



# SNS COLLEGE OF TECHNOLOGY

(AN AUTONOMOUS INSTITUTION)



## DEPARTMENT OF MECHANICAL ENGINEERING

### 19MEE301-ENGINEERING ECONOMICS AND COST ANALYSIS

#### IV YEAR / VII SEM

#### UNIT II: DEMAND & SCHEDULE

#### TOPIC: SUPPLY – SUPPLY SCHEDULE –SUPPLY CURVE

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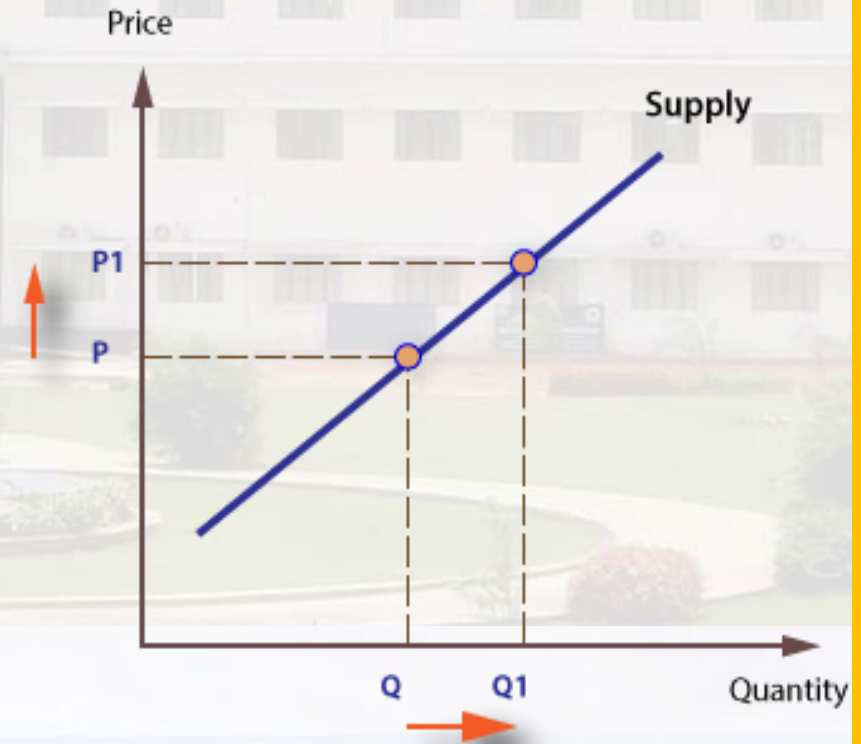
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# Supply – definition



- Supply is the **quantity of a good or service** that a **producer is willing and able to supply** onto the market at a given price in a given time period
- Supply is the **willingness and ability of producers to create goods and services** to take them to market.
- Supply is positively related to price given that at **higher prices** there is an incentive to **supply more** as higher prices may generate increased revenue and profits





# Determinants of Supply



Supply is the quantity of a good or service that a supplier provides to the market. Innumerable **factors and circumstances** could affect a seller's willingness or ability to produce and sell a good. **Some of the more common factors are:**

**Good's own price:** An **increase in price** will induce an **increase in the quantity supplied**.

**Prices of related goods:** For purposes of supply analysis, related goods refer to goods from which **inputs** are derived to be used in the production of the primary good.

**Conditions of production:** The most significant factor here is the **state of technology**. If there is a technological advancement related to the production of the good, the supply increases.



# Determinants of Supply



**Expectations:** Sellers' expectations concerning **future market conditions** can directly affect supply.

**Price of inputs:** If the **price of inputs increases** the supply curve will shift left as sellers are less willing or able to sell goods at any given price. Inputs include land, labor, energy and raw materials.

**Number of suppliers:** As **more firms enter the industry** the market supply curve will shift out driving down prices.

**Government policies and regulations:** Government intervention can take many forms including **environmental and health regulations, hour and wage laws, taxes, electrical and natural gas rates and zoning and land use regulations.** These regulations can affect a good's supply.



