

THEORY OF RENT

Contractual Rent

Contractual rent refers to that rent which is agreed upon between the landowner and the user of the land on the basis of some contract, which may be verbal or written.

ECONOMIC RENT

But in economics, the term has a specific meaning. Economic rent is a surplus income – excess of total payments to a factor of production (land, labour or capital) over and above its minimum supply price or opportunity cost (i.e., what is required to bring the particular factor into production). The opportunity cost is known as Transfer Earning.

Gross Rent

Gross rent is the rent which is paid for the services of land and the capital invested on it.

Gross rent consists of:

- (1) Economic rent. It refers to payment made for the use of land.
- (2) Interest on capital invested for improvement of land.
- (3) Reward for risk taken by landlord in investing his capital.

There are two main theories of rent – a) Ricardian theory of rent
b) Modern theory of rent

RICARDIAN THEORY OF RENT

David Ricardo, an English classical economist, propounded a theory to explain the origin and nature of economic rent. He defined rent as “**that portion of the produce of the earth which is paid to the landlord for the use of the original and indestructible powers of the**

soil.” In his theory, rent is nothing but the producer’s surplus or differential gain and it is found in land only.

At the time of Ricardo land was primarily used for agriculture for cultivating corn.

ASSUMPTIONS

1. Rent is the return of original and indestructible powers of soil.
2. Supply of land is fixed from the stand point of society.
3. Law of diminishing product operates on the productivity of land.
4. Since land is a gift of nature production cost of land is zero.
5. Land has no alternative use.
6. There exists perfect competition in the market of land.
7. There exists perfect competition in the product market.
8. Rent is not a part of cost of prodn and so does not determine the price of corn. Rather price of corn determines rent.

On the basis of these assumptions Ricardo points out that rent can appear because of two reasons:

- i) Rent appears due to limited supply of land – known as **Scarcity Rent**
- ii) Rent appears due to difference in fertility and hence difference in productive capacity of land – known as **Differential Rent**

Scarcity Rent

The emergence of land rent in the classical theory can be easily explained by imagining that a new island is discovered and some people come to settle there. We suppose that all land in this island is completely homogeneous or is of uniform quality. In other words, all pieces of land in this island are equally fertile and equally well-situated.

The quantity of land available for cultivation on this island is fixed and is therefore completely inelastic to changes in the price for its use. Land is to be used for the cultivation of a single crop “corn”. Land is assumed to be having no other alternative uses.

When the people come to settle on this island, they will use the land for producing corn by applying labour and capital on it. When all the available land is not yet put in use, the price of the corn will be equal to the average cost incurred on labour and capital, with the farmers working at the minimum point of the average cost (exclusive of land rent). This is so because per unit the farmer has to earn an income equal to the average cost in order to continue production. Thus the price of the corn must at least be equal to the average cost (exclusive of land rent) in the long run if the use of labour and capital is to be worthwhile. Since we are assuming perfect competition in the market for corn, the farmer’s equilibrium will be established at the lowest point of long-run average cost curve (exclusive of rent).

As long as some land is idle, the production of corn will be increased by bringing new land under cultivation. .Thus until land is not scarce,

i.e., some land is yet idle the price of corn cannot rise permanently above the average cost of labour and capital cost.

Since the price of corn is, in long-run equilibrium, equal to the average cost of only labour and capital, as long as all land is not yet in use, there will be no surplus left to be earned as rent on land. In other words, it means that so long as there is some available land which is not yet brought into use, farmers will not have to pay any rent to the landlords for the use of their land.

Provided the competition among landlords is perfect (as is the case we are assuming here), the rent will not arise when there is still surplus land for use because the demand for land is relatively less than the supply of it. In other words, land is yet not scarce relative to demand.

Price of any things arises only when it is scarce in relation to demand. If any landlord tries to charge any rent when there is still some land lying idle with other landlords, farmers will go to take up that land for cultivation.

The landlord need not be paid rent for the use of land since its only alternative use is keeping it idle. To sum up, so long as land is not scarce, rent cannot arise, since price will equal minimum average (labour and capital) cost.

