# CHAPTER-2

## DIFFERENCE BETWEEN BUSINESS ECONOMICS AND ECONOMICS.

**(A)What is 'Business Economics'?**

(I)Business Economics is a field of applied Economics that studies the financial, organizational, market-related and environmental issues faced by corporations. Assessments are made using economic theory and quantitative methods.

(II)Business economics is the discipline which deals with the application of economic theory to business management

(III)Business Economics analyses subjects such as business organization, management, expansion and strategy. (Studies might include how and why corporations expand, the impact of entrepreneurs, the interactions among corporations and the role of governments in regulation.)

**(B)What is Economics?**

**(**I) Economics is a social science concerned with production and distribution and consumption of goods and services. It studies how individuals, businesses, governments and nations make choices on allocating resources to satisfy their wants and needs, and tries to determine how these groups should organize and coordinate efforts to achieve maximum output.

(II) The social science Economics concerns the use of scarce resources to maximize satisfaction of unlimited wants.



**(C)Difference between Business Economics and Economics**

Main Points

(i) Whereas business Economics involves application of Economics principles

(ii)Whereas Business Economics is Micro-Economics in character, Economics is both Macro and Micro-Economics

(iii)Business Economics, through micro in character, deals only with the firm and has nothing to do with an individual's economic problems. But Micro-Economics as a branch of Economics deals with both Economics of the individual as well as Economics of the firm.

(iv)Under Micro-Economics as a branch of Economics, distribution theories, wages, interest and profit are also dealt with but in Business Economies mainly Profit Theory is used other distribution have not much use in Business Economics. Thus, the scope of Economics is wider than of Business Economics.

(v)Economics theory Hypothesizes economic relationships and builds economic model but

is proposed is hard to accurately measure, such as an individual consumers' marginal utility. Also, marginalism relies on the assumption of (near) perfect markets, which do not exist in the practical world. Still, the core ideas of marginalism are generally accepted by most economic schools of thought and are still used by businesses and consumers to make choices and substitute goods.

(v)The term marginalism refers to incremental changes, either increases or decreases that occur at the edge or the margin. It may help to mentally substitute extra or additional whenever the word marginally is used. But keep in mind that the extra can be negative.

(vi)Modern marginalism approaches now include the effects of psychology or those areas that now encompass behavioral economics. Reconciling neoclassic economic principles and marginalism with the evolving body of behavioral economics is one of the exciting emerging areas of contemporary economics.

**Concepts of Marginalism**

MC-Marginal Cost, MU-Marginal Utility, MR-Marginal Revenue, MPP-Marginal Physical Productivity, MRS-Marginal Rate of Substitution, MRTS-Marginal Rate of Technical Substitution.

**Incrementalism**

**(I)** Incrementalism is a method of working by adding to a project using many small incremental changes instead of a few (extensively planned) large jumps. Logical incrementalism implies that the steps in the process are sensible. Logical incrementalism focuses on "the Power-Behavioral Approach to planning rather than to the Formal Systems Planning Approach". In public policy, incrementalism is the method of change by which many small policy changes are enacted over time in order to create a larger broad based policy change.



(II)Most people use incrementalism without ever needing a name for it because it is the natural and intuitive way to tackle everyday problems, such as making coffee or getting dressed. These actions normally don't require extensive planning and problems can be dealt with one at a time as they arise.

(III)Even in processes that involve more extensive planning, incrementalism is often an important tactic for dealing reactively with small details. For example, one might plan a route for a driving trip on a map, but one would not typically plan in advance where to change lanes or how long to stop at each streetlight.

(IV)The political scientist Charles E. Lindblom developed Incrementalism in the mid 1950s. "The Science of Muddling Through" (1959), was an essay Lindblom wrote to help policymakers understand, why they needed to consider a different approach, when making policy changes. The goal

against some losses.

**Types of Financial Risk**

Market risk and specific risk are two different forms of risk that affect assets. All investment assets can be separated by two categories: systematic risk and unsystematic risk. Market risk, or systematic risk, affects a large number of asset classes, whereas specific risk, or unsystematic risk, only affects an industry or particular company.

(i) Systematic risk

It is the risk of losing investments due to factors, such as political risk and macroeconomic risk that affect the performance of the overall market. Market risk is also known as volatility and can be measured using beta. Beta is a measure of an investment's systematic risk relative to the overall market.

(ii) Market risk

It cannot be mitigated through portfolio diversification. However, an investor can hedge against systematic risk. A hedge is an offsetting investment used to reduce the risk in an asset. For example, suppose an investor fears a global recession affecting the economy over the next six months due to weakness in gross domestic product growth. The investor is long multiple stocks and can mitigate some of the market risk by buying put options in the market.



(iii) Specific risk or diversifiable risk

(i)It is the risk of losing an investment due to company or industry-specific hazard. Unlike systematic risk, an investor can only mitigate against unsystematic risk through diversification. An investor uses diversification to manage risk by investing in a variety of assets. He can use the beta of each stock to create a diversified portfolio .For example, suppose an investor has a portfolio of oil stocks with a beta of 2. Since the market's beta is always 1, the portfolio is theoretically 100% more volatile than the market. Therefore, if the market has a 1% move up or down, the portfolio will move up or down 2%. There is risk associated with the whole sector due to the increase in supply of oil in the Middle East, which has caused oil to fall in price over the past few months. If the trend continues, the portfolio will experience a significant drop in value. However, the investor can diversify this risk since it is industry-specific.

(ii)The investor can use diversification and allocate his fund into different sectors that are negatively correlated with the oil sector to mitigate the risk. For example, the airlines and casino gaming sectors are good assets to invest in for a portfolio that is highly exposed to the oil sector. Generally, as the

you may lose money if the Canadian dollar depreciates in relation to the U.S. dollar.

(viii) Interest Rate Risk

Interest rate risk is the risk that an investment's value will change due to a change in the absolute level of interest rates, the spread between two rates, in the shape of the yield curve or in any other interest rate relationship. This type of risk affects the value of bonds more directly than stocks and is a significant risk to all bondholders. As interest rates rise, bond prices fall – and vice versa.