# Supply Function



The supply function of an individual supplier expresses his behavior in relation to what he offers at the prevailing prices in the market in the algebraic form. In supply function, quantity supplied is expressed as a function of various variables.

$$S_x = f(P_x, C_x, T_x)$$

Where,

**$S_x$  = Quantity supplied**

**$P_x$  = Price of the commodity**

**$C_x$  = Cost of production**

**$T_x$  = Technology of production**

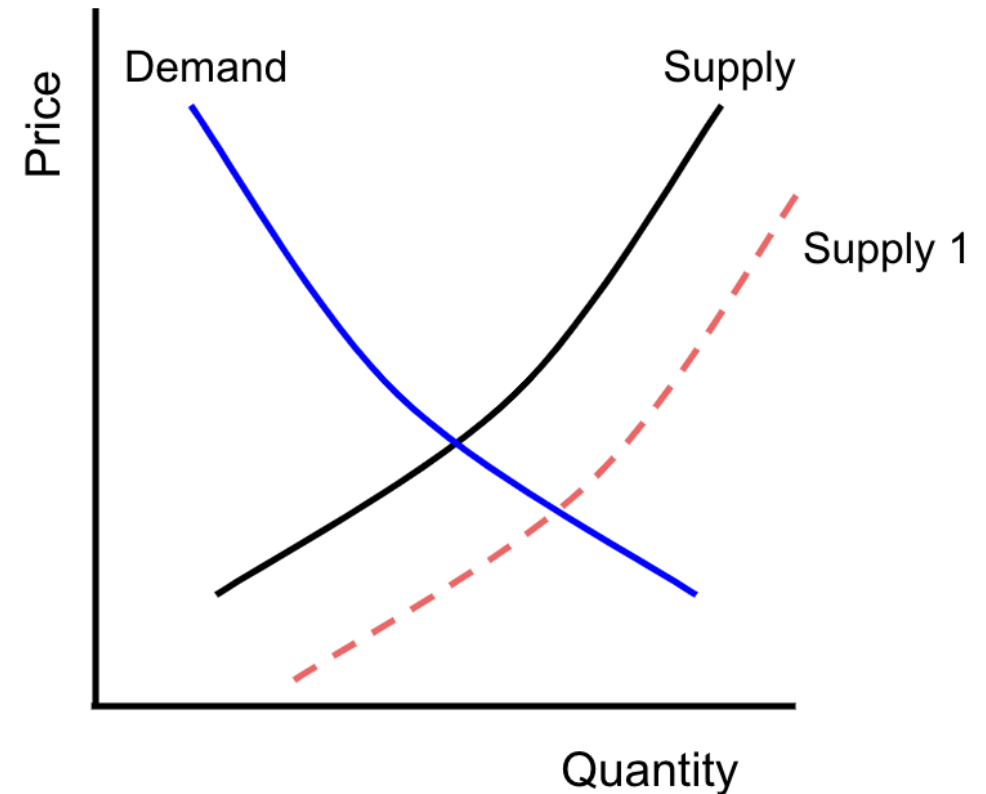


# Supply Schedule



If the **price of a good changes**, there will be **movement along the supply curve**.

However, the supply curve itself may shift outward or inward in response to non-price related factors that affect the supply of a good, such as technological advances or increased cost of materials.



