

STET WOMENS COLLEGE, MANNARGUDI

PG & RESEARCH DEPARTMENT OF ECONOMICS

I B.A. ECONOMICS SEMESTER II

MICRO ECONOMICS - II

Price Determination under Perfect Competition

Under perfect competition, many factors influence the determination of the price of goods. In this article, we will look at the equilibrium of the industry and the equilibrium of a firm as important factors behind price determination under perfect competition.

Equilibrium of the Industry under Perfect Competition

In economic terms, an industry consists of many independent firms. Each firm has a number of factories, farms or mines, as required. Each such firm in industry produces a homogeneous product. Equilibrium of the industry happens when the total output of the industry is equal to the total demand. In such a scenario, the prevailing price of a commodity is its equilibrium price.

We know that under competitive conditions, the interaction of demand and supply determines the equilibrium price as shown below:

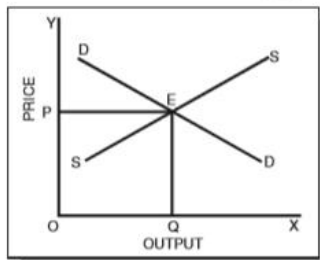


Fig. 1 : Equilibrium of a competitive industry

In Fig. 1 above, OP is the equilibrium price. Further, OQ is the equilibrium quantity sold at that price. Now, the equilibrium price is the price at which both the demand and supply are equal. In other words, no buyer, who wanted to buy at that price, goes dissatisfied and no seller, who wanted to sell his goods at that price, goes dissatisfied either.

Note that with the demand remaining the same, if the price is higher or lower than OP, then the market is not in equilibrium. Also, if goods are lesser or higher than the demand, the equilibrium is not attained.

Equilibrium of the Firm under Perfect Competition

A firm is in equilibrium when it maximizes its profits. Hence, the output that offers maximum profit to a firm is the equilibrium output. When a firm is in equilibrium, there is no reason to increase or decrease the output.

In a competitive market, firms are price-takers. The reason being the presence of a large number of firms who produce homogeneous products. Therefore, firms cannot influence the price in their individual capacities. They have to follow the price determined by the industry.

The following figure shows a firm's demand curve under perfect competition:

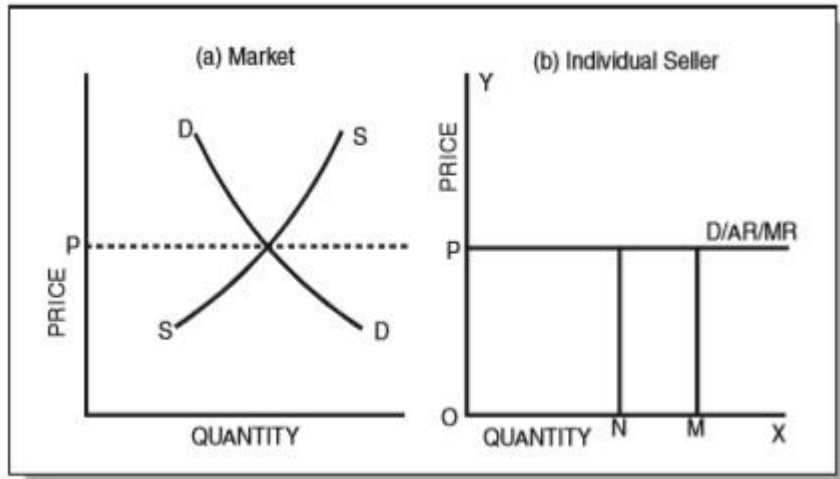


Fig. 2 : The firm's demand curve under perfect competition

From Fig. 2 above, you can see that the industry price, OP , is fixed throughout the interaction of demand and supply of the industry. Firms have to accept this price. Hence, they are price-takers and not price-makers. Hence, they cannot increase or decrease the price OP .

Therefore, the line P acts as a demand curve for such firms. Hence, in perfect competition, the demand curve of an individual firm is a horizontal line at the level of the industry-set market price. Firms have to choose the level of output that yields maximum profit.

Conditions for the equilibrium of a firm

To attain an equilibrium position, a firm must satisfy the following two conditions:

They must ensure that the marginal revenue is equal to the marginal cost ($MR = MC$).

- If $MR > MC$, the firm has an incentive to expand its production and sell additional units.
- If $MR < MC$, the firm must reduce the output since additional units add more cost than revenue.
- The firm gets maximum profits only when $MR = MC$.

1. The MC curve must have a positive slope and cut the MR curve from below.

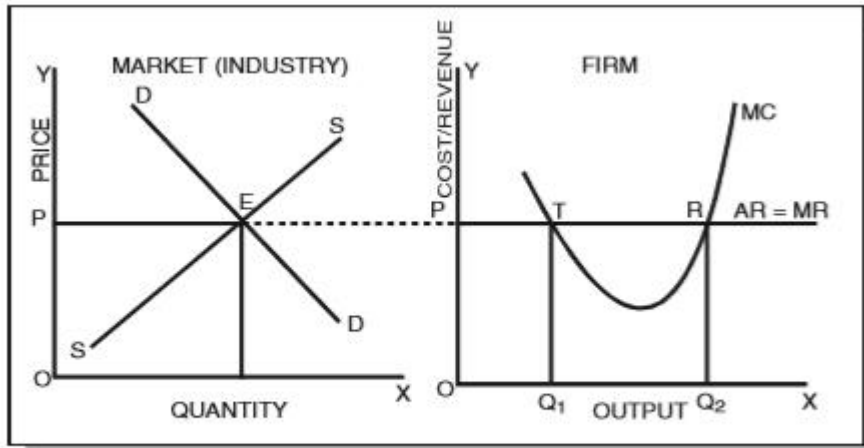


Fig. 3 : Equilibrium position for a firm under perfect competition

In Fig. 3 above, DD is the demand curve and SS is the supply curve. They equilibrium at point E and set the market price as OP. Under perfect competition, firms adopt OP as the industry price and consider the P-line as the demand curve or AR – average revenue curve (perfectly elastic at P).

Since all units are equally priced, the MR curve is a horizontal line and is equal to the AR line. Observe that the curve MC cuts the MR curve at two points – T and R. At point T, the MC curve cuts the MR curve from above whereas at point R it cuts the MR curve from below. Therefore, according to the conditions of equilibrium of a firm, point R is the point of equilibrium and OQ_2 is the equilibrium level of output.

Solved Question on Perfect Competition

Q1. What is the shape of the demand curve faced by a firm under perfect competition?

- a. Horizontal
- b. Vertical
- c. Positively sloped
- d. Negatively sloped

Answer: Under perfect competition, a firm accepts the price set by the industry. Hence, the fixed-price-line acts as a demand curve for the firms – which is horizontal. Therefore, the correct answer is – Option a-Horizontal.

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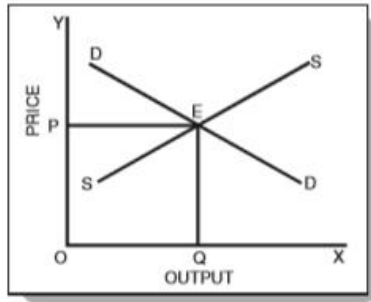


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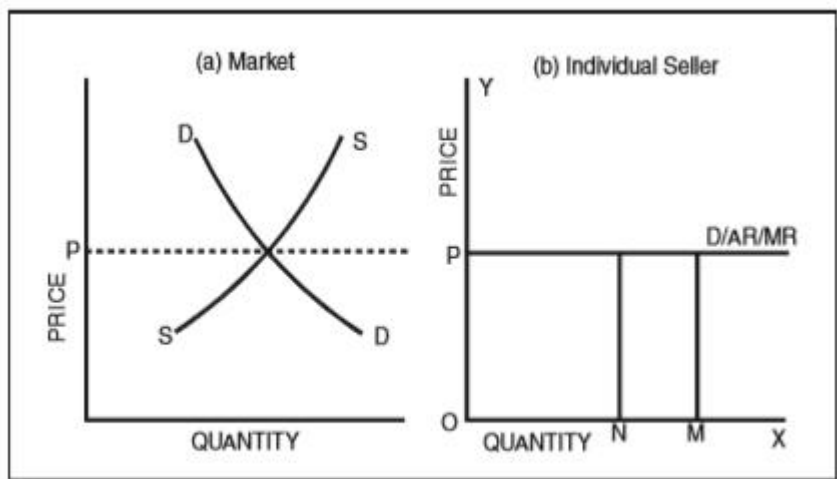


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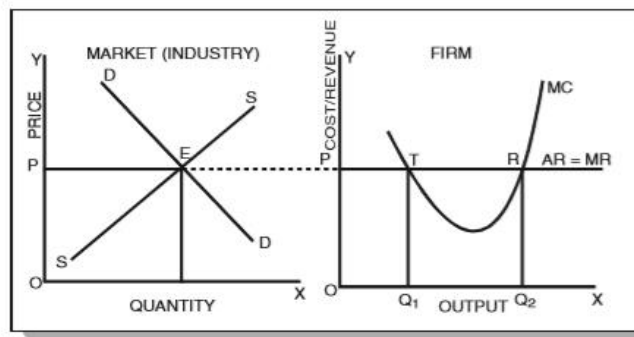


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Price Determination under Monopoly

Price Determination under Monopoly

Monopoly is that market form in which a single producer controls the whole supply of a single commodity which has no close substitute.