Political Risk

Political risk is the risk an investment's returns could suffer because of political instability or changes in a country. This type of risk can stem from a change in government, legislative bodies, other foreign policy makers or military control. Also known as geopolitical risk, the risk becomes more of a factor as an investment's time horizon gets longer.

(x) Counterparty Risk

Counterparty risk is the likelihood or probability that one of those involved in a transaction might default on its contractual obligation. Counterparty risk can exist in credit, investment, and trading transactions, espcially for those occurring in over-the-counter (OTC) markets. Financial investment products such as stocks, options, bonds, and derivatives carry counterparty risk. Bonds are rated by agencies, such as Moody's and Standard and Poor's, from AAA to junk bond status to gauge the level of counterparty risk. Bonds that carry higher counterparty risk pay higher yields.



**RETURN**

(I)A return, also known as a financial return, in its simplest terms, is the money made or lost on an investment over some period of time.

(II)A return can be expressed nominally as the change in dollar value of an investment over time. A return can also be expressed as a percentage derived from the ratio of profit to investment. Returns can also be presented as net results (after fees, taxes, and inflation) or gross returns that do not account for anything but the price change.

(III)A return is the change in price on an asset, investment, or project over time, which may be represented in terms of price change or percentage change.

(IV)A positive return represents a profit while a negative return marks a loss.

(V)Returns are often annualized for comparison purposes, while a holding period return calculates the gain or loss during the entire period an investment was held.

(VI)Real return accounts for the effects of inflation and other external factors, while nominal return

commodity results in two types of changes—one is the income effect and another is the substitution effect. Marshall considered only the substitution effect and ignored the income effect.

**Important Practical Importance of Law of Diminishing Marginal Utility**

1. Basis of Economic Laws:

The Law of Diminishing Marginal Utility is the basic law of consumption. The Law of Demand, the Law of Equi-marginal Utility, and the Concept of Consumer's Surplus are based on it.

2. Diversification in Consumption and Production:

The changes in design, pattern and packing of commodities very often brought about by producers are in keeping with this law. We know that the use of the same good makes us feel bored; its utility diminishes in our estimation. We want variety in soaps, toothpastes, pens, etc. Thus, this law helps in bringing variety in consumption and production.

3. Value Theory:

The law helps to explain the phenomenon in value theory that the price of a commodity falls when its supply increases. It is because with the increase in the stock of a commodity, its marginal utility diminishes.

4. Diamond-Water Paradox:

The famous "diamond-water paradox" of Smith can be explained with the help of this law. Because of their relative scarcity, diamonds possess high marginal utility and so a high price. Since water is relatively abundant, it possesses low marginal utility and hence low price even though its total utility is high. That is why water has low price as compared to a diamond though it is more useful than the latter.

5. Progressive Taxation:

The principle of progression in taxation is also based on this law. As a person's income increases, the rate of tax rises because the marginal utility of money to him falls with the rise in his income.

6. Basis of Socialism:

This law underlie the socialist plea for an equitable distribution of wealth. The marginal utility of money to the rich is low. It is, therefore, advisable that their surplus wealth be acquired by the state and distributed to the poor who possess high marginal utility for money.

7.For Producer:

This law helps the producer in increasing sales. The producer reduces the price of the product for the purpose of increasing sales. The consumers purchase more quantity of that product to obtain

Assumptions

There is a defined indifference map showing the consumer's scale of preferences across different combinations of two goods X and Y.

(i)The consumer has a fixed money income and wants to spend it completely on the goods X and Y.

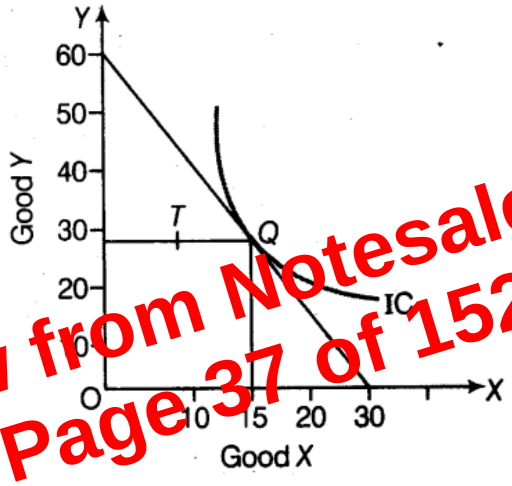
(ii)The prices of the goods X and Y are fixed for the consumer.

(iii)The goods are homogenous and divisible.

(iv)The consumer acts rationally and maximizes his satisfaction.

Consumers Equilibrium

In order to display the combination of two goods X and Y, that the consumer buys to be in equilibrium, let's bring his indifference curves and budget line together.






Which combination to choose.

The combination R , From Fig. 1, R lies on a lower indifference curve – $IC_1$ and easily afford the combinations S, Q, or T which lie on the higher ICs. Even if he chooses the combination H, the argument is similar since H lies on the curve $IC_1$ too.

The combination S lying on the curve $IC_2$. One can reach a higher level of satisfaction within his budget by choosing the combination Q lying on $IC_3$ – higher indifference curve level. The argument is similar for the combination T since T lies on the curve $IC_2$ too.

(i)Indifference Map – shows the consumer's preference scale between various combinations of two goods

(ii)Budget Line – depicts various combinations that he can afford to buy with his money income and prices of both the goods.

In the following figure, we depict an indifference map with 5 indifference curves – $IC_1$, $IC_2$, $IC_3$, $IC_4$, and

electricity, is more elastic.

(iv)Postponement- commodities whose consumption can be deferred have an elastic demand.

(v)Proportion of income spent of commodity- goods on which a consumer spends a very small proportion of his income have inelastic demand

(vi)Ranges of price- elasticity of demand depends upon the range of prices .at very high and very low range of prices demand tends to be inelastic . on the other hand , at middle range of prices demand tends to be elastic because a rise or fall in demand will affect the demand of a large number of persons .

(vii)Habits- demand for these goods is inelastic to which people are habitual like cigarette, coffee etc. Despite rise in their prices, people demand such goods in more or less same quantity.