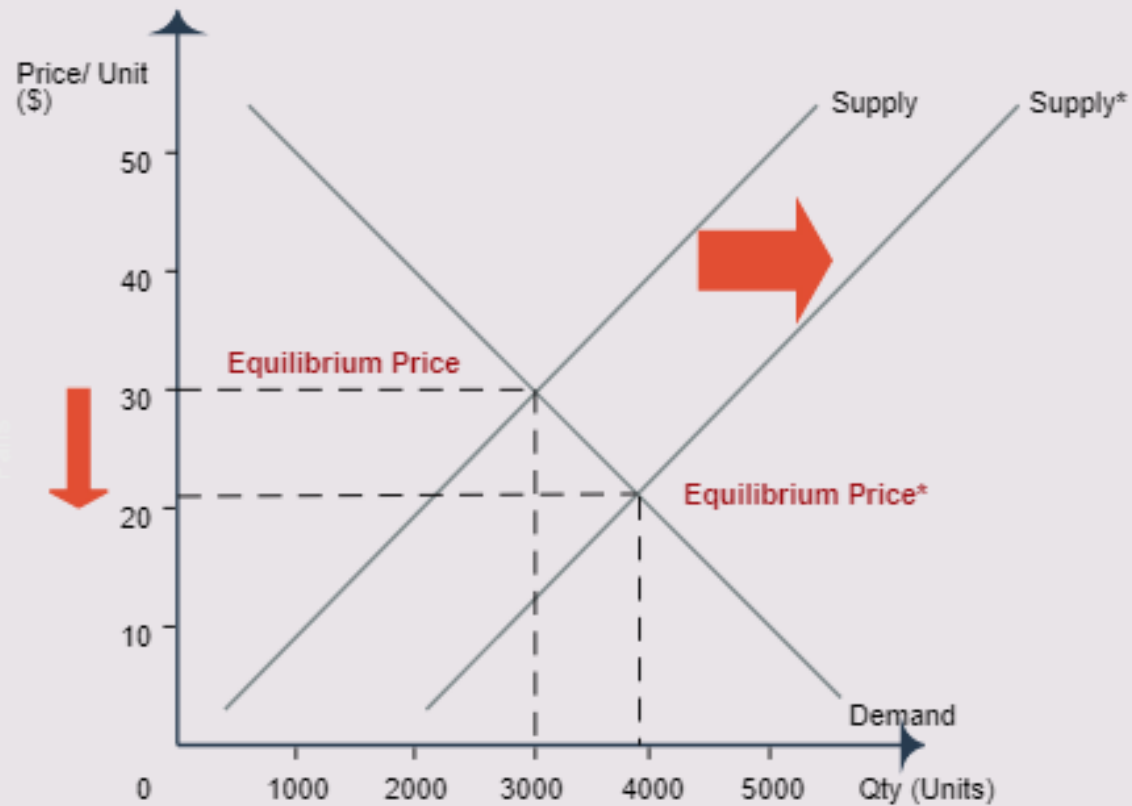
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# Supply Schedule



Impact of Increase in Supply with no change in Demand



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# Individual Supply Schedule



It is a supply schedule that depicts the supply by an individual firm or producer of a commodity in relation to its price. Let us understand it with the help of an example.

<b>Price per unit of commodity X (<math>P_x</math>)</b>	<b>Quantity supplied of commodity X (<math>D_x</math>)</b>
100	1000
200	2000
300	3000
400	4000
500	5000

We can see that when the price of the commodity is ₹100, its supply is 1000 units. Similarly, when its price is ₹500, its supply increases to 5000 units.





# Market Supply Schedule



It is a summation of the individual supply schedules and depicts the supply of different customers for a commodity in relation to its price.