From this definition there are two points that must be noted:

- (i) **Single Producer:** There must be only one producer who may be an individual, a partnership firm or a joint stock company. Thus single firm constitutes the industry. The distinction between firm and industry disappears under conditions of monopoly.
- (ii) **No Close Substitute:** The commodity produced by the producer must have no closely competing substitutes, if he is to be called a monopolist. This ensures that there is no rival of the monopolist. Therefore, the cross elasticity of demand between the product of the monopolist and the product of any other producer must be very low.

PRICE-OUTPUT DETERMINATION UNDER MONOPOLY:

A firm under monopoly faces a downward sloping demand curve or average revenue curve. Further, in monopoly, since average revenue falls as more units of output are sold, the marginal revenue is less than the average revenue. In other words, under monopoly the MR curve lies below the AR curve.

The Equilibrium level in monopoly is that level of output in which marginal revenue equals marginal cost. The producer will continue producer as long as marginal revenue exceeds the marginal cost. At the point where MR is equal to MC the profit will be maximum and beyond this point the producer will stop producing.

It can be seen from the diagram that up till OM output, marginal revenue is greater than marginal cost, but beyond OM the marginal revenue is less than marginal cost. Therefore, the monopolist will be in equilibrium at output OM where marginal revenue is equal to marginal cost and the profits are the greatest. The corresponding price in the diagram is MP' or OP. It can be seen from the diagram at output OM, while MP' is the average revenue, ML is the average cost, therefore, P'L is the profit per unit. Now the total profit is equal to P'L (profit per unit) multiply by OM (total output).

In the short run, the monopolist has to keep an eye on the variable cost, otherwise he will stop producing. In the long run, the monopolist can change the size of plant in response to a change in demand. In the long run, he will make adjustment in the amount of the factors, fixed and variable, so that MR equals not only to short run MC but also long run MC.

COMPARISON OF PRICE DETERMINATION UNDER PERFECT COMPETITION AND MONOPOLY:

The key points of comparison of price determination under Perfect Competition and Monopoly is as below:

Perfect Competition	Monopoly
(i) The demand curve or average revenue curve is perfectly elastic and is a horizontal straight line.	(i) The demand curve or average revenue curve is relatively elastic and a downward sloping from left to right.
(ii) The firm is in equilibrium at the level of output where MC is equal to MR. Since in perfect competition MR is equal to AR or price, therefore, when MC is equal to MR, it is also equal to AR or price at the equilibrium position, i.e., $MC=MR=AR$ (Price)	(ii) The firm is in equilibrium at the level of output where MC is equal to MR.

(iii) In equilibrium position, the price charged by the firm equals to MC.

(iv) The firm is in long-run equilibrium at the minimum point of the long-run AC curve.

(v) The firm is in equilibrium at the level of output at which MC curve is rising, and is cutting MR curve from below.

(vi) In the long run, the firm is earning normal profit. There may be super normal profit in the short run but they will be swept away in the long run, as new firms entered into the industry.

(vii) Price can be set lower at greater output in case of constant-cost and decreasing-cost industries.

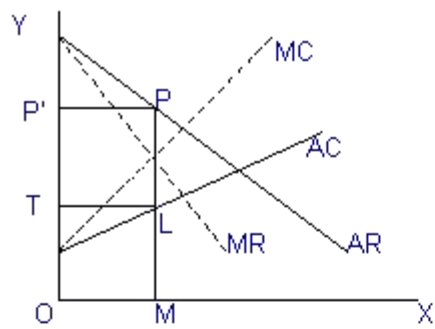
(iii) In equilibrium position, the price charged by the firm is above MC.

(iv) The firm is in long-run equilibrium at the point where AC curve is still declining and has not reached the minimum point.

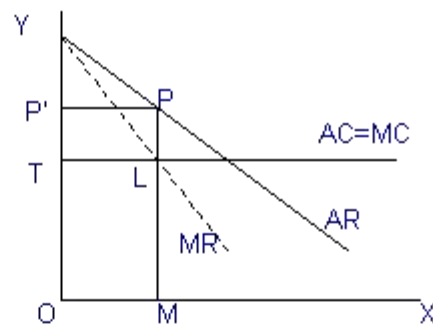
(v) The firm is in equilibrium at the level of output at which MR curve is sloping downwards, and MC curve is cutting it from below or above. *(See figure 1)*

(vi) The firm can earn abnormal or supernormal profit even in the long run, as there is no competitor in the industry.

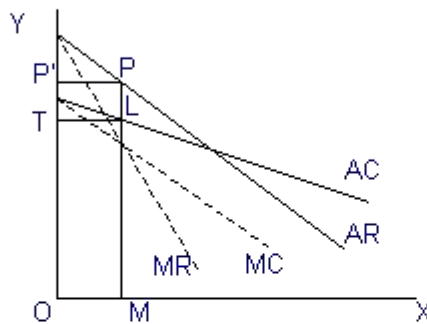
(vii) Price is set higher and output smaller by the monopolist. *(See Figure 2)*



Equilibrium with rising MC

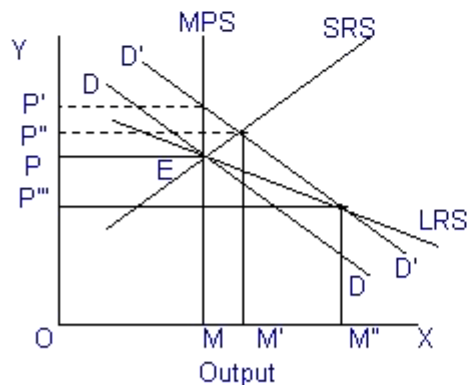


Equilibrium with constant MC

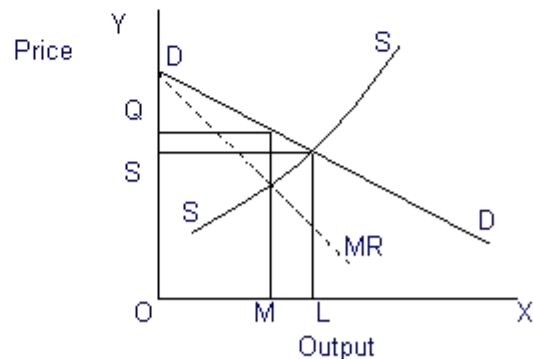


Equilibrium with falling MC

Figure 1: Equilibrium with rising, constant & falling MC under Monopoly



Equilibrium Position in a Decreasing Cost Industry under Perfect Competition



Equilibrium Position under Monopoly

Figure 2: Comparison of Equilibrium Position between Perfect Competition & Monopoly

PRICE DISCRIMINATION IN MONOPOLY:

Price discrimination may be (a) personal, (b) local, or (c) according to trade or use:

- (a) **Personal:** It is personal when different prices are charged for different persons.
- (b) **Local:** It is local when the price varies according to locality.
- (c) **According to Trade or Use:** It is according to trade or use when different prices are charged for different uses to which the commodity is put, for example, electricity is supplied at cheaper rates for domestic than for commercial purposes.

Some monopolists used product differentiation for price discrimination by means of special labels, wrappers, packing, etc. For example, the perfume manufacturers discriminate prices of the same

fragrance by packing it with different labels or brands.

Conditions of Price-Discrimination: There are three main types of situation:

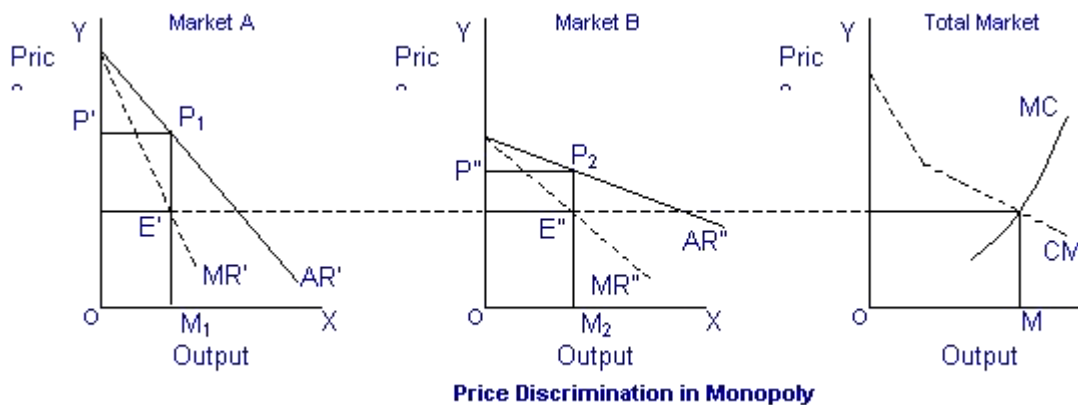
- (a) *When consumers have certain preferences or prejudices.* Certain consumers usually have the irrational feeling that they are paying higher prices for a good because it is of a better quality, although actually it may be of the same quality. Sometimes, the price differences may be so small that consumers do not consider it worthwhile to bother about such differences.
- (b) *When the nature of the good is such* as makes it possible for the monopolist to charge different prices. This happens particularly when the good in question is a direct service.
- (c) *When consumers are separated by distance or tariff barriers.* A good may be sold in one town for Re. 1 and in another town for Rs. 2. Similarly, the monopolist can charge higher prices in a city with greater distance or a country levying heavy import duty.

