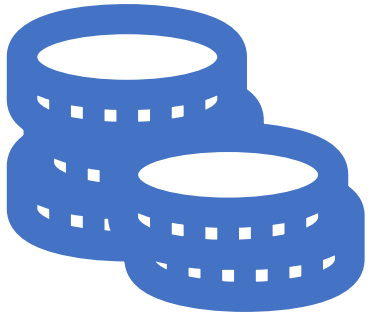
UNIT -1

ENGINEERING ECONOMICS

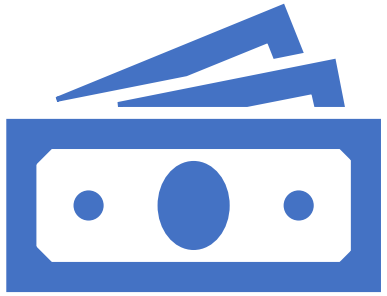
Economics

- Economics is that branch of social science which is concerned with the study of how individuals, households, firms, industries and government take decision relating to the allocation of limited resources to productive uses, to derive maximum gain or satisfaction.

Nature of Economics



Economics is a science: science in terms of its methodology



Economics is an art: arts as in application

Economics is a science

Science is an organized branch of knowledge, **that analyses cause and effect relationship between economic agents.** Further, economics helps in integrating various sciences such as mathematics, statistics, etc. to identify the relationship between price, demand, supply and other economic factors.

Positive Economics: A positive science is one that studies the relationship between two variables but does not give any value judgment, i.e. it states 'what is'. It deals with **facts about the entire economy**.

Normative Economics: As a normative science, economics **passes value judgement**, i.e. 'what ought to be'. It is concerned with economic goals and policies to attain these goals.

Economics is an art:

- Art is a discipline that expresses the way things are to be done, to achieve the desired end. **Economics has various branches like production, distribution, consumption and economics, that provide general rules and laws that can solve different problems of society.**

Economic Problems

The Production Possibilities Curve (PPC)

In business analysis, the production possibility Curve (PPC) is a curve that illustrates the variations in the amounts that can be produced of two products if both depend upon the same finite resource for their manufacture

What is the Production Possibilities Curve?

- **A production possibilities graph (PPG) is a model that shows alternative ways that an economy can use its scarce resources**
- **This model graphically demonstrates scarcity, trade-offs, opportunity costs, and efficiency.**

4 Key Assumptions

- **Only two goods can be produced**
- **Full employment of resources**
- **Fixed Resources (*Ceteris Paribus*)**
- **Fixed Technology**

Production “Possibilities” Table

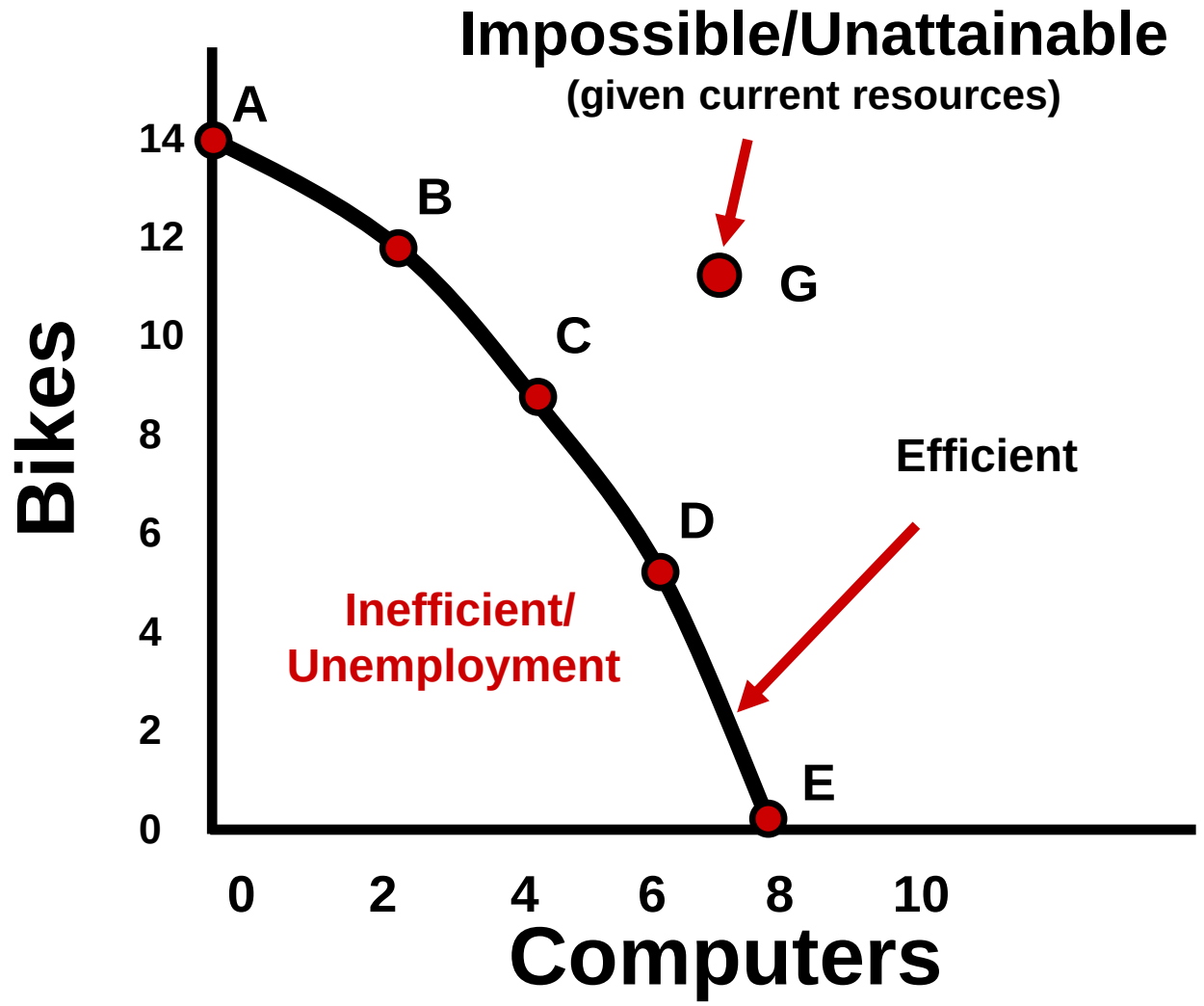
	A	B	C	D	E
Bikes	14	12	9	5	0
Computers	0	2	4	6	8

Each point represents a specific combination of goods that can be produced given full employment of resources.

NOW GRAPH IT: Put bikes on y-axis and computers on x-axis

Production Possibilities

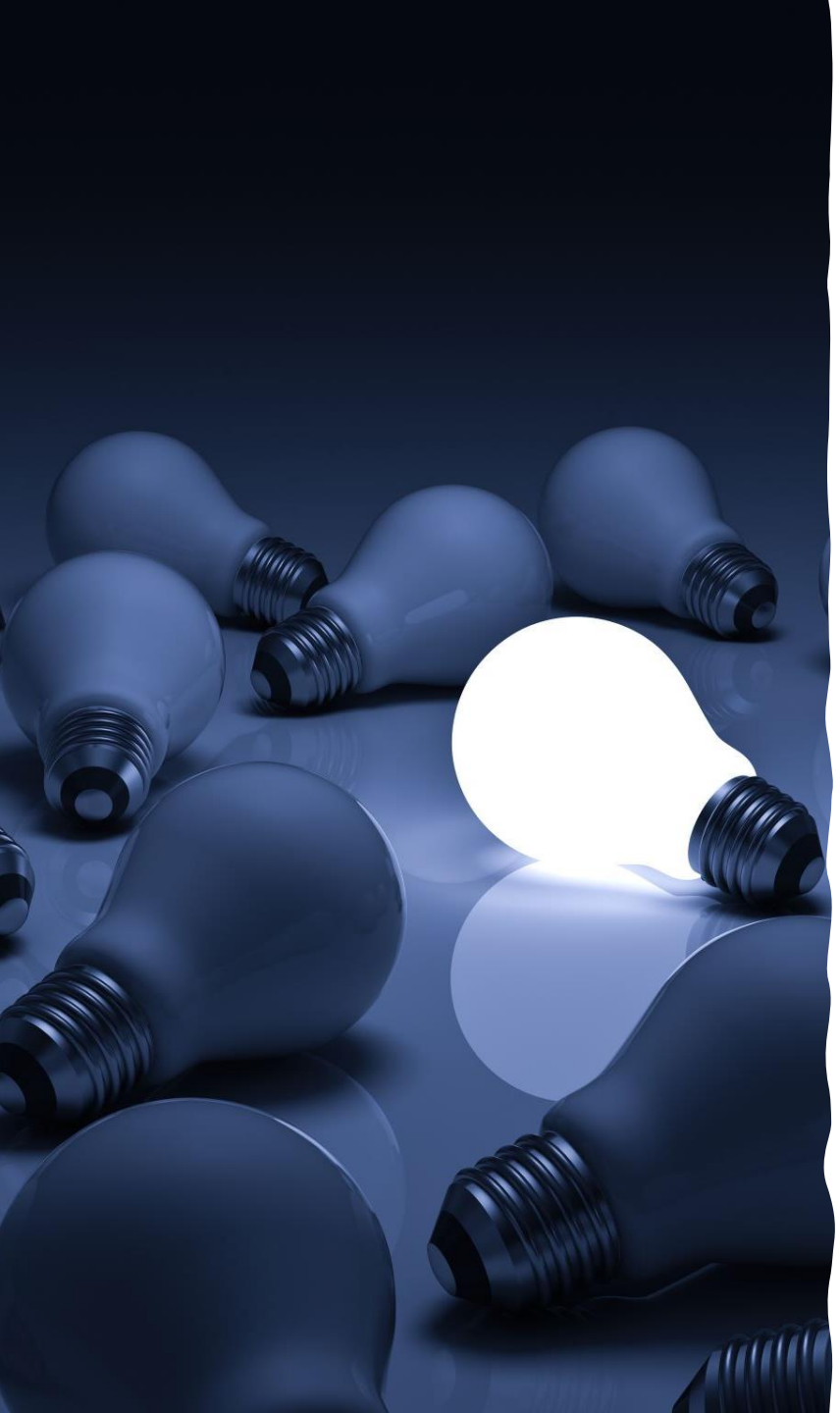
How does the PPG graphically demonstrates scarcity, trade-offs, opportunity costs, and efficiency?



Utility

• It is a **measure of satisfaction** an individual gets from the **consumption of the commodities**. In other words, it is a **measurement of usefulness** that a consumer obtains from any good. A utility is a measure of how much one **enjoys a movie, favorite food, or other goods**. **It varies with the amount of desire.**

- A Utility of a good differs from one consumer to another.
- It keeps on changing for the same consumer due to change in the amount of desires.
- It should not be equated with its usefulness.

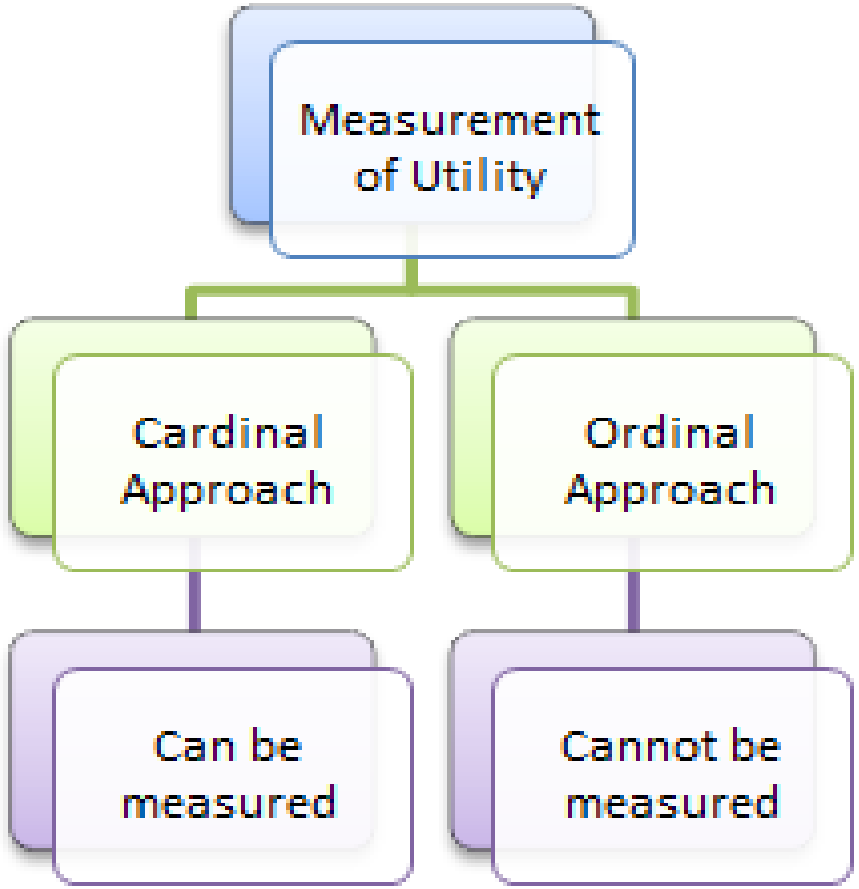


Characteristic of Utility

- It is dependent upon human wants.
- It is immeasurable.
- A utility is subjective.
- It depends on knowledge.
- Utility depends upon use.
- It depends on ownership.

Measurement of Utility

- Measurement of a utility helps in analyzing the demand behaviour of a customer. It is measured in two ways



In this approach, one believes that it is measurable. One can express his or her satisfaction in cardinal numbers i.e., the quantitative numbers such as 1, 2, 3, and so on. It tells the preference of a customer in cardinal measurement. It is measured in utils.

Limitation of Cardinal Approach

- In the real world, one cannot always measure utility.
- One cannot add different types of satisfaction from different goods.
- For measuring it, it is assumed that utility of consumption of one good is independent of that of another.
- It does not analyze the effect of a change in the price.

ORDINAL APPROACH

In this approach, one believes that it is comparable. One can express his or her satisfaction in ranking. One can compare commodities and give them certain ranks like first, second, tenth, etc. It shows the order of preference. An ordinal approach is a qualitative approach to measuring a utility.

Limitation of Ordinal Approach

It assumes that there are only two goods or two baskets of goods. It is not always true.

Assigning a numerical value to a concept of utility is not easy.

The consumer's choice is expected to be either transitive or consistent. It is always not possible.

Types of Utility

- **Total Utility**
- **Marginal Utility**
- **Average Utility**

Total Utility

The sum of the total satisfaction from the consumption of specific goods or services. It increases as more goods are consumed.

Total Utility (T.U.) = $U_1 + U_2 + \ldots + U_n$

Marginal Utility

It is the additional satisfaction gained from each extra unit of consumption. It decreases with each additional increase in the consumption of a good.

Marginal Utility (M.U.) = Change in T.U. / Change in Total Quantity = Δ TU/ Δ Q

Average Utility

One can obtain it by dividing the total unit of consumption by the number of total units. Suppose there are total n units, then

Average Utility (A.U.) = T.U. / Number of units = T.U. / n

LAW OF DIMINISHING MARGINAL UTILITY

Meaning

Law of DMU states that as a consumer increases the consumption of any one commodity, keeping constant the consumption of all other commodities, the marginal utility of the variable commodity must eventually decline.

Definition

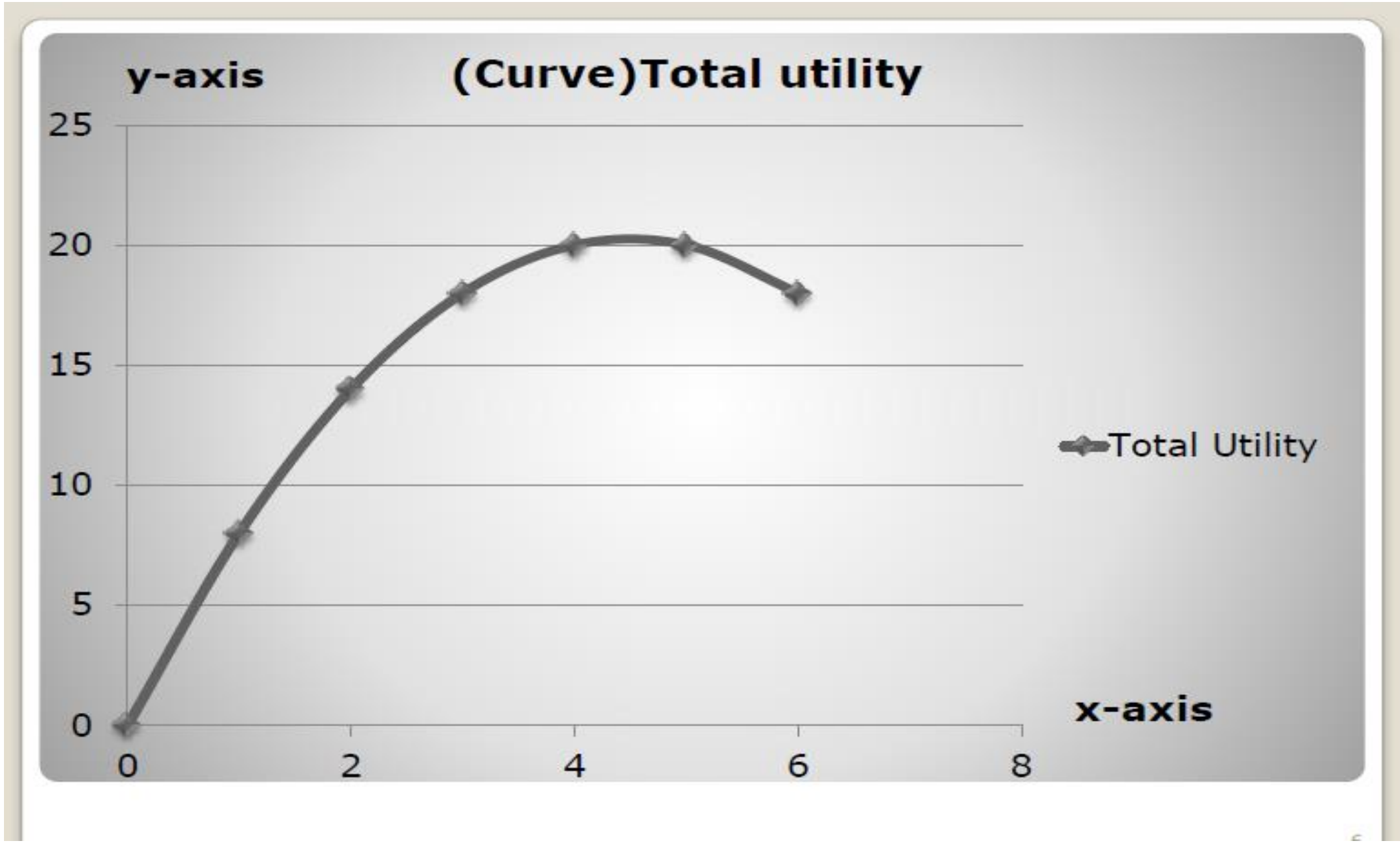
-According to **Samuelson**, “As the amount consumed of a good increases, the marginal utility of the good tends to decrease.”

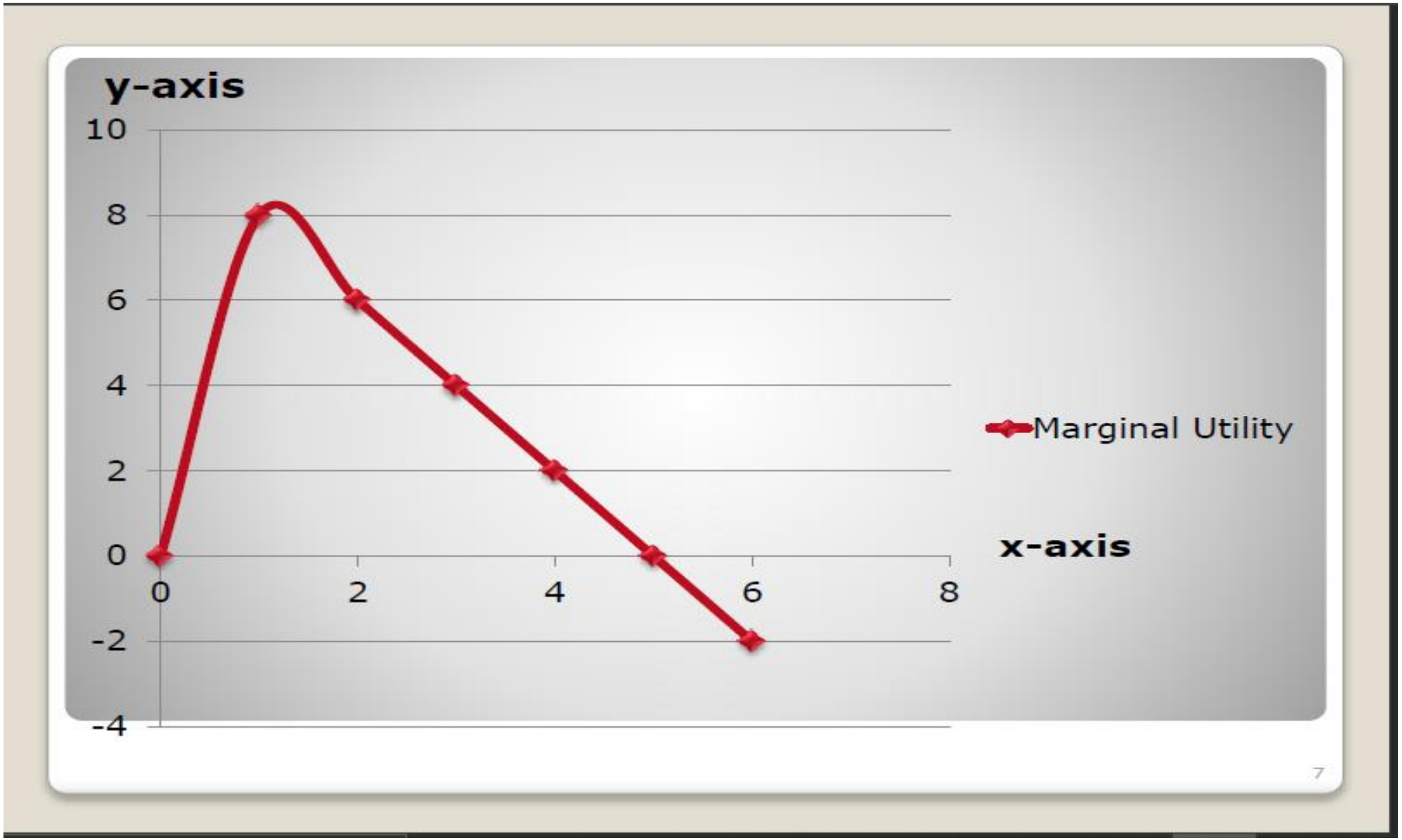
ASSUMPTIONS

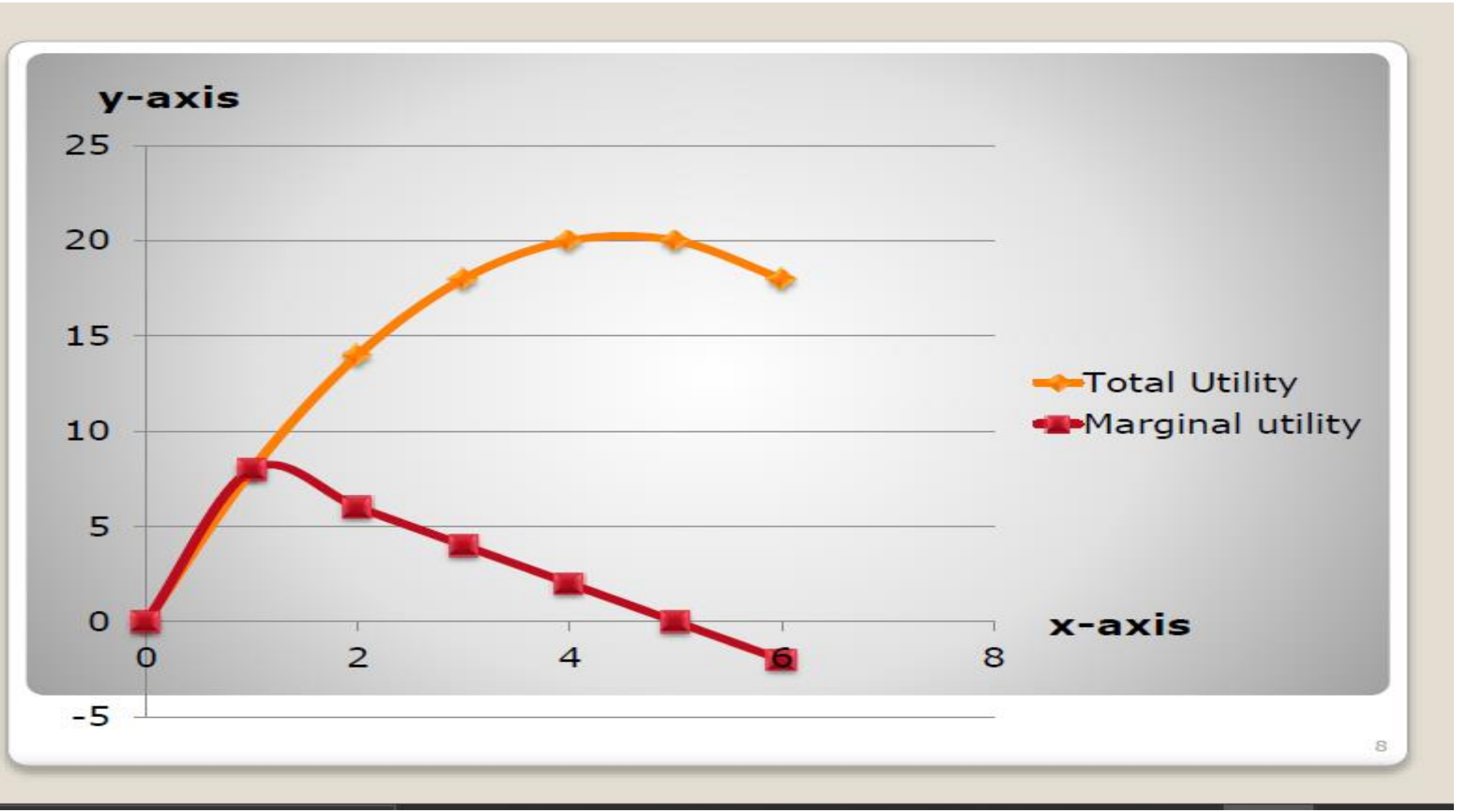
- Utility can be measured in the cardinal number system(i.e. 0,1,2)
- There is no change in the income of the consumer.
- There is continuous consumption of the commodity.
- There is no change in the tastes, character, fashion and habits of the consumer.

Table

UNITS	TOTAL UTILITY	MARGINAL UTILITY
0	0	0
1	8	8
2	14	6
3	18	4
4	20	2
5	20	0
6	18	-2


y-axis
(Curve)Total utility
25
20
15
10
5
0
0
2
4
6
8
Total Utility
x-axis


y-axis
10
8
6
4
2
0
-2
-4
0
2
4
6
8
Marginal Utility
x-axis


y-axis
25
20
15
10
5
0
-5
0
2
4
6
8
x-axis
Total Utility
Marginal utility

Causes of Diminishing Marginal Utility:

- Satisfaction of a Particular Want:
- Introspection:
- Less Important Uses of Additional Quantities:

law of equi-marginal utility

Meaning

It is the second important law of the utility analysis. This law was first propounded by Gossen. It is known as "**Gossen's Second Law**"

This law points out how a consumer can get maximum satisfaction out of given expenditure on different goods.

The law states that in order to get maximum satisfaction, a consumer should spend his limited income on different commodities in such a way that the last rupee spent on each commodity yields him equal marginal utility.

Definition

- Dr. Marshall, “If a persons has a thing which he can put to several uses, he will distribute it among these uses in such a way, that he has the same marginal utility in all.”

This law can be explained as

1. Traditional statement
2. Modern statement

Traditional Statement of the law

According to traditional statement consumer will spend his money income in such a way that last rupee spend on each product will give him equal Satisfaction.