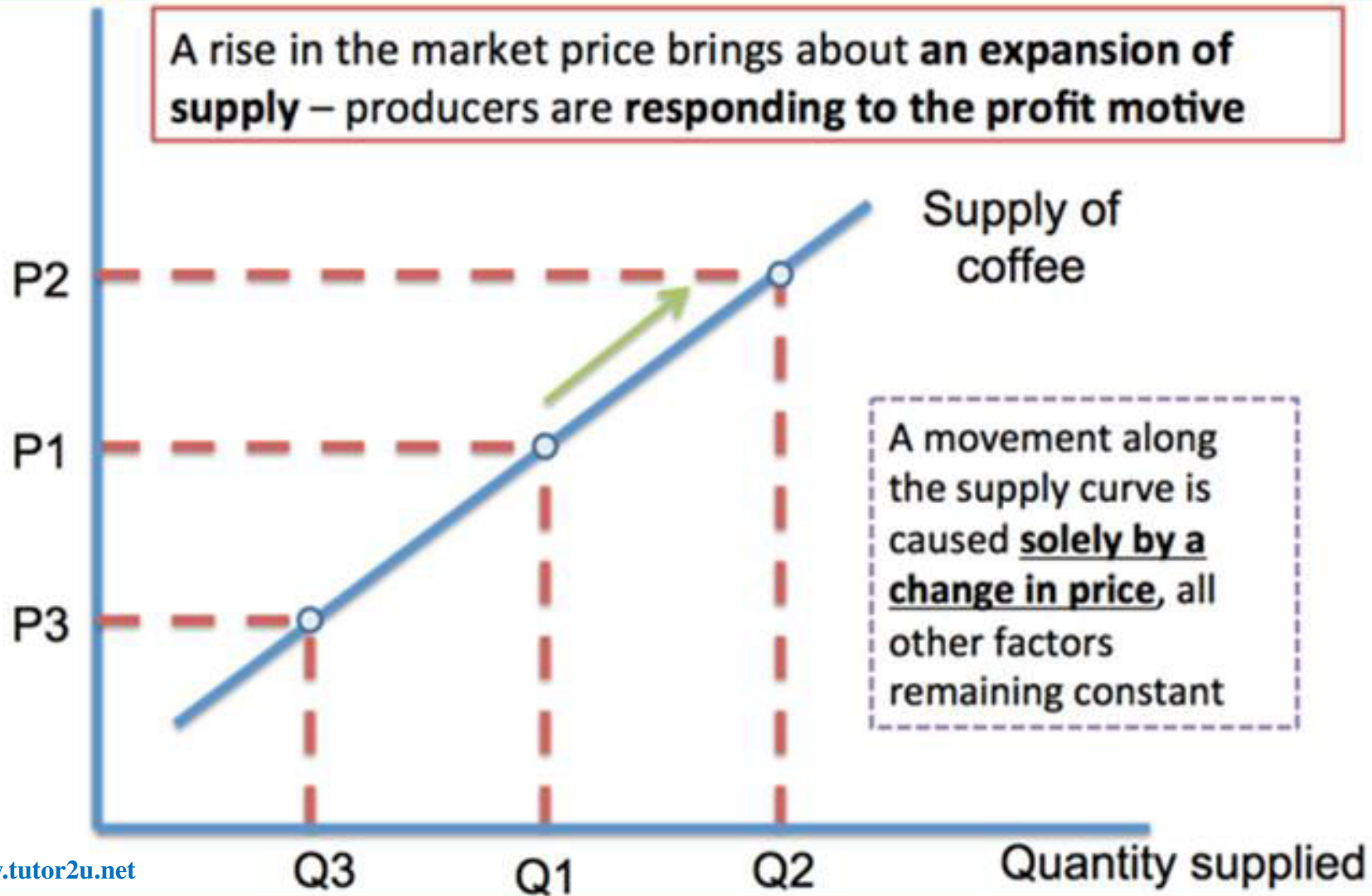
The above schedule shows the market supply of commodity X. When the price of the commodity is ₹100, firm A supplies 1000 units while the firm B supplies 3000 units.

Thus, the market supply is 4000 units. Similarly, when its price is ₹500, firm A supplies 5000 units while firm B supplies 7000 units. Thus, its market demand increases to 12000 units.

Price per unit of commodity X	Quantity supplied by firm A ( $Q_A$ )	Quantity supplied by firm B ( $Q_B$ )	Market Supply $Q_A + Q_B$
100	1000	3000	4000
200	2000	4000	6000
300	3000	5000	8000
400	4000	6000	10000
500	5000	7000	12000