Conditions making Price Discrimination Possible and Profitable: The following conditions are essential to make price discrimination possible and profitable:

- (a) *The elasticities of demand in different markets must be different.* The market is divided into sub-markets. The sub-market will be arranged in ascending order of their elasticities, the higher price being charged in the least elastic market and vice versa.
- (b) *The costs incurred in dividing the market into sub-markets* and keeping them separate should not be so large as to neutralise the difference in demand elasticities.
- (c) *There should be complete agreement among the sellers* otherwise the competitors will gain by selling in the dear market.
- (d) *When goods are sold on special orders* because then the purchaser cannot know what is being charged from others.

Price Determination under Price Discrimination:

- (i) First of all, the monopolist divides his total market into sub-markets. In the following diagrams, the monopolist has divided his total market into two sub-markets, i.e., A and B:



- (ii) The monopolist has now to decide at what level of output he should produce. To achieve maximum profit, hence, he will be in equilibrium at output at which $MR=MC$, and MC curve cuts the MR curve from below. In the above diagram (c) it is shown that the equilibrium of the discriminating monopolist is established at output OM at which MC cuts CMR . The output OM is distributed between two markets in such a way that marginal revenue in each is equal to ME . Therefore, he will sell output OM_1 in Market A, because only at this output marginal revenue MR' in Market A is equal to ME ($M_1E' = ME$). The same condition is applied in Market B where MR'' is equal to ME ($M_2E'' = ME$). In the above diagram, it is also shown that in Market B in which elasticity of demand is greater, the price charged is lower than that in Market B where the elasticity of demand is less.

Price Determination under Monopolistic Competition

Imperfect competition covers all situations where there is neither pure competition nor pure monopoly. Both perfect competition and pure monopoly are very unlikely to be found in the real world. In the real world, it is the imperfect competition lying between perfect competition and pure monopoly. The fundamental distinguishing characteristic of imperfect competition is that average revenue curve slopes downwards throughout its length, but it slopes downwards at different rates in different categories of imperfect competition. The monopolistic competition is one form of imperfect competition.

FEATURES OF MONOPOLISTIC COMPETITION:

Monopolistic competition refers to the market situation in which many producers produce goods which are close substitutes of one another. Two important distinguishing features of monopolistic competition are:

- (a) Product differentiation, and
- (b) Existence of many firms supplying the market.

(a) Product Differentiation: In contrary to perfect competition where there is only one homogeneous commodity, in monopolistic competition there is differentiation of products. In monopolistic competition, products are not homogenous nor are they only remote substitutes. These are the products produced by competing monopolists that have separate identity, brand, logos, patents, quality and such other product features. Product differentiation does not mean that goods are completely different. Rather it means that products are different in some ways, but not altogether so. These imaginary differences are created through advertising, marketing, packaging and the use of trademarks and brand names.

(b) Existence of Many Firms: Under monopolistic competition, there is fairly large number of sellers, let say 25 to 70. Each individual firm has relatively small part of the total market so that each has a very limited control over the price of the product. And each firm determines its own price-output policy without considering the reactions of rival firms.

(c) In monopolistic competition, in the long run, there is *freedom of entry and exit*.

(d) The commodity sold in a monopolistic competitive market is not a standardised product but a differentiated product. Hence competition is no longer exclusive on price basis. Buyers are buying a *combination of physical product and the services* which go with it.

(e) Because of consumers' attachment to a particular brand, the seller acquires a monopolistic influence on the market. Thus, the *demand curve* facing a firm under monopolistic competition is a downward sloping curve, i.e., if he wants to sell more, he has to lower his price. The demand curve or AR curve under monopoly also slopes downwards, but there is a difference between demand curves facing under monopolistic competition and pure monopoly. The demand curve faced by a '*competing monopolist*' is *more elastic* than the demand curve faced by the '*monopolist*', because there are no close substitutes available for the monopolist commodity.

PRICE DETERMINATION UNDER MONOPOLISTIC COMPETITION:

Under monopolistic competition, the firm will be in equilibrium position when marginal revenue is equal to marginal cost. So long the marginal revenue is greater than marginal cost, the seller will find it profitable to expand his output, and if the MR is less than MC, it is obvious he will reduce his output where the MR is equal to MC. In short run, therefore, the firm will be in equilibrium when it is maximising profits, i.e., when $MR = MC$.

(a) Short Run Equilibrium: Short run equilibrium is illustrated in the following diagram:

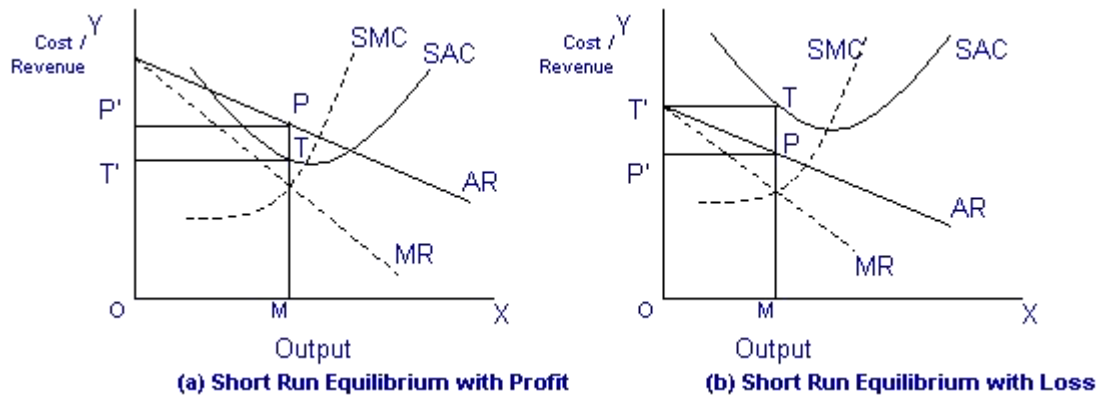
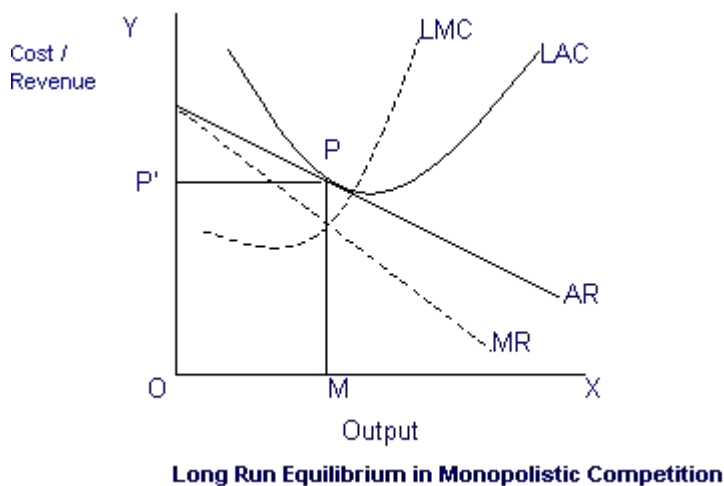


Diagram: Monopolistic Competition Short Run Equilibrium

In the above diagram, the short run average cost is MT and short run average revenue is MP . Since the AR curve is above the AC curve, therefore, the profit is shown as PT . PT is the supernormal profit per unit of output. Total supernormal profit will be measured by multiplying the supernormal profit to the total output, i.e. $PT \times OM$ or $PTT'P'$ as shown in figure (a). The firm may also incur losses in the short run if it is facing AR curve below the AC curve. In figure (b) MP is less than MT and TP is the loss per unit of output. Total loss will be measured by multiplying loss per unit of output to the total output, i.e., $TP \times OM$ or $TPP'T'$.

(b) Long Run Equilibrium: Under monopolistic competition, the supernormal profit in the long run is disappeared as new firms are entered into the industry. As the new firms are entered into the industry, the demand curve or AR curve will shift to the left, and therefore, the supernormal profit will be competed away and the firms will be earning normal profits. If in the short run firms are suffering from losses, then in the long run some firms will leave the industry so that remaining firms are earning normal profits.

The AR curve in the long run will be more elastic, since a large number of substitutes will be available in the long run. Therefore, in the long run, equilibrium is established when firms are earning only normal profits. Now profits are normal only when $AR = AC$. It is further illustrated in the following diagram:



Read this article to learn about the classical theory of Interest, demand for savings, supply for savings, equilibrium rate of interest and criticism!

The classical theory of interest also known as the demand and supply theory was propounded by the economists like Marshall and Fisher.

Later on, Pigou, Cassel, Knight and Taussig worked to modify the theory.

According to this theory rate of interest is determined by the intersection of demand and supply of savings. It is called the real theory of interest in the sense that it explains the determination of interest by analyzing the real factors like savings and investment. Therefore, classical economists maintained that interest is a price paid for the supply of savings.

Demand for Savings:

Demand for savings comes from those who want to invest in business activities. Demand for investment is derived demand. Any factor of production is demanded for its productivity. The demand for the factor is high when there are higher expectations from it. Since, all the factors are not equally productive, so, capital demand will be high for more productive uses first and then gradually with the increase in its supply, will shift to less productive uses.

