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Markets : Perfect Competition

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Unit No. & Title:	Unit – 5 (I) Markets: Perfect Competition
Lecture No. & Title:	Lecture – 1 Markets:Perfect Competition

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1. Introduction

Let’s talk about market and especially about perfect competition. Normally, people mean by market as a place, where buyers and sellers meet together to do transactions, but in present time market has broad meaning. Today buyers and sellers do not meet only personally, but they do trade (buy and sell activity) even in indirect way also. Like on tele shopping (shopping on telephone) and e shopping (shopping through internet). Therefore market is not only place now, where buyers and sellers meet personally to come in close contact. Market in present time is a direct or indirect contact between buyers and sellers.

Market has many types, which are as follows.

I. On the basis of area – Local market, Regional market, National market, International market.

II. On the basis of time – Very short period market, Short period market, long period market, Very long period market.

III. On the basis of regulation – Spot market, Future market.

IV. On the basis of volume of business – Wholesale market, Retail market.

V. On the basis of Competition – Perfect Competition, Monopoly, Monopolistic Competition, Oligopoly, Duopoly.

Here, we are going to discuss on market on the basis of competition and our center of discussion would be to clear various details of perfect competition.

2. Perfect Competition

• Introduction : -

Perfect competition firstly touched by Adam Smith in his book 'Wealth of nations', Edgeworth also attempted in his book 'Mathematical Psychics', 1881, where he gave definition. Complete discussion made by Frank Knight in his book 'Uncertainty and Profit', 1921.

Perfect Competition is very important type of market to understand economic analysis. Perfect competition is found sometime in agriculture commodities, where all the units are homogenous but, other than agriculture, Perfect competition is rarely found.

According to Prof. Marshall the market of perfect competition is the solution of most of the economic problems of the world. Therefore it is necessary to understand in detail the different characteristics of the market of perfect competition.

• Definitions: -

1. According to Mrs. Robinson, "Perfect competition prevails, when the demand for the output of each producer is perfectly elastic."

2. According to Leftwhich, "Perfect competition is a market situation in which there are many firms selling identical products with no firm large enough relative to the entire market to be able to influence market price."

• Objectives:-

(1) Distinguish between types of the market.

(2) Comprehend the behaviour of buyers and sellers in the Perfect competitive market.

(3) Analyse conditions of equilibrium for Perfect competitive market.

(4) Understand price determination in the short run and long run.

- **Characteristics of Perfect Competition:** According to Prof. Marshall there are the main conditions of the market of perfect competition.

1) **Large number of buyers and sellers:** In the market of perfect competition, there is infinitely large number of buyers and sellers therefore individual buyer or individual seller cannot influence the total demand or total supply of the product. The market price is determined only by market demand and market supply of the commodity, which prevails in the market and therefore producers and sellers are known as price taker in this market.

2) **Homogeneous or Identical products:** In the market of perfect competition all the units of commodity are homogenous or identical, which means all the units of the commodity are same or equal, so far as quality, quantity, color, taste, shape, size, packing etc. are concerned. Therefore it is not possible for producer to take different price and no buyer will get ready to give more price of the product. So product price in this market always remain the same.

3) **Free entry and exit of firms**: In the market of perfect competition, there is a complete freedom for the new firm to enter into the industry or any marginal firm to leave the industry. Entry of firms is possible in the condition of abnormal profit and the exit

of firms is possible in the condition of abnormal loss in short run situation. This process is stopped at long run period when normal profits condition is prevailing; because of no marginal firm will have loss to move out of industry.

4) **Perfect knowledge on the part of the buyers and sellers**: In the market of perfect competition there is a perfect knowledge about the quality, quantity and price of the commodity on the part of all the buyers and sellers of the market. Therefore buyers are not ready to pay different or more prices for same product. Because of that producers or sellers could not get different or more prices of the same product. It means price remain same.

5) **Perfect mobility of all the factors of production:** In the market of perfect competition there is a perfect mobility of factors of production as land, labor, capital, entrepreneur. This implies that the various factors of production move freely from one occupation to another occupation, from one place to another place and from one use to another use. Therefore all the units of a particular factor of production can get maximum and equal remuneration in the market.