(viii)Elements of time- time factor play an important role in influencing the elasticity of demand of a particular commodity. The shorter the time the lesser will be elasticity of demand, the longer the time, the higher will be the elasticity of demand.

(ix)Joint demand- the demand for jointly demanded goods is inelastic e.g. car and petrol, camera and film, bread and jam etc.

(x)Durability of goods- elasticity of demand also depends upon durability of the commodity. When goods are durable like scooter, TV set etc. The demand is inelastic because people do not buy more of these goods when their prices fall.



(xi)Fashion – the elasticity demands for a commodity which is in fashion will be elastic, because it becomes more or less necessary for a costumer to purchase it.

**PRACTICAL IMPORTANCE OF THE CONCEPT OF PRICE ELSTICITY OF DEMAND**

(i)The concept is helpful in taking business decisions

(ii)Importance of the concept in formatting tax policy of the government

(iii)For determining the rewards of factors of production

(iv)To determine the terms of trades between the two countries

(v)Determination of rates of foreign exchange

(vi)For nationalization certain industries

(vii)In economic analysis, the concept of price elasticity of demand helps in explaining the irony of poverty in the midst of plenty.

**Importance of Elasticity of Demand:**

(i)The concept of Ed helps in price determination by the monopolist. A Monopoly is the market

elasticity of 0.0, which means that advertising has little influence on profits. That said, AEDs can vary widely based on brand.

**Advertising Elasticity of Demand Applied**

The primary use for advertising elasticity of demand is making sure advertising expenses are justified by their returns. A price comparison of AED and price elasticity of demand (PED) can be used to calculate whether more advertising would maximize profit. PED applied alongside AED can help determine what impact pricing changes may have on demand. For maximum profit, a company's advertising-to-sales ratio should be equal to minus the ratio of the advertising and price elasticity of demand, or A/PQ = -(Ea/Ep). If a company finds that their AED is high, or if their PED is low, they should advertise heavily.

**Limitations of the AED value**

However, while the AED value may be very useful, a simple numerical interpretation of the value may not be entirely appropriate for a number of reasons. These might include:

- The purpose of a lot of advertising may not be to directly boost demand, but to help with building a brand image or brand loyalty – the AED value cannot show the effectiveness of this strategy
- If dealing with a family of brands, it may be difficult to isolate the effect of the advertising spending on a single product or service and this may distort the apparent effectiveness of the expenditure
- It may be difficult to relate the impact of advertising expenditure to a specific time period – some campaigns run ongoing over a considerable period and other factors may also influence demand over an extended period.



**METHODS OFMEASUREMENT OF PRICE ELASTICITY OF DEMAND**

- **(I) PERCENTAGE METHOD OR PROPORTIONATE METHOD**

$$Ed = \frac{\text{Proportionate change in Demand of X (10\%)}}{\text{Proportionate change in Price of X(20)}} = 0.5 \text{(Less elastic)}$$

- **(II)TOTAL OUTLAY METHOD OR TOTAL EXPENDITURE METHOD**

TE= Total Expenditure, P=Price of X commodity, Q= Quantity, TE-Increasing, Constant, or Decreasing

- **(III)GEOMETRIC METHOD OR POINT METHOD**

function is an indicator of the physical relationship between the inputs and output of a firm.

The reason behind physical relationship is that money prices do not appear in it. However, here one thing that becomes most important to quote is that like demand function a production function is for a definite period.

It shows the flow of inputs resulting into a flow of output during some time. The production function of a firm depends on the state of technology. With every development in technology the production function of the firm undergoes a change.

The new production function brought about by developing technology displays same inputs and more output or the same output with lesser inputs. Sometimes a new production function of the firm may be adverse as it takes more inputs to produce the same output.

**Mathematically, such a basic relationship between inputs and outputs may be expressed as:**

**Q = f( L, C, N )**

Where Q = Quantity of output

L = Labour

C = Capital

N = Land.

**Fixed and Variable Factors**

**Fixed Factors**



Fixed factors are those which remain unchanged as out output of the firm changes in the shout-run. In other words as a firm increases or decreases its output in the short-run, fixed factors remain constant. They are independent of output in the short-run. Machines, factory buildings, plants, permanent employees etc. are the examples of fixed factors. To construct a new plant or expand the existing one for changing the output of the firm will take time. It is not possible in the short-run.

**Variable Factors**

Variable factors are those factor inputs which change with the change with the change of output in the short run. Raw materials, labour, fuel, power etc. are the examples of variable factors. If a firm wants to expand output in the short-run, then it can employ more labourers, purchase more raw materials and can use more power. Similarly if it wants to contract output, then it can retrench workers, purchase less of raw materials and fuel etc. This shows that as production increases, variable factors also increase and as production falls the quantities of variable factors also fall.

It is important to note that the distinction between the fixed factors and variable factors. So important

(i) Constant Technology

The state of technology is assumed to be given and constant. If there is an improvement in technology the production function will move upward.

(ii) Factor Proportions are Variable

The law assumes that factor proportions are variable. If factors of production are to be combined in a fixed proportion, the law has no validity.

(iii) Homogeneous Factor Units

The units of variable factor are homogeneous. Each unit is identical in quality and amount with every other unit.

**Short Run Production Analysis**

The short run is a period of time in which at least one input used for production and under the control of the producer is variable and at least one input is fixed.

That is, in the short run, the output quantity can be increased (or decreased) by increasing (or decreasing) the quantities used of only the variable inputs. This functional relationship (of dependence) between the variable input quantities and the output quantity is called the short run production function.



We have to remember here, of course, that in the short run, the firm uses a particular combination of fixed inputs, and its short run production function is obtained in respect of that combination.