Therefore, classical economists maintained that with the aid of capital facilities we turn out more goods per man-hour than when we produce with bare hands or with scant tools. Moreover, marginal productivity of the business goes on decreasing with more and more doses of investment of savings in his business venture. It is due to the operation of the law of diminishing returns.

Now a very important question arises is that how much capital a person will demand because when a person borrows money he has to pay interest on it. The answer according to this theory is that demand for capital can be raised to a point where marginal productivity of capital becomes equal to the interest paid on it. Thus, if marginal productivity of capital is more than the interest paid, then it is beneficial to borrow money and vice-versa. Equilibrium will prevail at a point where marginal productivity of capital equals the rate of interest. This shows that there exists inverse relationship between demand for capital and the interest rate.

Supply of Savings:

Supply of capital is the result of savings. It comes from those who have the excess of income over consumption. Thus, savings is the main source of capital which depends on the capacity to save, willingness to save, level of income and rate of interest etc. Capacity to save depends on the size of national income, size of personal income, size of family, price level and purchasing power of money etc. Willingness to save depends on the family affection, further expectations etc.

To a large extent, willingness to save is affected by the rate of interest. On a higher rate of interest people save more to earn the benefits of high rate of interest. On the other hand, at the low rate of interest, people save less. Thus, we may say that there is a direct relationship between the supply of savings and the rate of interest. The following table and diagram justifies this fact in a more vivid way.

It is clear from the table 2 that rate of interest and savings have a positive relationship. As the rate of interest increases, savings will also increase. On the other hand, a fall in rate of interest leads to a decrease in savings. When the rate of interest is 10%, the savings are of Rs. 1000 crores.

In the successive periods, as rate of interest falls from 10% to 5%, the total savings also decline. Suppose as the rate of interest falls to 5%, savings also decrease to Rs. 400 crores.

In Fig. 2 savings have been represented on X-axis and interest rate on Y-axis. SS is the supply curve which moves upward from left to right. It shows that supply of savings is interest elastic. Higher the interest rate, more will be saved and vice-versa. With 5% rate of interest money savings are Rs. 400 crores. As the interest rate increases to 10% people are persuaded to save more and the money savings rise to Rs. 1000 crores. This signifies that there is a direct relationship between savings and the rate of interest.

Equilibrium Rate of Interest:

According to classical theory, equilibrium interest rate is restored at a point where demand for and supply of capital are equal i.e.

The table 3 reveals that equilibrium rate of interest will be determined at a point where demand for and supply of capital are equal. As is clear from the table that equilibrium interest rate 8% is determined because at this level demand for and the supply of capital are equal i.e. Rs. 700 crores.

Criticism:

The classical theory of rate of interest has been criticized on the basis of the following shortcomings as discussed below:

1. Indeterminate Theory:

Keynes has maintained that the classical theory is indeterminate in the sense that it fails to determine the interest rate. In this theory, interest is determined by the equality of demand and supply. But the position of savings varies with the income level. Thus, unless we know the income, interest rate cannot be determined.

2. Fixed Level of Income:

Classical theory assumes that the level of income remains constant. But in actual practice income changes with a small change in investment. Thus, it is not correct to assume a fixed level of income.

3. Long Run:

Classical theory determines the interest rate through the interaction of demand and supply of capital in the long run. Keynes pointed out that in the long run we all are dead. Therefore, there was an urgent need of a theory which determines rate of interest in the short-run.

4. Full Employment:

This theory assumes that there is full employment of resources in the economy. But, in reality, unemployment or less than full employment is a general situation. Full employment is only an abnormal case... Thus, this theory does not apply to the present world.

5. Savings and Investment:

Classical economists assume that savings and investment are interring dependent. But actually investment changes, income also changes which leads to a change in savings. Thus, both are interdependent on each other.

6. Ignores Monetary Factors:

Classical theory takes into consideration only the real factors for determining the rate of interest and ignores the monetary factors.

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Ricardian Theory of Rent (With Diagram)

Article Shared by Tushar Seth

The classical theory of rent is associated with the name of David Ricardo. He begins with a group of new settlers in a new country.

Let us suppose ourselves to be the settlers in a hitherto unknown island which we shall call Jawahar Island after our late beloved leader.

As we study the natural resources of Jawahar Island, we find the land to be of four grades. For convenience, we call them A, B, C and D in the order of their fertility. We shall settle down in Tarapur in 'A' part of the island (See Fig. 33.1).

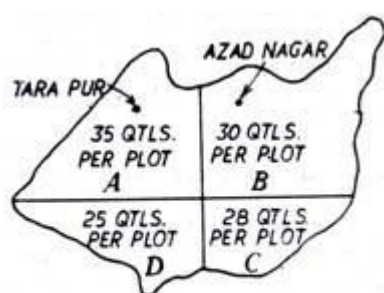


Fig. 33.1

This is the most fertile land and gives us the largest produce per acre. Enough land is available of this quality to satisfy all our needs at the moment. Therefore, it is a free good and will not command any price, i.e., rent. But as time passes, the mouths to be fed increase in number. This may be due to more immigrants, who have heard of our good luck, or due to an increase in population.

Rent in Extensive Cultivation:

A time comes when all land of the best quality has been taken up. But some demand still remains unsatisfied. We have then to resort to 'B' quality land. It is inferior to 'A' and yields only 30 quintals of wheat per plot as compared with 35 quintals of 'A' with the same expenditure of labour and capital. Naturally plots in 'A' now acquire a greater value as compared with 'B'. A tenant will be prepared to pay up to 5 quintals of wheat in order to get a plot in the 'A' zone, or take 'B' quality land free of charge.

This difference, paid to the owner (if the cultivator is a tenant) or kept to himself (if he is the owner), is economic rent. In the first case (i.e., when the cultivator is a tenant) it is contractual rent; and in the latter (i.e., when the cultivator is the owner) it is known as implicit rent. 'B' plots do not pay any rent. To go a step further, we see that after all land of 'B' quality has also been taken up, we begin cultivating 'C' plots. Now even 'B' quality land comes to have differential surplus over 'C'. Rent of 'A' increases still further.

When the demand increases still more, we are pushed to the use of the worst land, which is of 'D' quality yielding 25 quintals per plot. 'D' quality land is now no-rent land or marginal land while 'A', 'B', 'C' all earn rent. This growing demand shows itself in rising prices. They rise high enough to cover the expenses of cultivation on the lowest grade land, i.e., 'D' quality.

Let us suppose that one unit of productive effort is equal to Rs. 3,500. When only 'A' quality land, where a plot produces 35 quintals is under the plough, the price of wheat will be Rs. 100 per quintal. When owing to increased demand, the price of wheat rises to Rs. 110 then and only then will 'B' quality land be cultivated which produces 30 quintals of wheat. And when that happens 'A' land will have a surplus of 5 quintals X Rs. 110 = Rs. 550 per plot. This becomes rent.

The difference, in other words, between the return from a plot of land above the margin and the marginal plot (i.e., the one just paying its way) is called rent or economic rent.

Rent in Intensive Cultivation:

The settlers in Jawahar Island realize that there is another way too of increasing the produce. Why not apply more labour and capital to superior lands, and resort to intensive cultivation? This is done but it is seen that the law of diminishing returns sets in. Look at Fig. 33.1 again. Now consider that A, B, C and D are the different doses of labour and capital (instead of different grades of land) applied to the same grade of land. The first dose yields 35 quintals.

The second unit of labour and capital used on 'A' plot will almost definitely give us less than the first. We suppose it gives us only 30 quintals. So we have the choice of either taking new plots in 'B' land, or cultivating 'A' lands more intensively. If we adopt the latter course, the first unit of labour and capital will be yielding a surplus over the second unit—which unit produces just enough to cover the expenses. This surplus, again, is rent. As more and more units of labour and capital are applied, the return per unit will go on falling.

Rent Due to Differential Advantages:

With the passage of time, however, a new factor emerges. A locality in the A' zone—marked Tarapur in Fig. 33.1—develops into a market and Azadnagar in 'B' into a railway junction, and produce has to be sent to those two flourishing localities for their final disposal. Now the plots situated in the neighbourhood of Tarapur and Azadnagar come to have an advantage. They have either no transport charges or much smaller charges than in the case of lands in 'C' and 'D' areas.

Transport charges are a part of the cost of production, because production is complete only when the commodity reaches the hands of consumers. The better-situated plots, which have to bear less transport charges, will enjoy a surplus over the distant ones. This surplus will be another cause of rent. Hence, economic rent is a surplus which arises on account of natural differential advantages, whether of fertility or of situation, possessed by the land in question over the marginal land.

It is quite possible that we may not be able to spot the 'no-rent land' because:

- (a) It may be paying scarcity rent, or
- (b) The owner might have invested some capital in it and the interest thereon might be mistaken for rent, or
- (c) The no-rent land may be in some other country or
- (d) The no-rent tracts may form part of a rent-paying area and be concealed in it.

Scarcity Rent:

In our new home-country, Jawahar Island, we at last come to a situation when all the lands have been brought under the plough, and are being cultivated intensively too. But the price rises still further under the pressure of demand. Population has been increasing fast. Our country has become old and no more land is available as we are an island country. Prices of agricultural produce go up and, therefore, incomes from land go up.