# Market Supply Schedule



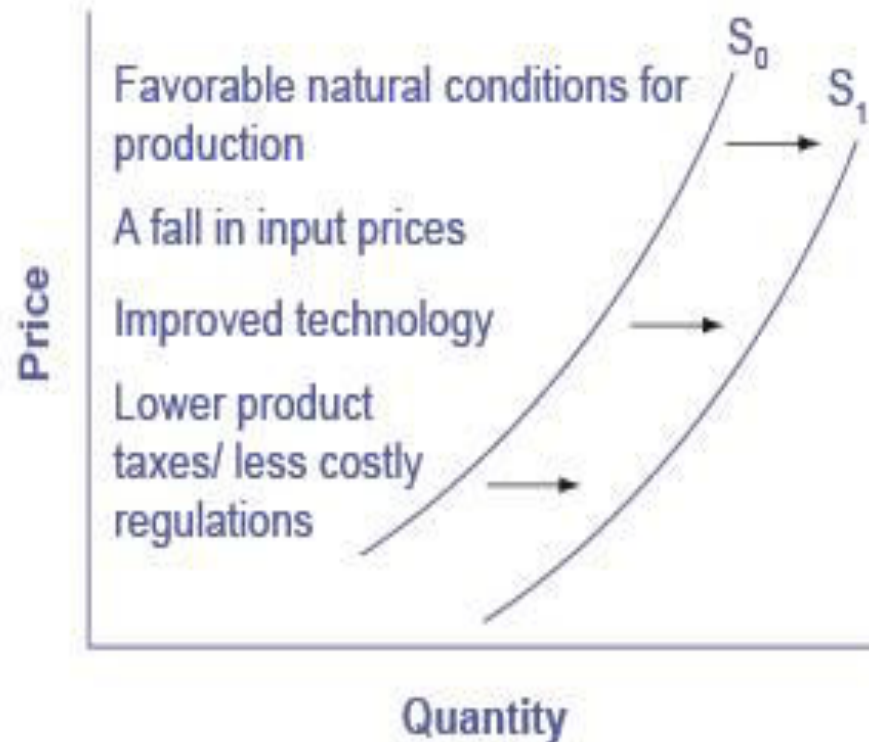
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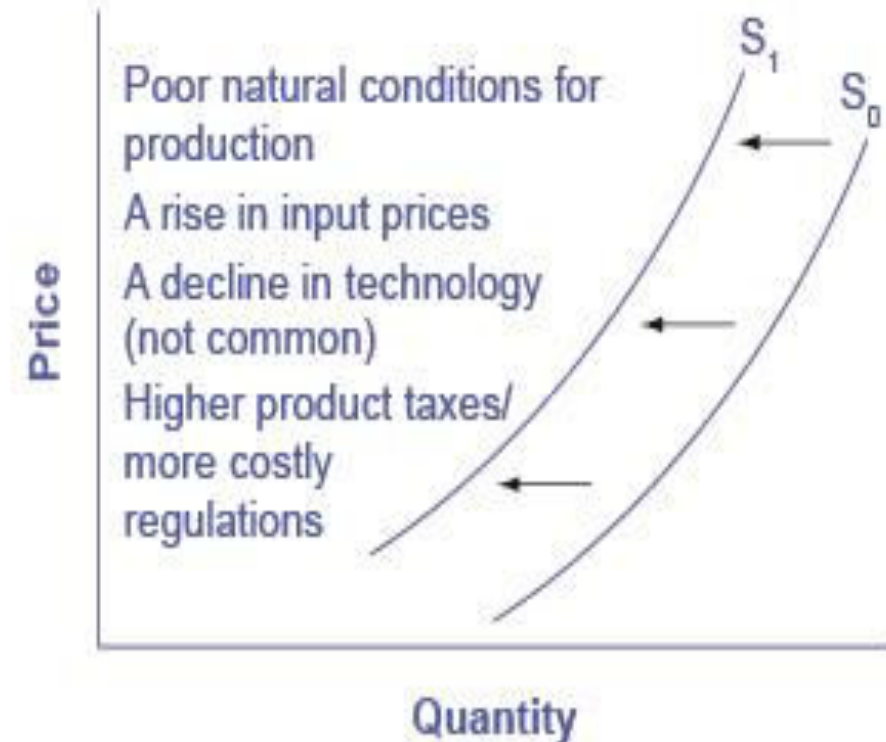
# Shifting of the Supply Curve



The factors other than price affect the supply curve in a different manner. These factors cause the supply curve to shift. Of course, this shift is also categorized into two which are- a leftward and rightward shift.