MU1 = MU2 = ……Mun

Conditions

There must be two or more commodities

What ever marginally utility he gets from both commodity must be equal

He must spend all the income

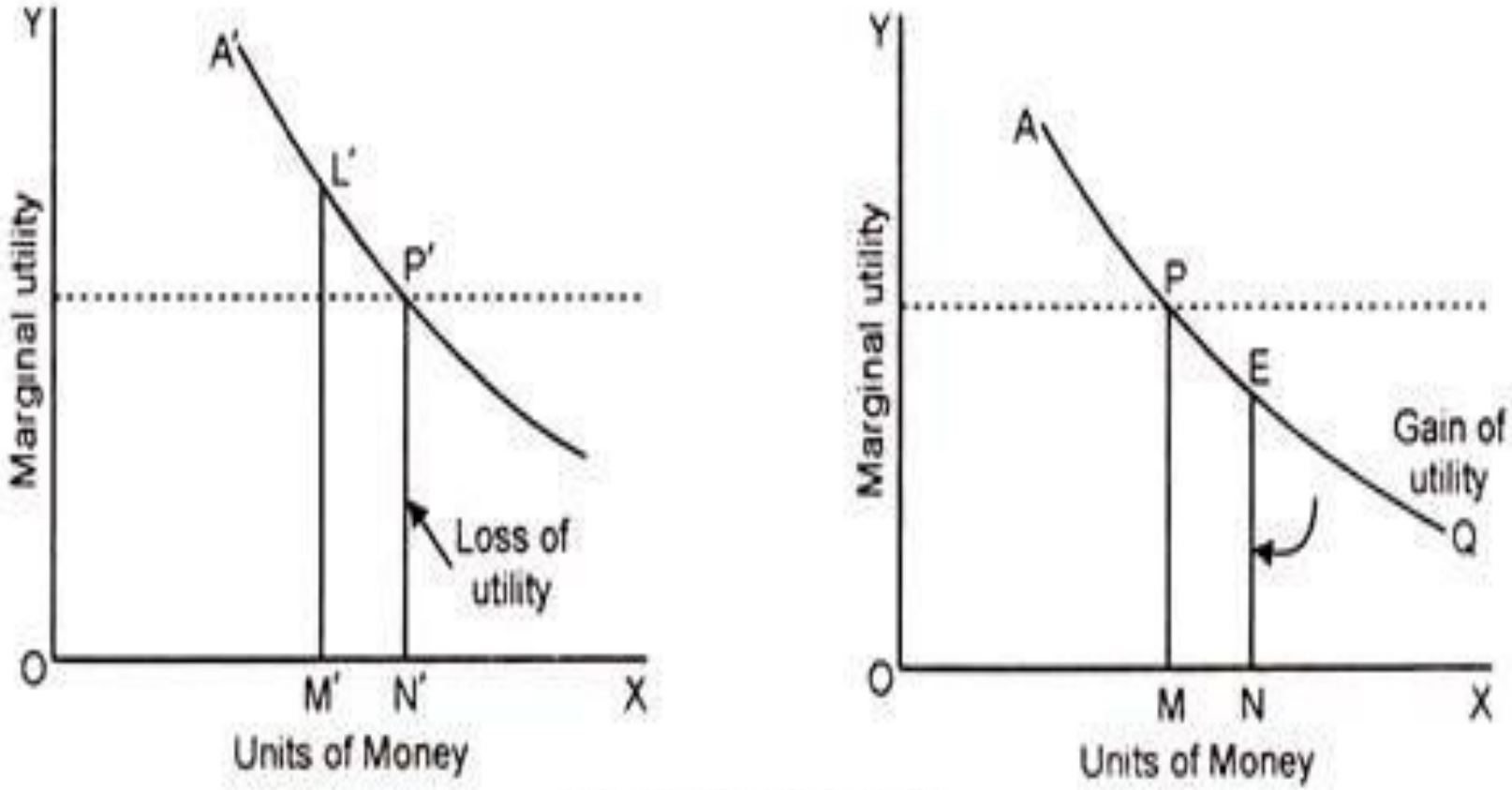
Explanation

- Income= Rs 100 Price of Apples =20, Banana = Rs. 10

UNITS	MU OF APPLE	MU OF BANANA
1	10	12
2	8	10
3	6	8
4	4	6
5	2	3

1*20=20
2*10=30
50rs spent

3*20=60
4*10=40
100rs spent



Equi. Marginal Utility

Modern Statement

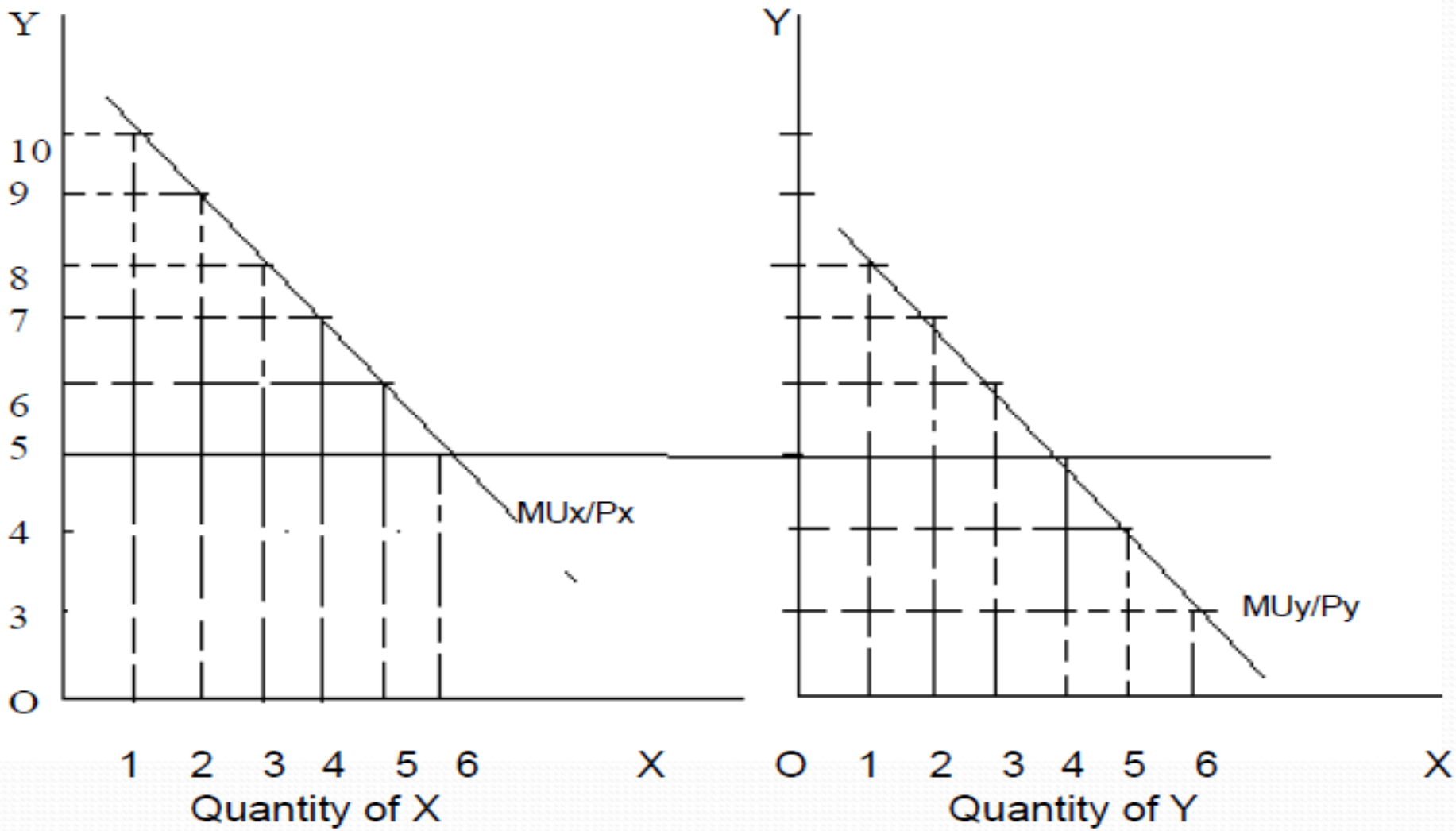
$$\frac{MU_a}{P_a} = \frac{MU_b}{P_b} = \frac{MU_c}{P_c}$$

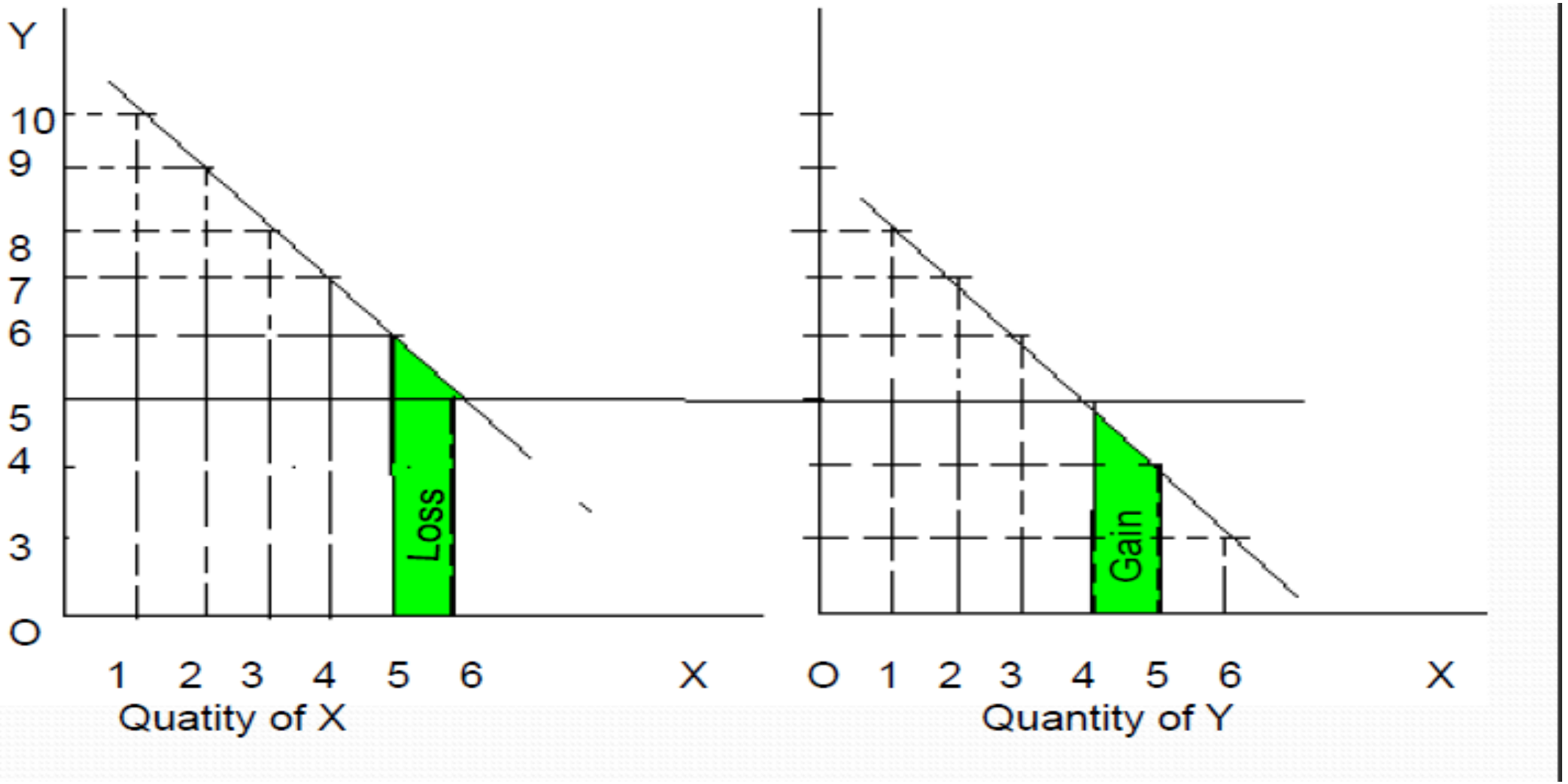
- Modern economist also call it as the ‘ *Law of Proportionality*’.
- According to them a person gets maximum satisfaction when the weighted marginal utilities are equal. In other words, when marginal utilities of one commodity divided by its price and the marginal utility of the other commodity divided by its price are equal.

Total money=Rs75 Price of X= Rs 10, Price of Y= Rs 5

	MU of X and Y		MU of Money expenditure	
Units	**MUx**	**MUy**	**Mux/ Py**	**MUy/Pv**
1	100	35	10	7
2	90	30	9	6
3	80	25	8	5
4	70	20	7	4
5	60	15	6	3
6	50	10	5	2

In Modern method, calculating marginal utility with respect to price


Y
10
9
8
7
6
5
4
3
O
MUx/Px
1 2 3 4 5 6 X
Quantity of X
Y
MUy/Py
O 1 2 3 4 5 6 X
Quantity of Y


Y
10
9
8
7
6
5
4
3
O
Loss
1 2 3 4 5 6 X
Quatity of X
O 1 2 3 4 5 6 X
Gain
Quantity of Y

Importance of the law

- Consumption
- Production
- Exchange
- Price discrimination
- Distribution
- Public finance
- International trade
- Distribution of assets
- Distribution of time
- Saving and investment

Criticism

- Non availability of goods
- Influence of fashion, customs and habits
- Tastes and preferences are not constant
- Indivisibility of goods
- Change in income and price
- Complementary goods
- Marginal utility of money does not remain constant


Return to scale

- **It is type of Long Run Production Function**
- **The term return to scale refers to the changes in output as all factors change by the same proportion.**

---Koutsoyiannis

- **Returns to scale relates to the behavior of total output as all inputs are varied and is a long run concept**

-Leibhfsky

- **In the long run, output can be increased by increasing all factors in the same proportion. Generally, laws of returns to scale refer to an increase in output due to increase in all factors in the same proportion. Such an increase is called return to scale.**

Assumptions

- All the factors of production (such as land, labour and capital) are variable, but organization is fixed.

- There is no change in technology.

- There is perfect competition in the market.

- Outputs or returns are measured in physical quantities

Three phases of Return to scale

- **Increasing Returns to Scale:**

In this case if all inputs are increased by one per cent, output increase by more than one per cent.

Constant Returns to Scale:

In this case if all inputs are increased by one percent, output increases exactly by one per cent.

Diminishing Returns to Scale:

In this case if all inputs are increased by one per cent, output increases by less than one per cent.

RETURN TO SCALE

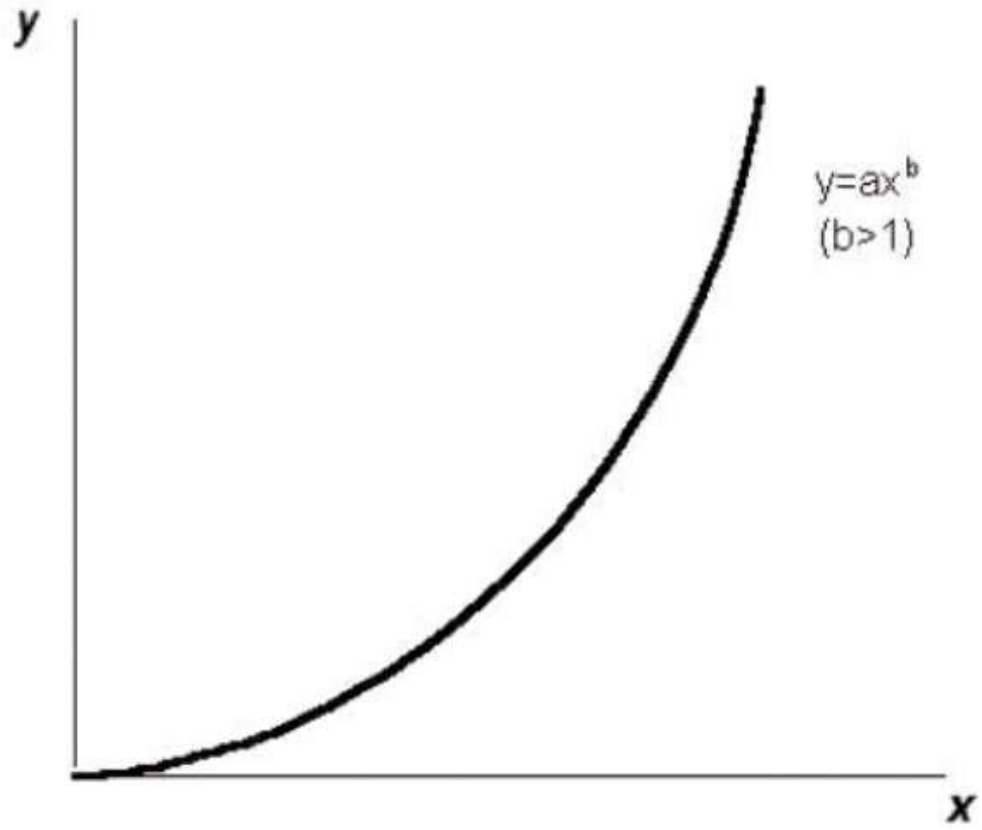
S.No.	Scale	Total Product	Marginal Product	Phases
1.	1 machine + 1 labour	4	4	I
2.	2 machine + 2 labour	10	6	Increasing
3.	3 machine + 3 labour	18	8	Returns
4.	4 machine + 4 labour	28	10	
5.	5 machine + 5 labour	38	10	II Constant
6.	6 machine + 6 labour	48	10	Return
7.	7 machine + 7 labour	56	8	III Decreasing
8.	8 machine + 8 labour	62	6	Returns

INCREASING RETURN TO SCALE

- If all inputs are doubled, output will also increase at the faster rate than double.

Reasons

- Division of labour
- Specialisation
- External economies of scale
- Technical and managerial indivisibilities
- Higher degree of specialization
- Dimensional relations



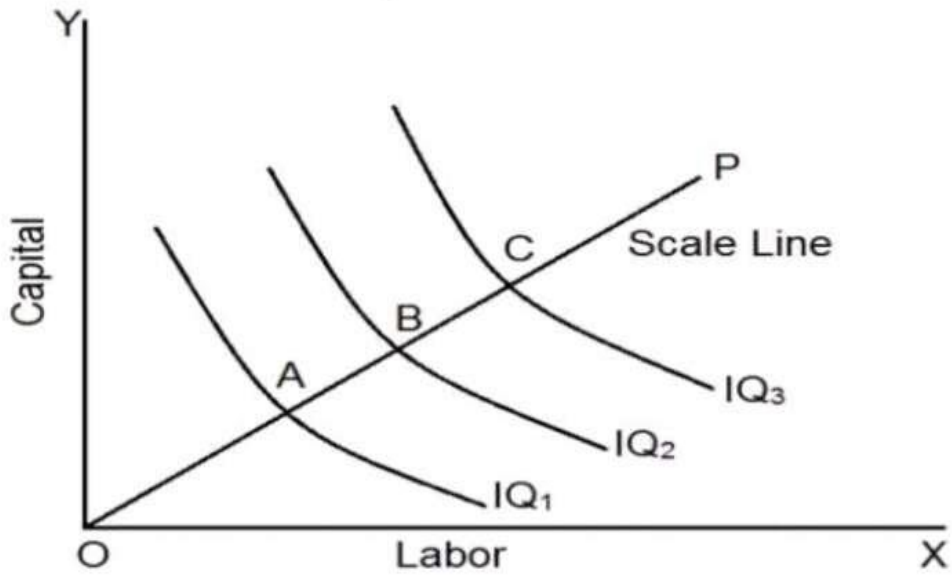
CONSTANT RETURN TO SCALE

- If all inputs are doubled, output will also be doubled.

Reason

- Economies of Scale is balanced by diseconomies of Scale
- Indivisibility of fixed factors.
- When the factors of production are perfectly divisible, the production function is homogenous of degree 1 showing constant returns to scale.

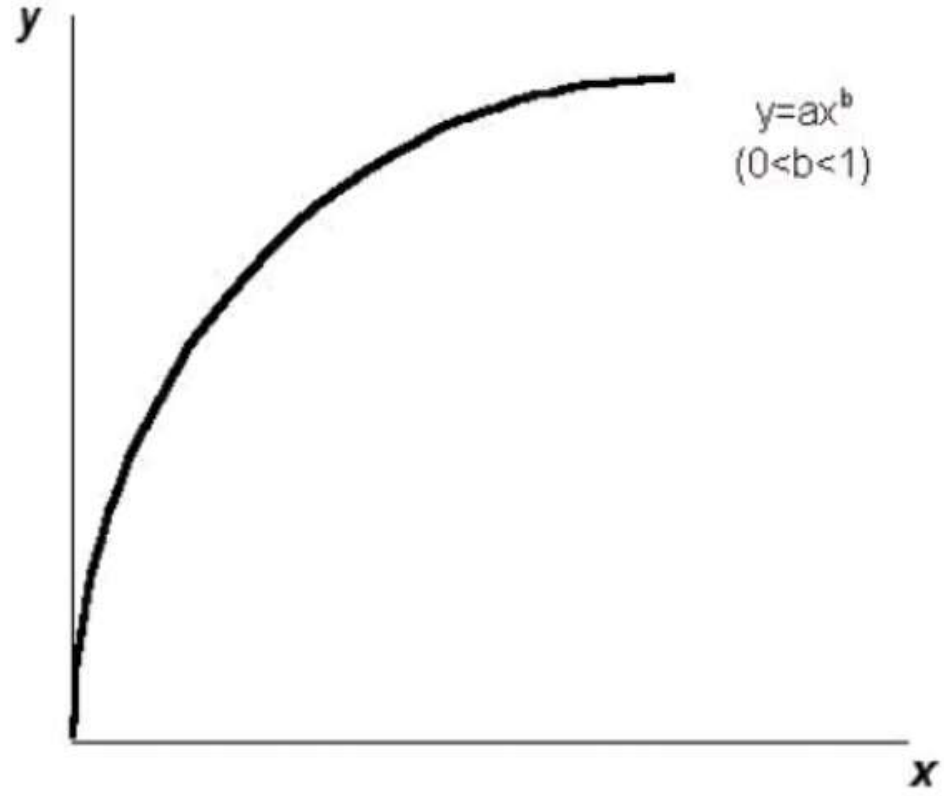
Figure 2



DIMINISHING RETURN TO SCALE

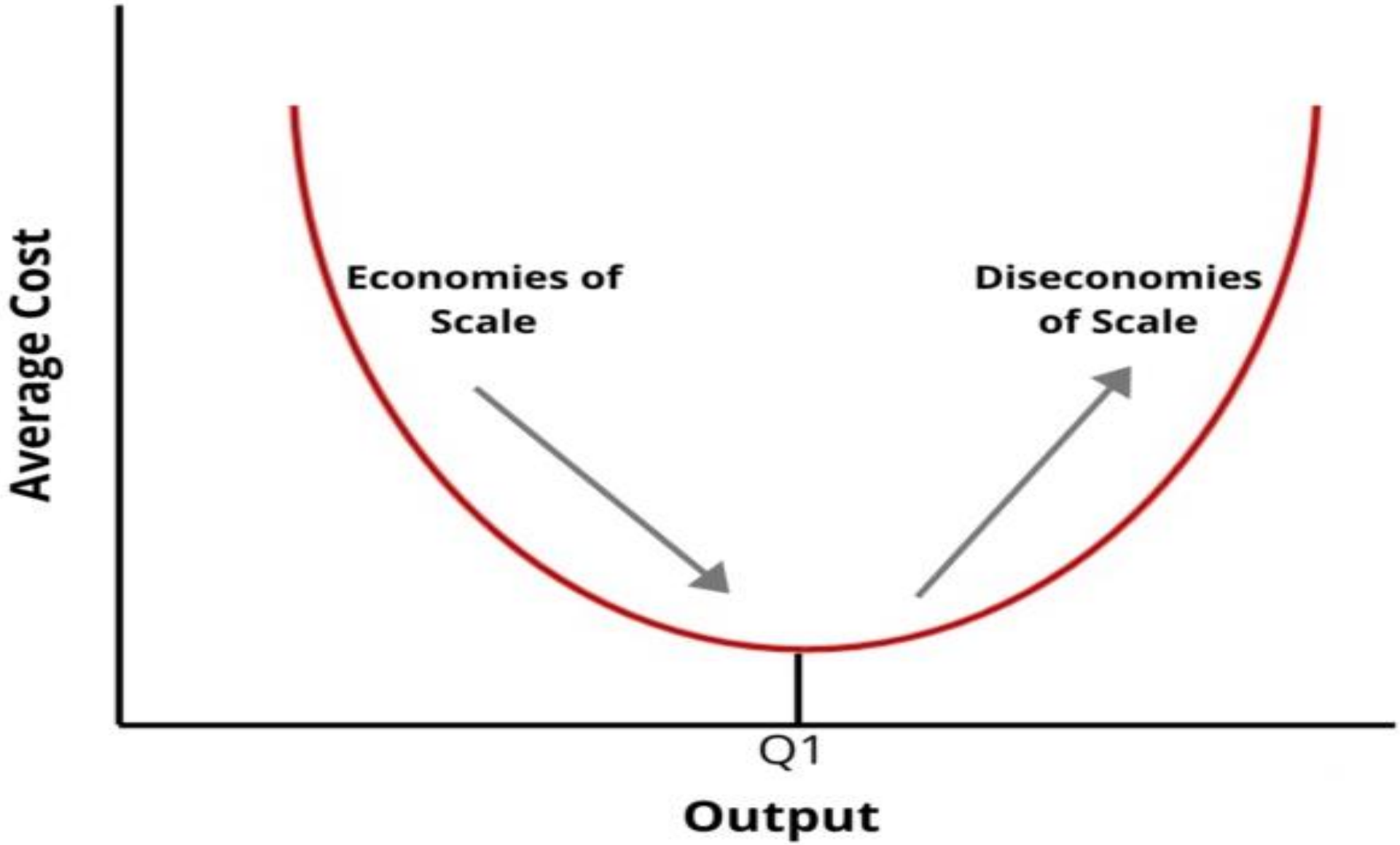
- If all inputs are doubled, output will be less than doubled.

- Reasons
- Internal diseconomies
- External diseconomies
- Size of the firms expands, managerial efficiency decreases.
- Limited resources.



DISECONOMIES OF SCALE OF PRODUCTION

- Economies of scale are when the cost per unit of production (**Average cost**) **decreases** because the **output** (sales) **increases.**
- Diseconomies of Scale is an economic term that defines the trend for **average costs to increase alongside output**. At a specific point in production, the process starts to become less efficient. In other words, it starts to cost more to produce an additional unit of output.


Average Cost
Economies of Scale
Diseconomies of Scale
Q1
Output

INTERNAL DISECONOMIES

- Inefficient Management
- Technical Difficulties
- Production Diseconomies
- Marketing Diseconomies
- Fnancial Diseconomies

EXTERNAL DISECONOMIES

- Diseconomies of Pollution
- Diseconomies of Strain on Infrastructure
- Diseconomies of High Factor Prices

- A production function can be represented in the form of a mathematical model of equation as Q = f (a,b,c,…… etc.) where Q stands for quantity of output per unit of time and a, b, c, etc are the various factor inputs like land, capital, labour etc, which are used in the production of output

SHORT RUN

LONG RUN

- In this case, the producer will keep all fixed factors as constant and changes only a few variable factor inputs. For example, Law of Variable Proportions.

- In this case, the producer will vary the quantities of all factor inputs both fixed as well as variable in the same proportion. For example, the laws of returns to scale.

In the short-run the level of production can be changed by changing the factor proportions. This law examines the production function with on factor variable, keeping the other factors quantities fixed.

The law explains the short-run production function. When the quantity of one input is varied, keeping other inputs constant, the proportion between factors changes. When the proportion of variable factors increases, the total output does not always increase in the same proportion, but in varying pro portion.

- Only one factor is variable while others are held constant.
- All units of the variable factor are homogeneous.
- There is no change in Technology.
- It is possible to vary the proportions in which different inputs are combined.
- The products are measured in physical units, i.e., in quintals, tonnes etc.

Production Schedule

PRODUCTION SCHEDUL

QUANTITY OF LABOUR	TOTAL PRODUCT (TP)	AVERAGE PRODUCT (AP)	MARGINAL PRODUCT (MP)
1	100	100	100
2	210	105	110
3	330	110	120
4	430	107.5	100
5	520	104	90
6	600	100	80
7	670	95.7	70
8	720	90	50
9	750	83.3	30
10	760	76	10
11	740	67.2	– 20

- It refers to the total volume of goods produced during a specified period.
- Total product (TP)can be raised only by increasing the quantity of variable factors employed in production.

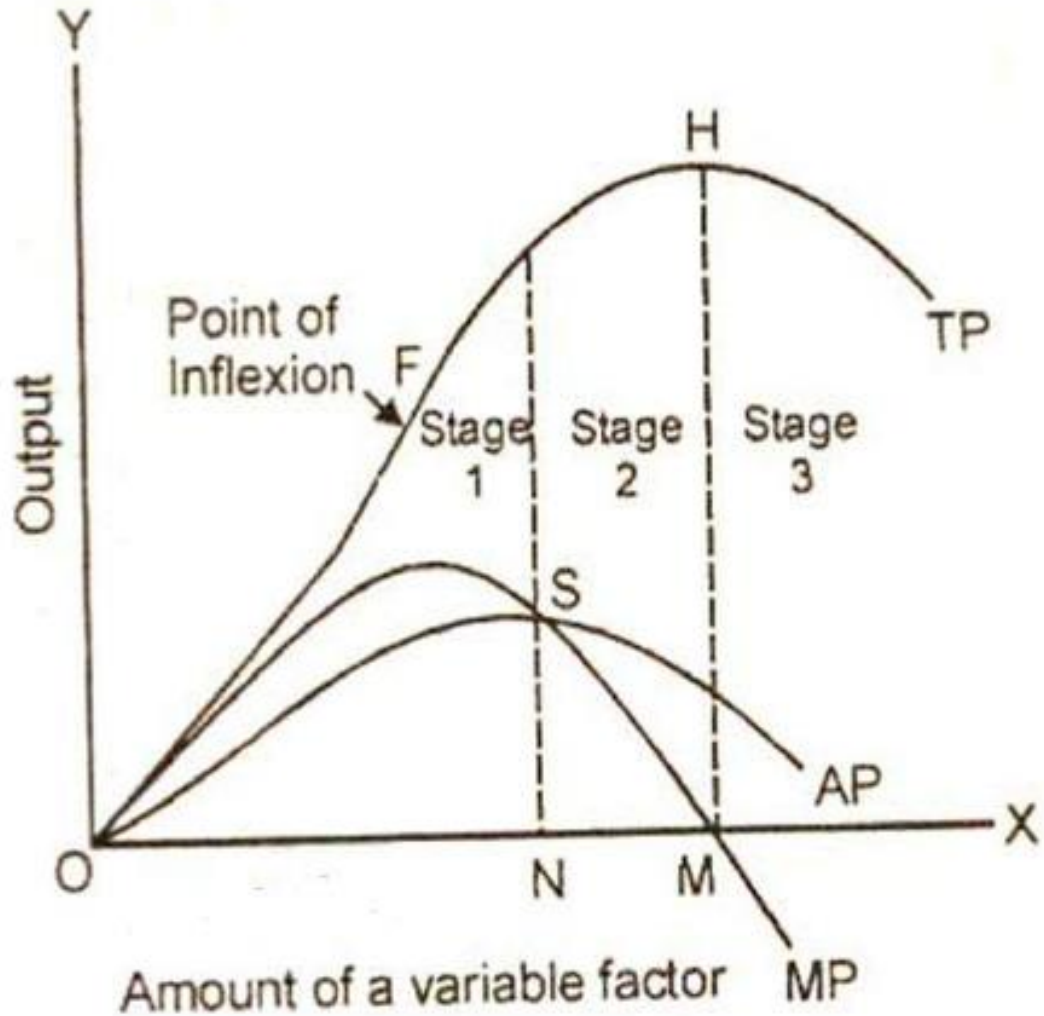
Average product can be known by dividing total product by the total number of units of the variable factor.

