equil P will decrease**

# SIMULTANEOUS SHIFTS IN SUPPLY AND DEMAND

**What would happen to price & quantity if there was an increase in demand and a decrease in supply?**

**Price would increase**

**Quantity would decrease**

# The market for flat-screen televisions

Demand for flat-screen televisions has increased significantly over recent years, however, the price of these televisions has decreased.

… Clearly this is an example of an exception to the “law of demand”.  Do you agree?

## The market for flat-screen televisions

- We need to look at changes in both demand and supply.

- If we begin from the demand side, it is clear that demand for flat-screen televisions has ***increased***.

- This would cause a rightward shift of the demand curve and, ceteris paribus, the equilibrium price would ***increase***.

## The market for flat-screen televisions

- Production technology has improved, decreasing the cost of production and causing the supply curve to shift to the right .

- A rightward shift in supply alone would lead to a ***decrease*** in equilibrium price.

- The supply shift has ***dominated*** the demand shift, resulting in a decrease in the price for flat screen televisions.

# REVIEW

**Which of the following changes will *"not"* shift the demand curve for apples?**

**a. An announcement that bananas are more nutritious than apples.**

**b. An increase in the income of apple eaters.**

**c. A change in the wages of apple pickers.**

**d. An increase in the price of pears.**

# REVIEW

- **An increase in the wages paid to fishermen will have what effect on the fish market equilibrium?**

**A. Price will decrease and quantity will decrease.**

**B. Price will increase and quantity will increase.**

**C. Price will decrease and quantity will increase.**

**D. Price will increase and quantity will decrease.**

# REVIEW

**Suppose that coffee and sugar are complements. If a good sugar harvest causes a decrease in sugar prices, the most likely result will be**

**a. An increase in coffee prices.**

**b A decrease in coffee prices as well.**

**c A leftward shift in the demand curve for coffee.**

**d A rightward shift of the supply curve for coffee.**

# THE END!