(a) Factors that increase supply



(b) Factors that decrease supply



# Market Equilibrium

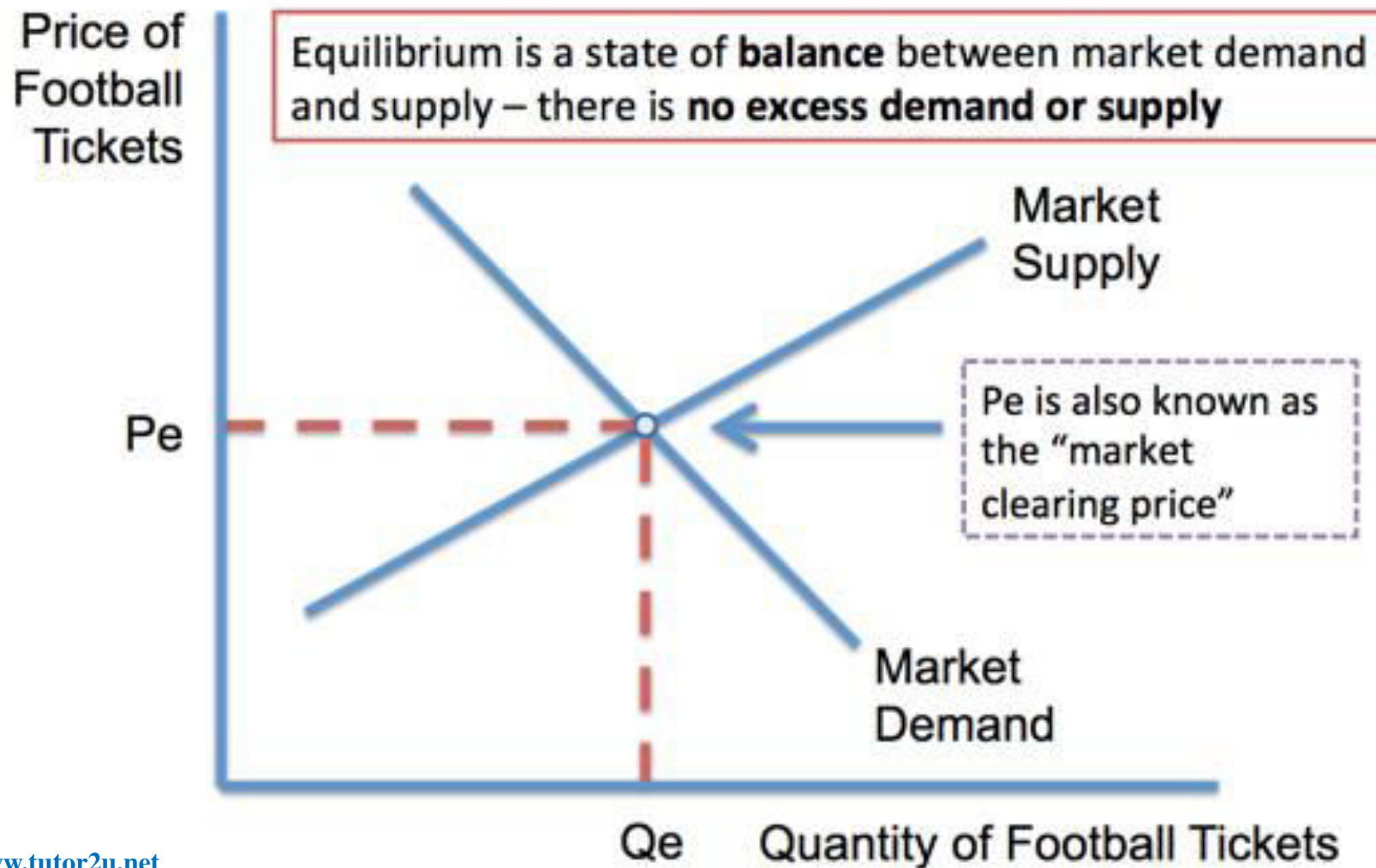


- Equilibrium means a **state of equality or balance** between market demand and market supply
- Prices where demand and supply are out of balance are called points of **disequilibrium**