TP/Q

450/5=90

- It is output derived from the employment of an additional unit of variable factor unit.
- The rate at which total product increases is known as marginal product.
- Addition to the total product resulting from a unit increase in the quantity of the variable factor.

- When AP rises as a result of an increase in the quantity of variable input, MP is more then the average product.
- When AP are maximum then MP is equal to AP. The MP curve cuts the AP curve at its maximum.
- When AP falls as a result of decrease in quantity of variable input, MP is less than the AP.


Y
H
Point of
Inflexion
F
TP
Output
Stage
1
Stage
2
Stage
3
S
AP
X
O
N
M
MP
Amount of a variable factor

Stage 1- THE LAW ON INCREASING RETURNS.

Stage 2- THE LAW OF DIMINSHING RETURNS.

Stage 3- THE STATE OF NAGATIVE RETURNS

- TP increases at an increasing rate up to a point F.
- MP also rises and is maximum at point F.
- AP goes on rising.
- After point F , TP rises but at diminishing rate.
- MP falls but is positive.
- Stage 1 ends where AP reaches its highest point.

- TP continues to increase at a diminishing rate, until it reaches it maximum point H.
- Both MP and AP continuously fall during this stage.
- Both MP and AP continuously fall during this stage.

TP declines.

MP negative.

AP is diminishing

- A rational producer will never produce in stage 3, where MP is negative.
- A rational producer will also not produce in stage 1, where the MP of fixed factor is negative.
- The producer producing in stage 1 will not be making best use of fixed factor and he will not be utilizing fully the opportunity of increasing production by increasing quantity of variable factor.
- A rational producer will produce in stage 2, where both MP and AP of variable factors are diminishing.

Demand

Desire

Want

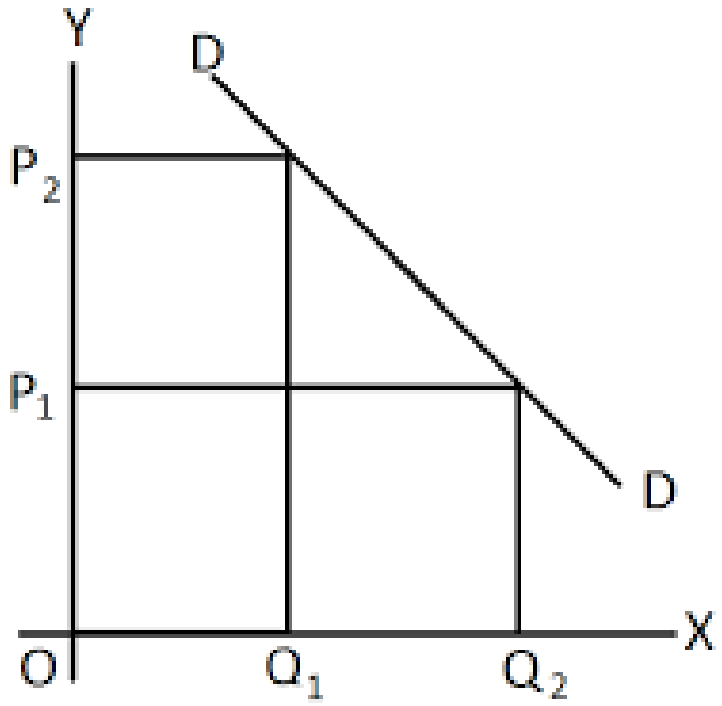
Demand

- desire to get a commodity
- ability to buy
- willingness to buy
- demand is always at a point of time
- demand is always at a price

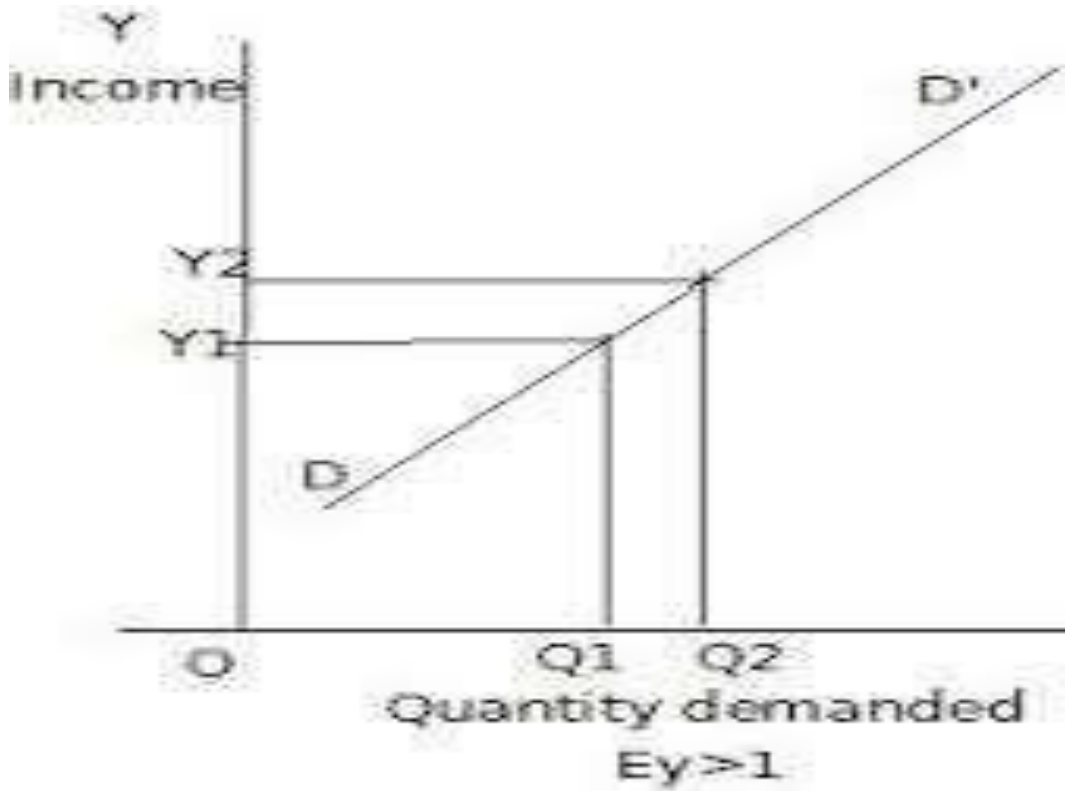
Definition

Demand

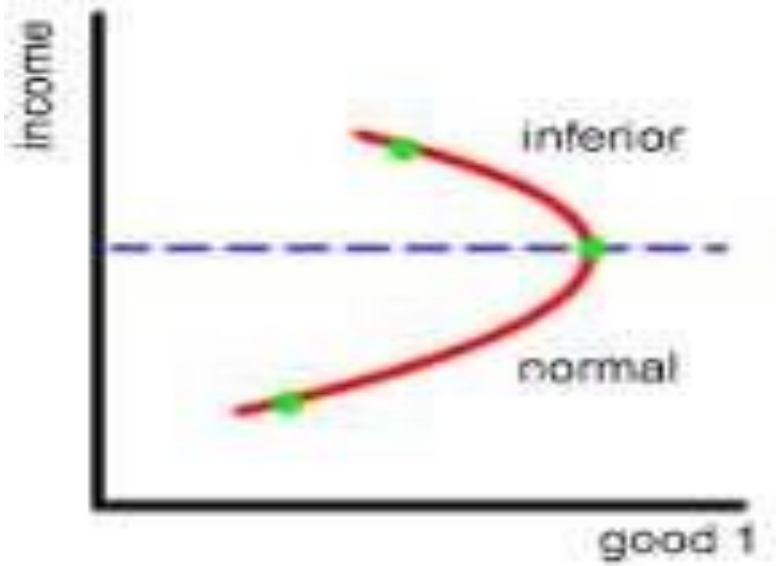
Determinants of Demand



2. Income of consumer



Inferior Goods



3. Price of Related Goods

- Substitutes
- Complimentary

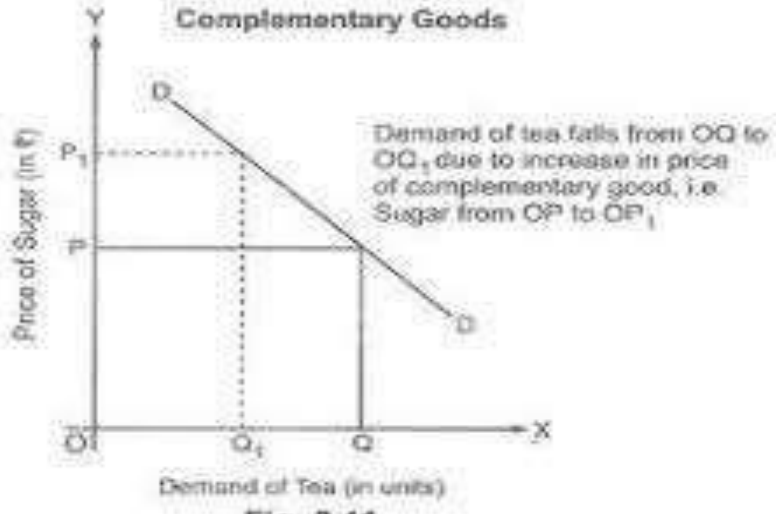


Fig. 3.11

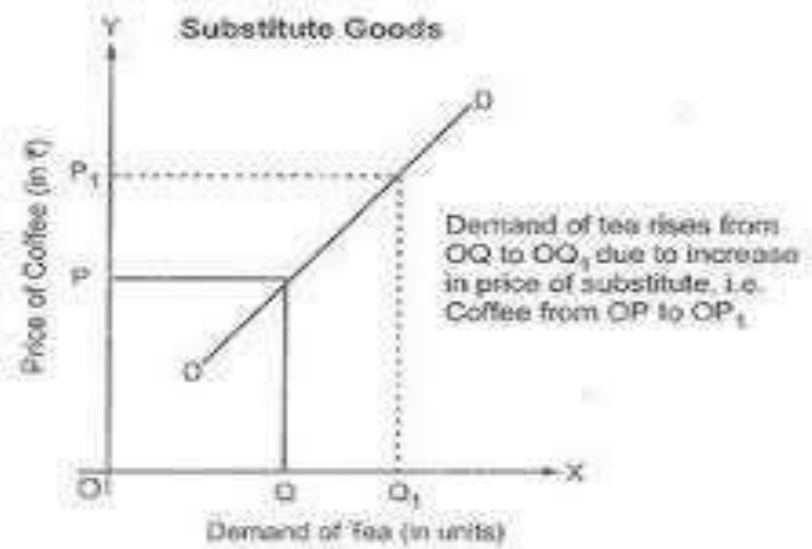


Fig. 3.10

5. Advertisement

6.Expectations

- Related to their future income
- Relate to future price of the good and its related goods

Demand Function

Demand function is the mathematical expression of the relationship between quantity demanded of the commodity and its determinants.

$$Q_{dX} = f(P_X, Y, P_{1,}\ldots,P_{n-1}, T, A, E_Y, E_P,)$$

- Q_{dX} = Quantity Demanded
- P_X = Price of product X
- Y = Level of household income
- $P_1,\ldots, P_{n-1}$ = Prices of other related products
- T = Taste of the consumer
- A = Advertisement
- E_Y = Expected future income
- E_P = Expected future price
- *m* = all other determinants not covered above

The Law of Demand

- *Law of demand states that the amount demanded of a commodity and its price are inversely related, other things remaining constant.*

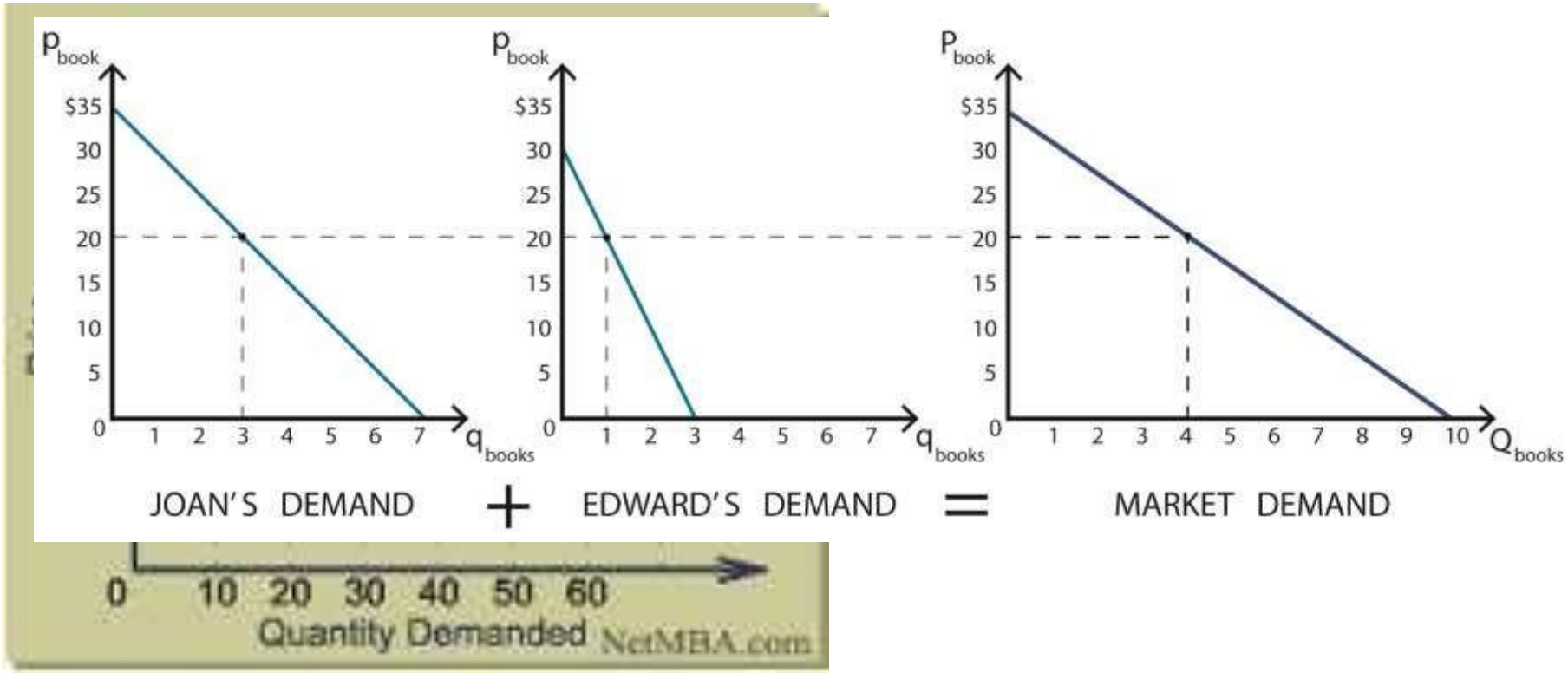
Individual and Market Demand Schedule

- A demand schedule at any particular time refers to the series of quantities the customer is prepared to buy at its different prices.

Price or oranges/ kg	Quantity demanded of oranges				Market Demand
	A	B	C	D	
100	1	0	3	0	4
90	3	1	6	4	14
80	7	2	9	7	25
70	11	4	12	10	37
60	13	6	14	12	45

Individual and Market Demand Curve

- *The demand schedule when represented diagrammatically is known as a demand curve.*



Exceptions to the Law of Demand

- Giffen Goods:-
  - For Inferior goods income effect is shorter than substitution effect
  - Ex: Potato's
- Status Symbol items:-
  - More expensive the item more the status value
  - Ex: Cars, Gold, Diamonds etc.
- Expectation of change in price:-
  - Expectation of further increase in price increase demand
  - Expectation of further decrease in price decrease demand

Elasticity of Demand

Elasticity of Demand (Ed)

- It is a measure used in economics to show degree of responsiveness of demand with respect to any determinants of demand.
- In economics, elasticity is the measurement of how an economic variable responds to a change in another.

$$E_p = \frac{\%\ change\ in\ demand}{\%\ change\ in\ price\ of\ commodity} = \frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

Types of Elasticity of Demand

1. Price Elasticity of Demand

- It is a measure used in economics to show the degree of responsiveness of demand for goods or services as a result of change in its price.
- It is always negative though analysts tend to ignore the sign and only goods which do not conform to law of demand such as giffen goods have positive elasticity of demand.

Types of Price Elasticity of Demand

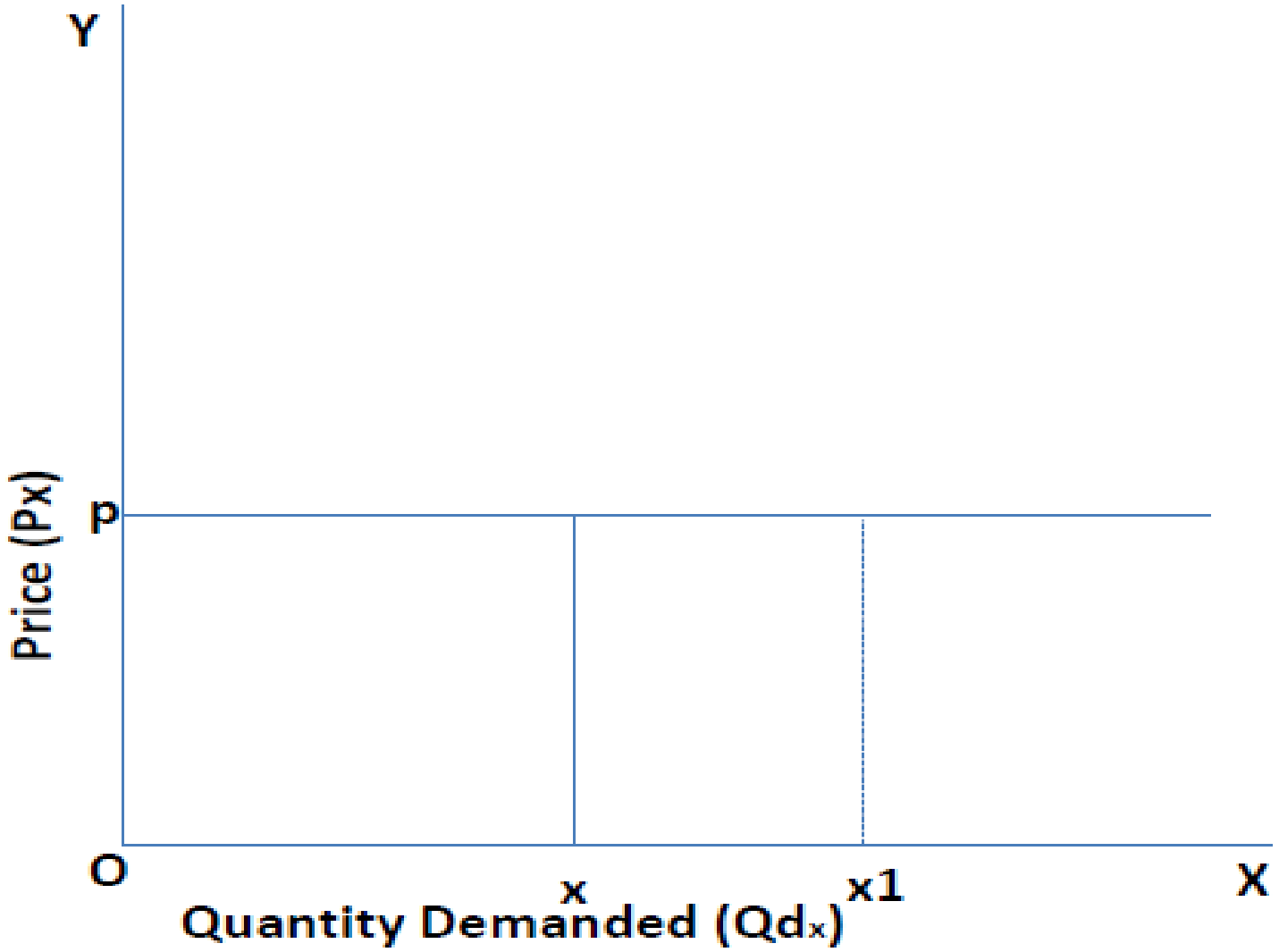
- Perfectly Elastic Demand (Ep= ∞)
- Perfectly Inelastic Demand (Ep=0)
- Unitary Elastic Demand (Ep=1)
- Relatively Elastic Demand (Ep>1)
- Relatively Inelastic Demand (Ep<1)

Perfect Elastic Demand ($Ep=\infty$)

Here, percentage demand changes unlimitedly with small percentage change in price.

It’s curve is horizontal at the market price.

We can take an example of bike market. In Today’s bike market, the demand for bikes is increasing day by day with negligible change in price.


Y
Price (Px)
P
O
x
x1
X
Quantity Demanded (Qdx)

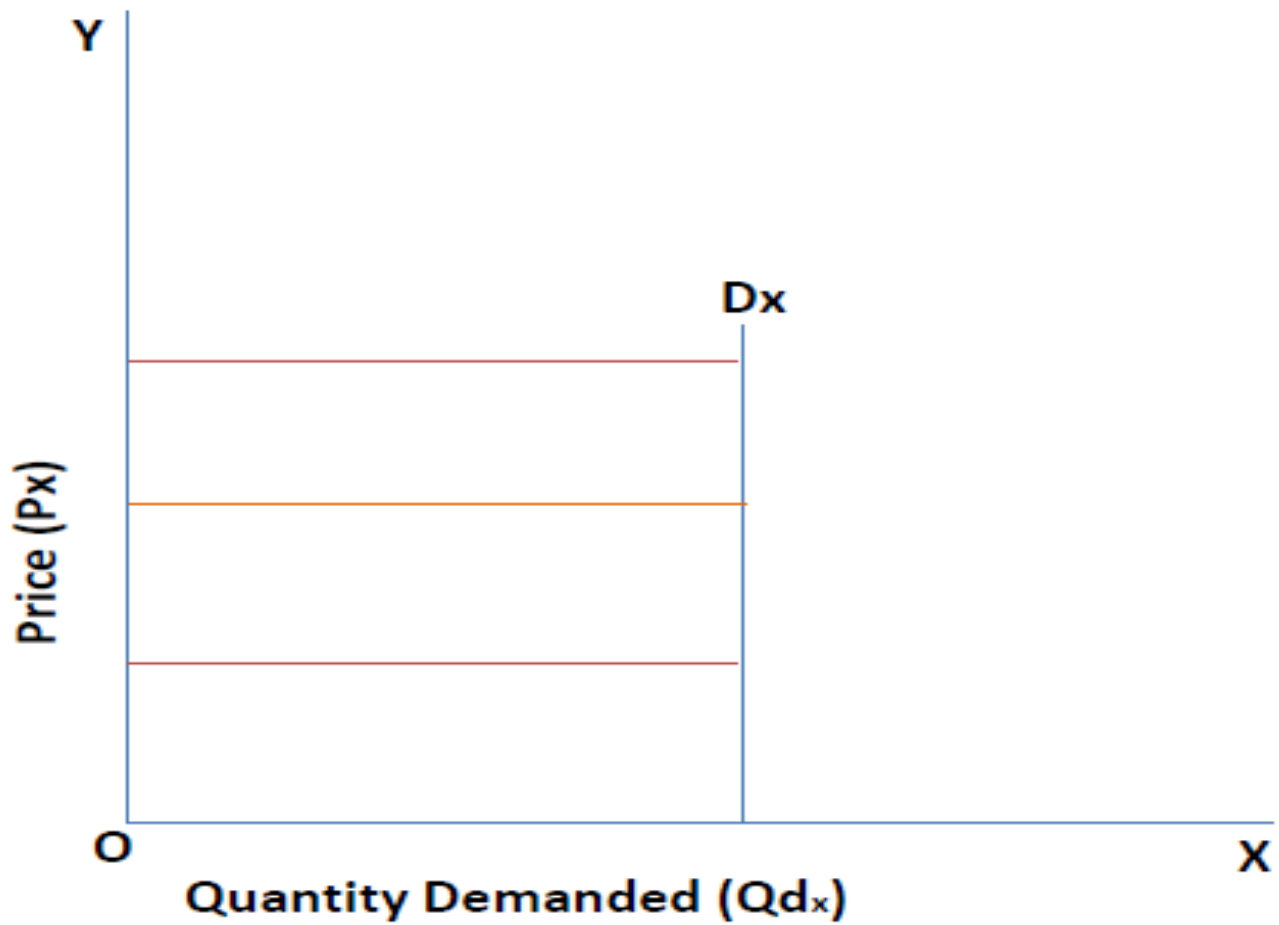
Perfectly Inelastic Demand (Ep=0)

Here, percentage demand does not changes with any change percentage in price.

It’s curve is vertical at the market price.

The more inelastic the demand the more steeper the curve.

For example: demand for medicine, emergency services, basic goods, essential items, etc.

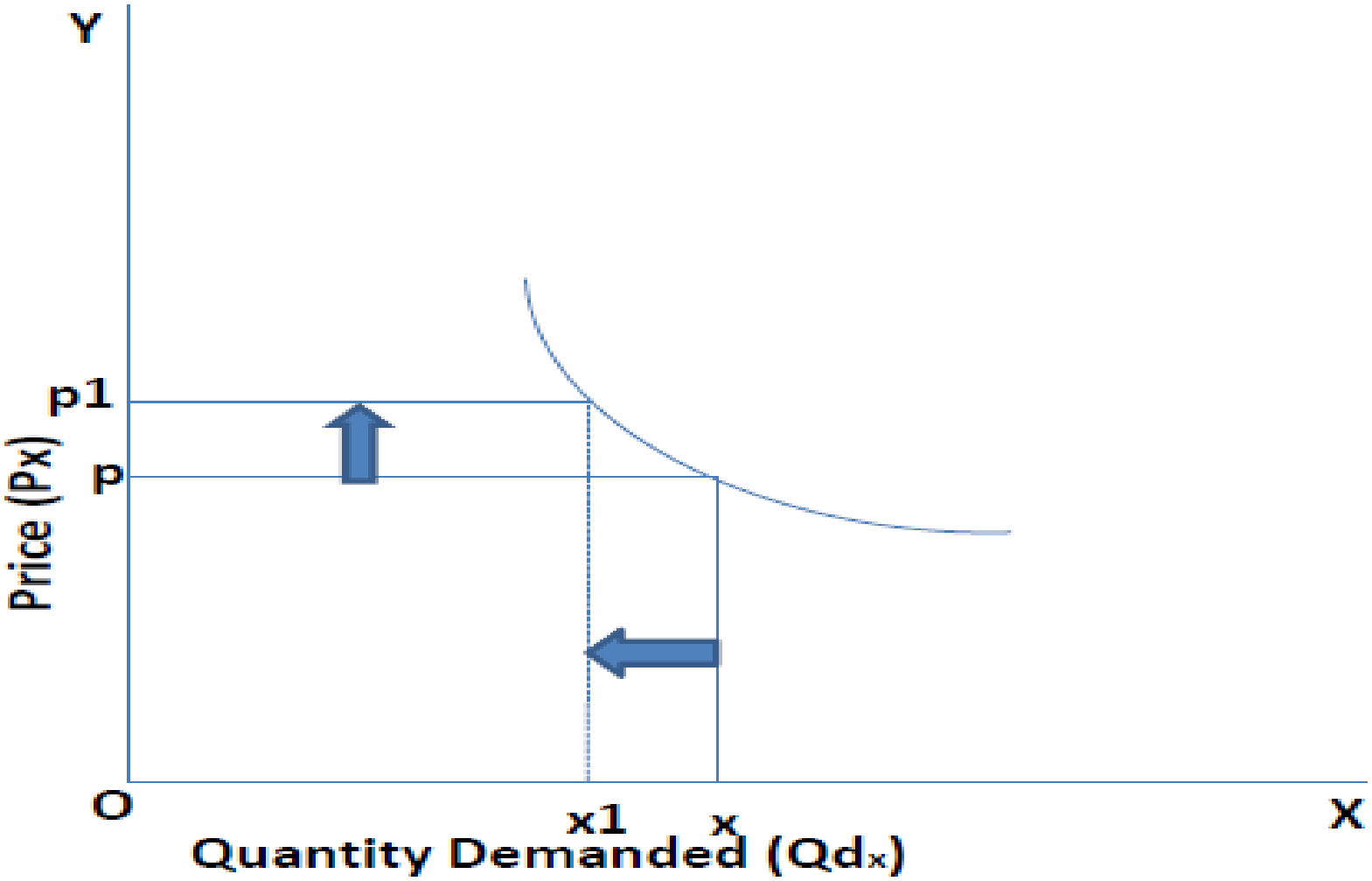

Y
Dx
Price (Px)
O
X
Quantity Demanded (Qdx)

Unitary Elastic Demand (Ep=1)

Here, percentage demand change is equal with the percentage change in price.

It is found in case of normal goods.

For e.g. 10% change demand due to 10% change in price of commodity.