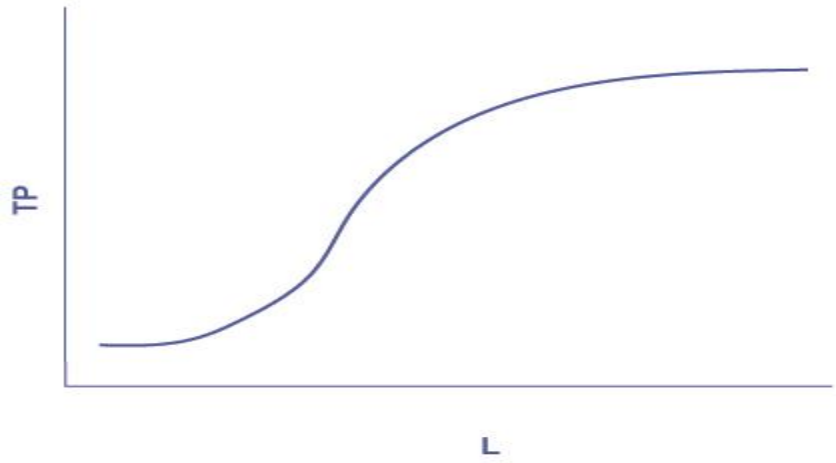
Therefore, in this case, the firm's short-run production function may be written as:

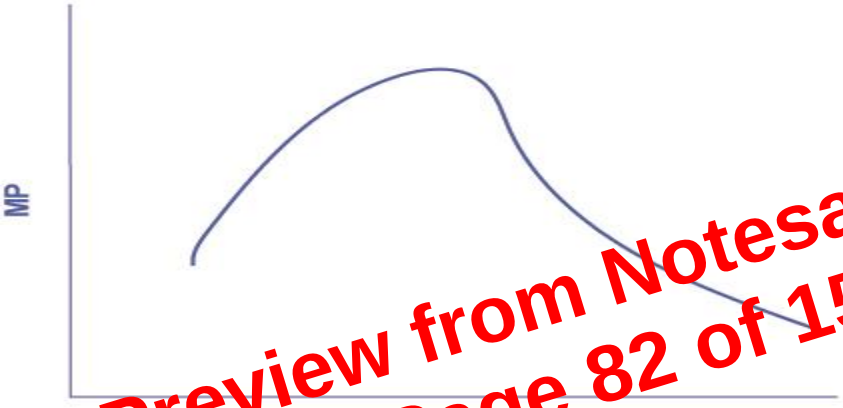
$q = f(x, \bar{y})$

The short run production function is one in which at least is one factor of production is thought to be fixed in supply, i.e. it cannot be increased or decreased, and the rest of the factors are variable in nature.

In general, the firm's capital inputs are assumed as fixed, and the production level can be changed by changing the quantity of other inputs such as labour, raw material, capital and so on. Therefore, it is quite difficult for the firm to change the capital equipment, to increase the output produced, among all factors of production.

In such circumstances, the law of variable proportion or laws of returns to variable input operates, which states the consequences when extra units of a variable input are combined with a fixed input. In short run, increasing returns are due to the indivisibility of factors and specialisation, whereas diminishing returns are due to the perfect elasticity of substitution of factors.






Production is the process a firm uses to transform inputs (e.g. labor, capital, raw materials, etc.) into outputs. It is not possible to vary fixed inputs (e.g. capital) in a short period of time. Thus, in the short run the only way to change output is to change the variable inputs (e.g. labor). Marginal product is the additional output a firm obtains by employing more labor in production. At some point, employing additional labor leads to diminishing marginal productivity, meaning the additional output obtained is less than for the previous increment to labor. Mathematically, marginal product is the slope of the total product curve.

margins and have more options in pricing policy.

**Reasons for economies of scale**

**(i)**The most common reason for Economies of scale is that some production costs are fixed (as production increases these costs stay constant). Therefore since costs per unit (Average Costs) are calculated by dividing the cost by the number of units of output

(ii)AC=Costs/quantity

(iii)Then any average involving Fixed Costs (Numerator) must decrease as quantity produced (Denominator) increases (make sure you follow this ok). AFC=FC/Quantity

**Fixed Cost economies of scale:**

1. Managerial - managers are on a fixed salary

2. Marketing - advertising, endorsements promotional events do not directly depend on quantity produced

3. Technical - machinery, buildings etc are paid for as a fixed amount

Purchasing economies of scale:

Large firms are able to negotiate more favourable terms when buying raw materials etc.

1. Bulk buying - remember it is the cost per unit of buying in bulk not the total cost (Great example is supermarkets and local shop).

2. Financial - similar in principle to buying in bulk but this time interest rates a more favorable

Reasons:

1. Communication - becomes more complex

2. Coordination - between departments

3. X- Inefficiency - management costs increase (non-productive costs)

4. Principle agent problem - delegating to employees who are not as committed as the owner.

**Economies of scale**

They are classified as:-

(i)Internal or Real economies

(ii)External or Pecuniary economies

Internal Economies

Internal economies are those economies in production which occur to the firm itself when it expands its output or enlarge its scale of production.

Types of Internal Economies of Scale

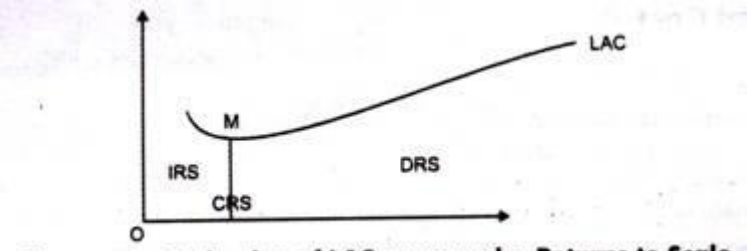



**Figure Derivation of LAC curve under Returns to Scale**

As shown in Figure, up to M, LAC slopes downward. This is because at this stage IRS is applied. On the other hand, at M, LAC becomes constant. After M, LAC slopes upwards implying DRS.

**Long Run Marginal Cost**

Long run Marginal Cost (LMC) is defined as added cost of producing an additional unit of a commodity when all inputs are variable. This cost is derived from short run marginal cost. On the graph, the LMC is derived from the points of tangency between LAC and SAC.