6) **Zero transport cost:** In the market of perfect competition there is a uniform price for the same product. Large number of sellers are there in the market, which produce and sell in local market, therefore transport of products are not possible. In other words, it is assumed that non-existence of transport cost is there. Therefore, once the price if the commodity is determined by the market forces, it remains the same (without transport cost) in entire market.

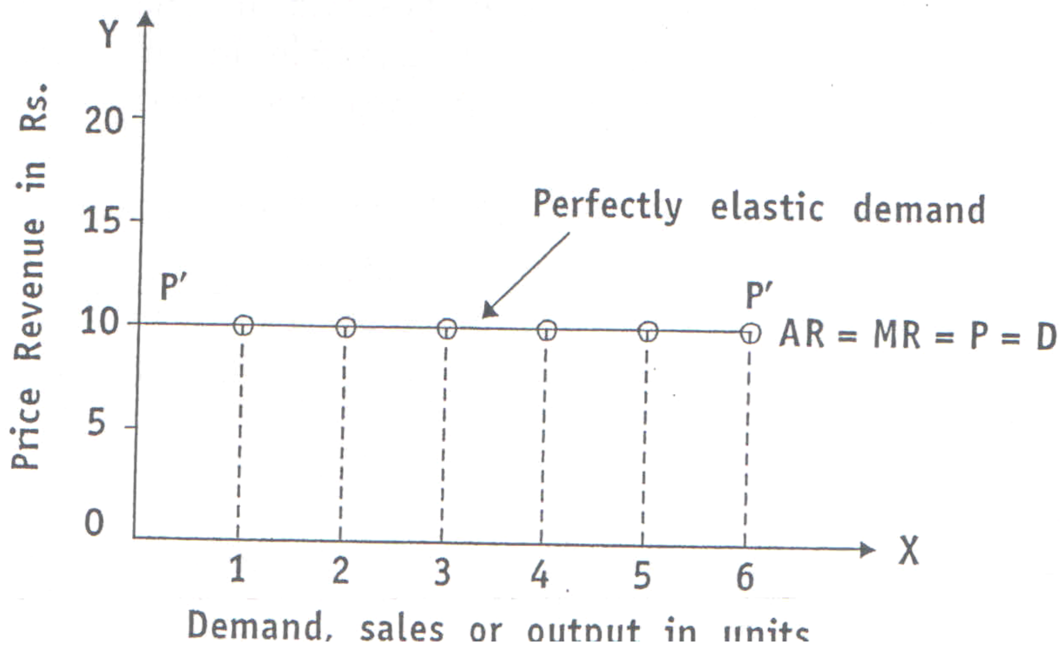
3. Relationship between price, average revenue and marginal revenue

In the market of perfect competition firm is a price- taker. Therefore a firm can sell minimum or maximum output with the equal market price. Therefore, we can understand the relationship between price, average revenue and marginal revenue of the firm with the help of this illustration and diagram.

- **Illustration**: - Suppose in the market of perfect competition, the market price of 'X' commodity is determined by market forces and it is Rs. 10 and firm can sell any amount of commodity, with the same price. Therefore we can establish the relation between price, average revenue and marginal revenue of the firm as follows : -

Output or sales in units	Price in Rs.	Total revenue in Rs.	Average Revenue in Rs.	Marginal revenue in Rs.
1	10	10	10	10
2	10	20	10	10
3	10	30	10	10
4	10	40	10	10
5	10	50	10	10
6	10	60	10	10

From this table we can derive price line, average revenue line, marginal revenue line and demand line of the firm in the market perfect competition in this figure.



In this figure – we measure sales, demand or output for the commodity of the firm in units on OX axis and price or revenue of the firm in rupees on OY axis.

In this table in the market of perfect competition market price of 'X' commodity is determined Rs. 10 by the market forces. If the sales of the commodity of the firm increase from one to six units, even then there is no change in market price of the commodity. Therefore price of the commodity or average revenue and marginal revenue of the firm at any level of sales of commodity is Rs. 10. Therefore in this diagram P'P' is a price level or average revenue line or marginal revenue line of the firm and this line is parallel to OX axis in the diagram because at any level of sales there is no change in the market price Rs. 10 of the commodity.