Y
p1
p
Price (Px)
O
x1
x
X
Quantity Demanded (Qdx)

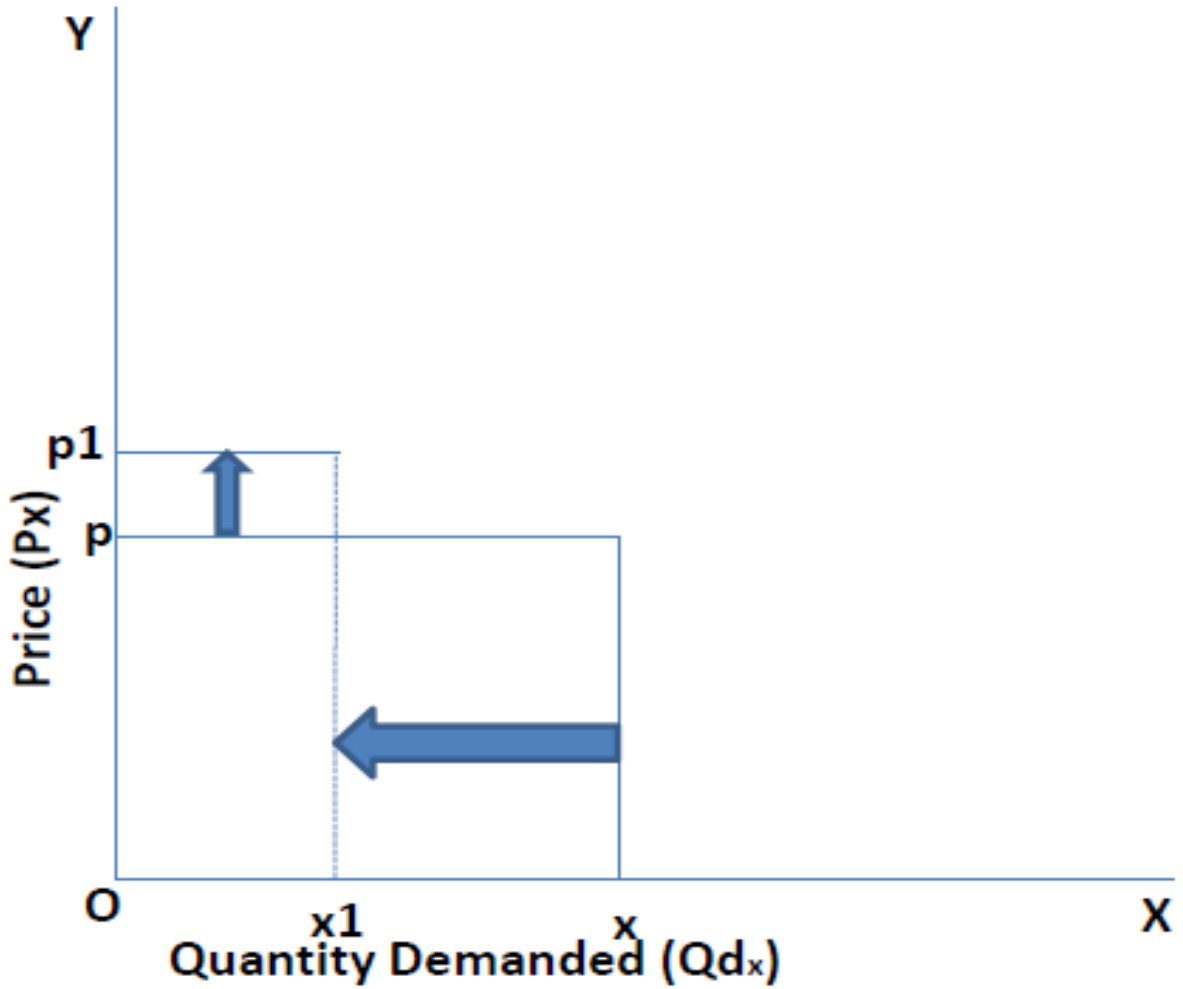
Relatively Elastic Demand ($Ep>1$)

- Here, Percentage change in demand is greater than percentage change in price of a commodity.

It’s curve slopes downward and is flatter in nature.

It is found in case of Luxurious goods.

For example: 15% change in demand with 10% change in price of commodity.


Y
p1
p
Price (Px)
O
x1
x
X
Quantity Demanded (Qdx)

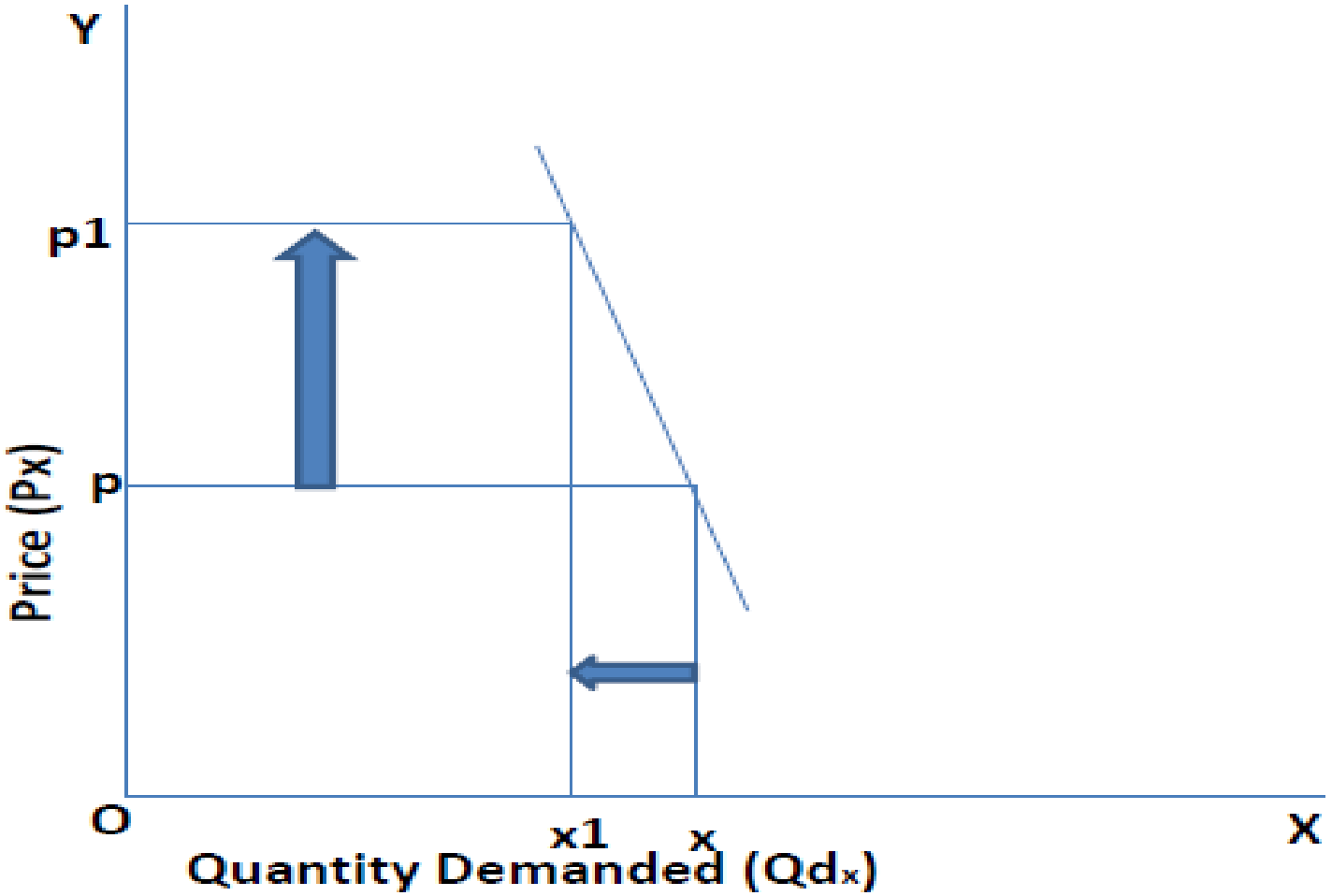
Relatively Inelastic Demand ($Ep<1$)

Here, Percentage change in demand is less than percentage change in price of a commodity.

It’s curve slopes downward and is steeper in nature.

It is found in case of normal goods.

For example: 5% change in demand with 10% change in price of commodity.


Y
p1
p
Price (Px)
O
x1
x
X
Quantity Demanded (Qdx)

Income Elasticity of Demand

$$E_y = \frac{\%\ change\ in\ quantity\ demand}{\%\ change\ in\ income\ of\ the\ consumer} = \frac{\Delta Q}{\Delta Y} \times \frac{Y}{Q}$$

- It is a measure used in economics to show the degree of responsiveness of demand for goods or services as a result of change in income of the consumer, keeping other factors constant.
- It is used to classify normal goods and inferior goods.

Types of Income Elasticity of Demand

Positive Income Elasticity (Ey>0)

Negative Income Elasticity (Ey<0)

Zero Income Elasticity (Ey=1)

Positive Income Elasticity ($Ey>0$)

Here, Demand varies positively with change in income.

It can be found in case of superior goods.

It can be further divided into three degrees:

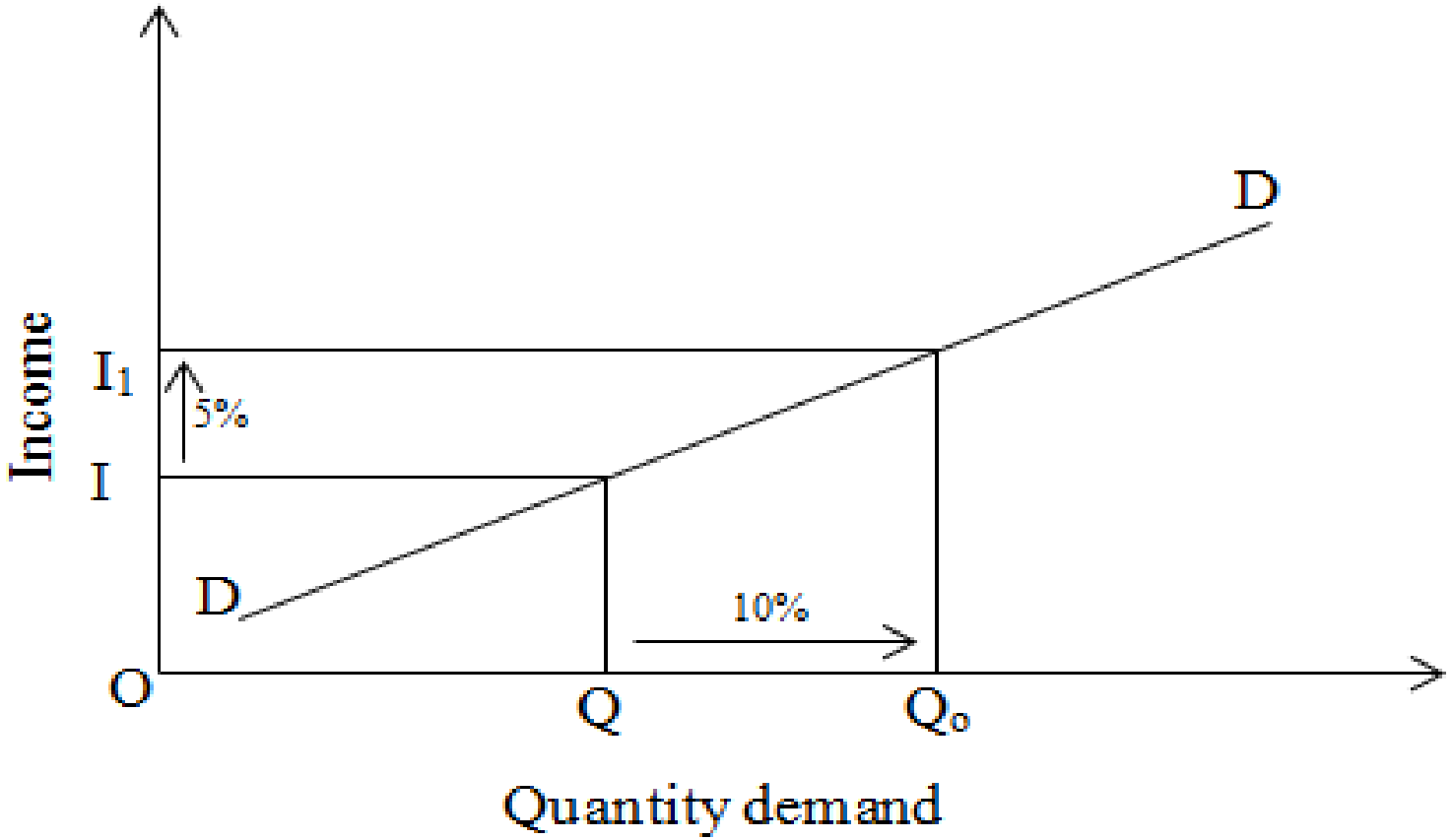
- Income Elasticity Greater than Unity (Ey>1)
- Income Elasticity Less Than Unity (Ey<1)
- Income Elasticity Equal to Unity (Ey=1)

Income Elasticity Greater than Unity($Ey > 1$)

Here, percentage change in quantity demand is greater than percentage change in income of the consumer.

It is seen in case of superior goods.

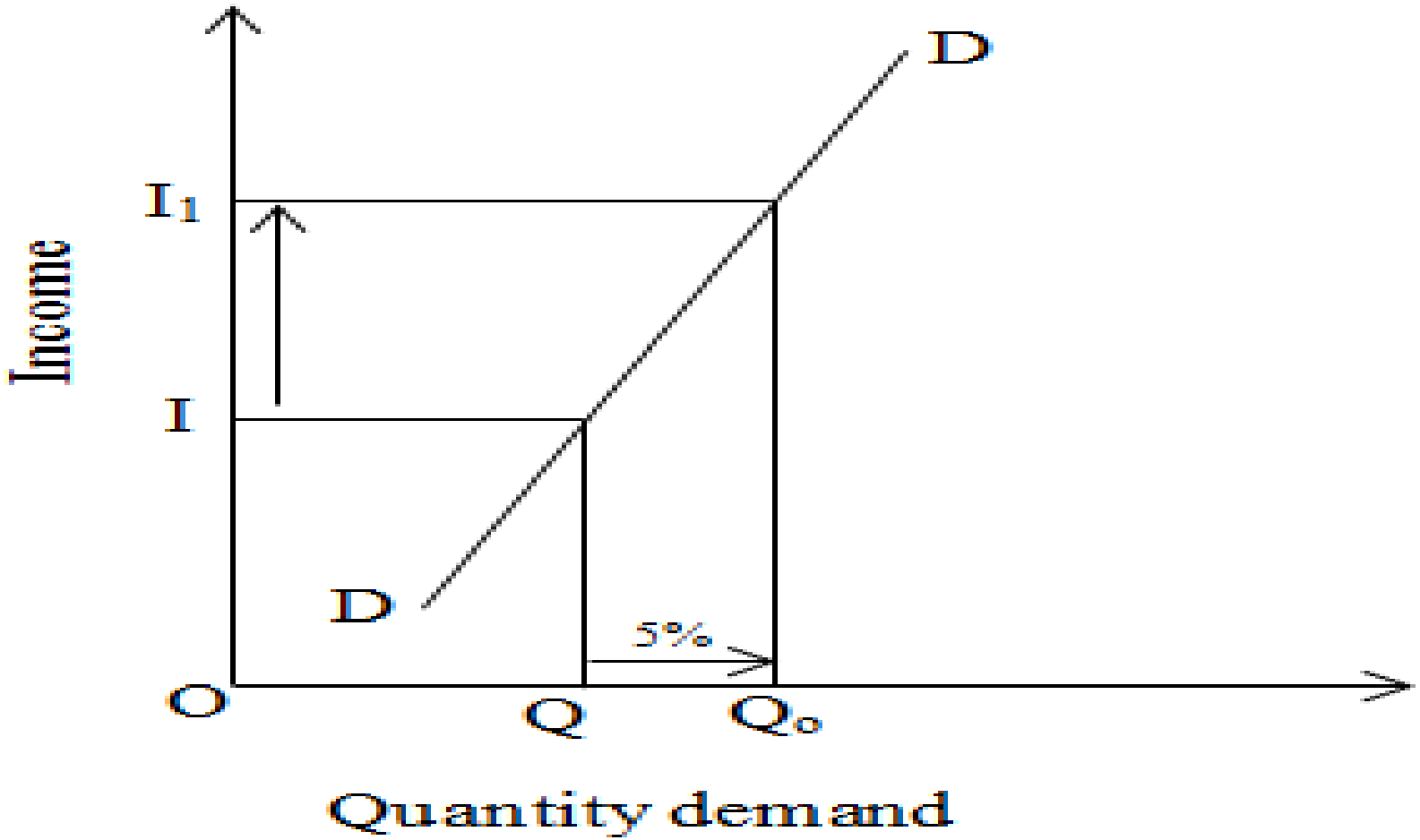
For e.g. 5% increase in income resulting in 10% increase in quantity demand.


Income
I1
I
5%
D
D
10%
O
Q
Qo
Quantity demand

Income Elasticity Less Than Unity ($Ey < 1$)

Here, percentage change in quantity demand is less than percentage change in income of the consumer.

For e.g.10% increase in income resulting in 5% increase in demand.

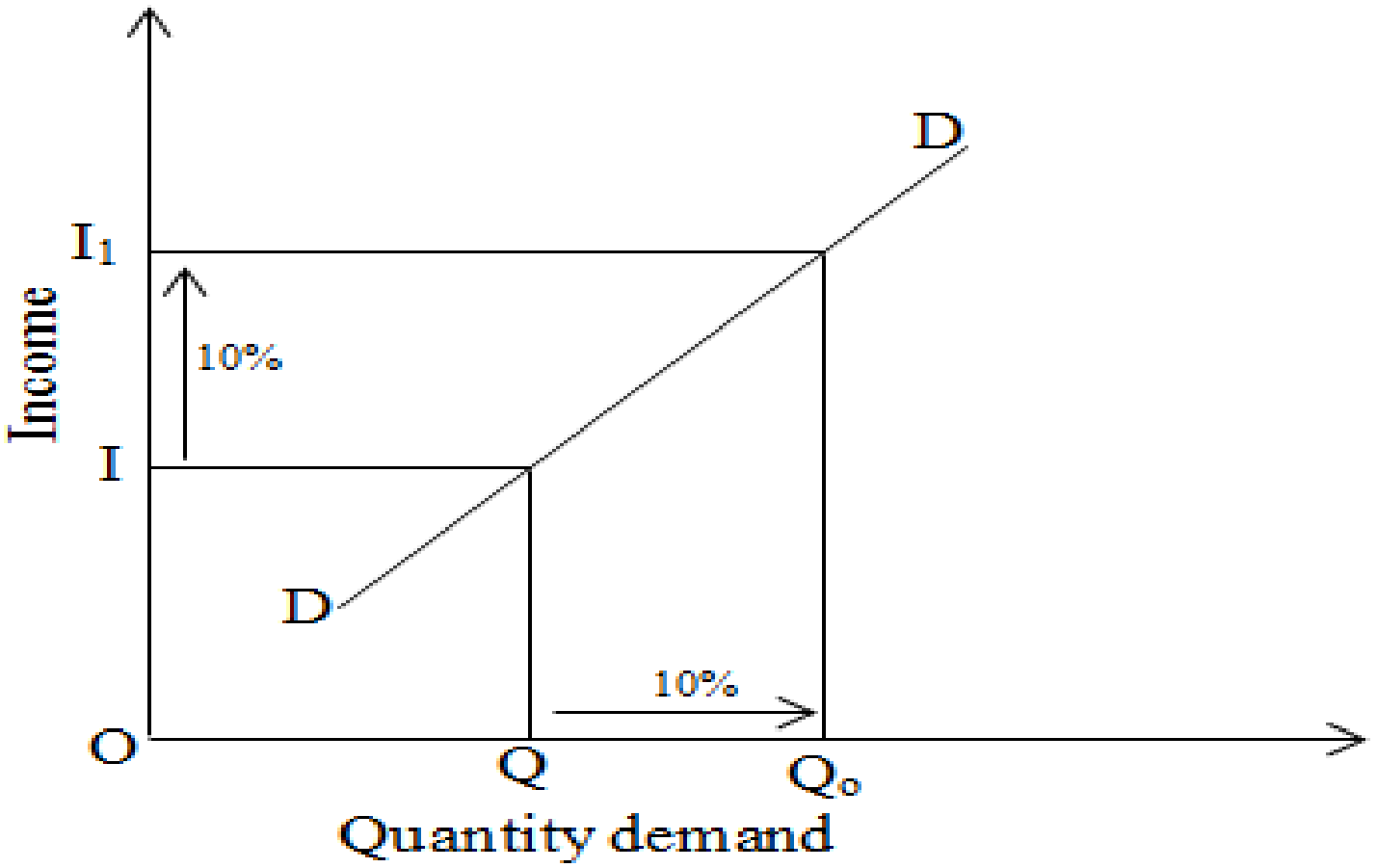

D
I1
Income
I
D
5%
O
Q
Qo
Quantity demand

Income Elasticity Equal to Unity (Ey= 1)

Here, percentage change in quantity demand is equal to percentage change in income of the consumer.

It is seen in case of basic goods.

For e.g.10% change in income resulting in 10% change in demand.

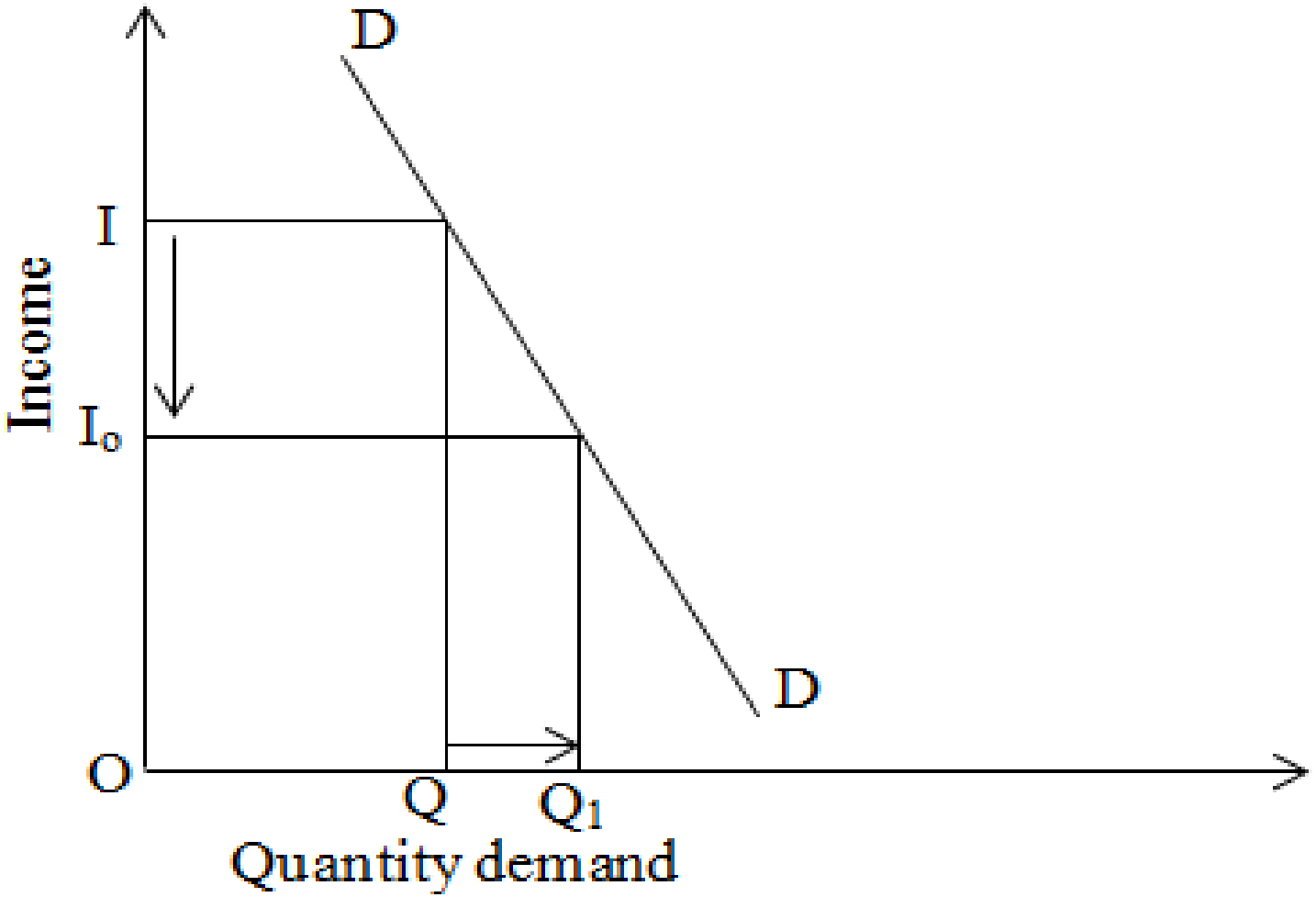

D
I_1
Income
10%
I
D
10%
O
Q
Q_o
Quantity demand

Negative Income Elasticity ($Ey<0$)

Here, Demand varies inversely with change in income.

- It is seen in case of inferior goods.

- For e.g. 20% fall in income resulting in 10% rise in demand.

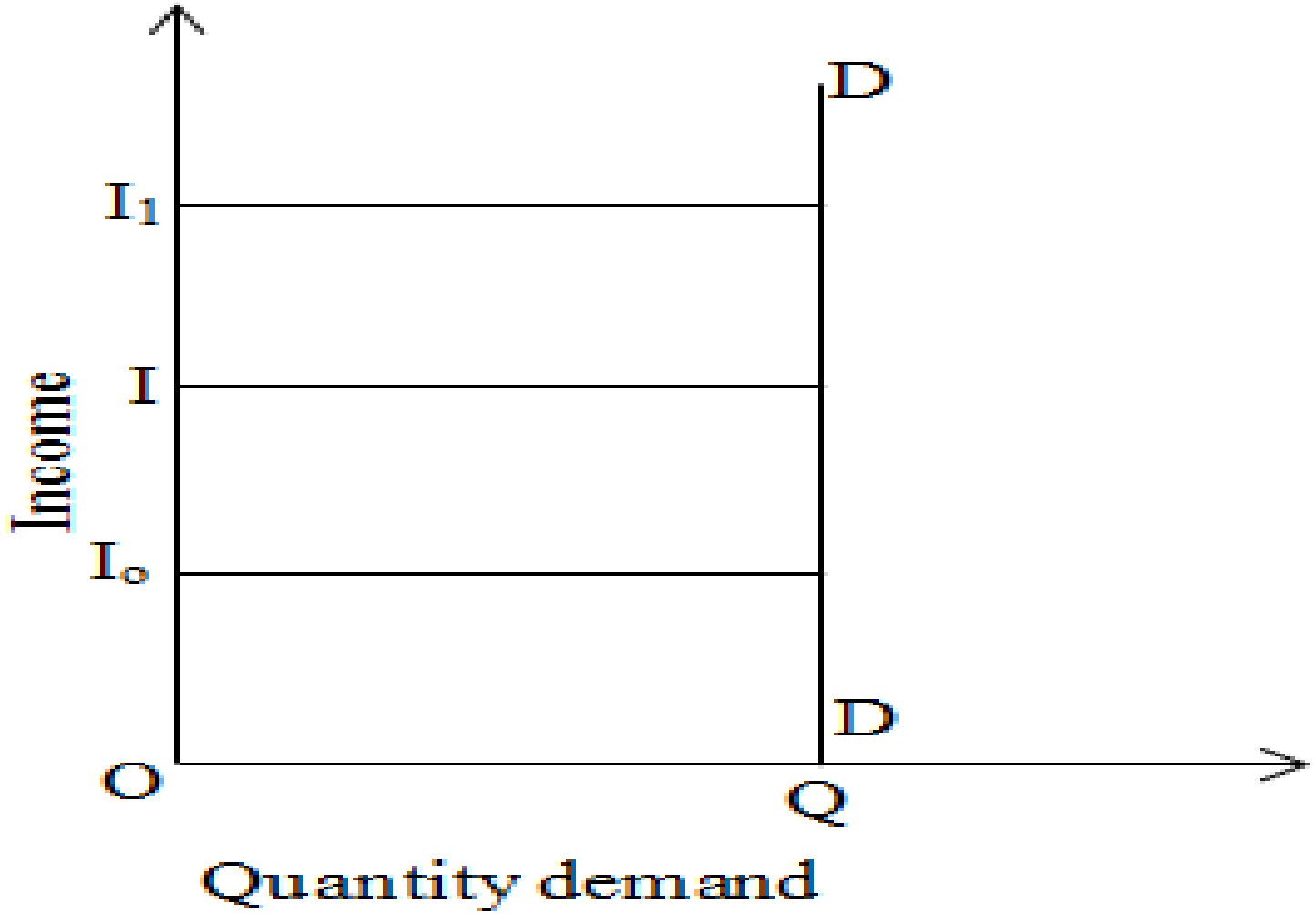

D
I
Income
I_o
D
O
Q
Q_1
Quantity demand

Zero Income Elasticity (Ey=1)

Here, Demand does not varies with any change in income.

It’s curve is parallel to y-axis.

It can be seen in case of neutral goods.


D
I1
I
Io
Income
D
O
Q
Quantity demand

$$E_{xy} = \frac{\%\ change\ in\ demand\ of\ x\ goods}{\%\ change\ in\ price\ of\ y\ goods} = \frac{\Delta Qx}{\Delta Py} \times \frac{Q}{P}$$

Cross Elasticity of Demand

- It is a measure used in economics to show the degree of responsiveness of demand for goods or services as a result of change in price of any another commodity, keeping other factors constant.
- It is used to classify goods into supplementary and complementary.