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# Demand and Supply curves



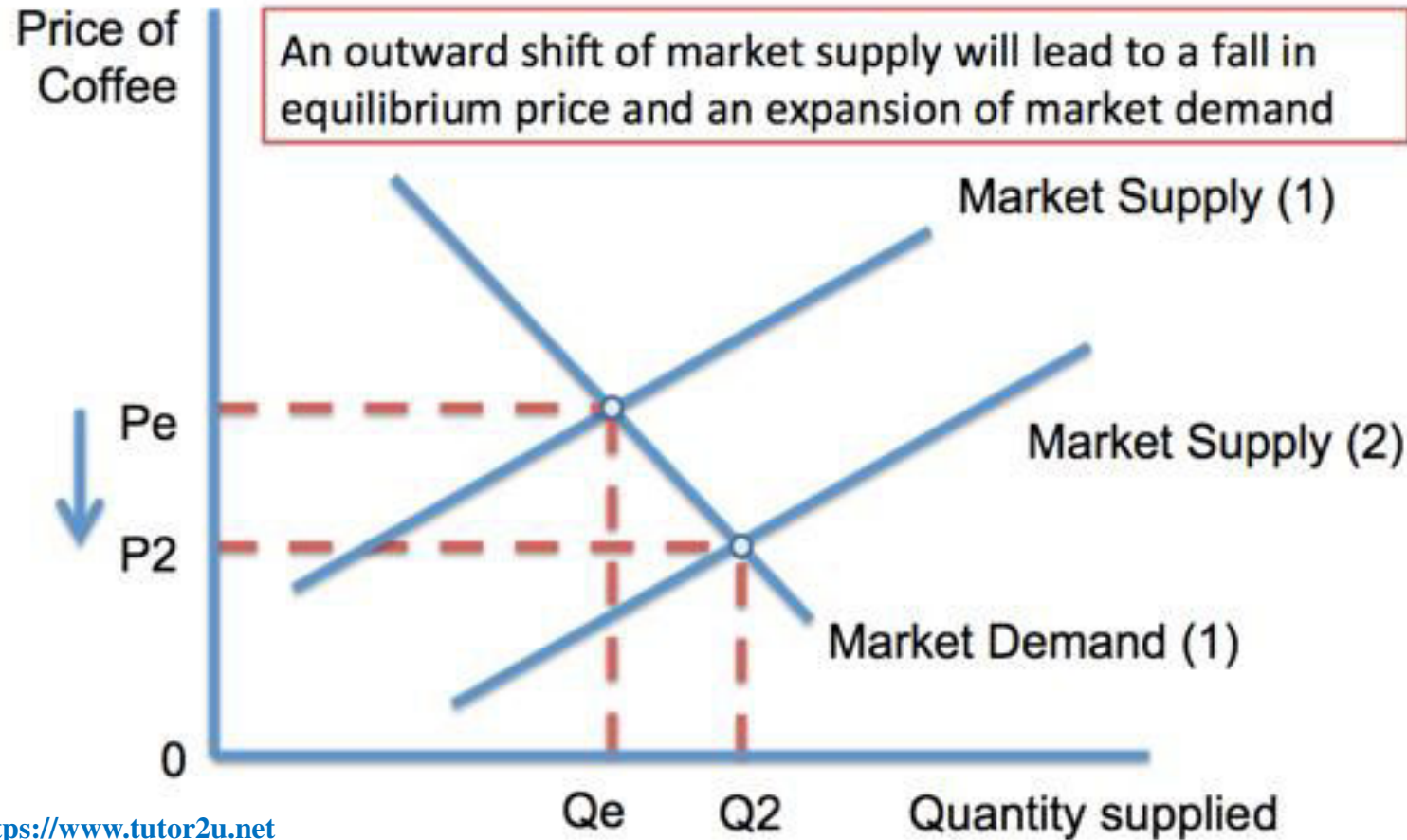
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# When Supply Increases



If market supply increases by 900 tonnes at each price, then the new equilibrium price will be £25 with 3,500 tonnes bought & sold.



Price per kg	Quantity demanded (1)	Quantity supplied	Quantity Supplied (2)
\$40	2,000	3,800	4,700
\$35	2,500	3,400	4,300
\$30	<b>3,000</b>	<b>3,000</b>	3,900
\$25	<b>3,500</b>	2,600	<b>3,500</b>
\$20	4,000	2,200	3,100
\$15	4,500	1,800	2,700



# Assessment



## 1. Each point on a supply curve represents

1. the highest price sellers can get for each unit over time.
2. the lowest price buyers will accept per unit of the good.
3. the lowest price for which a supplier can profitably sell another unit.
4. the highest price buyers will pay for the good.

## 2. Which of the following is NOT held constant while moving along a supply curve?

- A. prices of resources used in production
- B. expected future prices
- C. the number of sellers
- D. the price of the good itself



# Assessment



## **3. Which of the following will shift the supply curve for good X leftward?**

- 1) a situation in which quantity demanded exceeds quantity supplied
- 2) an increase in the cost of the machinery used to produce X
- 3) a decrease in the wages of workers employed to produce X
- 4) a technological improvement in the production of X

## **4. The interaction of supply and demand explains**

- 1) both the prices and the quantities of goods and services.
- 2) the quantities of goods and services but not their prices.
- 3) the prices of goods and services but not their quantities
- 4) neither the prices nor the quantities of goods and services





# References



- <https://www.toppr.com>
- <https://courses.byui.edu>
- <https://www.thebalance.com>
- <https://www.tutor2u.net>

# THANK YOU