This line is a demand line of the firm, because it shows total sales of the commodity of the firm, which is equal to total demand of the consumers of that firm in a particular situation. This demand line is also parallel to OX axis in the diagram. Therefore it is a perfectly elastic demand line of the firm in the market of perfect competition.

4. Conditions of short term equilibrium of a firm

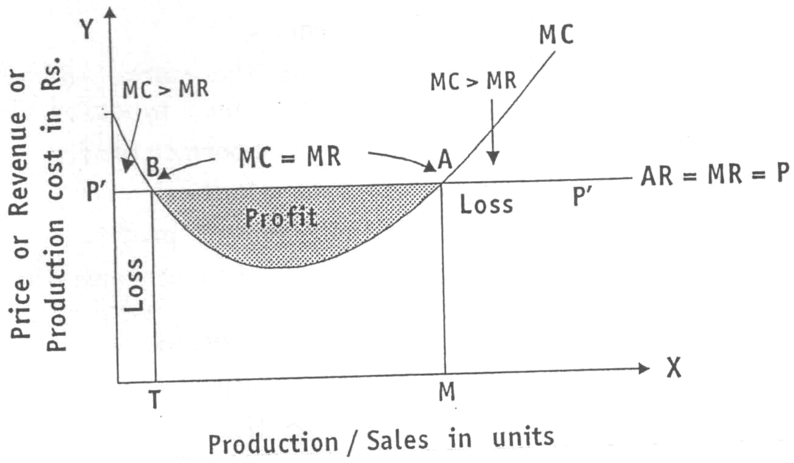
In economics, short run is a particular time period in which firm cannot change fixed factors of production and thereby firm cannot change production and supply of the commodity. During short run in the process in perfectly competitive market of price determination of the demand commodity is more effective than the supply for the commodity in the market.

An equilibrium of a firm in a particular market is a situation of particular production of a commodity when if profit is there profit is maximum and if loss is there loss is minimum to the firm and any change in this production of the commodity will result into less than maximum profit or more than minimum loss to the firm. Therefore, it is necessary to understand in detail the conditions of equilibrium of the firm in the market of perfect competition.

❖ **Conditions of equilibrium of the firm:** According to Prof. Marshall in the market of perfect competition has two conditions are fulfilled then firm is in equilibrium.

(1) Marginal revenue of the firm is equal to marginal cost of the firm.

(2) At the time of equilibrium marginal cost of the firm should be increasing. Marginal cost line of the firm intersects the marginal revenue line from the below (lower side) as shown in figure.



Explanation of the diagram:

- In this diagram we measure production or sales of the commodity of the firm in units on OX axis and price, revenue and production cost of the commodity of the firm in rupees on OY axis.

- In the market of perfect competition market price OP’ is determined by market forces. Therefore in this figure P’P’ line is a line or average revenue line or marginal line of the firm. In this figure at point B and at point A, marginal cost line intersects marginal revenue line of the firm. Therefore marginal revenue is equal to marginal cost of the firm. Therefore firm is in equilibrium.

- As shown in the figure before point B and after point A, MC > MR prevails in the firm in the market. Therefore production before point B and after point A is not possible.

- Thus, before point B and after point A, MC > MR it means marginal cost is higher than marginal revenue and situation of loss is prevailing. Therefore production is not possible. But at point B, MC = MR is there in firm of that market. It means at point B loss is vanished, but profit is still not introduced. So, production at point B is not beneficial and therefore it is not equilibrium point.

- But after point B, it is beneficial because after point B – MR > MC, it means revenue is more than cost. So, it is profitable. But, this profit can increase only up to production at point A. And after point A production is not beneficial because MC > MR.
- So, finally point A is optimum point for production and at this point MR = MC is there and MC is intersecting MR from below. Therefore we can say that point A is equilibrium point.

5. Short run and long run equilibrium: In economics short run means a particular time period in which firm can change only variable factors of production and due to that, there is change in production and supply of the commodity. In short run demand for the commodity is more effective than supply in the determination of market price. Therefore it is necessary to understand in detail the short run equilibrium of the firm in the market of perfect competition.