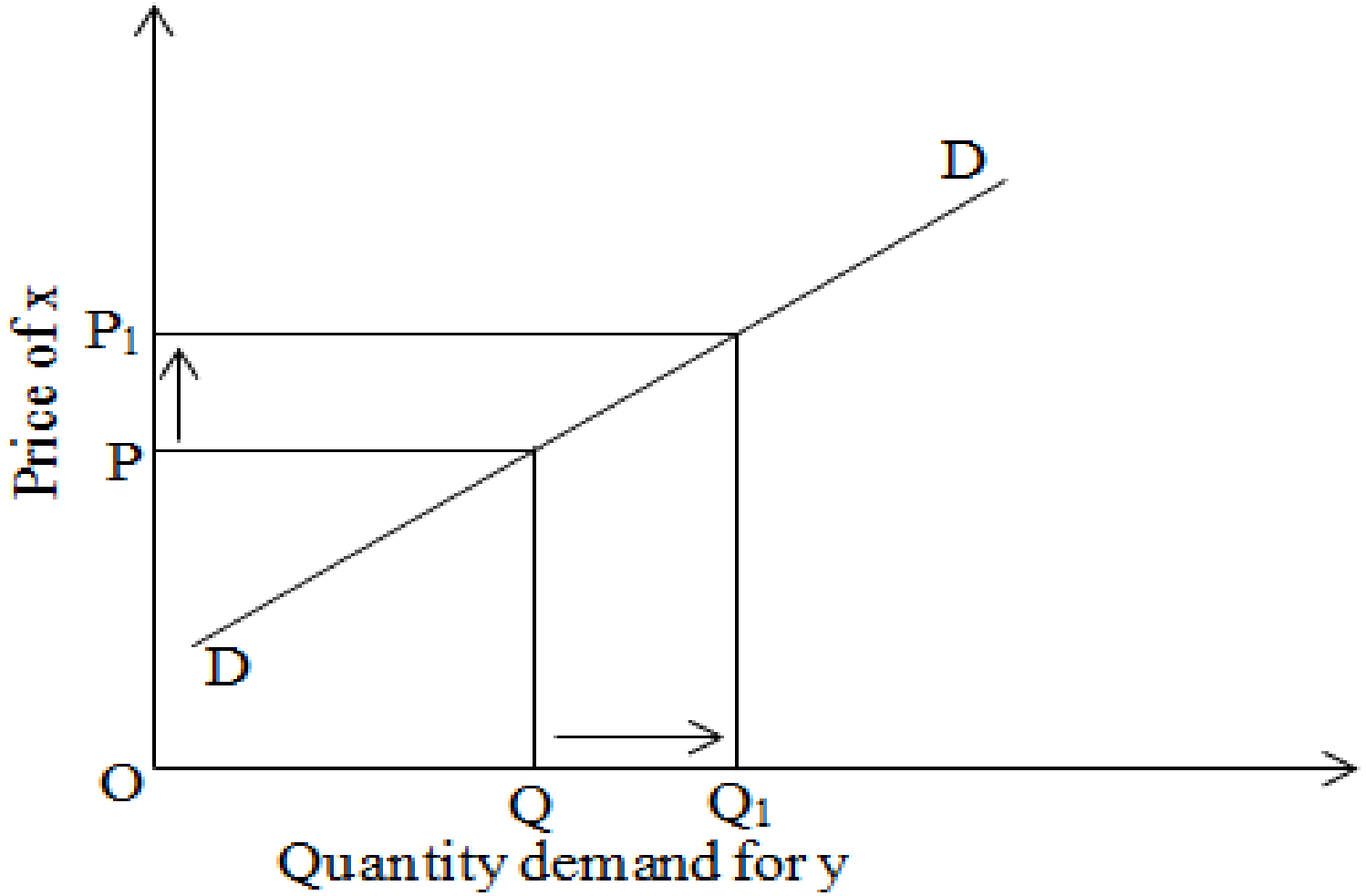
Types of Cross Elasticity of Demand

- Positive cross elasticity ($Exy>0$)
- Negative cross elasticity ($Exy<0$)
- Zero cross elasticity ($Exy = 0$)

Positive cross elasticity ($Exy>0$)

If two goods substitute each other, then it is known as Positive cross elasticity of demand.

- There is positive relation between two goods.
- It's curve slopes upward and shows positive relationship between price of x and demand for y.
- For e.g. increase demand for Coke due to increase in price of Pepsi.


Price of x
P1
P
D
D
O
Q
Q1
Quantity demand for y

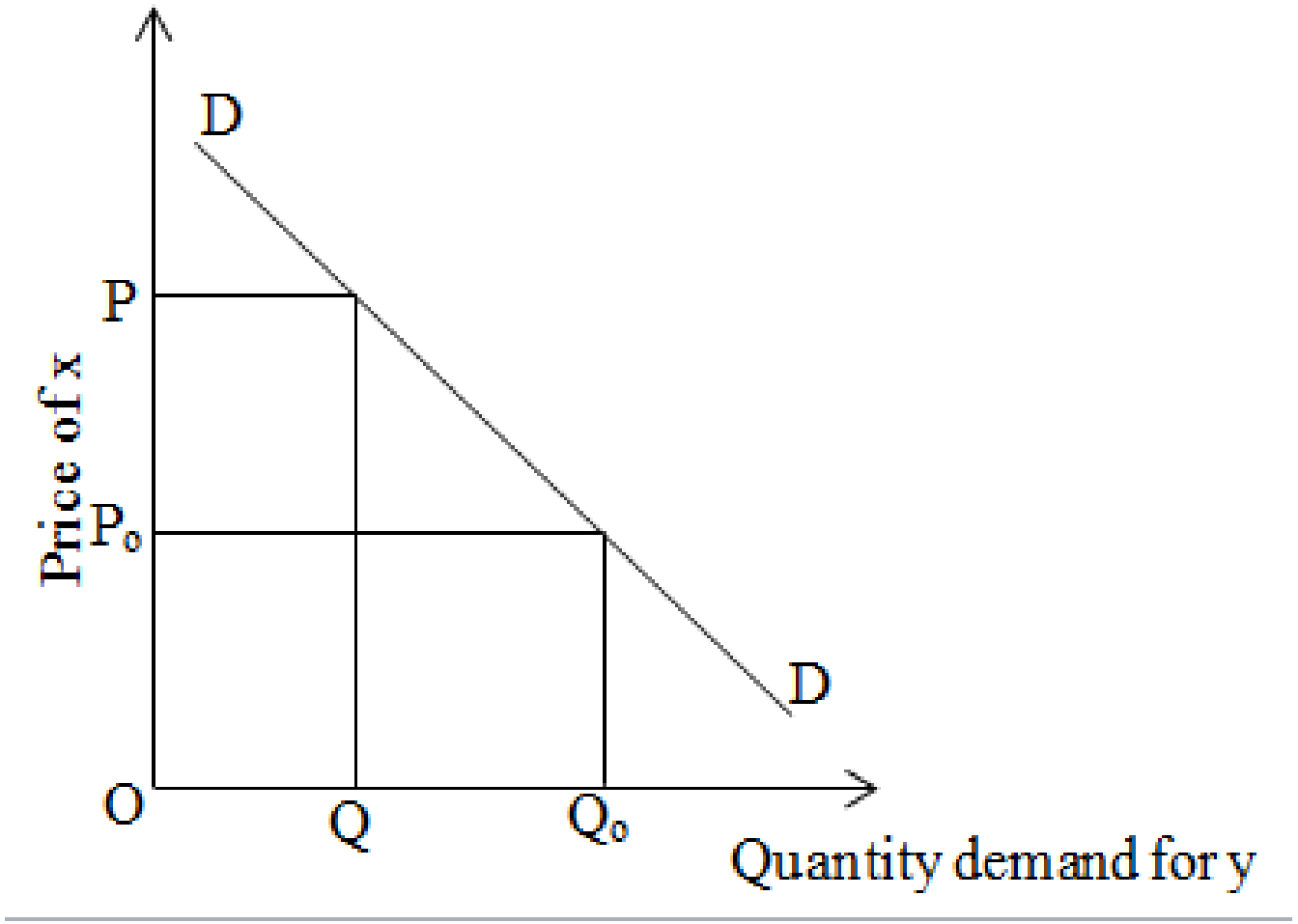
Negative cross elasticity ($Exy<0$)

If two goods are complementary to each other, then it is known as Negative cross elasticity of demand.

There is inverse relation between two goods.

It’s curve slopes downward and shows inverse relationship between price of x and demand for y.

For e.g. increase in demand for Ink pen due decrease in price of Ink.


D
P
Price of x
P_o
D
O
Q
Q_o
Quantity demand for y

Zero cross elasticity ($Exy = 0$)

If two goods are not related to each other, then it is known as Zero cross elasticity of demand.

There is no relation between two goods.

It’s curve is parallel to y-axis and shows change in price of A goods does not affect demand for B goods.

For e.g. demand for Salt and change in price of Apple.


Y
D
P3
P2
P1
Price of Y goods
O
Q
X
Quantity demanded of X goods

UNIT -2

Concept of production.

- Production is defined as the process of converting the input (raw material) Into output. Production may be activity that generate income.

What is Production

- Production is an outcome of an economic activity.
- Production is further defined as: “Any activity directed towards the satisfaction of other peoples wants through the exchange."

- Production is further defined as: “Any activity directed towards the satisfaction of other peoples wants through the exchange.“
- In general, Production means transforming inputs (Labour, machines, raw materials, etc.) into an useful & desired output.
- For e.g. Steel from iron ore,

What is Factors of Production

- **Anything that assist production is termed as factor of production.**

- **Anything that assist production is termed as factor of production.**

Factors of Production

- Factors of Production are parameters which affects output of any production.

- In order to produce goods and services to satisfy the needs and wants of consumers it needs four basic things which are called factors of production.
- Input decides the quantity of output i.e. output depends upon input.
- Input is the starting point and output is the end point of production process.

Basic factors of production.

- Land.
- Labour.
- Capital.
- Entreprenuer

Land.

- Land is the original and primary factor of production.
- Without land the production process cannot exceed further.
- In Economics all the natural resources that are available –
- a) on the surface of the earth
- b) below the surface of the earth
- c) above the surface of the earth and which are used in the production process is called LAND.

Features of land.

- **Land is a gift of nature.**
- **Land has no cost of production.**
- **The supply of land perfectly inelastic.**
- **Land is subject to Law of Diminishing Return.**
- **Land is immobile.**

Labour.

- Labour is the human factor of production and include all the physical and mental activity which are required in process of factor of production.

Labour

- in economies. Labour is defined as economy activity of men with head and hands.
- Labour is a resources which is used involved in every stage of production. Either it is manufacturing or assembling it effect production directly or Indirectly.
- Labour can be classified as.
  - Mental labour.
  - Physical labour.

Feature of labour.

- Labour is a human factor.
- Activity factor.
- Labour cannot be stored.
- No to Labour are identical.

Capital.

- Capital is a man-made resources of production used to produce further wealth.
- It refers to stocks of capital assets such as factories, machines, tools and equipment, raw materials and transportation of vehicles, etc.
- In economics Capital is the part of wealth which is used for production.

Capital as part of Wealth.

- Any commodity owned by any person is his wealth. But when wealth is used in production process, it is called capital.
- A motor cab owned by any person is his wealth. But when this car is used in taxi service then it is called as capital.

Two aspects of capital.

- Human capital.
- Physical capital.

Human capital.

- Knowledge.
- Skill and ability.
- Life experience.
- Creativity.

Physical capital.

RAW MATERIAL.

MONEY .

Feature of capital.

- Capital is manmade factor of production.
- Supply of capital is elastic.
- Capital has mobility.
- All capital is wealth, But all wealth is not capital.

Entrepreneur.

- Brings all the factors of production together in a profitable way
- Characteristics of an entrepreneur
  - Trustworthy
  - Enthusiastic
  - Risk taker
  - Professional
  - Honest
  - Hard working
  - Energetic
  - Passionate

Entrepreneur.

- Entrepreneur is a person who bring in land labour capital in one place and use it for the production process.
- He is the person who decides.
  - What to produce?
  - How to produce?
  - Where to produce?
- The person who takes these decisions, along with the risks associated with them is known as entrepreneur.

Feature of entrepreneur

- He must be a good administrator.
- Ricks bearer and decision maker.
- He must be a person of imagination.
- He must have good negotiation skills.

Production function.

- A production function can be represented in the form of a mathematical model of equation as Q = f (a,b,c,…… etc.) where Q stands for quantity of output per unit of time and a, b, c, etc are the various factor inputs like land, capital, labour etc, which are used in the production of output

Two types of production function.

SHORT RUN

LONG RUN

Short Run

- In this case, the producer will keep all fixed factors as constant and changes only a few variable factor inputs. For example, Law of Variable Proportions.

Long Run

- In this case, the producer will vary the quantities of all factor inputs both fixed as well as variable in the same proportion. For example, the laws of returns to scale.

The law of Variable Proportions

In the short-run the level of production can be changed by changing the factor proportions. This law examines the production function with on factor variable, keeping the other factors quantities fixed.

The law explains the short-run production function. When the quantity of one input is varied, keeping other inputs constant, the proportion between factors changes. When the proportion of variable factors increases, the total output does not always increase in the same proportion, but in varying pro portion.

Assumptions of the law

- Only one factor is variable while others are held constant.
- All units of the variable factor are homogeneous.
- There is no change in Technology.
- It is possible to vary the proportions in which different inputs are combined.
- The products are measured in physical units, i.e., in quintals, tonnes etc.

Production Schedule

PRODUCTION SCHEDUL

QUANTITY OF LABOUR	TOTAL PRODUCT (TP)	AVERAGE PRODUCT (AP)	MARGINAL PRODUCT (MP)
1	100	100	100
2	210	105	110
3	330	110	120
4	430	107.5	100
5	520	104	90
6	600	100	80
7	670	95.7	70
8	720	90	50
9	750	83.3	30
10	760	76	10
11	740	67.2	– 20

Total Production or Output

- It refers to the total volume of goods produced during a specified period.
- Total product (TP)can be raised only by increasing the quantity of variable factors employed in production.

Average Product

Average product can be known by dividing total product by the total number of units of the variable factor.

TP/Q

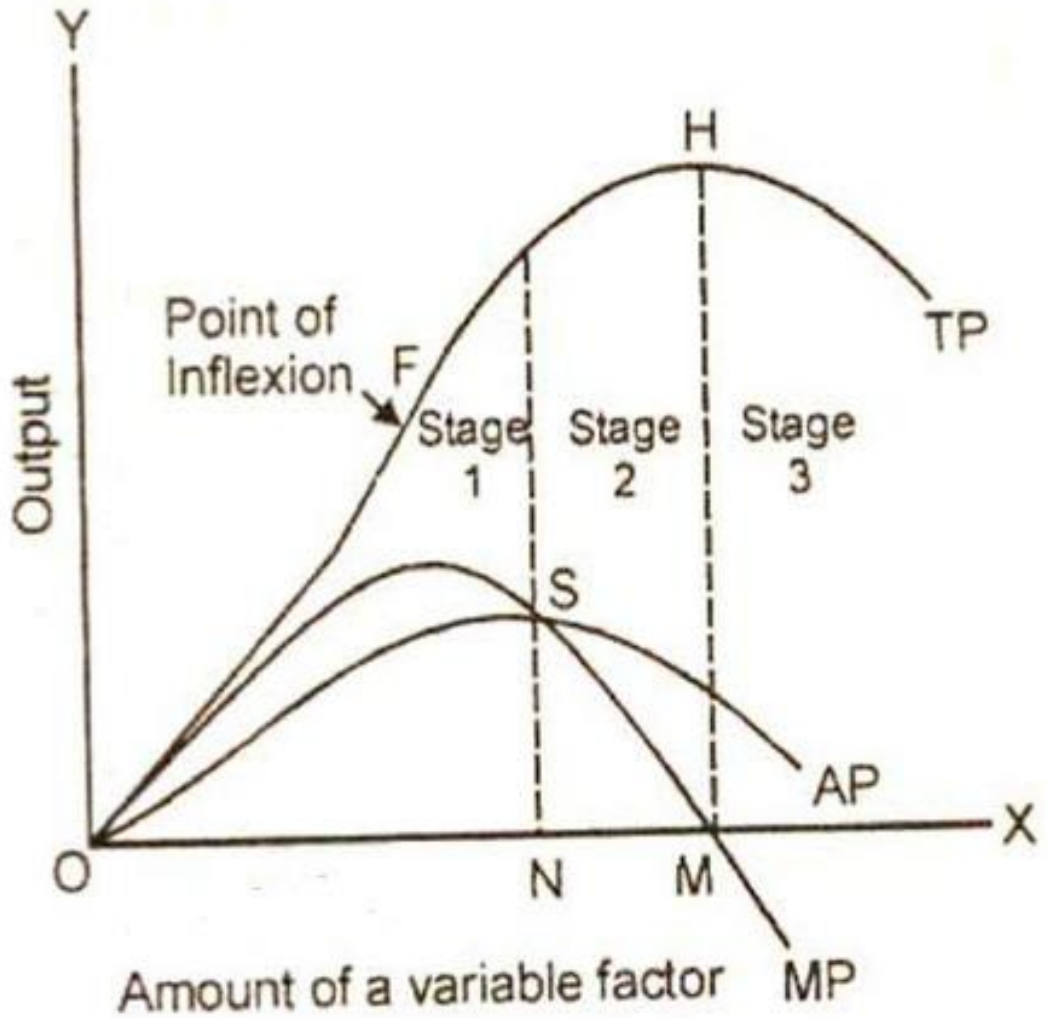
450/5=90

Marginal product or Output

- It is output derived from the employment of an additional unit of variable factor unit.
- The rate at which total product increases is known as marginal product.
- Addition to the total product resulting from a unit increase in the quantity of the variable factor.

Relationship between AP and MP

- When AP rises as a result of an increase in the quantity of variable input, MP is more then the average product.
- When AP are maximum then MP is equal to AP. The MP curve cuts the AP curve at its maximum.
- When AP falls as a result of decrease in quantity of variable input, MP is less than the AP.


Y
H
Point of
Inflexion
F
TP
Output
Stage
1
Stage
2
Stage
3
S
AP
X
O
N
M
MP
Amount of a variable factor

Three stages of Production

Stage 1- THE LAW ON INCREASING RETURNS.

Stage 2- THE LAW OF DIMINSHING RETURNS.

Stage 3- THE STATE OF NAGATIVE RETURNS

Stage 1– THE LAW ON INCREASING RETURNS

- TP increases at an increasing rate up to a point F.
- MP also rises and is maximum at point F.
- AP goes on rising.
- After point F , TP rises but at diminishing rate.
- MP falls but is positive.
- Stage 1 ends where AP reaches its highest point.

Stage 2- THE LAW OF DIMINSHING RETURNS.

- TP continues to increase at a diminishing rate, until it reaches it maximum point H.
- Both MP and AP continuously fall during this stage.
- Both MP and AP continuously fall during this stage.

Stage 3- THE STATE OF NAGATIVE RETURNS

- TP declines.
- MP negative.
- AP is diminishing

Conclusion

- A rational producer will never produce in stage 3, where MP is negative.
- A rational producer will also not produce in stage 1, where the MP of fixed factor is negative.
- The producer producing in stage 1 will not be making best use of fixed factor and he will not be utilizing fully the opportunity of increasing production by increasing quantity of variable factor.
- A rational producer will produce in stage 2, where both MP and AP of variable factors are diminishing.


Return to scale

- **It is type of Long Run Production Function**
- **The term return to scale refers to the changes in output as all factors change by the same proportion.**

---Koutsoyiannis

- **Returns to scale relates to the behavior of total output as all inputs are varied and is a long run concept**

-Leibhfsky

- **In the long run, output can be increased by increasing all factors in the same proportion. Generally, laws of returns to scale refer to an increase in output due to increase in all factors in the same proportion. Such an increase is called return to scale.**

Assumptions

- All the factors of production (such as land, labour and capital) are variable, but organization is fixed.
- There is no change in technology.
- There is perfect competition in the market.
- Outputs or returns are measured in physical quantities

Three phases of Return to scale

- **Increasing Returns to Scale:**

In this case if all inputs are increased by one per cent, output increase by more than one per cent.

Constant Returns to Scale:

In this case if all inputs are increased by one percent, output increases exactly by one per cent.

Diminishing Returns to Scale:

In this case if all inputs are increased by one per cent, output increases by less than one per cent.

RETURN TO SCALE

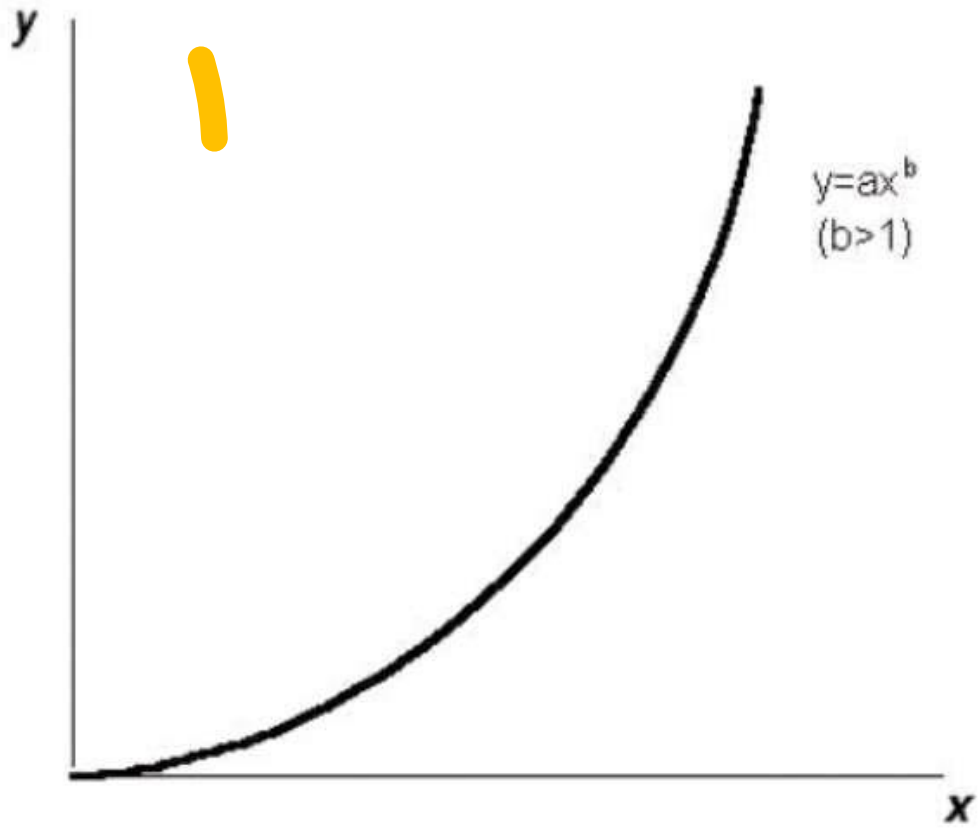
S.No.	Scale	Total Product	Marginal Product	Phases
1.	1 machine + 1 labour	4	4	I
2.	2 machine + 2 labour	10	6	Increasing
3.	3 machine + 3 labour	18	8	Returns
4.	4 machine + 4 labour	28	10	
5.	5 machine + 5 labour	38	10	II Constant
6.	6 machine + 6 labour	48	10	Return
7.	7 machine + 7 labour	56	8	III Decreasing
8.	8 machine + 8 labour	62	6	Returns

INCREASING RETURN TO SCALE

- If all inputs are doubled, output will also increase at the faster rate than double.

Reasons

- Division of labour
- Specialisation
- External economies of scale
- Technical and managerial indivisibilities
- Higher degree of specialization
- Dimensional relations



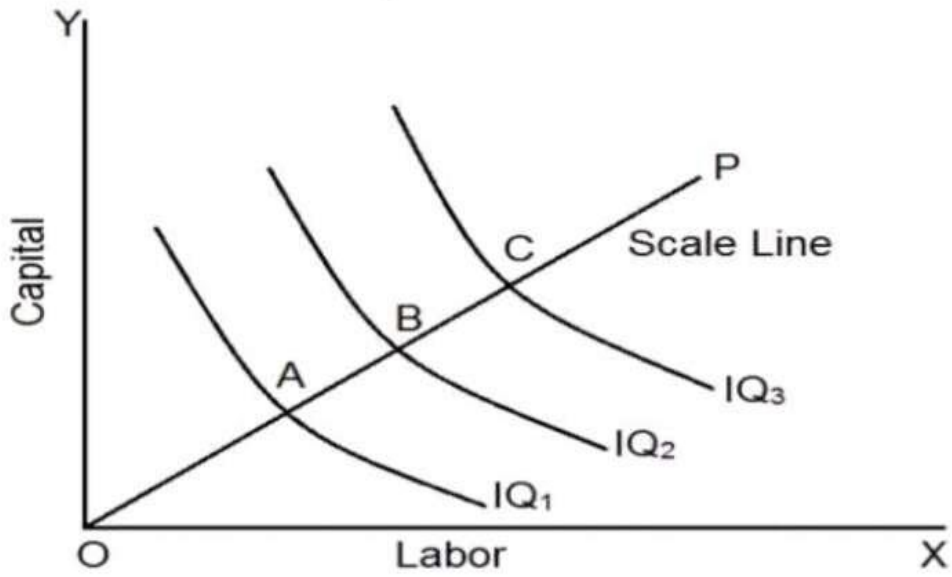
CONSTANT RETURN TO SCALE

- If all inputs are doubled, output will also be doubled.

Reason

- Economies of Scale is balanced by diseconomies of Scale
- Indivisibility of fixed factors.
- When the factors of production are perfectly divisible, the production function is homogenous of degree 1 showing constant returns to scale.

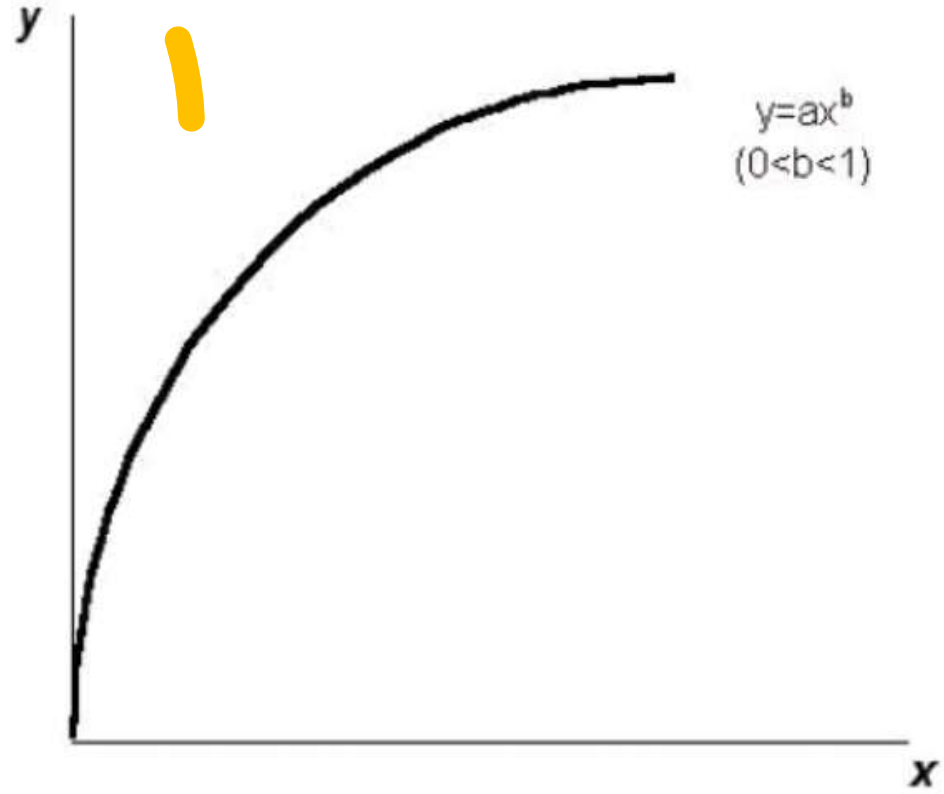
Figure 2



DIMINISHING RETURN TO SCALE

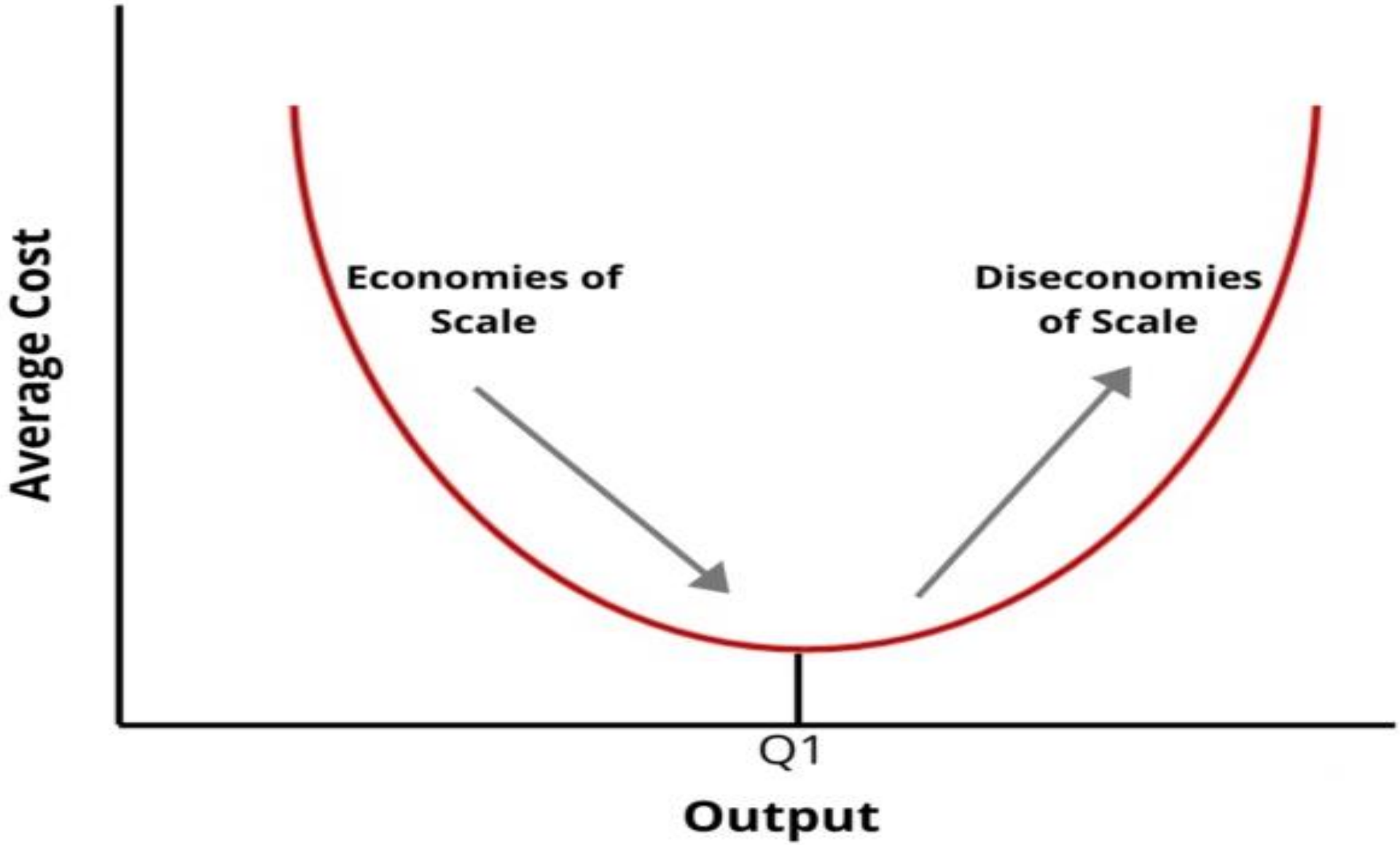
- If all inputs are doubled, output will be less than doubled.