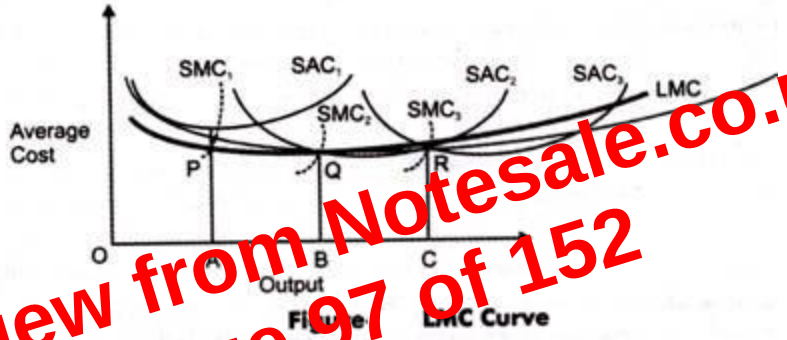



**Figure LMC Curve**



If perpendiculars are drawn from points A, B, and C, respectively; then they would intersect SMC curves at P, Q, and R respectively. By joining P, Q, and R, the LMC curve would be drawn. It should be noted that LMC equals to SMC, when LMC is tangent to the LAC.

In Figure, OB is the output at which

SAC2 = SMC2 = LAC = LMC

We can also draw the relation between LMC and LAC as follows:

When LMC < LAC, LAC falls

When LMC = LAC, LAC is constant

When LMC > LAC, LAC rises

Private Cost

The Private Cost is the cost related to the working of the firm and is used in the cost-benefit analysis of the business decisions. These costs are borne by the firm itself.

The private cost is the actual cost incurred in performing the day to day operations of the business, such as the cost involved in the production and consumption of the product. For a firm, all the actual

# CHAPTER-2

# PERFECT COMPETITION MARKET

Perfect Competition: Features, Determination of price under Perfect Competition

**Features of Perfect Competition**

There are various market forms like perfect competition, monopoly, monopolistic competition, and oligopoly. Suppliers provide commodities based on the market demand, their cost and revenue functions. Each market structure leads to a different demand and revenue function. In this article, we will look at the features of perfect competition. An essential aspect of perfect competition is the absence of any monopolistic element. These are the three essential features of perfect competition: The number of buyers and sellers in the market is very large. These buyers and sellers compete among themselves. Due to the large number, no buyer or seller influences the demand or supply in the market. The commodity sold or bought is homogeneous. In other words, goods produced by different firms are identical in nature. Firms can enter or exit the market freely.

Additional Features of Perfect Competition

(i) Buyers and Sellers have a perfect knowledge of:

The quantities of stock of goods in the market

The conditions of the market

Prices at which transactions of sale or purchase are happening.

(ii) There are facilities that help the movement of goods from one center to another.

(iii) Buyers have no preference between different sellers.

(iv) Also, buyers have no preference between different units of the commodity offered for sale.

(v) Sellers have no preference between different buyers.

(vi) At any given point in time, the goods are bought or sold at a uniform price. In other words, all firms must accept the price determined by the market forces to total demand and supply.

**DETERMINATION OF PRICE UNDER PERFECT COMPETITION**

Perfect competition is defined as a market situation where there are a large number of sellers of a homogeneous product. An individual firm supplies a very small portion of the total output and is not powerful enough to exert an influence on the market price.

A single buyer, however large, is not in a position to influence the market price. Market price in a perfectly competitive market is determined by the interaction of the forces of market demand and market supply. Market demand means the sum of the quantity demanded by individual buyers at

determined solely by the demand condition that is an active agent.

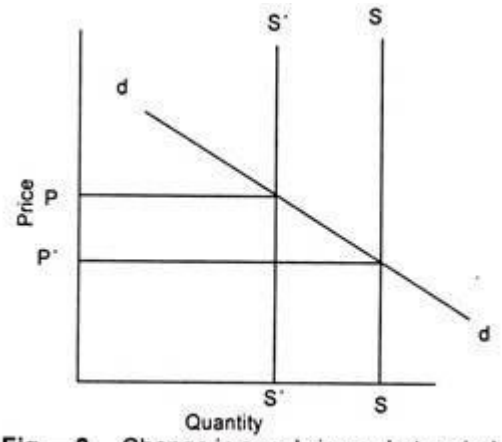



**Fig.—2.** Change in supply in market period.

Similarly, if the demand for a product is given, as shown in demand curve SS in figure 2. If the supply of the product decreases suddenly from SS to S'S', the price increases from P to P'. In this case price is determined by supply, the supply being an active agent.

In this case supply curve shifts leftward causing increase in price of the reduced supply goods. Given the demand curve dd and supply curve SS, the price is determined at OP. Demand curve remaining the same, the decrease in supply shifts the supply curve to its left to S'S'. Consequently, the price rises from OP to OP'.

The supply curve of non-perishable but reproducible goods will not be a vertical straight line throughout its length. This is for certain goods can be withdrawn from the market if the price is too low as the seller would not sell any amount of the commodity in the present market period and would like to hold back the whole stock.

The price below which the seller declines to offer for any amount of his product is known as 'reserve price'. Thus, the seller faces two extreme price-levels; at one he is ready to sell the whole stock and the other he refuses to sell any. The amount he offers for sale will vary with price.

The seller will be ready to supply more at a higher price rather than at a lower one will depend upon his anticipations of future price and intensity of his need for cash. The supply curve of a seller will, therefore, slope upwards to the right up to the price at which he is ready to sell the whole stock. Beyond this point, the supply curve will become a vertical straight line whatever the price.

(b) Pricing in the Short Run- Equilibrium of the Firm

Short period is the span of time so short that existing plants cannot be extended and new plants cannot be erected to meet increased demand. However, the time is adequate enough for producers to adjust to

some extent their output to the increase in demand by overworking their fixed capacity plants. In the short run, therefore, supply curve is elastic.

Figure 3 shows the average and marginal cost curves of the firm together with its demand curve. Demand curve, in a perfectly competitive market, is also the average revenue curve and the marginal revenue curve of the firm. The marginal cost intersects the average cost at its minimum point. The U-shape of both the cost curves reflects the law of variable proportions operative in the short run during which the size of the plant remains fixed.