Hence, all land (including the no-rent 'D' quality land) begins to get surplus above expenses. This surplus above costs in the 'D' quality land, our previous no-rent land, is scarcity rent. Superior lands will be paying this surplus over and above differential gain.

Conclusion:

Summing up, we can say that, according to the Ricardian theory, rent is a differential surplus and arises from the fact that land possesses certain peculiarities as a factor of production. It is limited in area and its fertility varies. Besides, its situation is fixed.

Thus rent results because:

- (a) Fertility is more or less fixed by nature;
- (b) The total stock of land is fixed and cannot be increased.

On this basis, Ricardo defines rent as “that portion of the produce of the earth which is paid to the landlord for the original and indestructible powers of the soil.” According to him fertility, situation and limited total stock—these qualities, which are original as well as permanent, give rise to rent.

Criticism of Ricardian Theory:

The Ricardian theory of rent has been widely criticised as under:

(i) It is pointed out that fertility of land is not original:

Much of the present productive capacity of land is the result of human efforts, use of manures and other improvements. Thus, it is not possible to say which qualities of land are original and which of them are man’s creation.

Situation is something which man cannot change. Obviously it is not possible to move a plot of land to another place. But man can improve the means of transport so much that the distance between two places matters little. Thus he can manage to change the character of a place. The planned cities and factory towns of today are the product of man’s brain. Although this criticism has a leg to stand upon, it cannot be denied that certain original qualities do matter. No human effort will change Rajasthan into Kashmir.

(ii) The idea of indestructibility is objected to:

Area, it is said, is everlasting but not fertility. Continued cultivation exhausts fertility. We observe this in the case of land in India. Lands are reported to be less fertile and, therefore, less productive per hectare today than they were in the past.

Ricardo’s doctrine, however, cannot be wholly rejected. Land which is naturally fertile regains its fertile qualities more easily, if it is manured or left fallow. Creation of fertility in a barren land is more difficult. Besides no amount of use will entirely kill the fertility of land.

(iii) Certain American economists like Carey have criticised the classical theory of rent on historical grounds. They say that cultivation did not begin with the most fertile lands when the first settlers arrived in America, nor did it pass on to the less fertile lands in that order. The reason was that some of the most fertile lands were covered with thick forests while others were open to enemy attack. The settlers naturally preferred less fertile areas which were open and could be defended.

This criticism answers itself. Not necessarily the most fertile, but the land offering the best reward for a definite effort is occupied first. Moreover, the order of cultivation is not so important. Even if the order is changed, when two types of land are being cultivated, the more fertile or better situated plot will produce a surplus above the cost.

The surplus will arise whichever land is cultivated before the other. Rent will still arise even if all the lands were of uniform quality. It will arise in the intensive form.

(iv) It is said that rent is not due to differential advantages only. Even if all lands were of uniform quality, rent would still arise. Rent arises from scarcity.

(v) Ricardian theory does not say why rent is paid; it only tells us that superior lands command higher rent.

(vi) The concept of marginal land is said to be imaginary, theoretical and not realistic.

(vii) It is also urged that no special theory of rent is necessary. Demand and supply theory, which explains all values, can explain rent also.

(viii) Modern economists think that it is only from the point of view of economy as a whole that land has perfectly inelastic supply and earns a surplus or rent. This surplus is not included in cost and hence does not enter into price. But from the point of view of individual farmer or industry, a payment has to be made to prevent land from being transferred to some other use.

The payment, called transfer earnings, is an element of cost and hence enters into price. For the individual farmer the whole of rent is cost. "This concept of transfer earnings helps to bring the simple Ricardian Theory—where transfer earnings are zero because it is the whole economy which is being studied—into a closer relation with reality."— (Stonier and Hague).

Rent as Payment for the Use of Land: Modern View:

So far as the use of land is concerned, the modern economists have offered a better explanation of rent. This payment is obviously determined by the demand for and the supply of land.

Demand Side:

The demand for land is a derived demand. It is derived from the demand for the products of land. If the demand for these products rises or falls, the demand for the use of land will correspondingly rise or fall leading to increase or decrease of rents. For instance, if the population of a country increases, the demand for food will increase, resulting in increased demand for land and rise in its rent, and vice versa.

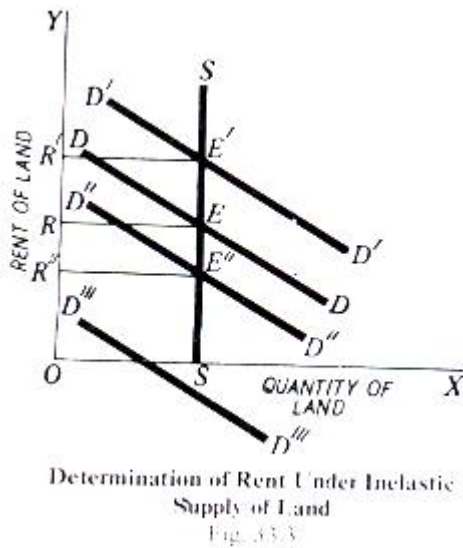
The demand for a factor of production depends on its marginal revenue productivity (or in short, marginal productivity). This productivity is subject to the law of diminishing marginal productivity. That is why, as in the case of other factors, the demand curve DD shown in the following figures slopes down from the left to the right. Thus, on the side of demand, rent of land is determined by its productivity, not total productivity, but marginal productivity.

Supply Side:

The supply of land is fixed so far as the community is concerned, although individuals can increase their own supply by acquiring more land from others or decrease its supply by parting with land. In spite of reclamation projects, the effect of which on the total supply is negligible, the supply of land remains practically fixed.

It is a case of perfectly inelastic supply, which means that whatever the rent (the rent may rise or fall), the supply remains the same. That is why it is said that land has no supply price. In other words, the supply of land in general is absolutely inelastic and as such its supply is independent of what it earns.

Interaction of Demand and Supply:



We have analysed the demand and the supply sides of land. The interaction of these forces is shown in Fig. 33.3. We assume that land is homogeneous and it is used for raising one crop only. Then there can be one demand curve and one supply curve. We also assume perfect competition. SS supply curve, a vertical straight line, represents fixed supply. We start with DD as the total demand curve for land. These two curves intersect at E.

In this position $OR (=SE)$ is the rent. If rent is less (i.e., OR) the demand for land will increase; but the supply is fixed, hence rent will again rise to OR . Suppose rent rises above OR (i.e., to OR'), then the demand for land will decrease and bring the rent back to OR .

Suppose now that, on account of increase in population or otherwise, the demand for land has increased from DD to $D'D'$. The supply curve is still the same SS . The new point of intersection will be E' and therefore the rent will be OR' . If demand falls to $D''D''$, the demand and supply curves intersect at E'' , and the rent will be OR'' . If the country is entirely new and land of good quality is surplus, then there will be no rent. The condition is shown by D' " D ".

If the land is of different qualities, then each quality will have a separate demand curve and they will command different rents. Hence the theory explains differential rent too. Thus, the rent of land, like the remuneration of other factors, is determined by the equilibrium between demand for and supply of land.

In other words, it is scarcity in relation to demand that determines rent. Fundamentally speaking, rent is paid for land because the produce of land is scarce in relation to its demand. The scarcity of land is in fact derived from the scarcity of its products. It is this scarcity which explains all values and rent is no exception.

Land for a Particular Use:

We have analysed above total demand and total supply of land for the community as a whole. Let us now consider it from the point of view of a particular industry or use. For a particular use or industry, the supply of land cannot be regarded as fixed. By offering more rent, it can be increased; the supply will decrease if the rent in this particular case goes down.

The supply is thus elastic and the supply curve will rise upwards from left to right, as is shown in Fig. 33.4. DD is the demand curve to start with. E is the point of intersection, hence $OR (=EM)$ is the rent and OM is the land used.

Suppose demand increases to $D'D'$. Now the two curves intersect at E' and the rent will be OR' and the land used OM' . This means that since for this particular use, the rent of land has gone up, MM'

land has been withdrawn from other uses and put to this use. Similarly, if demand decreases to D'' , the rent will come down to OR'' and the quantity of land used to OM'' , which means MM'' land has gone out of this particular use, since the rent has fallen.

Theories of Wages – Explained!

Article shared by : **Smriti Chand** <="" div="">

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Some of the most important theories of wages are as follows: 1. Wages Fund Theory 2. Subsistence Theory 3. The Surplus Value Theory of Wages 4. Residual Claimant Theory 5. Marginal Productivity Theory 6. The Bargaining Theory of Wages 7. Behavioural Theories of Wages.

How much and on which basis wages should be paid to the workers for services rendered by them has been a subject matter of great concern and debate among economic thinkers for a long time. This has given birth to several wage theories, i.e. how wages are determined. Out of them, some important theories of wages are discussed here.

1. Wages Fund Theory:

This theory was developed by Adam Smith (1723-1790). His theory was based on the basic assumption that workers are paid wages out of a pre-determined fund of wealth. This fund, he called, wages fund created as a result of savings. According to Adam Smith, the demand for labour and rate of wages depend on the size of the wages fund. Accordingly, if the wages fund is large, wages would be high and vice versa.