- Reasons
- Internal diseconomies
- External diseconomies
- Size of the firms expands, managerial efficiency decreases.
- Limited resources.



DISECONOMIES OF SCALE OF PRODUCTION

- Economies of scale are when the cost per unit of production (**Average cost**) **decreases** because the **output** (sales) **increases.**
- Diseconomies of Scale is an economic term that defines the trend for **average costs to increase alongside output**. At a specific point in production, the process starts to become less efficient. In other words, it starts to cost more to produce an additional unit of output.

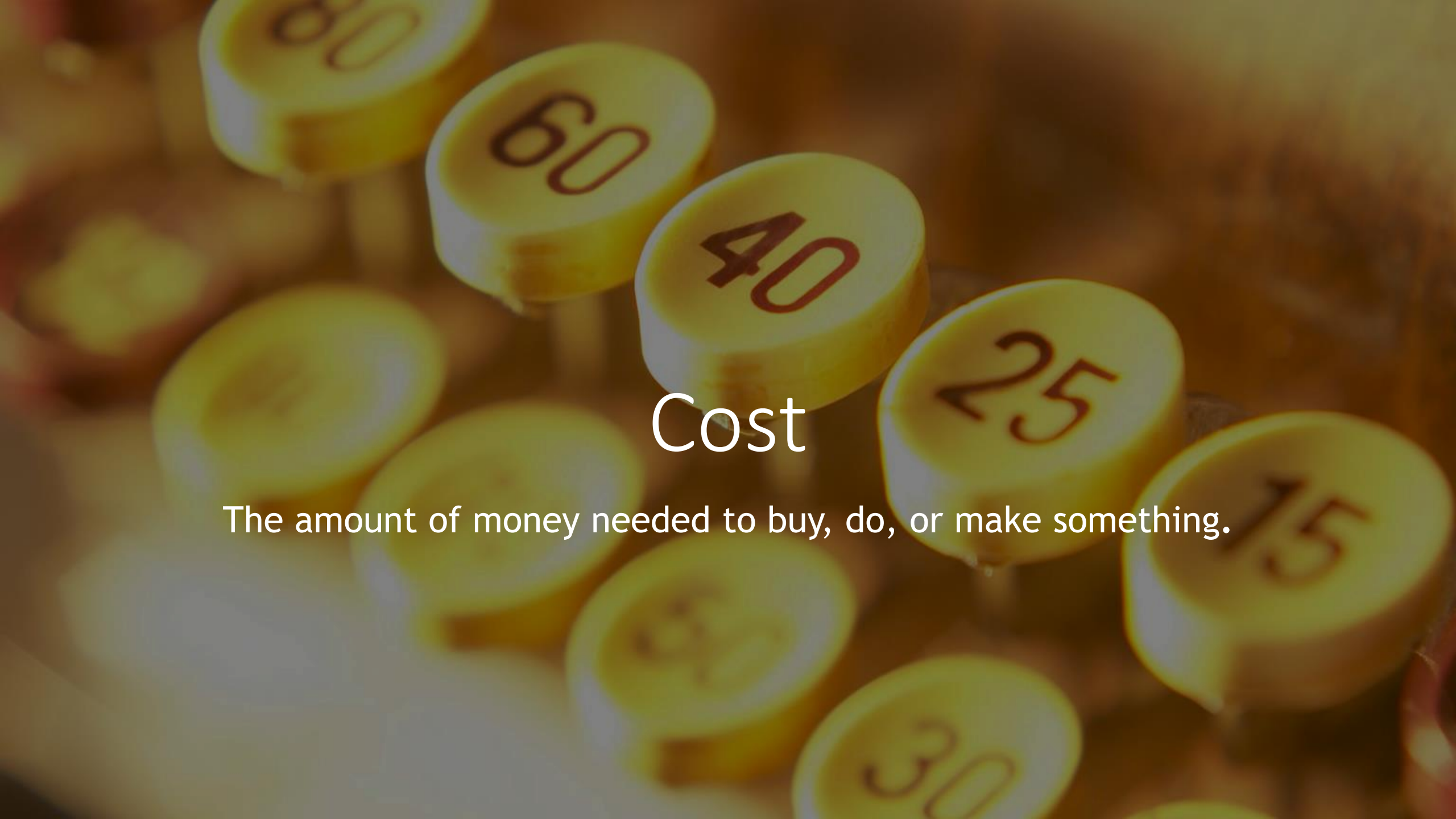

Average Cost
Economies of Scale
Diseconomies of Scale
Q1
Output

INTERNAL DISECONOMIES

- Inefficient Management
- Technical Difficulties
- Production Diseconomies
- Marketing Diseconomies
- Fnancial Diseconomies

EXTERNAL DISECONOMIES

- Diseconomies of Pollution
- Diseconomies of Strain on Infrastructure
- Diseconomies of High Factor Prices



Cost

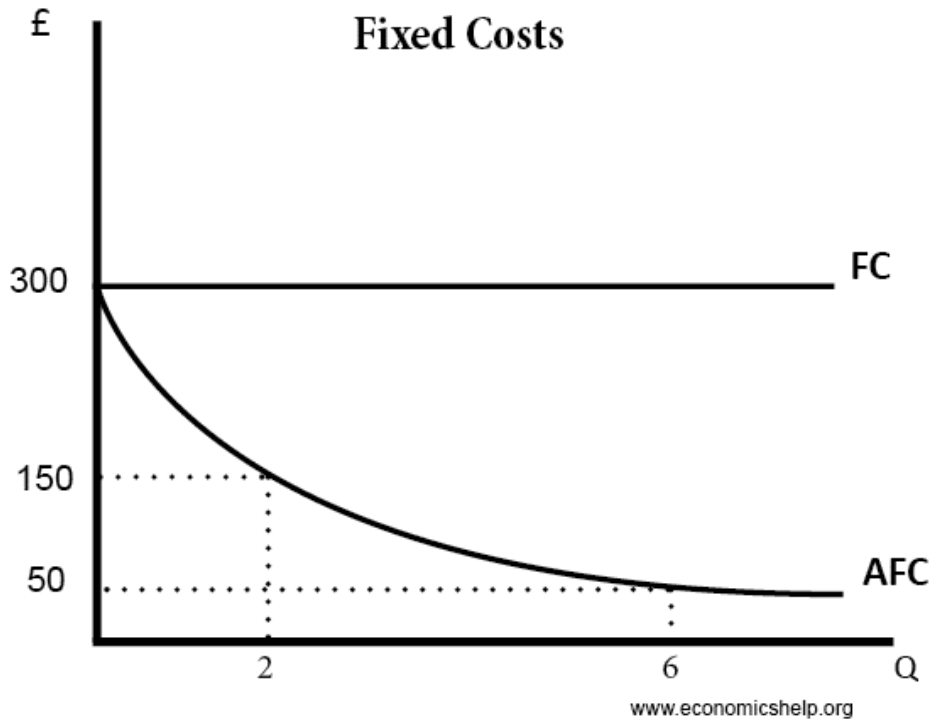
The amount of money needed to buy, do, or make something.

Type of Cost

- Fixed Cost
- Variable cost
- Average cost
- Marginal Cost
- Money cost
- Real cost
- Opportunity cost

Fixed cost

- A fixed cost is a business cost that is unrelated to output. They can also be referred to as ‘indirect costs’



Fixed Cost

- Whatever the output fixed costs (FC) remains constant
- Average fixed cost (AFC) declines with increased output

Examples of fixed cost

- Rent on premise
- Cost of buying machines and factories.
- Salaries of managers and supervisors who are needed whatever the output.
- Spending on health and safety measures
- Filing of tax returns
- Training staff.

Variable Costs

- Variable costs are costs which change with output.
- As output increases the firm needs to use more raw materials and employ more workers. These costs vary with changes in the output. Variable costs exclude the fixed costs which are independent of output produced.

Examples of variable costs

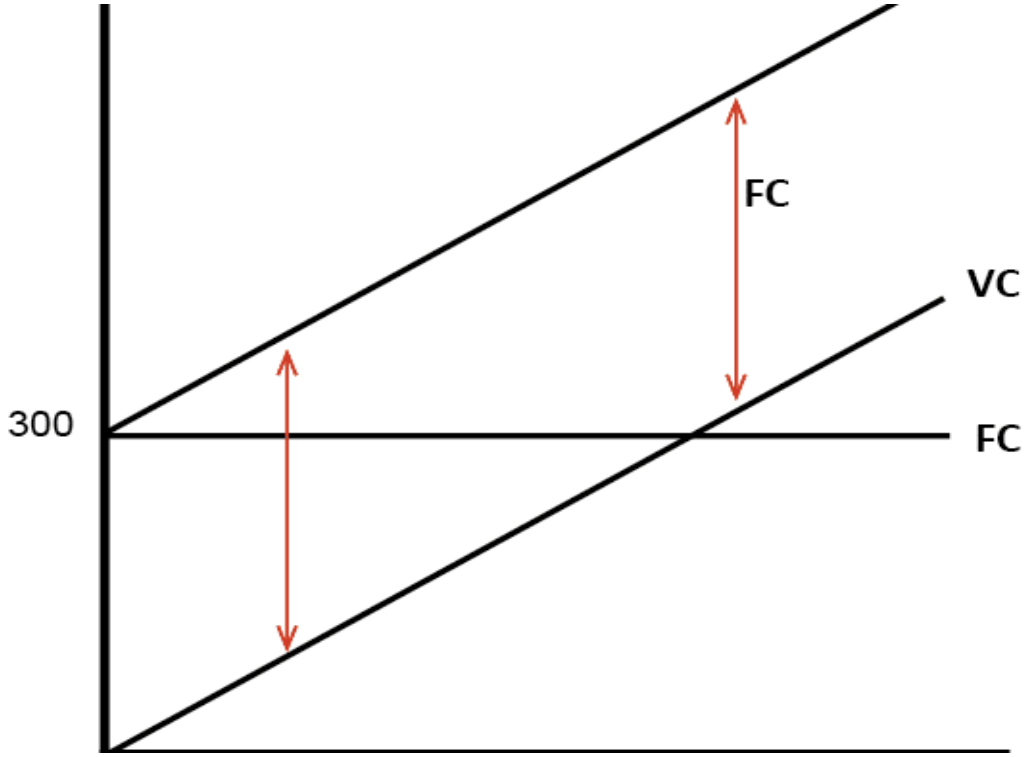
- Raw materials. Aluminium, plastic, rubber, coffee beans. All the materials used in the productive process are variable costs
- Labour costs. If a firm increases output, it will need to employ more workers to produce more. If a taxi firm takes on more drivers to meet increased demand. (Some labour will be fixed cost – e.g. those workers needed to maintain safety, oversee factory e.t.c)

I.T. fees. Some production will have variable costs, with firms charging a percentage for each transaction. For example, PayPal or credit card companies may charge 2% of final sale.

Shipping fees. The cost of delivery for items.

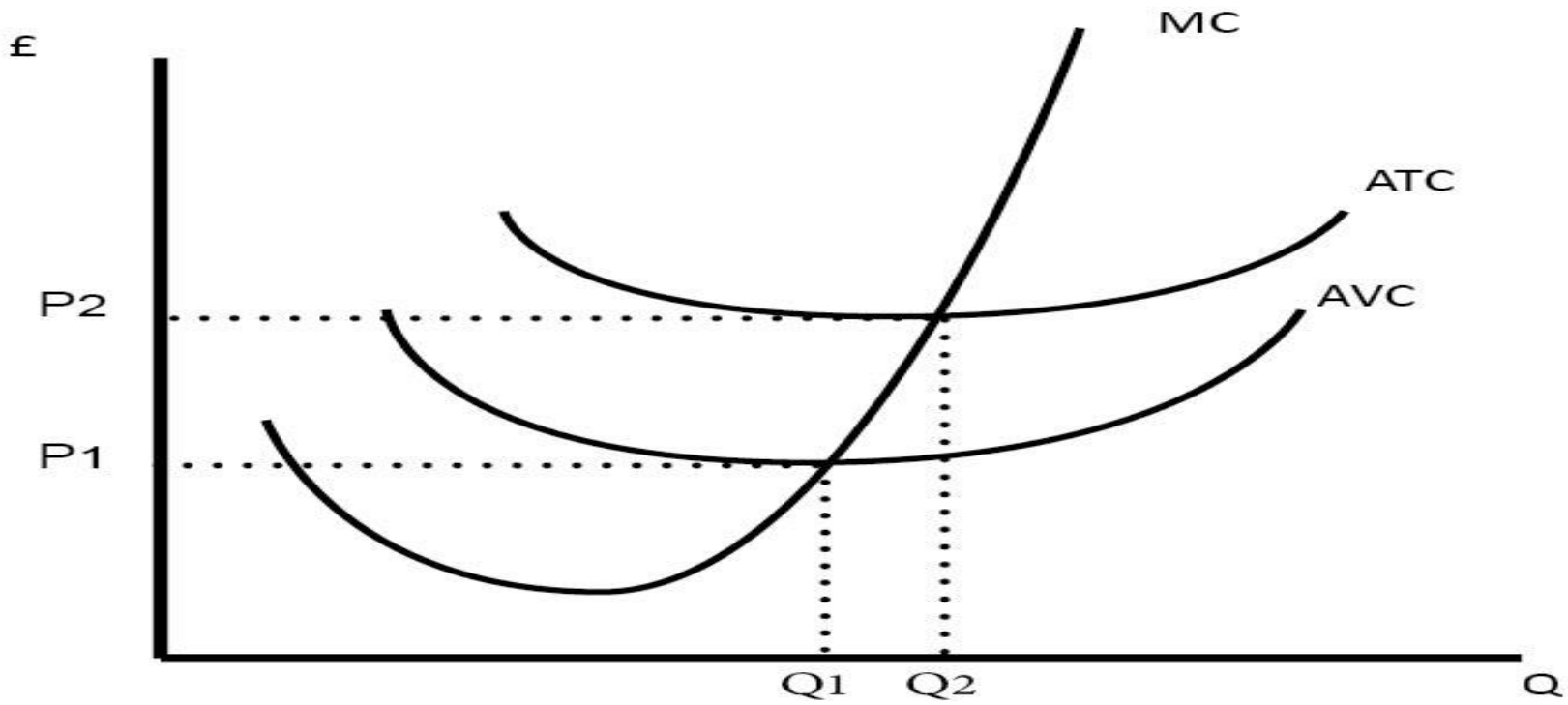
Tax. Some firms are responsible for paying VAT, excise duty or sales tax – related to the number of goods sold.

- Variable costs and fixed costs make up total costs.



Average Variable costs

Average variable costs = total costs/quantity

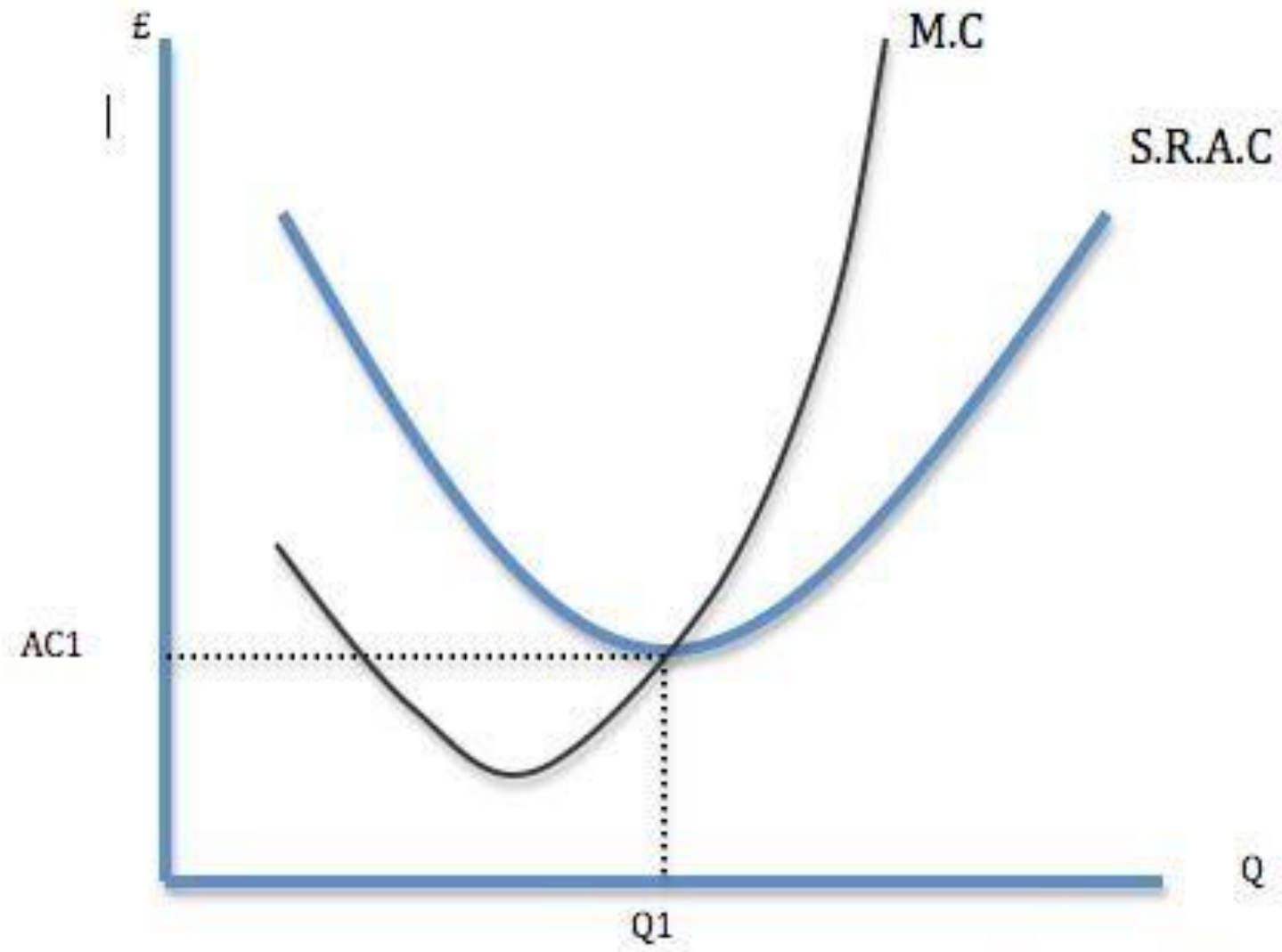


- In the short-term, average variable costs may be u-shaped due to the law of diminishing marginal returns.

Marginal Cost

- Marginal Cost is the cost of producing an extra unit.
- It is the addition to Total Cost from selling one extra unit.

Q	Total Cost (TC)	Marginal Cost (MC)	Average Cost (AC)
1	10	10	10
2	16	6	8
3	23	7	7.6
4	32	9	8
5	45	**13**	9
6	66	21	11


£
M.C
S.R.A.C
AC1
Q
Q1

Money Costs

- Money cost is also known as the nominal cost. It is nothing but the expenses incurred by a firm to produce a commodity. For instance, the cost of producing 200 laptop is Rs. 2000000, and then it will be called the money cost of producing 200 laptop.
- The money cost of producing a certain output of a commodity is the sum of all the payments to the factors of production engaged in the production of that commodity."

money costs include the following expenses

- Depreciation and obsolescence charges.
- Power fuel charges.
- Wages and salaries.
- Cost of machinery, raw material etc.
- Expenses on advertising and publicity,
- Interest on capital.
- Expenses on electricity.
- Insurance charges.

- Transport costs.
- Packing charges.
- All types of taxes viz; property tax, license fees, excise duty.
- Rent on land.

Real cost

- It is a philosophical concept which refers to all those efforts and sacrifices undergone by various members of the society to produce a commodity. Like monetary costs, real costs do not tell us anything what lies behind these costs. Prof. Marshall has called these costs as the "Social Costs of Production."

- According to Marshall, “Real costs are the exertion of all the different kinds of labour that are directly or indirectly involved in making it together with the abstinence rather than the waiting required for saving the capital used in making it, all these efforts and sacrifices together will be called the real cost of production of the commodity.”

- In this way, real cost means the trouble, sacrifice of factors in producing a commodity. Though, this concept gained momentum for some time it has been relegated to the background in modern times due to its impracticability.

Opportunity Costs

- The concept of opportunity costs was first systematically developed by Austrian School of Economics. Later on, it was popularized by American economist named Davenport. It is also known as the alternative cost or transfer cost. In simple words, **opportunity cost is the cost of production of any unit of commodity for the value of factors of production used in producing other unit.**

- For instance, a farmer can grow both the potatoes as well as garlic on a farm. On a farm of two hectares, the farmer grows only potatoes and foregoes the production of garlic. Suppose, the price of the quantity of potatoes is Rs. 5000, the opportunity cost of producing the garlic will be Rs. 5000. In this way, the price of garlic which he has to forego to produce is called the opportunity cost of potatoes.

- Here, one thing is worth-mentioning that if a factor of production has no alternative use; in that case its opportunity cost will be zero. According to Prof. Benham, "**The opportunity cost of anything is the next best alternative that could be produced instead by the same factors or by an equivalent group of factors, costing the same amount of money.**"

Assumptions of Opportunity Costs:

- Perfect competition and full employment prevail in the economy.
- Factors of production are fixed.
- Only-two goods can be produced in the economy.

- line AB represents the different combinations of two goods i.e. X and Y which have to be produced in the economy with given resources. At point L on AB line, the producer will produce OX units of goods X and OJ of good-Y.
- if the producer wishes to produce more units of good-X than before, in that case he will have to produce less units of good-Y. As given in the fig., at point M, more units of commodity-X (OX1) can be produced, but less units of commodity-Y i.e. OK. In this way, we can say that in order to produce XX 1 units of commodity-X, the producer will have to sacrifice JK units of commodity-Y.

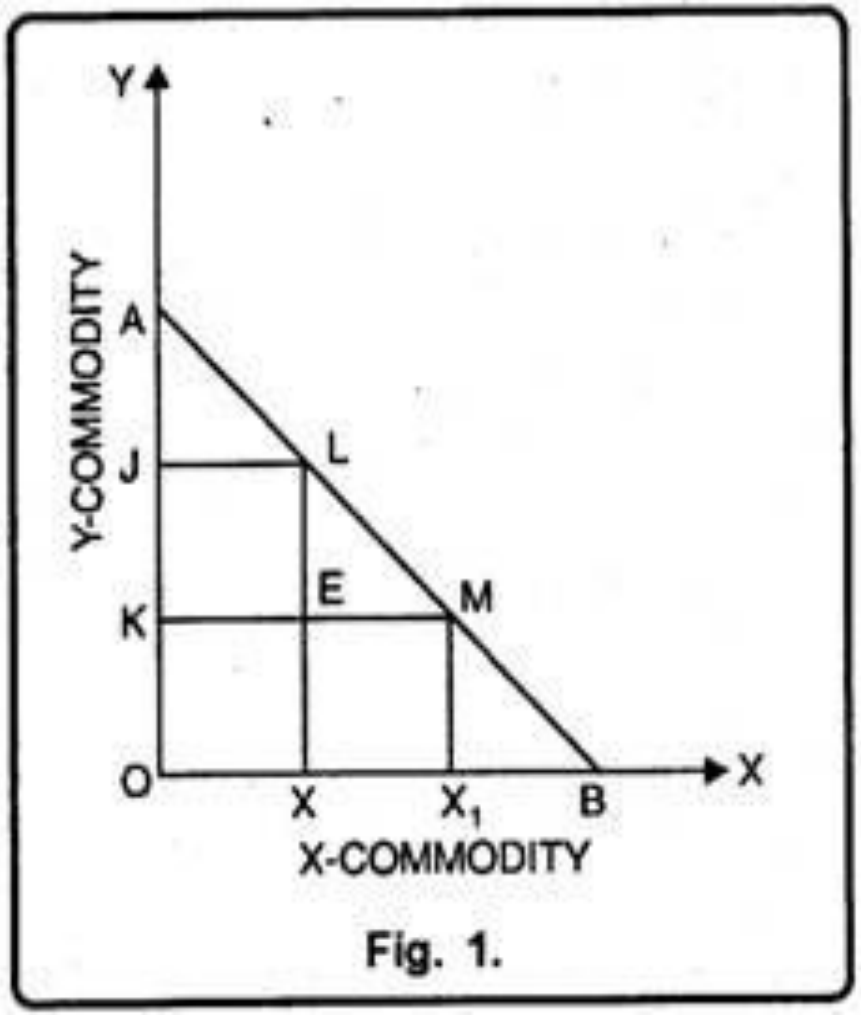


Fig. 1.

Importance of Opportunity Costs:

- The concept of opportunity cost has a very wide application in economic theory and policy. It is applicable in the determination of factor prices. It can also be applied to consumption and public expenditure.
- Opportunity costs also explain the phenomenon of prices. Since, there is scarcity of goods and services they can be put to alternative uses and thus command price.

Limitations:

- **Wrong Assumption:**The doctrine of opportunity cost is based on perfect competition which is far from reality. The existence of monopoly obstruct the transfer of factors, thereby, nullifies the very transfer price.
- **Homogeneity of Factors:**It assumes that all the factors are homogeneous. But, in fact, they are heterogeneous which falsifies the concept of opportunity cost.
- **Money Cost:**The concept of opportunity cost does not apply to those goods and services which are produced without money cost.
- **Inertia:**These costs fail to take into account the element of inertia. Some factors may be reluctant to leave their occupations and in such cases opportunity costs do not arise at all.

Unit -3


Market

Market

- A market is a place where two parties can gather to facilitate the exchange of goods and services. The parties involved are usually buyers and sellers. The market may be physical like a retail outlet, where people meet face-to-face, or virtual like an online market, where there is no direct physical contact between buyers and sellers.

Type of Market

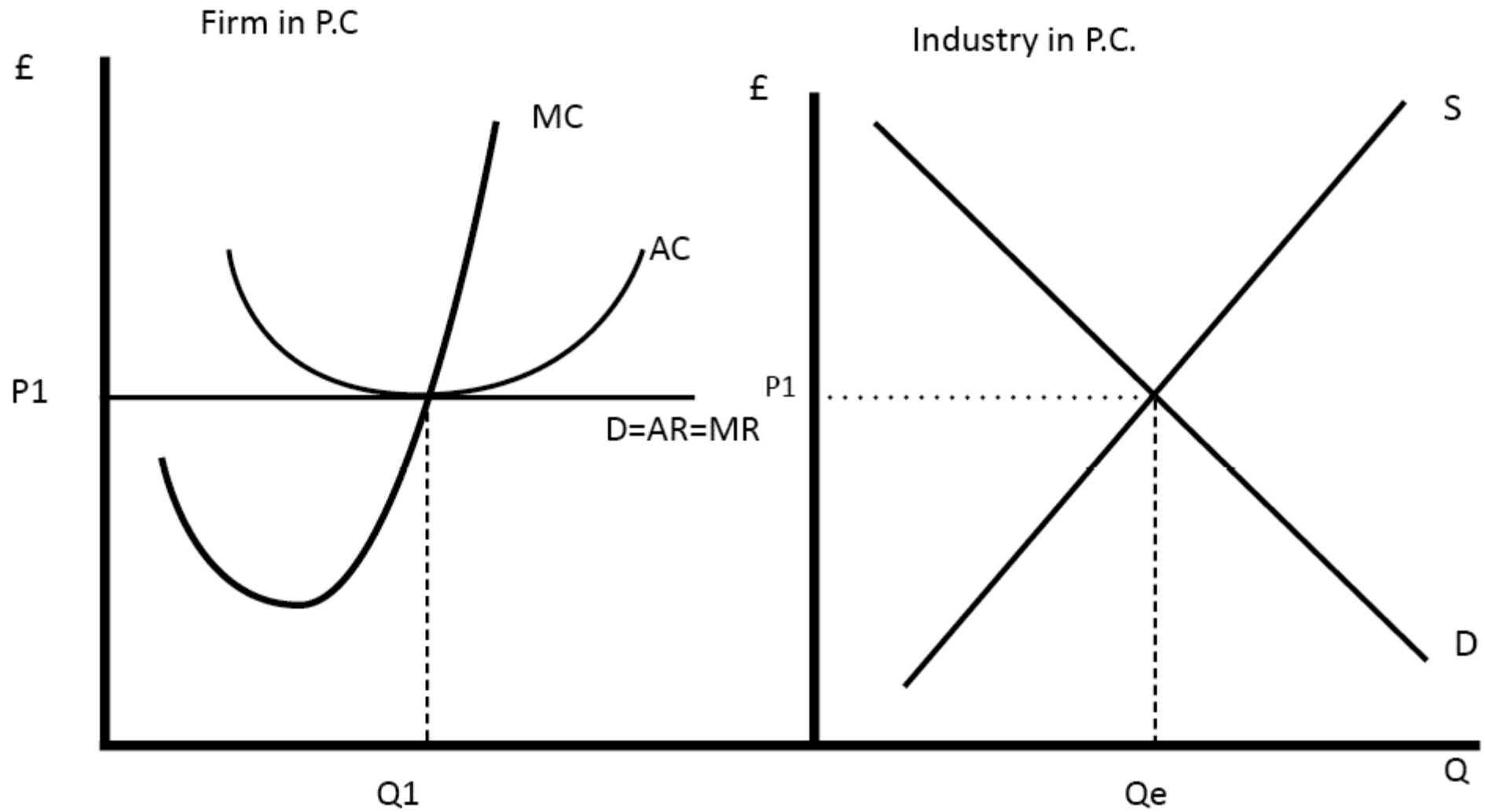
- **Perfect competition** - Many firms, freedom of entry, homogeneous product, normal profit.
- **Monopoly** -One firm dominates the market, barriers to entry, possibly supernormal profit.
- **Oligopoly -** An industry dominated by a few firms
- **Monopolistic competition** : Freedom of entry and exit, but firms have differentiated products. Likelihood of normal profits in the long term.