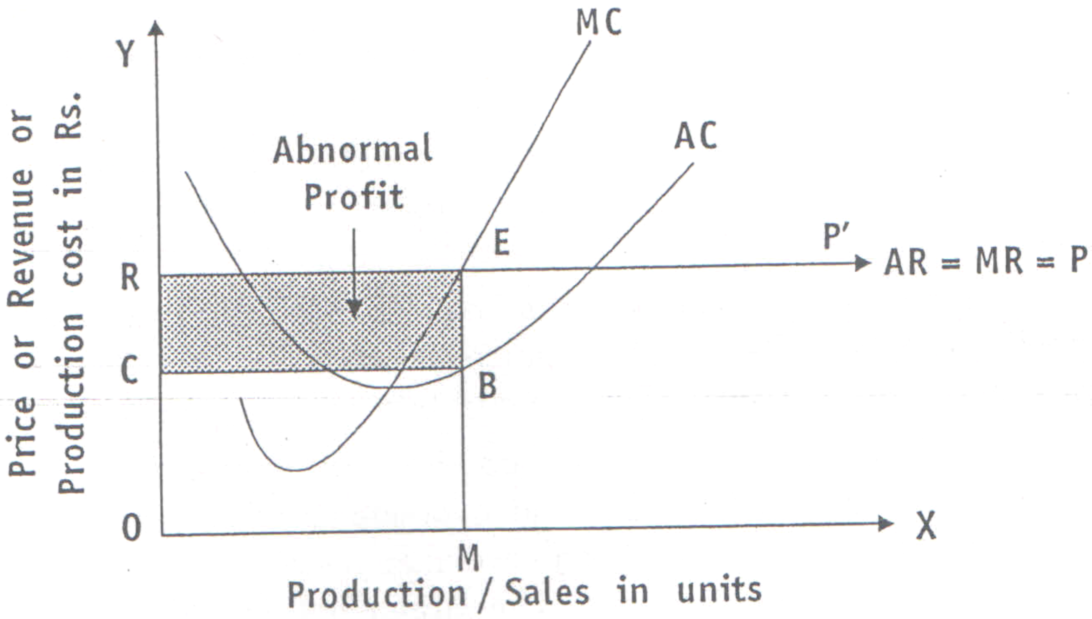
Short run equilibrium of the firm: According to Prof. Marshall in the market of perfect competition during short run, three types of firms are getting existence.

a) Few representative firms can earn abnormal profit.
b) Few marginal firms are under loss situation.
c) Most of the normal firm can earn normal profit.

Marginal firms have loss even though they continue the production of the commodity with the expectation that in the long run they will come out from loss situation.

(1) Abnormal profit position of the firm:

With the help of the this figure, we can explain the abnormal profit position of the few representative firms during short run in the market of perfect competition.



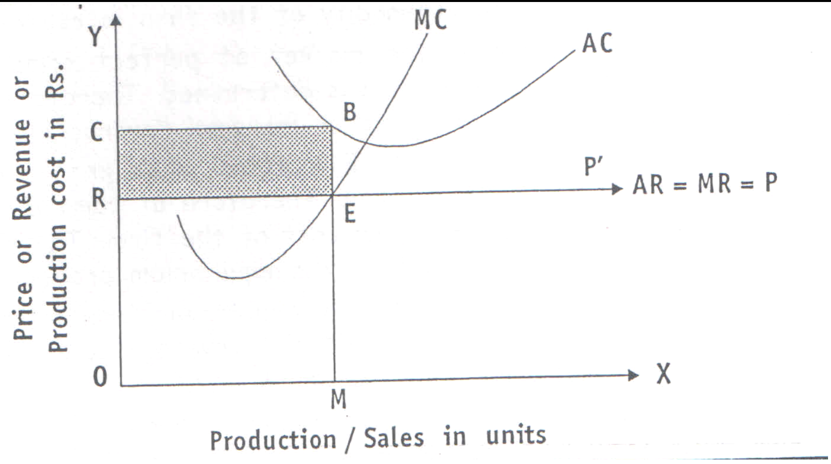
<u>Explanation of the figure</u>: -

- In this figure, we measure production or sales of the commodity of the firm in units on OX axis and price, revenue and production cost of the commodity of the firm in rupees on OY axis.