2. Subsistence Theory:

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This theory was propounded by David Ricardo (1772-1823). According to this theory, “The labourers are paid to enable them to subsist and perpetuate the race without increase or diminution”. This payment is also called as ‘subsistence wages’. The basic assumption of this theory is that if workers are paid wages more than subsistence level, workers’ number will increase and, as a result wages will come down to the subsistence level.

On the contrary, if workers are paid less than subsistence wages, the number of workers will decrease as a result of starvation death; malnutrition, disease etc. and many would not marry. Then, wage rates would again go up to subsistence level. Since wage rate tends to be at, subsistence level at all cases, that is why this theory is also known as ‘Iron Law of Wages’. The subsistence wages refers to minimum wages.

3. The Surplus Value Theory of Wages:

This theory was developed by Karl Marx (1849-1883). This theory is based on the basic assumption that like other article, labour is also an article which could be purchased on payment of its price i.e. wages. This payment, according to Karl Marx, is at subsistence level which is less than in proportion to time labour takes to produce items. The surplus, according to him, goes to the owner. Karl Marx is well known for his advocacy in the favour of labour.

4. Residual Claimant Theory:

This theory owes its development to Francis A. Walker (1840-1897). According to Walker, there are four factors of production or business activity, viz., land, labour, capital, and entrepreneurship. He

views that once all other three factors are rewarded what remains left is paid as wages to workers. Thus, according to this theory, worker is the residual claimant.

5. Marginal Productivity Theory:

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This theory was propounded by Phillips Henry Wick-steed (England) and John Bates Clark of U.S.A. According to this theory, wages is determined based on the production contributed by the last worker, i.e. marginal worker. His/her production is called 'marginal production'.

6. The Bargaining Theory of Wages:

John Davidson was the propounder of this theory. According to this theory, the fixation of wages depends on the bargaining power of workers/trade unions and of employers. If workers are stronger in bargaining process, then wages tends to be high. In case, employer plays a stronger role, then wages tends to be low.

7. Behavioural Theories of Wages:

Based on research studies and action programmes conducted, some behavioural scientists have also developed theories of wages. Their theories are based on elements like employee's acceptance to a wage level, the prevalent internal wage structure, employee's consideration on money or' wages and salaries as motivators

Theories of Wages (With Criticisms)

Article Shared by Kirti Shailesh

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The following points highlight the top six theories of wages. The theories are: 1. The Subsistence Theory of Wages 2. Standard of Living Theory 3. Wage Fund Theory 4. Residual Claimant Theory 5. Marginal Productivity Theory 6. Discounted Marginal Productivity Theory.

Theory # 1. The Subsistence Theory of Wages:

The theory was formulated by physiocrats. According to them wages would be equal to the amount just sufficient for subsistence. Lassale, a German economist developed this theory. According to this theory, wages are determined by the cost of production of labour or subsistence level. The wages so determined will remain fixed.

If actual wages are higher than the subsistence level, then population will increase leading to an increase in labour supply and lower wages. If on the other hand, the actual wages fall below the subsistence level, population will decrease resulting in a decline in labour supply and rise in wages. Since there is a tendency for the wages to remain fixed at the subsistence level, it is called as Iron Law of Wages or Brazen Law of Wages.

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This theory is based on two assumptions:

1. Food production is subject to the law of diminishing returns, i.e., there is a limit to expansion of food production.
2. Population increases at an increasing rate.

Criticisms:

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1. The subsistence theory of wages explains wages from the supply side and ignores the demand side.
2. If all labourers must get the bare necessities of life, all must get equal wages. But there are many differences in wages. Thus this theory ignores wage differences.
3. This theory asserts that wages are fixed at the subsistence level. Therefore, it assumes that the trade unions are powerless in increasing the wages. This is a wrong notion.
4. This theory is based on the Malthusian theory of population according to which a rise in wages above the subsistence level will lead to rapid increase in population. But experience shows that a rise in wages leads to higher standard of living and not increase in population.

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5. This theory is pessimistic because it excludes all possibility of improvement in the conditions of labour either through increased efficiency or due to general economic progress.

Theory # 2. Standard of Living Theory:

This theory is an improved and refined version of subsistence theory. According to this theory, wage is determined by the standard of living of the workers. Standard of living refers to the bare necessities of life and also education, and recreation to which the worker is habituated.

Merits:

This theory has two merits:

1. This theory gives importance to the efficiency and productivity of the worker.
2. When workers are paid a high wage rate for a considerable period of time, they become accustomed to a high standard of living and they will try to maintain the same high standard of living.

Criticisms:

In spite of its merits, the theory has been subjected to many criticisms:

1. Individuals do not have any fixed standard of living. Critics point out that there is no such thing as a standard of living to which a worker is accustomed.

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2. When wages depend on standard of living, the latter should not change. But workers' standard of living remains fixed for sometimes but wages change frequently.
3. No doubt, wages are determined by standard of living. It is also true that standard of living is determined by wages.

Theory # 3. Wage Fund Theory:

This theory was developed by J.S.Mill. According to him, the employers set apart a certain amount of capital to pay wages for labourers. This is fixed and constant. This is called as wages fund. Wage is determined by the amount of wages fund and the total number of labourers.

According to J.S.Mill, “wages depend upon the demand and supply of labour or as it is often expressed as proportion between population and capital. By population is here meant the number only of the laboring classes or rather of those who work for hire and by capital, only circulating capital..... “.

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Wage rate=Wage fund / Number of labourers

An increase in wage rate is possible only by an increase in wage fund or by a reduction in the number of labourers. Thus there exists a direct relation between wage rate and wages fund and inverse relation between wage rate and number of labourers. This theory also states that trade unions are powerless in rising the general wage rate.

Criticisms:

1. Wage fund theory states that the wage rate is found by dividing the wage fund by the number of workers. But it does not tell us about the sources of wages fund and the method of estimating it.

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2. Wage fund theory is unscientific and illogical because it first decides the wages fund and then determines wages. But in reality, wages should be found first and from that wage fund should be calculated. This theory neglects the quality and efficiency of the workers in determining the wage rate. This is considered to be a basic weakness of the theory.

3. This theory neglects the quality and efficiency of the workers in determining the wage rate. This is considered to be a basic weakness of the theory.

4. This theory assumes that wages can increase only at the expense of profit. This is not correct. The operation of the law of increasing returns will lead to a great increase in total output which may be sufficient to raise both wages and profits.

5. The wages fund theory has been criticised by the trade unions for its assumption that wages cannot be increased through bargaining.

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6. Wages fund theory has failed to explain the differences in wage rate.

7. This theory believes that wages are paid out of circulating capital. But when the process of production is short, wages are paid out of current production. When the process of production is long, wages are paid out of capital.

Theory # 4. Residual Claimant Theory:

This theory was propounded by Walker. According to this theory, rent and interest are contractual payments. After deducting rent and interest from total product, the employer will deduct his profits. What remains after deducting rent, interest and profits is wages. It is possible to increase wages by increasing the total product by improving the efficiency of the workers.

This theory has several defects:

1. This theory assumes that the share of landlords, capitalists and entrepreneurs are fixed and it is absolutely wrong.

2. It is not the worker who is the residual claimant but the entrepreneur.

3. It does not explain the influence of trade union in wage determination.

4. The supply side of labour has been totally ignored by the theory.

Theory # 5. Marginal Productivity Theory:

Marginal productivity theory of wages is an extension of marginal productivity theory of distribution. According to this theory, wage for labour should be equal to the value of the marginal product under conditions of perfect competition. Marginal product is the addition made to total product by the employment of one unit of labour. The value of the marginal product of labour is equal to the price at which the marginal product can be sold.

Under conditions of perfect competition, an employer will continue to employ more and more of labourers till the value of the marginal product is equal to marginal factor cost(MFC). Marginal factor cost is the cost of employing an additional worker. In order to find out the marginal productivity of labour we have to keep the quantity of other factors constant while employing one more unit of labour.

The difference in total production is the marginal productivity. The employment of an additional unit of labour will result in increase in output and cost. As long as MPP is greater than MFC, the employer will employ additional units of labour. But he will stop employing additional units of labour when $MPP=MC$.

Assumptions:

This theory is based upon the following assumptions:

1. There is perfect competition in factor market and in product market.
2. Labour is homogeneous.
3. The law of diminishing returns operates in production.
4. There is free entry and exit of the firms.
5. There is perfect knowledge about the market conditions.
6. All factors of production can be substituted for each other.
7. There is free mobility of factors of production.
8. Factors of production are divisible.

Criticism:

The theory is found to be unsatisfactory and various criticisms have been leveled against this theory.

1. The theory deals with the demand side only. The supply side is totally ignored.
2. This theory is unjust because wages are determined by the marginal productivity. But justice demand that workers should be paid on the basis of average productivity.
3. Further, marginal productivity of the worker cannot be calculated as factors are not divisible into small units.
4. Factors of production are neither mobile nor perfect substitutes. Their Knowledge is also imperfect.
5. This theory assumes perfect competition in the product market. But the market for goods is characterised by imperfect competition.

6. Marginal product of labour depends not only on its support but also on the supply of other factors. If other factors are plentiful and labour is scarce, marginal product of labour will be high and vice versa.

7. This theory fails to explain the differences in wages.

Rejecting the marginal productivity theory Marshall states, "This doctrine has been put forward as a theory of wages. But there is no valid ground for any such pretension... Demand and supply exert equally important influences on wages; neither has a claim to predominance; any more than has either blade of scissors, or either pier of an arch... The doctrine throws into clear light, one of the causes that governs wages".