Perfect competition

- Perfect competition is a market structure where many firms offer a homogeneous product. Because there is freedom of entry and exit and perfect information, firms will make normal profits and prices will be kept low by competitive pressures.

Features of perfect competition

1. Many firms.
2. Freedom of entry and exit; this will require low sunk costs.
3. All firms produce an identical or homogeneous product.
4. All firms are price takers; therefore, the firm's demand curve is perfectly elastic.
5. There is perfect information and knowledge.
6. Absence of Transportation Costs
7. No Selling Costs


Firm in P.C
£
MC
AC
P1
D=AR=MR
Q1
Industry in P.C.
£
S
P1
D
Q
Qe

- The industry price is determined by the interaction of Supply and Demand, leading to a price of Pe.
- The individual firm will maximise output where MR = MC at Q1
- In the long run firms will make normal profits.

Monopoly

- A pure monopoly is defined as a single seller of a product, i.e. 100% of market share.
- Ex – Indian railway

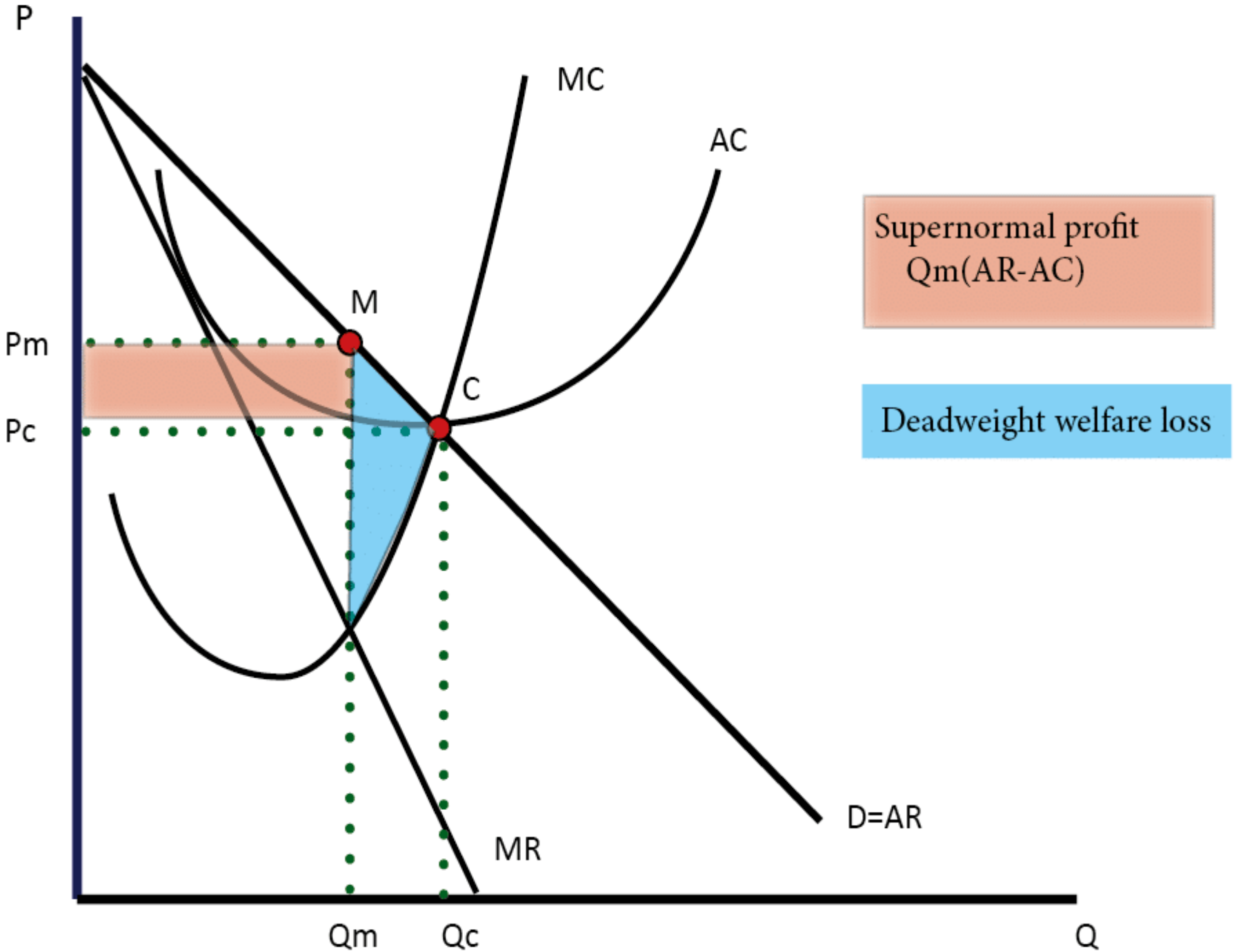
Characteristics of a Monopoly

- **Profit maximizer:** a monopoly maximizes profits. Due to the lack of competition a firm can charge a set price above what would be charged in a competitive market, thereby maximizing its revenue.
- **Price maker:** the monopoly decides the price of the good or product being sold. The price is set by determining the quantity in order to demand the price desired by the firm (maximizes revenue).
- **High barriers to entry:** other sellers are unable to enter the market of the monopoly.

- **Single seller:** in a monopoly one seller produces all of the output for a good or service. The entire market is served by a single firm. For practical purposes the firm is the same as the industry.
- **Price discrimination:** in a monopoly the firm can change the price and quantity of the good or service. In an elastic market the firm will sell a high quantity of the good if the price is less. If the price is high, the firm will sell a reduced quantity in an elastic market.

Sources of Monopoly Power

- Economies of scale
- Capital requirements
- Technological superiority
- No substitute goods
- Control of natural resources
- Network externalities
- Legal barriers
- Deliberate actions

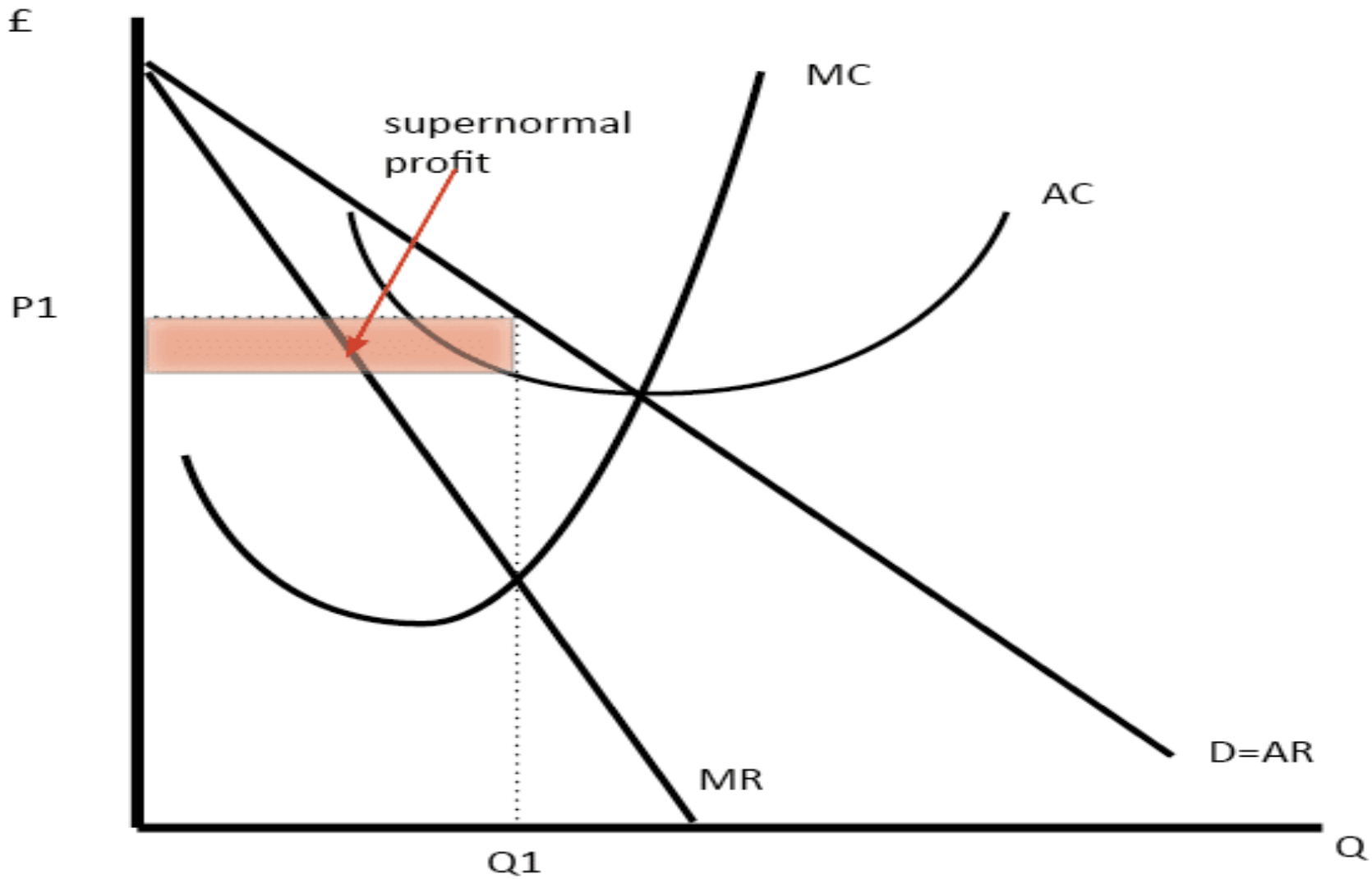

P
MC
AC
M
Pm
C
Pc
Supernormal profit
Qm(AR-AC)
Deadweight welfare loss
D=AR
MR
Qm
Qc
Q

Monopolistic Competition

- Monopolistic competition is a market structure which combines elements of monopoly and competitive markets. Essentially a monopolistic competitive market is one with freedom of entry and exit, but firms can differentiate their products. Therefore, they have an inelastic demand curve and so they can set prices. However, because there is freedom of entry, supernormal profits will encourage more firms to enter the market leading to normal profits in the long term.

features

- Many firms.
- Freedom of entry and exit.
- Firms produce differentiated products.
- Firms have price inelastic demand; they are price makers because the good is highly differentiated
- Firms make normal profits in the long run but could make supernormal profits in the short term
- Firms are allocatively and productively inefficient.


£
MC
supernormal
profit
AC
P1
D=AR
MR
Q
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Oligopoly

- An oligopoly is an industry dominated by a few large firms.

Ffeature of oligopoly Market

- An industry which is dominated by a few firms.
- **Interdependence of firms –** companies will be affected by how other firms set price and output.
- **Barriers to entry.** In an oligopoly, there must be some barriers to entry to enable firms to gain a significant market share. These barriers to entry may include brand loyalty or economies of scale. However, barriers to entry are less than monopoly.
- **Differentiated products.** In an oligopoly, firms often compete on non-price competition. This makes advertising and the quality of the product are often important.
- Oligopoly is the most common market structure

Example

- Petrol retail
- Pharmaceutical industry
- Coffee shop retail
- Newspapers
- Book retail

competition in oligopoly

There are different possible ways that firms in oligopoly will compete and behave this will depend upon:

- The objectives of the firms; e.g. profit maximisation or sales maximisation?
- The degree of contestability; i.e. barriers to entry.

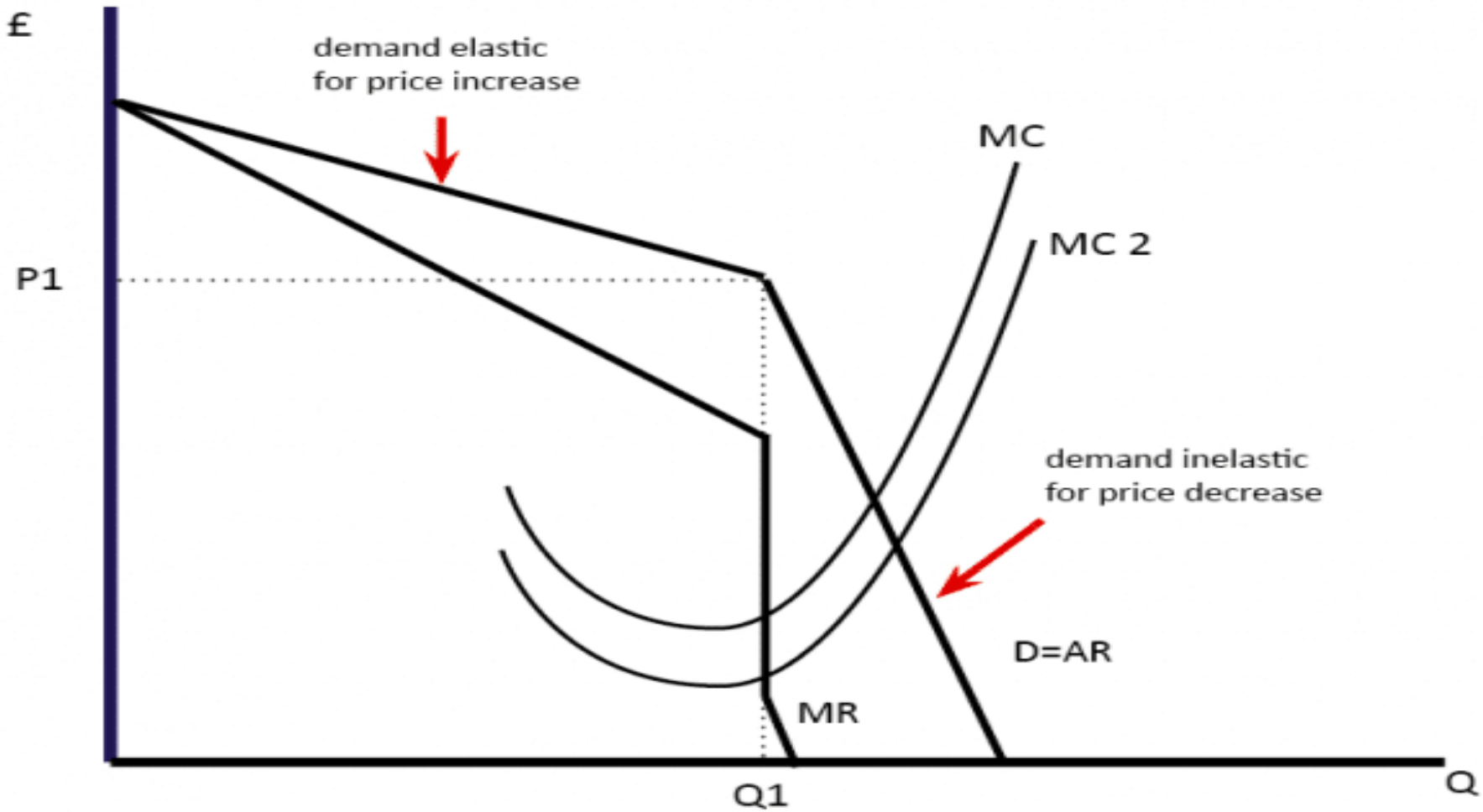
- There are different possible outcomes for oligopoly:

  - Stable prices (e.g. through kinked demand curve) – firms concentrate on non-price competition.
  - Price wars (competitive oligopoly)
  - Collusion- leading to higher prices.

The kinked demand curve model

This model suggests that prices will be fairly stable and there is little incentive for firms to change prices. Therefore, firms compete using non-price competition methods.

- This assumes that firms seek to maximize profits.
- If they increase the price, then they will lose a large share of the market because they become uncompetitive compared to other firms. Therefore demand is elastic for price increases.


£
demand elastic
for price increase
MC
MC 2
P1
demand inelastic
for price decrease
D=AR
MR
Q1
Q

- If firms cut price then they would gain a big increase in market share. However, it is unlikely that firms will allow this. Therefore other firms follow suit and cut-price as well. Therefore demand will only increase by a small amount. Therefore demand is inelastic for a price cut.
- Therefore, this suggests that prices will be rigid in oligopoly
- The diagram above suggests that a change in marginal cost still leads to the same price, because of the kinked demand curve. Profit maximization occurs where MR = MC at Q1.

Pricing policy

Pricing policy

- A systematic approach to pricing requires the decision that an individual pricing situation be generalized and codified into a policy coverage of all the principal pricing problems. Policies can and should be tailored to various competitive situations. A policy approach which is becoming normal for sales activities is comparatively rare in pricing.

The following considerations involve in formulating the pricing policy

- Competitive Situation:
- Goal of Profit and Sales:
- Long Range Welfare of the Firm:
- Flexibility
- Government Policy
- Overall Goals of Business
- Price Sensitivity
- Routinisation of Pricing

Objectives of Pricing Policy

- Price-Profit Satisfaction
- Sales Maximisation and Growth
- Making Money
- Preventing Competition
- Market Share
- Survival
- Market Penetration
- Marketing Skimming
- Early Cash Recovery
- Satisfactory Rate of Return

Entry deterring pricing

- Strategic entry deterrence is when an existing firm within a market acts in a manner to discourage the entry of new potential firms to the market.
- These actions create greater barriers to entry for firms seeking entrance to the market and ensure that incumbent firms retain a large portion of market share or market power.

Predatory Pricing

- Predatory pricing occurs when a firm sells a good or service at a price below cost (or very cheaply) with the intention of forcing rival firms out of business.

- Predatory pricing could be a method to deal with new firms who enter an industry.
- If a monopoly is enjoying supernormal profits, it is likely to attract new firms into the industry – who would reduce the incumbent's profitability.
- However, in response, the incumbent monopoly could cut prices and make a temporary loss.
- These low prices and operating at a loss may force the new firm out of business.
- The incumbent monopoly may have significant savings to finance a price war, whilst the new firm is more vulnerable due to financing cost of entering the market.
- If successful, the monopoly firm regains its monopoly power, but also its action of predatory pricing discourages other firms from trying to enter.

Predatory Pricing and the Public Interest

- If predatory pricing leads to an increase in monopoly power, then it will harm the public interest because it leads to higher prices in the long term. However, predatory pricing could be confused with a very competitive market. Consumers can benefit if prices fall and all the firms stay in business.

Peak Load Pricing

- The **Peak Load Pricing** is the pricing strategy wherein the high price is charged for the goods and services during times when their demand is at peak. In other words, the high price charged during the high demand period is called as the peak load pricing.

The peak load pricing is widely used in the case of **non-storable goods** such as electricity, transport, telephone, security services, etc. These are the goods which cannot be stored and hence their production is required to be increased to meet the increased demand.

Thus, the **marginal cost** is also high during the peak periods as the capacity to produce these goods is limited. And, hence, the price is set at its highest level with an aim to shift the demand or at least the consumption of goods and services to attain a balance between demand and supply.

Product life Cycle

Product Life-Cycle

A company's positioning and differentiation strategy must change as its product, market, and competitors change over the *product life cycle* (PLC). To say a product has a life cycle is to assert four things:

- Products have a limited life.
- Product sales pass through distinct stages, each posing different challenges, opportunities, and problems to the seller.
- Profits rise and fall at different stages of the product life cycle.
- Products require different marketing, financial, manufacturing, purchasing, and human resource strategies in each life-cycle stage.

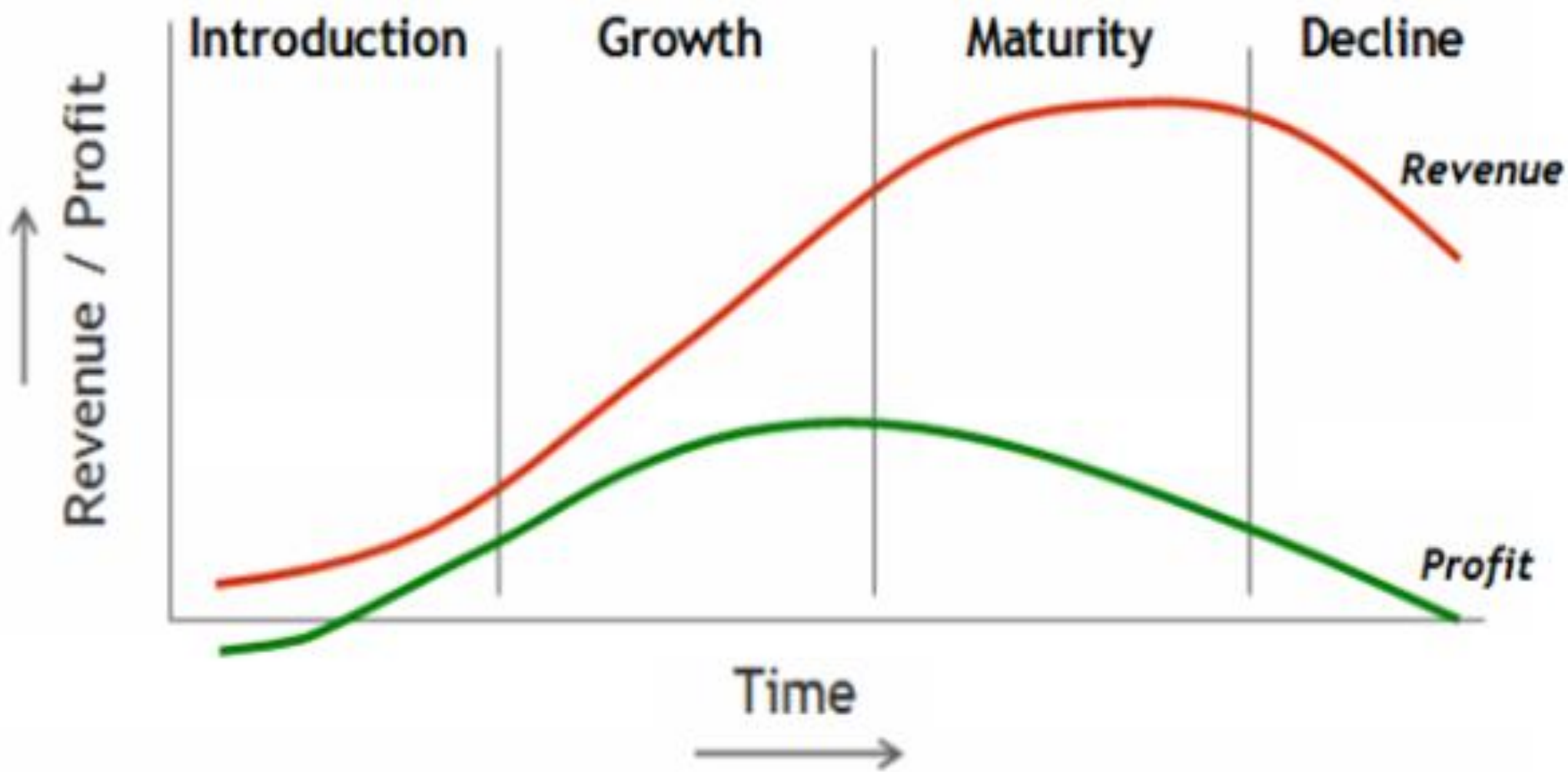
Product Life-Cycle

Most product life cycles are portrayed as bell-shaped curves, typically divided into four stages: **introduction, growth, maturity, and decline**

- ***Introduction***—A period of slow sales growth as the product is introduced in the market. Profits are nonexistent because of the heavy expenses of product introduction
- ***Growth***—A period of rapid market acceptance and substantial profit improvement.

- ***Maturity***—A slowdown in sales growth because the product has achieved acceptance by most potential buyers. Profits stabilize or decline because of increased competition.
- ***Decline***—Sales show a downward drift and profits erode.

Product Life Cycle



Characteristic

	Introduction	Growth	Maturity	Decline
Characteristics				
Sales	Low sales	Rapidly rising sales	Peak sales	Declining sales
Costs	High cost per customer	Average cost per customer	Low cost per customer	Low cost per customer
Profits	Negative	Rising profits	High profits	Declining profits
Customers	Innovators	Early adopters	Middle majority	Laggards
Competitors	Few	Growing number	Stable number beginning to decline	Declining number

Marketing Objective and Strategies

Marketing Objectives	**Introduction**	**Growth**	**Maturity**	**Decline**
	Create product awareness and trial	Maximize market share	Maximize profit while defending market share	Reduce expenditure and milk the brand
Strategies	**Introduction**	**Growth**	**Maturity**	**Decline**
Product	Offer a basic product	Offer product extensions, service, warranty	Diversify brands and items models	Phase out weak products
Price	Charge cost-plus	Price to penetrate market	Price to match or best competitors'	Cut price
Distribution	Build selective distribution	Build intensive distribution	Build more intensive distribution	Go selective: phase out unprofitable outlets
Communications	Build product awareness and trial among early adopters and dealers	Build awareness and interest in the mass market	Stress brand differences and benefits and encourage brand switching	Reduce to minimal level needed to retain hard-core loyals

Examples of Product Life Cycle Stages

Introduction Stage

Growth Stage

Maturity Stage

Decline Stage

Firm

A firm is a for-profit business organization—such as a corporation, limited liability company (LLC), or partnership—that provides professional services. Most firms have just one location. However, a business firm consists of one or more physical establishments, in which all fall under the same ownership and use the same employer identification number (EIN).

Economic objectives of firms

1. Profit maximization
2. Sales maximization
3. Increased market share/market dominance
4. Social/environmental concerns
5. Profit satisficing
6. Co-operatives

Profit maximisation

Usually, in economics, we assume firms are concerned with maximizing profit. Higher profit means:

- Higher dividends for shareholders.
- More profit can be used to finance research and development.
- Higher profit makes the firm less vulnerable to takeover.
- Higher profit enables higher salaries for workers

Sales maximisation

Firms often seek to increase their market share – even if it means less profit. This could occur for various reasons:

- Increased market share increases monopoly power and may enable the firm to put up prices and make more profit in the long run.
- Managers prefer to work for bigger companies as it leads to greater prestige and higher salaries.
- Increasing market share may force rivals out of business. E.g. the growth of supermarkets have lead to the demise of many local shops. Some firms may actually engage in predatory pricing which involves making a loss to force a rival out of business.

Growth maximisation

This is similar to sales maximization and may involve mergers and takeovers. With this objective, the firm may be willing to make lower levels of profit in order to increase in size and gain more market share. More market share increases its monopoly power and ability to be a price setter.

Long run profit maximisation

- In some cases, firms may sacrifice profits in the short term to increase profits in the long run. For example, by investing heavily in new capacity, firms may make a loss in the short run but enable higher profits in the future.

Social/environmental concerns

- A firm may incur extra expense to choose products which don’t harm the environment or products not tested on animals. Alternatively, firms may be concerned about local community / charitable concerns.
- Some firms may adopt social/environmental concerns as part of their branding. This can ultimately help profitability as the brand becomes more attractive to consumers.
- Some firms may adopt social/environmental concerns on principal alone – even if it does little to improve sales/brand image.

Co-operatives

- A co-operative is run to maximize the welfare of all stakeholders – especially workers. Any profit the co-operative makes will be shared amongst all members.

Main Types of Business

1. Sole Trader
2. Partnership
3. Limited Company
4. Public Limited Company

Sole Trader

- As the name implies, a sole trader is a business owned by a single person. The single owner may hire people to work for them. But, sole traders remain responsible for the running and operation of the company. Many builders, plumbers and electricians may set themselves up as a sole-trader.

Advantages of Being Sole Trader

1. You have full control over direction of business
2. You have full share in firms profits.
3. You can pursue other non-profit maximising objectives you may not be able to in an ordinary firm.
4. Significant Motivation when you are sole-trader.

Disadvantages of Being Sole Trader

1. Limits ability for firm to grow and raise funds for investment
2. Will struggle if you become ill / sick.
3. Can be stressful as you are always responsible and can't delegate.
4. Sole traders often end up working long hours, especially when firm is growing.
5. Unlimited liability. It means you are fully responsible for all debts of business.

Partnership

- These come in two types: general and limited. In general partnerships, both owners invest their money, property, labor, etc. to the business and are both 100% liable for business debts. In other words, even if you invest a little into a general partnership, you are still potentially responsible for all its debt. General partnerships do not require a formal agreement—partnerships can be verbal or even implied between the two business owners.
- Limited partnerships require a formal agreement between the partners. **They must also file a certificate of partnership with the state.** Limited partnerships allow partners to limit their own liability for business debts according to their portion of ownership or investment.

Advantages of partnerships:

- Shared resources provides more capital for the business
- Each partner shares the total profits of the company
- Similar flexibility and simple design of a proprietorship
- Inexpensive to establish a business partnership, formal or informal

Disadvantages:

- Each partner is 100% responsible for debts and losses.
- Selling the business is difficult—requires finding new partner.
- Partnership ends when any partner decides to end it.

Private Company

- This is a business owned by a small number of people. These people are known as shareholders because they have a stake in the business. The shareholders will share the costs of setting firm up and will receive a share of the profits.
- A limited company is listed as a separate legal entity. It means the owners have limited liability (they are not responsible for all debts of company directly)

Advantages of Private companies

1. They can raise money through selling shares to shareholders.
2. unlike PLCs they can decide who buys shares meaning it is easier to keep control over the firm.
3. More established than sole traders and has greater ability to raise funds.
4. May be able to receive more government grants and subsidies.