- During short run in the market of perfect competition with the help of market forces market price is determined. Therefore in this figure RP' line is average revenue line or marginal revenue line of the firm. In this figure of point E marginal cost line intersects marginal revenue line from the lower side. Therefore at point E marginal revenue is equal to marginal cost of the firm. Therefore at point E firm is in equilibrium and OM is the equilibrium production of the firm.

- At OM equilibrium production of the firm in this diagram average revenue of the firm is EM and average cost of the firm is BM. Therefore average revenue is more than average cost. Therefore firm is under abnormal profit position and the abnormal profit is average revenue EM minus average cost BM, which is equal to EB.
- In this figure at OM is equilibrium production of the firm. Total revenue of the firm is OREM and total cost of the firm is OCBM. Therefore total revenue is more than total cost. Therefore total abnormal profit is total revenue OREM minus total cost OCBM is equal to CBER, which is represented by shaded area in this diagram.

(2) Loss situation of the firm: According to Prof. Marshall in the market of perfect competition during short run few marginal firms may be under loss situation even though these firms will continue the production of the commodity with the expectation that in long run they will come out from this loss situation by changing their fixed as well as variable factors of production. Therefore we can represent loss situation of the firm as in this figure.

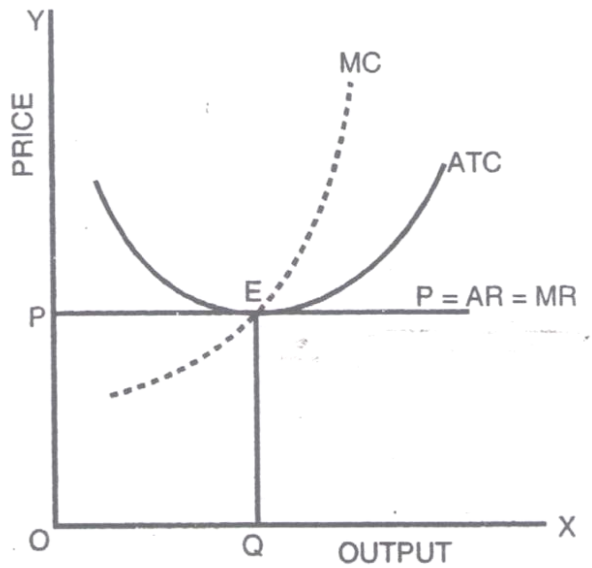


Explanation of diagram:

- In this figure, we measure production or sales of the commodity in units on OX axis and price and revenue, production cost in rupees on OY axis.
- During short run in the market of perfect competition with the market forces OR market price is determined. Therefore, in this figure RP’ line is average revenue line or marginal revenue line of the firm.
- In this figure at OM is equilibrium production of the firm average revenue of the firm is EM and average cost of the firm is BM. Therefore average cost is more than average revenue. Because of this firm is under abnormal loss position and the abnormal loss is average cost BM minus average revenue EM, which is equal to EB.
- In this figure at OM is equilibrium production of the commodity, total cost of the firm is OCBM and total revenue of the firm is OREM. So, total cost is more than total revenue. Therefore total abnormal cost is total cost OCBM minus total revenue OREM is equal to CBER, which is represented by shaded area in the diagram.

(3) Normal profit position of the firm:

According to Marshall in the market of perfect competition during short run most of the firms are under normal profit position which we can represent by figure.



Explanation of diagram

- In this figure, we measure production or sales of the commodity of the firm in units on OX axis and price, revenue and production cost of the commodity of the firm in rupees on OY axis.
- During short run in the market perfect competition with the market forces OR market price is determined. Therefore, in this figure RO' line is average revenue line or marginal revenue line of the firm.
- In this figure at point E marginal cost line intersects marginal revenue line from the lower side. Therefore at point E marginal revenue of the firm is equal to marginal cost of the firm. Therefore at point E, firm is in equilibrium and OM is the equilibrium production of the firm.