The firm is in equilibrium at the point B where the marginal cost curve intersects the marginal revenue curve from below:

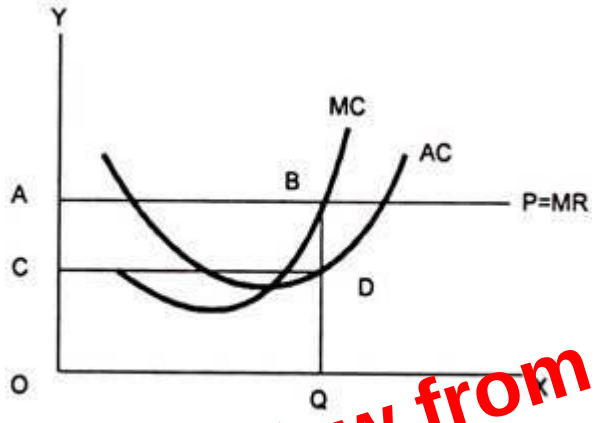



**Fig.—3.** Pricing in the short run.



The firm supplies OQ output. The OQ is the average cost and the firm earns total profit equal to the area shown by ABCD. The firm maximizes its profit. Earlier to the point of equilibrium, the firm does not attain the maximum profit as each additional unit of output brings more revenue that its cost. Any level of output greater than OQ brings less marginal revenue than marginal cost.

For the equilibrium of a firm the two conditions must be fulfilled:

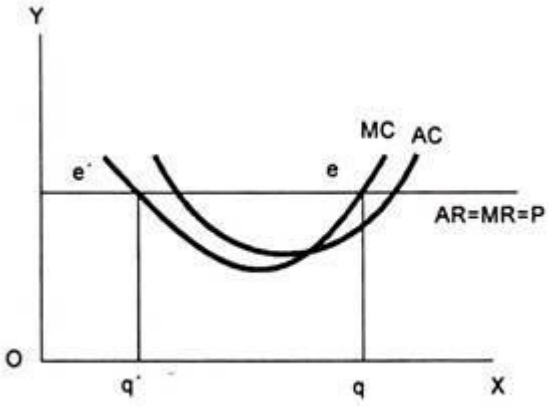



**Fig. 4** Equilibrium conditions.

(a) The marginal cost must be equal to the marginal revenue. However, this condition is not sufficient, since it may be fulfilled and yet the firm may not be in equilibrium. Figure 4 shows that marginal cost is equal to marginal revenue at point e', yet the firm is not in equilibrium as Oq output is greater than Oq'.

(b) The second and necessary condition for equilibrium requires that the marginal cost curve cuts the marginal revenue curve from below i.e. the marginal cost curve is rising at the point of intersection with the marginal revenue curve.

Thus, a perfectly competitive firm will adjust its output at the point where its marginal cost is equal to marginal revenue or price, and marginal cost curve cuts the marginal revenue curve from below.

The fact that a firm is in equilibrium does not imply that it necessarily earns supernormal profits. In the short-run equilibrium firms may earn supernormal profits, normal profits or may incur losses.



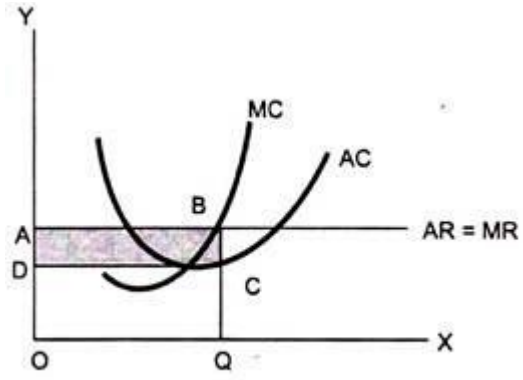



**Fig.—5.**

Whether the firm makes supernormal profits, normal profits or incurs losses depends on the level of the average cost at the short run equilibrium. If the average cost is below the average revenue, the firm earns supernormal profits. Figure 5 illustrates that the average cost QC is less than average

particular relevance. The average total cost is of determining importance, since in the long run all costs are variable and none fixed.

In the short run a firm under perfect competition is in equilibrium at that output at which marginal cost equals price or Marginal Revenue. This is equally valid in the long run. But, in the long run for a perfectly competition firm to be in equilibrium, besides marginal cost being equal to price, price must also be equal to average cost. If the price is greater than the average cost, the firms will be making supernormal profits.

Lured by these supernormal profits, new firms will enter the industry and these extra profits will be competed away. When the new firms enter the industry, the supply or output of the industry will increase and hence the price of the output will be forced down. The new firms will keep coming into the industry until the price is depressed down to average cost, and all firms are earning only normal profits.

On the other hand, if the price happens to be below the average cost, the firms will be incurring loses. Some of the existing firms will quit the industry. As a result, the output of the industry will decrease and the price will rise to equal the average cost so that the firms remaining in the industry are making normal profits. Hence, in the long run, firms need not be forced to produce at a loss since they can leave the industry, if they are having losses. Thus, for a perfectly competitive firm to be in equilibrium in the long run, price must equal marginal and average cost.



Now when average cost curve is falling, marginal cost curve is below it, and when average cost curve is rising, marginal cost curve must be above it. Hence, marginal cost can be equal to the average cost only at the point where average cost curve is neither falling nor rising, i.e. at the minimum point of average cost curve. Therefore, it is at the point of minimum average cost curve, and the two are equal there.

Thus, the conditions for long run equilibrium of perfectly competitive firm can be written as:

Price = Marginal Cost = Minimum Average Cost.