Disadvantages

1. Has to pay for accounts and registering company.
2. more tax returns than a single sole-trader
3. Company accounts are made public.
4. Subject to more regulations than a sole trader

Public Limited Companies (PLCs)

- PLC’s are companies who list their shares on the stock market. They are owned by shareholders, but because they are publicly listed anyone can buy shares in the company. If a company lists more than 50% of its shares, it can become vulnerable to a takeover (when another firm buys the existing owners out, leading to new owners.
- Most large companies are PLCs, but some like Virgin (owned by Richard Branson) for a long time remained a ltd company.

Advantages of PLCs

1. Easier to raise funds for investment from a wider network of potential shareholders. PLCs can issue a rights issue on the stock market if it needs to raise funds at low interest rates (dividend to shareholders)
2. Greater recognition from being listed on stock market.
3. Threat of takeover may be boost to motivation.

Disadvantages of PLCs

1. More regulation and detailed accounting needed than for a private company
2. Can be subject to takeover if company under-performs and a rival firm buys over 50%
3. Cannot control who buys and sells shares listed on the stock market.

Horizontal Integration

- Horizontal integration occurs when there is a merger between two firms in the same industry operating at the same stage of production.
- For example, if two newspapers like the Independent and the Guardian merged, this would be a horizontal integration.

Acquisition

Merger

Benefits of Horizontal Integration

- In industries with high fixed costs, horizontal integration enables firms to benefit from greater economies of scale. With higher output, the firm can benefit from greater efficiency, lower costs and lower prices for consumers.
- As well as share fixed costs, the firm may benefit from marketing economies of scale and access to a more efficient distribution network.
- More profit and resources to invest in research and development. This is important for industries like the drug industry and commercial airplanes.

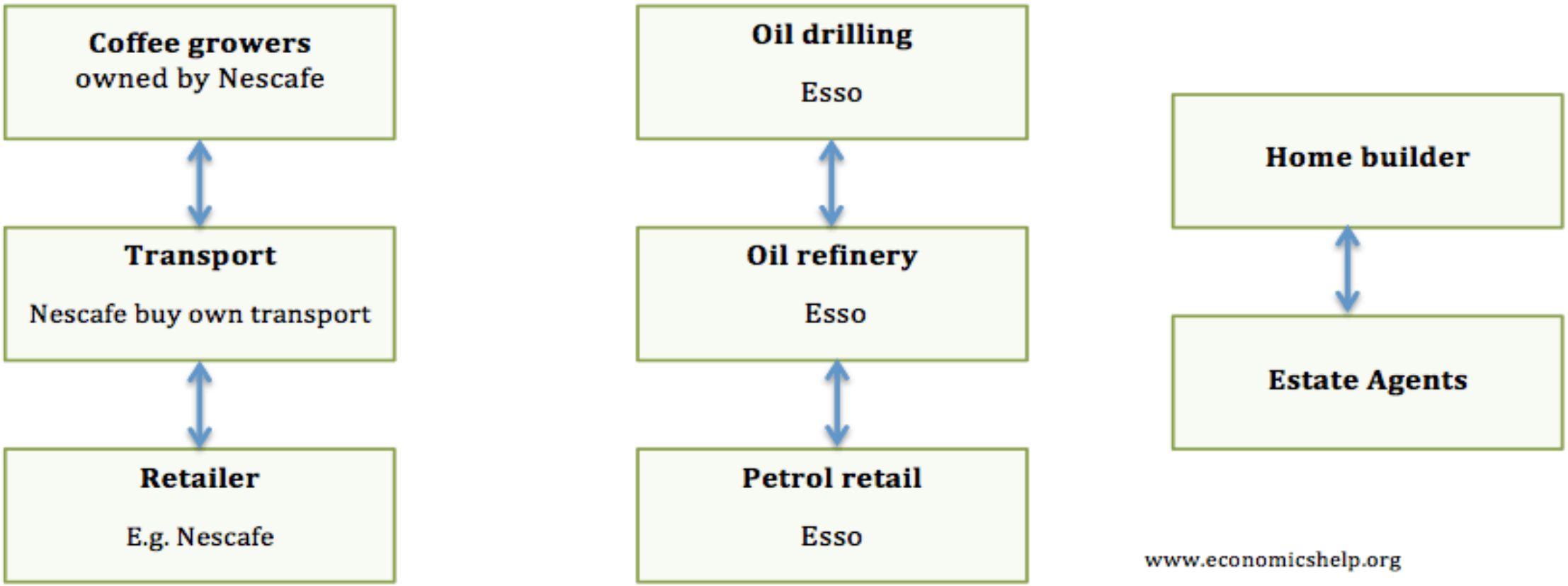
Potential Problems of Horizontal Integration

- Horizontal integration could lead to an increase in market share and monopoly power. (If the firm has more than 25% of Market share). This could lead to all the problems of monopoly power.
- It could also lead to diseconomies of scale – when bigger firms become more inefficient.

Vertical Integration

Vertical integration occurs when a firm controls different stages of production.

Examples of vertical integration



Backward Vertical Integration

- Backward integration is when a firm buys a company who previously supplied raw materials to the firm. It is a type of vertical integration but specifically refers to the merging with firms who used to supply the firm.

Example of Backward integration

- A car firm buys the company who used to sell its tyres for its cars
- A coffee retailer like Nescafe mergers with coffee growers thereby controlling the supply of coffee beans
- Backward integration may be beneficial if it helps secure a reliable source of supplies. It will be harmful if it leads to increased monopoly power and new competitors have difficulty accessing raw materials.

Forward Integration

- This occurs when a firm merges with another firm at the next stage of production. For example, a company producing coffee beans could buy a chain of coffee shops. e.g. if Nescafe produces coffee beans, they could buy more coffee shops to sell their own beans in.

Pros of Vertical integration

- Economies of scale. A firm can benefit from economies of scale. E.g. organizational economies, financial economies of scale.
- Greater control over supply. A retailer can’t be affected by a supplier withholding supplies at various times.
- Overcome Monopsony power. A farmer may lose out to big supermarkets. However, if they become part of the supermarket chain they can benefit from their profitability.
- In the case of pubs, vertical integration gives a landlord greater resources because the big brewer can help them advertise and secure supplies at lower cost.

Cons of Vertical Integration

- Limited scope for technical economies of scale. Unlike horizontal integration, the firms who are merging will not be able to benefit from technical economies of scale because they don’t share the same production process
- More monopoly power which could lead to higher prices for consumers
- Lower prices to suppliers. Nescafe has been criticised for paying a low price to consumers. By controlling the purchase of raw materials farmers could be worse off.

Diversification

- Diversification strategy is when a business or a company proceed with the growth and development and expand its business in different markets and product areas. In other words, it means letting your business enter into the new markets and creating a new product.
- We can say that diversification is a growth and development strategy of your business by exploring new possibilities. When you follow this strategy, you diversify the product portfolio and increase the horizon of your business. Most importantly, it helps the company to amplify sales and profitability.

Types of Diversification Strategies

- **Concentric Diversification**
- **Conglomerate Diversification**
- **Horizontal Diversification**
- **Vertical Diversification**
- **Internal Diversification**
- **External Diversification**

Concentric Diversification

- Concentric diversification is when a business introduces a new product into the new market. The product is similar to its current offer. But the company manages to get a competitive advantage by using the manufacturing process, technology advantage, and industry experience.
- Concentric diversification is beneficial if your business's sale is decreasing, and you can cover the loss by increasing the sale of other products.

Example - A computer manufacturing company has expanded from the production of desktop computers to laptops. It would help the company to exploit the new trending laptop user market.

Conglomerate Diversification

- Conglomerate diversification is when a company introduces an entirely new product and enters into the new market by targeting new customers market. The term conglomerate means a corporate group is managing various businesses in different categories. The parent company of all the sub-brands is a conglomerate. The conglomeration is a very successful diversification strategy.
- Example -Tata Group started as hotel industry, and it diversified its business into a conglomerate. Currently, the Tata Group conglomerate comprises more than 100 companies in various categories like consumer products, information systems, telecommunication, engineering, automobiles, steel, and chemicals.

Horizontal Diversification

- Horizontal diversification is when a business introduces different and unrelated products/services. The goal of launching the related product is to satisfy the needs of customers. It involves a limited amount of risk because you're dealing with the same customer market.
- Example - For instance, you're running a paper sale company, and you launch a new and different product, printers. It would attract the attention of potential customers.

Vertical Diversification

- Vertical integration or vertical diversification is when a business integrates two or more production processes by moving up/down the supply chain. The company takes control over some of the core production, distribution, raw material, and assembly line processes.
- **Example**- You own a retail store, and you expand/diversify your business by buying your products' production facility that you're selling. It helps you to decrease many variable costs. The flaw of vertical integration is that your business loses the flexibility of using horizontal integration.

Internal Diversification

- Internal diversification is when a business launches its current/existing product into the new market. The goal is to increase the customer market by expanding the geographic borders. Companies do it by locating the new users of their existing products/services.
- Internal diversification is also about introducing a new product to the current market. Businesses use their existing distribution channel to launch a new product.
- **Examples- Johnson & Johnson** launched toys for children to its existing infant market.
- Fast-food companies have started offering the low calories and salt-free food items to the current product line.

External Diversification

- External diversification is when a business launches a new product/service by going out of its current business operations. A merger is also a form of external diversification when two companies integrate their business operations to create something new. The merging companies usually comprise of a similar size.

- The acquisition is also the second form and type of external diversification where one company buys another. The acquired company loses its identity and completely absorbs the buyer company.

Merger

A merger is a corporate strategy to combine with another company and operate as a single legal entity. The companies agreeing to mergers are typically equal in terms of size and scale of operations.

Cause of Merger

- After the merger, companies will secure more resources and the scale of operations will increase.
- Companies may undergo a merger to benefit their shareholders. The existing shareholders of the original organizations receive shares in the new company after the merger.
- Companies may agree for a merger to enter new markets or diversify their offering of products and services, consequently increasing profits.
- Mergers also take place when companies want to acquire assets that would take time to develop internally.

- To lower the tax liability, a company generating substantial taxable income may look to merge with a company with significant tax loss carry forward.
- A merger between companies will eliminate competition among them, thus reducing the advertising price of the products. In addition, the reduction in prices will benefit customers and eventually increase sales.
- Mergers may result in better planning and utilization of financial resources.

Congeneric/Product extension merger

Such mergers happen between companies operating in the same market. The merger results in the addition of a new product to the existing product line of one company. As a result of the union, companies can access a larger customer base and increase their market share.

Conglomerate merger

- Conglomerate merger is a union of companies operating in unrelated activities. The union will take place only if it increases the wealth of the shareholders.

Market extension merger

- Companies operating in different markets, but selling the same products, combine in order to access a larger market and larger customer base.

Horizontal merger

- Companies operating in markets with fewer such businesses merge to gain a larger market. A horizontal merger is a type of consolidation of companies selling similar products or services. It results in the elimination of competition; hence, economies of scale can be achieved.

Vertical merger

- A vertical merger occurs when companies operating in the same industry, but at different levels in the supply chain, merge. Such mergers happen to increase synergies, supply chain control, and efficiency.

Advantages of a Merger

- **Increases market share :** When companies merge, the new company gains a larger market share and gets ahead in the competition.
- **Reduces the cost of operations :** Companies can achieve economies of scale, such as bulk buying of raw materials, which can result in cost reductions. The investments on assets are now spread out over a larger output, which leads to technical economies.

- **Avoids replication-** Some companies producing similar products may merge to avoid duplication and eliminate competition. It also results in reduced prices for the customers.
- **Expands business into new geographic areas-** A company seeking to expand its business in a certain geographical area may merge with another similar company operating in the same area to get the business started.
- **Prevents closure of an unprofitable business-** Mergers can save a company from going bankrupt and also save many jobs.

Disadvantages of a Merger

- **Raises prices of products or services-** A merger results in reduced competition and a larger market share. Thus, the new company can gain a monopoly and increase the prices of its products or services.
- **Creates gaps in communication-** The companies that have agreed to merge may have different cultures. It may result in a gap in communication and affect the performance of the employees.
- **Creates unemployment -** In an aggressive merger, a company may opt to eliminate the underperforming assets of the other company. It may result in employees losing their jobs.

- **Prevents economies of scale-**In cases where there is little in common between the companies, it may be difficult to gain synergies. Also, a bigger company may be unable to motivate employees and achieve the same degree of control. Thus, the new company may not be able to achieve economies of scale.

Acquisition

- An acquisition is defined as a corporate transaction where one company purchases a portion or all another company's shares or assets. Acquisitions are typically made in order to take control of, and build on, the target company's strengths and capture synergies. There are several types of business combinations: acquisitions (both companies survive), mergers (one company survives), and amalgamations (neither company survives).
- The acquiring company buys the shares or the assets of the target company, which gives the acquiring company the power to make decisions concerning the acquired assets without needing the approval of shareholders from the target company.

Benefits of Acquisitions

- Reduced entry barriers
- Market power
- New competencies and resources
- Access to experts
- Access to capital
- Fresh ideas and perspective

Challenges of acquisition

- **Culture clashes**
- **Duplication**
- **Conflicting objectives**
- **Poorly matched businesses**
- **Pressure on suppliers**
- **Brand damage**

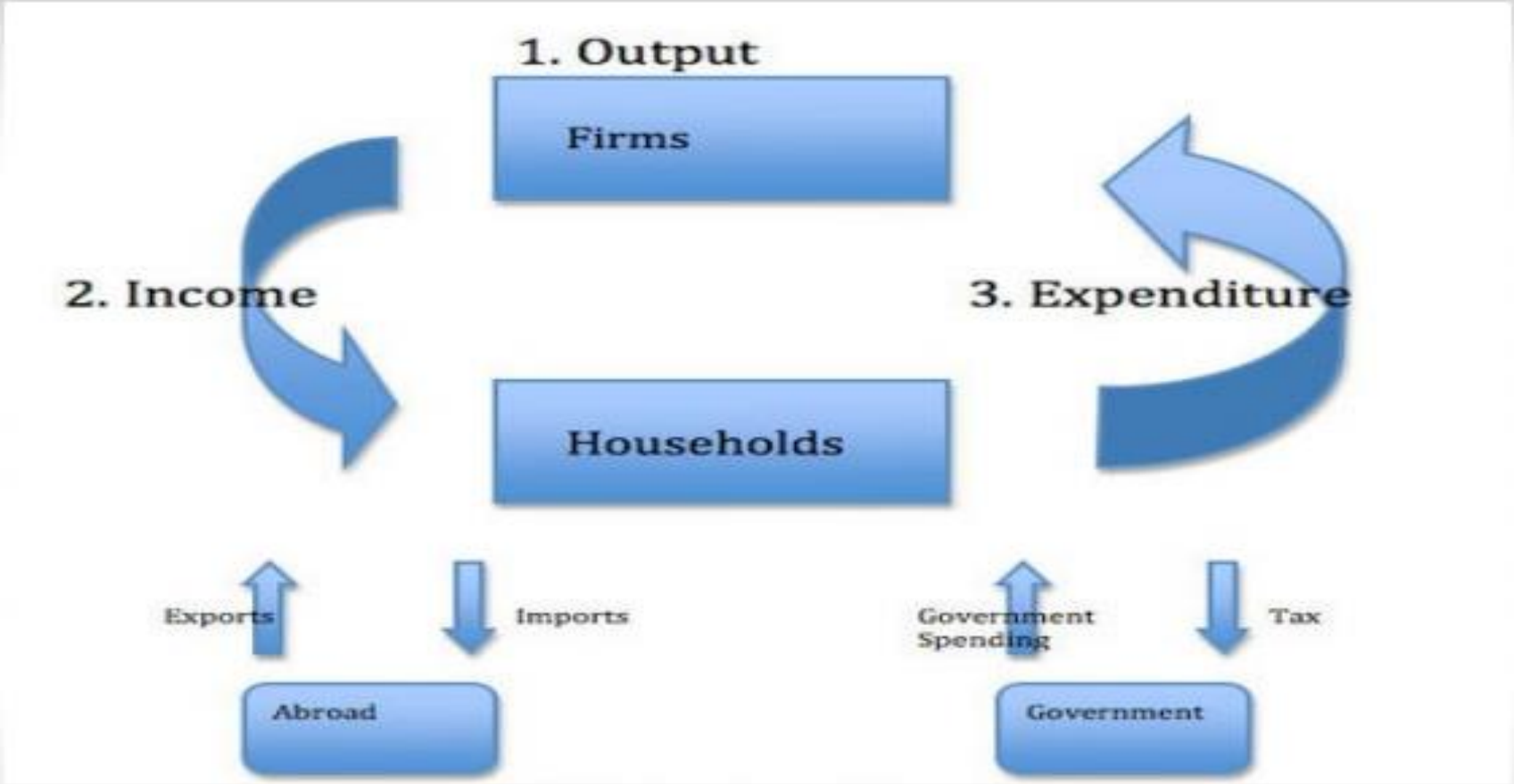
UNIT -4

Indian Economy

Indian economy is a developing economy in which Agriculture is the back bone of Indian economic. 60% of India’s population are on the below poverty line. Majority of the people of India are leading a poverty line. Indian economic is affected by it. Countries which are on the part of progress and which have their potential for development are called developing economic. So India is termed as developing economic by modern views

- The Economy of India is the tenth-largest in the world by nominal GDP and the third largest by purchasing power parity (PPP). The country is one of the G-20 major economies, a member of BRICS and a developing economy among the top 20 global traders according to the WTO

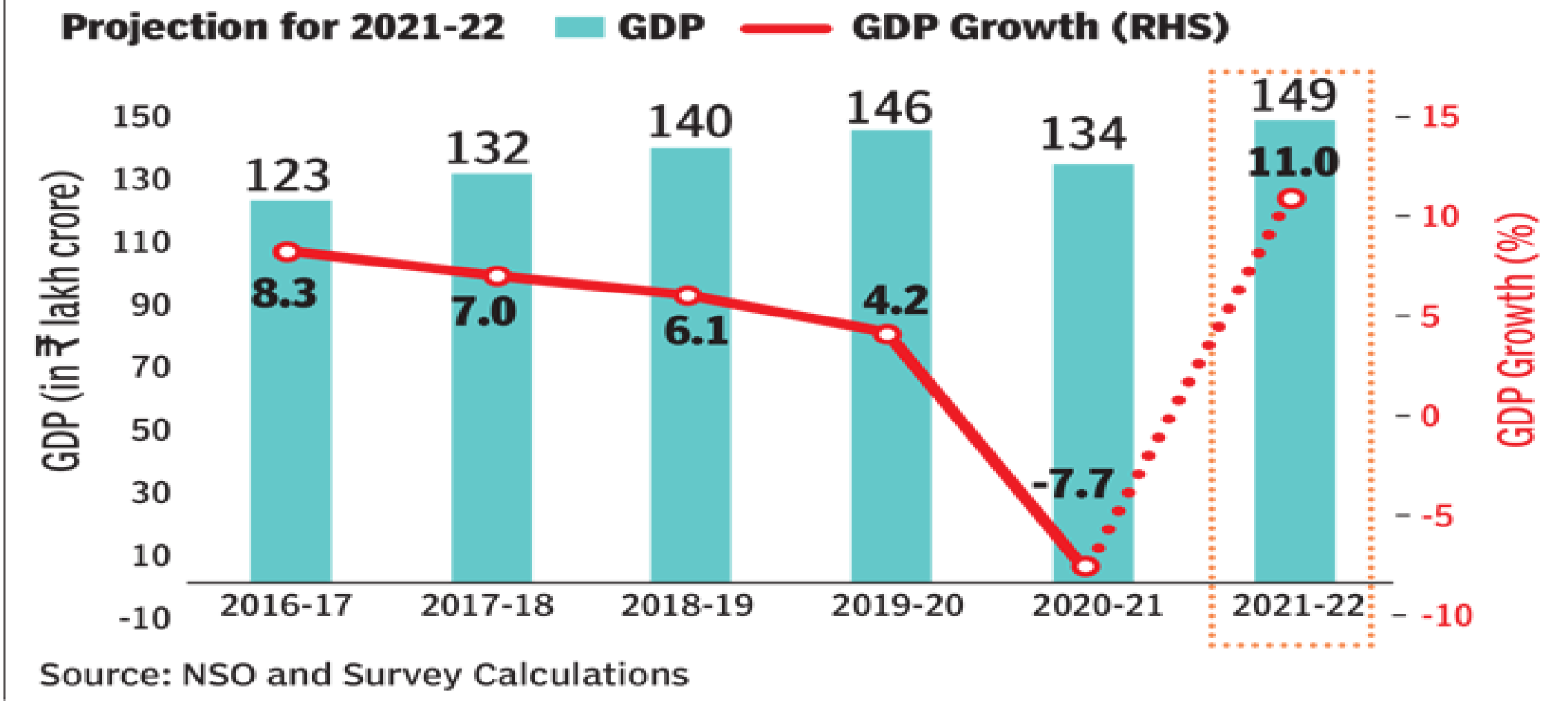
CIRCULAR FLOW OF INCOME



Economic Growth

- Increase in a country's productive capacity as measured by comparing gross national product (GNP) in a year with the GNP in the previous year. Increase in the capital stock , advances in technology, and improvement in the quality and level of literacy are considered to be the principal causes of economic growth. In recent years, the idea of sustainable development has brought in additional factors such as environmentally sound processes that must be taken into account in growing an economy.

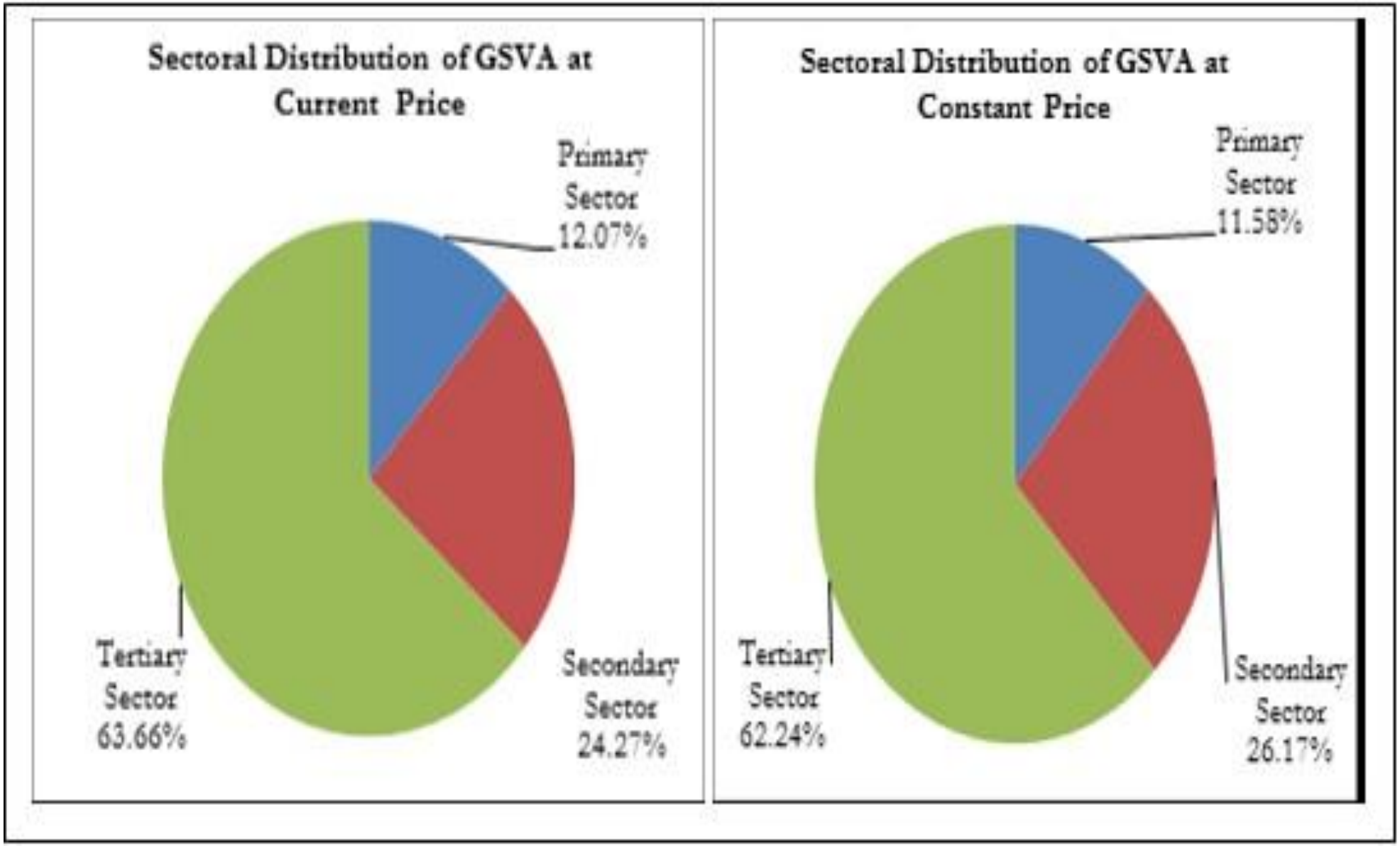
SET FOR V-SHAPED RECOVERY



Source: NSO and Survey Calculations

Economic system of india

- Primary Sector
- Secondary Sector
- Tertiary Sector


Sectoral Distribution of GSVA at Current Price
Primary Sector 12.07%
Secondary Sector 24.27%
Tertiary Sector 63.66%
Sectoral Distribution of GSVA at Constant Price
Primary Sector 11.58%
Secondary Sector 26.17%
Tertiary Sector 62.24%

Different Sectors

Characteristic Features of Developing Economies

- Low Per Capita Real Income
- High Rate of Population Growth
- High Rate of Unemployment
- Dependence on the Primary Sector

Privatization in India

Post-independence India had adopted a very conservative economy that was practically shut to the outside world. But as time went by, Indian leaders and economists recognized the need to merge with the global economy. So in 1991, India went through some very major economic reforms. Let us focus on one such aspect of the reforms – privatization in India.

Privatization in India

- In 1991 India made some major policy changes in their economic ideologies. There were stagnation and slow growth in the economy.
- To tackle these problems the, then Finance Minister Dr. Manmohan Singh introduced some major economic reforms. Now, we call it the liberalization of the Indian Economy and the LPG reforms.
- Privatization has a very broad meaning in economics. Everything that ranges from the introduction of private capital to selling government-owned assets to transitioning to a private economy.

Feature of Privatization

- **Ownership Measures:** The ownership of all public enterprises ultimately shifts to private owners. The denationalization can be complete or partial.
- **Organizational Measures:** This is where we limit the control of the state in public companies. Some methods include holding company structuring, leasing. restructuring of the enterprises etc.
- **Operational Measures:** Public organizations and companies were running into huge losses. So the efficiency of these companies was to be increased.

Conceptualization of Privatization in India

- **Delegation**: Here via a contract or franchise or lease or grant etc. the government keeps the ownership and the responsibility of an enterprise. But the private company will handle the daily activities and deliver the product or service. The state will remain an active participant in this process.

- **Divestment:** The government will sell a majority stake of the enterprise to one or more private companies. It may keep some ownership but will be a minority stakeholder in the enterprise.

- **Displacement**: The first step here will be deregulation. This will allow private players to enter the market. And slowly and gradually the private company will displace the public enterprise.

Here the private sector will compete with public companies and ultimately outperform them, causing the public enterprise to be displaced.

- **Disinvestment**: Directly selling a portion or whole of a public enterprise to private parties.

Advantages of Privatization

- Private companies always have a better incentive than public companies. The managers and officials of a private company have skin in the game, i.e. their income is related to the performance of the company. In public companies, such an incentive is not present. So privatization usually leads to higher efficiency in the company.
- In a public company, there is a lot of political interference. This may dissuade the company from taking economically beneficial decisions. However, a private company will not let political factors affect their performance.

- In public companies, at times the government can only think about the upcoming elections. So all their goals may be short-term in the process of trying to gain favors of the voting public. But a private company does not have such restrictions. They have long-term goals and ambitions and steer the company in the right direction.
- Privatization will also increase competition in the market. Consequently, this has proved to be very beneficial to consumers. Healthy competitiveness in an economy will push efficiency and performances.

Globalisation

- The term globalization refers to the integration of the economy of the nation with the world economy. It is a multifaceted aspect. It is a result of the collection of multiple strategies that are directed at transforming the world towards a greater interdependence and integration.

- It includes the creation of **networks and pursuits transforming social, economical, and geographical barriers**. Globalization tries to build links in such a way that the events in India can be determined by the events happening distances away.

Effect of Globalization in India

- India is one of the countries that succeeded significantly after the initiation and implementation of globalisation. The growth of foreign investment in the field of corporate, retail, and the scientific sector is enormous in the country.

- It also had a tremendous impact on the social, monetary, cultural, and political areas. In recent years, globalisation has increased due to improvements in transportation and information technology. With the improved global synergies, comes the growth of global trade, doctrines, and culture.

Globalization in the Indian economy

- Indian society is changing drastically after urbanization and globalization. The economic policies have had a direct influence in forming the basic framework of the economy.
- Economic policies established and administered by the government also performed an essential role in planning levels of savings, employment, income, and investments in the society.
- Cross country culture is one of the critical impacts of globalization on Indian society. It has significantly changed several aspects of the country, including cultural, social, political, and economical.
- However, economic unification is the main factor that contributes maximum to a country’s economy into an international economy.

Advantages of Globalization in India

- **Increase in employment:** With the opportunity of special economic zones (SEZ), there is an increase in the number of new jobs available. Including the export processing zones (EPZ) center in India is very useful in employing thousands of people. Another additional factor in India is cheap labour. This feature motivates the big companies in the west to outsource employees from other regions and cause more employment.

- **Increase in compensation:** After globalisation, the level of compensation has increased as compared to the domestic companies due to the skill and knowledge a foreign company offers. This opportunity also emerged as an alteration of the management structure.

- **High standard of living:** With the outbreak of globalization, the Indian economy and the standard of living of an individual has increased. This change is notified with the purchasing behavior of a person, especially with those who are associated with foreign companies. Hence, many cities are undergoing a better standard of living along with business development.