Theory # 6. Discounted Marginal Productivity Theory:

Taussig has given a modified version of the Marginal Productivity theory of wages. According to this theory, the wage for labour is determined not by its marginal product but by the discounted marginal product. Labourers cannot get the entire amount of the marginal product because production is a long drawn out process.

In the same way, sales also take time. As the labourers are poor and cannot wait till the product is sold, they have to be supported by the employers. The employer does not pay the full amount of the marginal product of labour. In order to compensate the risk involved in giving advance to the workers, the employer deducts a certain percentage from the final output. This deduction is made at the current rate of interest. It is the discounted marginal product that determines the wage of the labourers.

Criticisms:

1. This theory is abstract. It is "a dim and abstract one remote from the problem of real life".
2. It is very difficult to determine the discounted marginal product of labour.
3. This theory fails to take into account other factors which determine the wage rate.
4. This theory has failed to explain differences in wage rate.

Taussig's theory is another version of the Residual Claimant Theory of wages. Therefore, it is subject to all criticisms put forward against the Residual Claimant Theory.

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Theories of Profit (With Criticisms)

The following points highlight the top seven theories of profit. The theories are: 1. Rent Theory of Profit 2. Wage Theory of Profit 3. Risk Theory of Profit 4. The Dynamic Theory of Profit 5. Schumpeter's Innovation Theory 6. Uncertainty Bearing Theory of Profit 7. Marginal Productivity Theory of Profit.

Theory # 1. Rent Theory of Profit:

This theory was first propounded by the American Economist Walker. It is based on the ideas of Senior and J.S. Mill. According to Mill, "the extra gains which any producer obtains through superior talents for business or superior business arrangements are very much of a kind similar to rent. Walker says that

“Profits are of the same genus as rent”. His theory of profits states that profit is the rent of superior entrepreneur over marginal of less efficient entrepreneur.

According to these economists, there was a good deal of similarity between rent and profit. Rent was the reward for the use of land while a profit was the reward for the ability of the entrepreneur. Just as land differs from one another in fertility, entrepreneurs differ from one another in ability. Rent of superior land is determined by the difference in productivity of the marginal and super marginal land; similarly the profits of the marginal and super marginal entrepreneurs.

In short it is the intra-marginal lands that earn a surplus over marginal lands. So also intra marginal entrepreneurs earn a surplus over marginal entrepreneur. Just as there is the marginal land, there is the marginal entrepreneur. The marginal land yields no rent; so also marginal entrepreneur is a no profit entrepreneur.

The marginal entrepreneur sells his produce at cost price and gets no profit. He secures only the wages of management not profit. Thus profit does not enter into cost of production. Like rent, profit also does not enter into price. Profit is thus a surplus.

Criticism:

1. According to critics there cannot be perfect similarity between rent and profit. Rent is generally positive and in rare cases it may be zero. But rent can never be negative. When entrepreneur suffers losses profit can be negative.
2. The theory explains profit as the differential surplus rather than a reward for an entrepreneur.
3. Profit is not always the reward for business ability. Profit can be due to monopoly or it can arise due to favourable chance to the entrepreneur.
4. This theory maintains that there is no profit entrepreneur just as no rent land. But in practical life there is no such entrepreneur because whether the entrepreneur has ability or not he gets profit as his reward.
5. The system of joint stock enterprise has become more important in the modern economy. The manner in which dividends are distributed among the shareholders is not at all related to latter's ability. Both dull and intelligent shareholders enjoy the same dividends. In fact, the less able may secure more dividends if they possess more shares.
6. This theory assumes that profit does not enter into price. But this is unrealistic because profit as a part of the cost of production does enter into price.
7. Rent is a known and expected surplus. It is also a contractual payment. Profit is unknown.
8. Walker has analysed only surplus profit. But profit can be several other types.'
9. Walker failed to understand the true nature of profit. According to Walker, profit arose on account of the ability of the entrepreneur to undertake risk. Critics point out that profit is not the reward for undertaking risk but it is the reward for the avoidance of risk.

Theory # 2. Wage Theory of Profit:

This theory was propounded by Taussig, the American economist. According to this theory, profit is also a type of wage which is given to the entrepreneur for the services rendered by him. In the words of Taussig, “profit is the wage of the entrepreneur which accrues to him on account of his ability”.

Just as a labourer receives wages for his services, the entrepreneur works hard gets profit for the part played by him in the production. The only difference is that while labourer renders physical services,

entrepreneur puts in mental work. Thus an entrepreneur is not different from a doctor, lawyer, teacher, etc., who do mental work. Profit is thus a form of wage.

Criticism:

1. The main defect of this theory is that it does not make a distinction between wage and profit. Wages are fixed and certain, but profits are uncertain income.
2. The entrepreneurs undergo risk in production; but the labourer undertakes no such risk.
3. Entrepreneur bears the entire responsibility to organize the business, but labourer need not do so.
4. Profits tend to vary with price but wages do not vary so.
5. The labourer get his wages if he has put in the required amount of labour, but the entrepreneur may not get profit even if he works hard.
6. Profit may include chance gain while wages do not include such an element.

Theory # 3. Risk Theory of Profit

This theory is associated with American economist Hawley. According to him profit is the reward for risk-taking in business. Risk-taking is supposed to be the most important function of an entrepreneur. Every production that is undertaken in anticipation of demand involves risk. According to Drucker there are four kinds of risk. They are replacement, obsolescence, risk proper and uncertainty.

The first two are calculated and therefore they are insured. But the other two are unknown and unforeseen risks. It is for bearing such risk profit is paid to entrepreneur. No entrepreneur will be willing to undertake risks if he gets only the normal return.

Therefore the reward for risk-taking must be higher than the actual value of the risk. If the entrepreneur does not receive the reward, he will not be prepared to undertake the risk. Thus higher the risk greater is the possibility of profit.

According to Hawley the entrepreneur can avoid certain risks for a fixed payment to the insurance company. But he cannot get rid of all risks by means of insurance. If he does so he is not an entrepreneur and would earn only wages of management and not profit.

Criticism:

1. Risk-taking is not the only entrepreneurial function which leads to emergence of profits. Profits are also due to the organizational and coordinating ability of the entrepreneur. It is also reward for innovation.
2. According to Carver profit is paid to an entrepreneur not for bearing the risk but for minimizing and avoiding risk.
3. This theory assumes that profit is proportional to risk undertaken by entrepreneurs. But this is not true in practical life because even entrepreneurs who do not take any risk are paid profit.
4. Knight says that it is not every risk that gives profit. It is unforeseen and non-insured risks that account for profit. According to Knight risks are of two types viz., foreseeable risk and unforeseeable risk. The risk of fire in a factory is a foreseeable risk and can be covered through insurance. The premium paid for the fire insurance can be included in the cost of production. The entrepreneur can foresee such a risk and insures it. An insurable risk in reality is no risk and profit cannot arise due to insurable risk.

5. There is little empirical evidence to prove that entrepreneurs earn more in risky enterprises. In a way all enterprises are risky, for an element of uncertainty is present in them and every entrepreneur aims at making large profits.

Theory # 4. The Dynamic Theory of Profit:

Prof. J.B. Clark propounded the dynamic theory of profit in the year 1900. To him profit is the difference between the price and the cost of production of the commodity. Profit is the result of progressive change in an organized society.

The progressive change is possible only in a dynamic state. According to Clark the whole economic society is divided into organized and unorganized society. The organized society is further divided into static and dynamic state. Only in dynamic state profit arises.

In a static state, the five generic changes such as the size of the population, technical knowledge, the amount of capital, method of production of the firms and the size of the industry and the wants of the people do not take place; everything is stagnant and there is no change at all. The element of time is non-existent and there is no uncertainty. The same economic features are repeated year after year.

Therefore there is not risk of any kind to the entrepreneur. The price of the good will be equal to the cost of production. Hence profit does not arise at all. The entrepreneur would get wages for his labour and interest on his capital. If the price of the commodity is higher than the cost of production, competition would reduce the price again to the level of the cost of production so that profit is eliminated.

The presence of perfect competition makes the price equal to the cost of production which eliminates the super normal profit. Thus Knight observes, "Since costs and selling prices are always equal, there can be no profit beyond wages for the routine work of supervision".

It is well known that the society has always been dynamic. Several changes are taking place in a dynamic society.

According to Clark five major changes are constantly taking place in a society. They are:

- (1) Changes in the size of the population,
- (2) Changes in the supply of capital,
- (3) Changes in production techniques,
- (4) Changes in the forms of industrial organisation, and
- (5) Changes in human wants.

These dynamic changes affect the demand and supply of commodities which leads to emergence of profit. Sometimes individual firms may introduce dynamic changes. For example, a firm may improve its production technique, reduce its cost and thereby increase its profit. The typical dynamic change is an invention. This enables the entrepreneur to produce more and reduce costs, leading to emergence of profit.

Criticism:

1. It is wrong to say that there is no profit in static state because every entrepreneur is paid profit irrespective of the state of an economy.