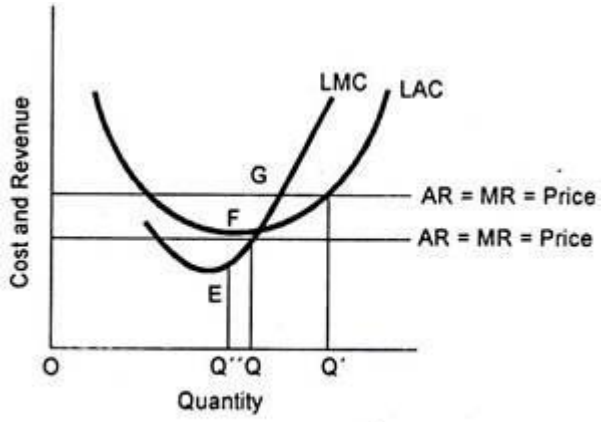



**Fig. 4.9.** Pricing in the long run.

The conditions for the long run equilibrium of the firm under perfect competition can be easily understood from the Fig. 4.9, where LAC is the long run average cost curve and LMC in the long run marginal cost curve. The firm under perfect competition cannot be in long run equilibrium at price OP', because though the price OP' equals MC at G (i.e., at output OQ) but it is greater than the average cost at this output and, therefore, the firm will be earning supernormal profits.

Since all the firms are assumed to be identical, all would be earning supernormal profits. Hence, there will be attraction for the new firms to enter the industry. As a result, the price will be forced down to the level Op at which price, the firm is in equilibrium at F and is producing OQ" output.

At point F or equilibrium output OQ", the price is equal to average cost, and hence the firm will be earning only normal profits. Therefore, at price OP, there will be no tendency for the outside firms to enter the industry. Hence, the firm will be in equilibrium at OP price and OQ output.

On the contrary, a firm under perfect competition cannot be in the long run equilibrium at price OP". Though price OP" is equal to marginal cost at point E, or at output OQ" but price OP" is lower than the average cost at this point and thus the firm will be incurring losses.

Since all the firms in the industry are identical in respect of cost curves, all would be incurring losses. To avoid these losses, some of the firm will leave the industry. As a result, the price will rise to OP, where again all firms are making normal profits. When the price OP is reached, the firms would have no further tendency to quit.

Thus, to conclude that at price OP, the firm under perfect competition is in equilibrium in the long run when:

Price = MC = Minimum AC

Now, at price OP, besides all firms being in equilibrium at output OQ, the industry will also be in

(i) When the monopolist earns abnormal profits,

(ii) When he gets only normal profits, and

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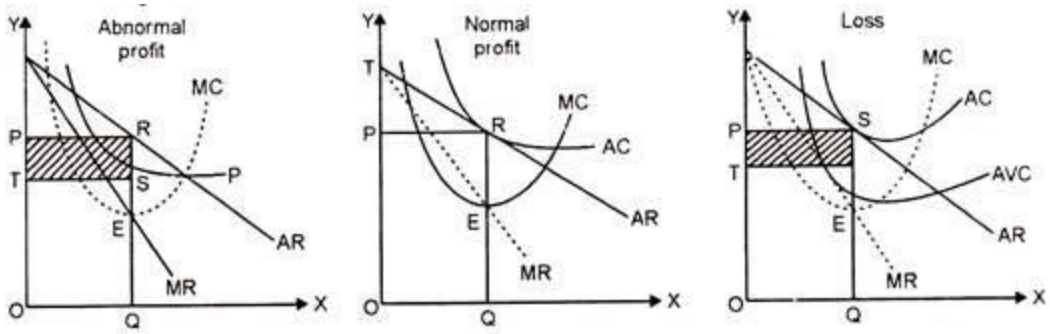
(iii) When he suffers losses.

**The explanation and diagrams of these situations are given below:**




**PRODUCTION**

On the point E the firm is in equilibrium when MC = MR. Thereafter MC curve starts to rise. Under the condition, OP is the price and OQ is the 'total production' of the commodity so determined. In order to calculate profits or losses, we will have to measure the difference between AR and AC. If AR > AC, the difference between the two is profit per unit and by multiply it with total number of units produced we can get total profit.

In the first figure RQ = OP is the price, TQ is the cost of production per unit. Thus, RS =PT is unit for profit. On the OQ quantity of production, total profit is PTSR shaded area which is abnormal profit. In the second figure RQ = OP is the determined price and RQ is the average cost. Under this condition, there will be only normal profit.

In the figure three also price per unit is RQ = OP but cost per unit is SQ. Thus, SR (TP) is loss per unit. As a result TPRS shaded area will be the total loss. But this loss is only short period phenomenon. In the long period, this loss will disappear, under that condition and situation, only profit will be earned.

***Determination of Price in the Long Period:***

In the long period the monopolist introduces changes in his equipment's and techniques of production. During this period in order to gain excess profit, he will change efficiency and capacity of his resources according to his need. But the determination of the quantity of production follows, the same line as under short period.

**This is clear from the following figure:**

Refers to a price discrimination in which a monopolist charges the maximum price that each buyer is willing to pay. This is also known as perfect price discrimination as it involves maximum exploitation of consumers. In this, consumers fail to enjoy any consumer surplus. First degree is practiced by lawyers and doctors.

**ii. Second-degree Price Discrimination:**

Refers to a price discrimination in which buyers are divided into different groups and different prices are charged from these groups depending upon what they are willing to pay. Railways and airlines practice this type of price discrimination.

**iii. Third-degree Price Discrimination:**

Refers to a price discrimination in which the monopolist divides the entire market into submarkets and different prices are charged in each submarket. Therefore, third-degree price discrimination is also termed as market segmentation.

In this type of price discrimination, the monopolist is required to segment market in a manner, so that products sold in one market cannot be resold in another market. Moreover, he/she should identify the price elasticity of demand of different submarkets. The groups are divided according to age, sex, and location. For instance, railways charge lower fares from senior citizens. Students get discount in cinemas, museums, and historical monuments.



**Necessary Conditions for Price Discrimination:**

Price discrimination implies charging different prices for identical goods.

**It is possible under the following conditions:**

**i. Existence of Monopoly:**

Implies that a supplier can discriminate prices only when there is monopoly. The degree of the price discrimination depends upon the degree of monopoly in the market.

**ii. Separate Market:**

Implies that there must be two or more markets that can be easily separated for discriminating prices. The buyer of one market cannot move to another market and goods sold in one market cannot be resold in another market.