- In this figure, OM is equilibrium production of the firm, average revenue = EM, which is equal to average cost. Therefore firm is under normal profit position. (AR = EM = AC)
- In this figure, OM is equilibrium production of the total revenue is equal to OREM is equal to total cost. Therefore firm is under normal profit position.
- In this figure, OM is equilibrium production of the firm EM = Price = AR = AC = MR =MC. Therefore this is an optimum firm.

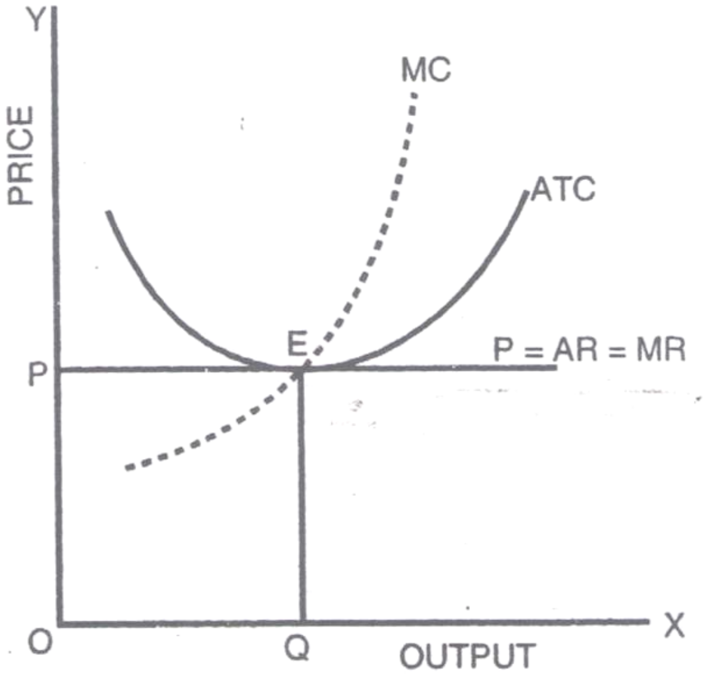
6. Long run equilibrium of the firm

In economics, long run is a particular time period in which firm can change fixed as well as variable factors of production and thereby firm can change production and supply of the commodity. During long run in the process of price determination supply of the commodity is more effective than the demand for the commodity in the market.

According to Prof. Marshall in the market of perfect competition during short run if few representative firms are under abnormal profit situation. In long run with the attraction of this abnormal profit, marginal firms of the other industries will enter in this market, therefore during long run total number of firms in the market will increase competition between different firms will be more intensive and in long run market price of the commodity will decrease. Therefore in long run, abnormal profit of representative firms will disappear and these firms will get only normal profit.

According to Prof. Marshall suppose in the market of perfect competition during short run if few marginal firms are under loss situation, then during long run these firms will try to come out from the loss situation by changing their fixed as well as variable factors of production and suppose out of these marginal firms few firms will be successful to come out from loss situation then these firms will earn only normal profit in long run and suppose even in long run also few marginal firms will not come out of the situation then, these firms will leave the industry.

From the this discussion we can conclude that in the market of perfect competition during long run all firms are under normal profit situation we can explain this situation with the help of this figure.



- In this figure, at point E marginal revenue of the firm is equal to marginal cost of the firm. Therefore at point E, firm is in equilibrium and OM is the equilibrium production of the firm.

- In this figure, at OQ is equilibrium production of the firm, average revenue = OP, which is equal to average cost. Therefore firm is under normal profit position. (AR = EM = AC)

- In this figure, OM is equilibrium production of the Total revenue is equal to OREM is equal to total cost. Therefore firm is under normal profit position.
- In this figure, OM is equilibrium production of the firm EM = Price = AR = MR = MC. Therefore, this is an optimum firm of long run.

7. Summary

Perfect competition market is one of the ideal markets of economics. It gives solution to present problems of the markets. Short run in perfect competition may be earning supernormal profits or earning losses at the equilibrium price, but in long run all the supernormal profits and losses get wiped out with free entry and exit of firms. Therefore all firms earn only normal profit at long run.