2. This theory does not fully appreciate the nature of the entrepreneurial function. If there are no profits in a static state, it means there is no entrepreneur. But without an entrepreneur it is not possible to imagine how different factors of production would be employed.
3. Mere change in an economy would not give rise to profits if those changes are predictable. It is only the unpredictable, provision can be made for such changes and the expenditure can be included in the cost of production.
4. This theory assumes the existence of perfect competition and static state. But they are far from reality.
5. This theory states that profit arises because of dynamic changes. But Knight says that it is only unforeseen changes that give rise to profit.
6. This theory associates profit for imitating progressive changes in the economy. But in reality profit is paid to entrepreneur for other important functions like risk taking and uncertainty bearing.
7. According to Taussig, "dynamic theory has created unnecessary and artificial distinction between "profits" and wage of management".

Theory # 5. Schumpeter's Innovation Theory:

This theory was propounded by Schumpeter. This theory is more or less similar to that of Clark's theory. Instead of five changes mentioned by Clark, Schumpeter explains the change caused by innovations in the production process. According to this theory profit is the reward for innovations. He uses the term innovation in a sense wider than that of the changes mentioned by Clark.

Innovation refers to all those changes, in the production process with an objective of reducing the cost of commodity so as to create gap between the existing price of the commodity and its new cost. Innovation may take any shape like introduction of a new technique or a new plant, a change in the internal structure or organizational set up of the firm or change in the quality of raw material, a new form of energy, better method of salesmanship, etc.

Schumpeter makes a distinction between invention and innovation. Innovation is brought about mainly for reducing the cost of production and it is cost reducing agent. Profit is the reward for this strategic role, Innovations are not possible by all entrepreneurs. Only exceptional entrepreneurs can innovate. They are capable of tapping new resources, technical knowledge and reduce the cost of production. Thus the main motive for introducing innovation is the desire to earn profit. Profit is therefore the cause of innovation.

Profits are of temporary nature. The pioneer who innovates earns abnormal profit for a short period. Soon other entrepreneurs, "swarm in clusters", compete for profit in the same manner. The pioneer will make another innovation. In a dynamic world innovation in one field may induce other innovations in related fields.

The emergence of motor car industry may in turn stimulate new investments in the construction of highways, rubber, tyres and petroleum products. Profits are thus causes and effects of innovation. The interest of profit leads entrepreneur to innovate and innovation leads to profit. Thus profit has a tendency to appear, disappear and reappear.

Profits are caused by innovation and disappear by imitation. Innovational profit is thus, never permanent, in the opinion of Schumpeter. Therefore it is different from other incomes, such as rent, wages and interest. These are regular and permanent incomes arising under all circumstances. Profit on the other hand is a temporary surplus resulting from innovation.

Prof. Schumpeter also explained his views on the functions of the entrepreneur. The entrepreneur organizes the business and combines the various factors of production. But this is not his real function

and this will not yield him profit. The real function of the entrepreneur is to introduce innovations in business. It is innovations which yield him profit.

Criticisms:

1. This theory concentrates only on innovation, which is only one of the many functions of the entrepreneur and not the only factor.
2. This theory does not consider profit as the reward for risk-taking. According to Schumpeter it is the capitalist not the entrepreneur who undertakes risk.
3. This theory has ignored the importance of uncertainty bearing which is one of the factors that determines profit.
4. This theory attributes profit only to innovation ignoring other functions of entrepreneur.
5. Monopoly profits are permanent in nature while Schumpeter says that innovate profits occur temporarily.
6. This theory has presented a very narrow view of the function of the entrepreneur. He not only introduces innovation but he is equally responsible for proper organisation of the business. As such profit is not merely due to innovation. It is also due to organizational work performed by the entrepreneur. As it is well known, every entrepreneur does not innovate and yet he must earn profit if he is to stay in business.
7. It is an incomplete theory because it has failed to explain all the factors that influence profit.

Theory # 6. Uncertainty Bearing Theory of Profit:

This theory was propounded by an American economist Prof. Frank H. Knight. This theory, starts on the foundation of Hawley's risk bearing theory. Knight agrees with Hawley that profit is a reward for risk-taking. There are two types of risks viz. foreseeable risk and unforeseeable risk. According to Knight unforeseeable risk is called uncertainty bearing.

Knight, regards profit as the reward for bearing non-insurable risks and uncertainties. He distinguishes between insurable and non-insurable risks. Certain risks are measurable, the probability of their occurrence can be statistically calculated. The risks of fire, theft, flood and death by accident are insurable. These risks are borne by the insurance company.

The premium paid for insurance is included in the cost of production. According to Knight these foreseen risks are not genuine economic risks eligible for any remuneration of profit. In other words insurable risk does not give rise to profit.

According to Knight profit is due to non-insurable risk or unforeseeable risk.

Some of the non- insurable risks which arise in modern business are as follows:

(a) Competitive risk:

Some new firms enter into the market unexpectedly. The existing firms may have to face serious competition from them. This will inevitably lower down the profit of the firms.

(b) Technical risk:

This risk arises from the possibility of machinery becoming obsolete due to the discovery of new processes. The existing firm may not be in a position to adopt these changes into its organization, and hence suffer losses.

(c) Risk of government intervention:

The government, in course of time, interferes into the affairs of the industry such as price control, tax policy, import and export restrictions, etc., which might reduce the profits of the firm.

(d) Cyclical risk:

This risk emerges from business cycles. Due to business recession or depression, consumer's purchasing power is reduced, consequently demand for the product of the firm also falls.

(e) Risk of demand:

This is generated by a shift or change of demand in the market.

Prof. Knight calls these risks as 'uncertainties' and 'it is uncertainties in this sense which explains profit in the proper use of the term'. These risks cannot be foreseen and measured, they become non-insurable and the uncertainties have to be borne by the entrepreneur. According to this theory there is a direct relationship between profit and uncertainty bearing.

Greater the uncertainty bearing the higher the level of profit. Uncertainty bearing has become so important in business enterprise in modern days, it has come to be considered as a separate factor of production. Like other factors it has a supply price and entrepreneurs undertake uncertainty bearing in the expectation of earning certain level of profit. Profit is thus the reward for assuming uncertainty.

In the modern days production has to take place in advance of consumption. The producers have to face their rival producers and the future is uncertain and unknown. These are uncertainties. Some entrepreneurs are able to see it more clearly than others and therefore able to earn profit.

Criticism:

1. According to this theory, profit is the reward for uncertainty bearing. But critics point out that sometimes an entrepreneur earns no profit in spite of uncertainty bearing.
2. Uncertainty bearing is one of the determinants of profit and it is not the only determinant. Profit is also a reward for many other activities performed by entrepreneur like initiating, coordinating and bargaining, etc.
3. It is not possible to measure uncertainty in quantitative terms as depicted in this theory.
4. In modern business corporations ownership is separate from control. Decision-making is done by the salaried managers who control and organise the corporation. Ownership rests with the shareholders who ultimately bear uncertainties of business. Knight does not separate ownership and control and this theory becomes unrealistic.
5. Uncertainty bearing cannot be looked upon as a separate factor of production like land, labour or capital. It is a psychological concept which forms part of the real cost of production.
6. Monopoly firms earn much larger profits than competitive firms and they are not due to the presence of uncertainty. This theory throws no light on monopoly profit.

Knight's theory of profit is more elaborate than other theories, because it combines the conception of risk, of economic change and of the role of business ability.

Theory # 7. Marginal Productivity Theory of Profit:

The general theory of distribution is also applied to the factor, entrepreneur. According to Prof. Chapman, profits are equal to the marginal worth of the entrepreneur and are determined by the marginal productivity of the entrepreneur. When the marginal productivity is high, profits will be high.

Just as marginal revenue productivity of any factor represents the demand curve of a factor the marginal revenue productivity curve of entrepreneur is the demand curve of an entrepreneur. As more and more firms enter into the industry, the marginal revenue productivity (MRP) of entrepreneurship decreases. The slope of the MRP curve will be negative. The supply curve of entrepreneur will be perfectly elastic under perfect competition.

Criticism:

1. This theory is not a satisfactory theory of profit because it is very difficult to calculate the marginal productivity of entrepreneurship.
2. Like land, labour, or capital the marginal revenue productivity of entrepreneurship is a meaningless concept in the case of a firm because unlike other factors, there can be only one entrepreneur in a firm.
3. This theory is based on the homogeneity of entrepreneur, in an industry. Entrepreneurs differ in efficiency. It is therefore, not possible to have one marginal revenue productivity curve for all entrepreneurs. This theory thus fails to determine profit accurately.
4. This theory fails to explain why entrepreneurs sometimes earn windfall or chance gains and even monopoly profits.
5. It is one-sided theory which takes into account only the demand for entrepreneurs and neglects supply of entrepreneurs.
6. It is a static theory according to which all entrepreneurs earn only normal profits in the long- run. In the real world entrepreneurs earn more than normal profit due to its dynamic nature.

In conclusion it can be stated that there are essentially three kinds of profit theories which have been developed during last two centuries. The functional theory of profit regards profit as a reward for a factor of production. Secondly the rent theory of profit regards profit as a residual income or as excess of price over costs. The institutional theory emphasises unearned nature of profit as monopoly profit.

None of the theories is satisfactory. Each theory explains profit in terms of one function rather than in terms of all the functions. Economists are of the opinion that it is very difficult to state an adequate theory of profit.

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