**iii. No Contact between Buyers:**

Refers to one of the most important conditions for price discrimination. A supplier can discriminate prices if there is no contact between buyers of different markets. If buyers in one market come to know that prices charged in another market are lower, they will prefer to buy it in other market and

First of all, the cartel will estimate the demand curve of the industry's product. As the demand curve facing a cartel will be the aggregate demand curve of the consumers of the product, it will be sloping downward as is shown by the curve DD in Fig. 29.1(c) Marginal revenue curve MR showing the addition to cartel's revenue for successive additions to its output and sales will lie below the demand curve DD.

Cartel's marginal cost curve (MCc) will be given by the horizontal addition of the marginal cost curves of the two firms. This has been done in Fig. 29.1(c) where MCc curve has been obtained by adding horizontally marginal cost curves MCa and MCb of firms A and B respectively.

It should be noted that cartel's marginal cost curve MCc, obtained as it is by horizontal addition of marginal cost curves of the two firms, will indicate the minimum possible total cost of producing each industry output on it; each industry output being distributed among the two firms in such a way that their marginal costs are equal

Now, the cartel will maximise its profits by fixing the industry's output at the level at which MR and MC curves of the cartel intersect each other. It will be seen in Fig. 29.1 (c) that MR and MC curves cut each other at point R or output OQ. It will also be seen from the demand curve DD that the output OQ will determine price equal to QL or OP.

Having decided the total output OQ to be produced, the cartel will allot output quota to be produced by each firm so that the marginal cost of each firm is the same. This can be known by drawing a horizontal straight line from point R towards the Y-axis.

It will be seen from the figure that when firm A produces OQ1 and firm B produces OQ1 the marginal costs of the two firms are equal. The output quota of firm A will be OQ1 and of firm B will be OQ1. It is worth noting that the total output OQ will be equal to the sum of OQ1 and OQ2.

Criticisms of the Model:One main drawback of the cartel model is that the threat to revert to Cournot behaviour for- ever is not really strong or very realistic. One firm certainly may believe that the other firm will punish it for deviating, but this is unlikely to happen period after period or forever. A more realistic model would consider shorter periods of retaliation. Some models of game theoretic literature, called models of repeated games, illustrate some of the possible patterns of behaviour.

**2) Market -Sharing Cartels:**

(I)The formation of perfect cartels, as described above, has been quite rare in the real world even where their formation is not illegal. In a perfect cartel not only the price but also the output to be produced by each member of a cartel is decided by a central management authority and profits made

d. Socio

33. Macroeconomics deals with_____economic entities.
    a. Aggregate
    b. Individual
    c. Micro
    d. Socio
34. ____is an example of Microeconomic theory.
    a. Theory of Consumption
    b. Theory of Economic Growth
    c. Theory of Money
    d. Theory of Income, Employment and Output
35. ____is an example of Macroeconomic theory.
    a. Theory of Production
    b. Theory of Rent
    c. General Theory
    d. Theory of Profit
36. Opportunity costs are_____measured in monetary terms.
    a. Always
    b. Can be
    c. Not
    d. Never
37. An exogeneous variable exists_____the economic model.
    a. Within
    b. Outside
    c. Inside
    d. In none of
38. ____express functional relationship between two or more variables.
    a. Functions
    b. Combinations
    c. Programs
    d. Limits
39. Slope of straight line is_____at all points.
    a. Different
    b. Rising
    c. Falling
    d. Same
40. Graph is a_____tool used to show the relationship between the variables.
    a. Physical
    b. Economic
    c. Social
    d. Geometrical
41. ____shows the rate at which a variable change.
    a. Slope
    b. Equation

b. Price of related goods
c. Quantity supplied
d. Size off population

100. In a typical demand schedule quantity demanded_____.
a. Varies directly with price
b. Varies inversely with price
c. Is independent of price
d. Various proportionately with price

101. The cross elasticity of demand defined as:
a. The ratio of percentage change in the demand to the percentage change in price.
b. The ratio of percentage change in the demand for a given product to the percentage change in the price of a related other product.
c. The ratio percentage change in the demand for product X to the percentage change in the demand for product Y.
d. The ratio of two different elasticities

102. A positive cross-price elasticity coefficient implies that
a. Two products are substitutes
b. Two products are jointly demanded
c. Two products are complementary
d. Tom products have no relations

103. When demand is perfectly elastic, the demand curve is
a. Steeper
b. Linear
c. Horizontal straight line
d. Vertical

104. Unitary elastic demand is represented by
a. Horizontal demand curve
b. Downward sloping demand curve
c. Vertical demand curve
d. Rectangular Hyperbola slope demand curve

105. If cross elasticity of demand is negative, goods are_____.
a. Complementary
b. Substitutes
c. Not related
d. Competitive

106. A percentage change in quantity demanded divided by a percentage change in price is called
a. Income elasticity of demand
b. Price elasticity of demand
c. Price elasticity of supply
d. Elasticity of substitution

107. A percentage change in quantity demanded divided by a percentage change in income is called
a. Income elasticity of demand

b. Price elasticity of demand
c. Price elasticity of supply
d. Elasticity of substitution

108. A percentage change in quantity demanded for one commodity divided by a percentage change in price of another commodity is called
a. Income elasticity of demand
b. Price elasticity of demand
c. Price elasticity of supply
d. Cross Elasticity of demand

109. A percentage change in quantity demanded divided by a percentage change in promotional expenditure is called
a. Income elasticity of demand
b. Price elasticity of demand
c. Promotional elasticity of demand
d. Elasticity of substitution

110. A demand curve has a ..... slope.
a. Upward
b. Positive
c. Negative
d. Concave

111. Normal goods have ..... income elasticity of demand.
a. Positive
b. Negative
c. Zero
d. Low

112. Inferior goods have ... income elasticity of demand.
a. Positive
b. Negative
c. Zero
d. High

113. When the price elasticity of demand is ..... it means demand is perfectly elastic.
a. Zero
b. Infinite
c. One
d. Less than one

114. When the price elasticity of demand is greater than unity; it implies that the demand is……..
a. Perfectly elastic
b. perfectly inelastic
c. relatively elastic
d. relatively inelastic

115. Income elasticity is negative for ..... goods.
a. Superior