Suppose that the population continues increasing so that the demand for corn becomes so large that all available land is brought under cultivation. If the population of the island further increases beyond this, it will raise the demand for the product which will bring about

rise in the price level above the minimum average (labour and capital) cost per unit of output giving rise to rent on land. **Since it has arisen due to scarcity of land, it has been called scarcity rent.**

Ricardian concept of Scarcity Rent is illustrated in figure below. Where AC and MC curves show average and marginal cost per unit output of corn incurred on labour and capital. Price of corn must be equal to OP_0 if land is to be cultivated at all.

Note that price OP_0 is equal to the minimum average cost on labour and capital per unit of corn output. At price OP_0 there is no surplus over cost of production and therefore no rent accrues to the land. In other words, supply of land is not scarce in relation to demand for it upto price of corn equal to OP_0 .

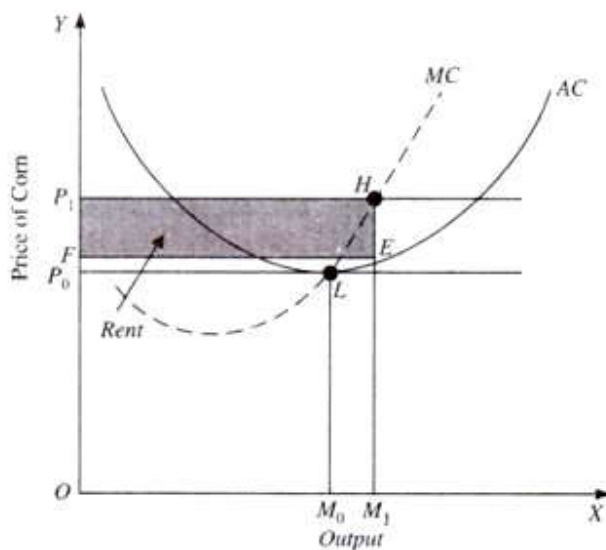


Fig. 34.1. *In Ricardian theory scarcity rent arises as surplus over cost of production.*

Now, if due to the expansion in population, demand for corn increases and as a result price of corn rises to OP_1 land will be more intensively cultivated. With price of corn equal to OP_1 the equilibrium of the

farmer is at point H or at output OM_1 as price of corn is equal to marginal cost at output level OM_1 .

It will be seen that with price OP_1 , surplus over cost of production equal to P_1HEF (shaded area) has emerged. This surplus over cost will be given to the landlord. The price of corn rises above the minimum average cost of production only when the demand for corn has greatly increased and as a result land has become scarce in relation to the derived demand for it. Since all pieces of land are homogeneous, the same amount of rent will accrue on all pieces of land.

It is evident from the figure that a difference between the price of the corn and the average cost on labour and capital has arisen. In other words, farmer earns more than the labour and capital cost incurred by him. While the average labour and capital cost incurred by him is M_1E , the price of the corn is $M_1H (= OP)$.

Thus the differential EH between the price and the average labour and capital cost has arisen. This EH is the rent per unit of output which will be paid by the farmer to the landlord. Total rent to be paid by the farmer to the landlord will be $FEHP_1$.

This rent (difference between price and cost) cannot be competed away by the entry of more farmers in production since all land is already being employed for production. This rent has arisen because of the scarcity of land

It is clear that in the Ricardian theory, rent emerges as surplus over cost of production (labour and capital cost). Classical writers did not consider rent as a part of the cost of production.

“Higher earnings can therefore persist for land even in the long run, whereas with other factors this is not very likely to happen because supply will increase to meet the increased demand. It is the fixity of its supply which distinguishes homogeneous land and its scarcity rent from other factors of production and their prices. Scarcity rent is essentially the result of the fact that land is in inflexible supply.”

Differential Rent

In the discussion of scarcity rent above, we have assumed that all land is homogeneous, i.e., equally well fertile and equally well-situated. This is, however, not a realistic assumption. In fact, Ricardo was most interested in showing the emergence of rent when the land differs in quality i.e., in fertility and situation.

Some pieces of land are more fertile than others. Again, some pieces of land are more favourably situated than others. That is, they are located near to the market centres where produce has to be sold, than others.

With a given application of labour and capital, some pieces of land will yield more output per acre than others.

Thus the differences in fertility will bring about differences in the costs of production (exclusive of rent) of various farmers operating on the different grades of land. The farmers working on the superior or more fertile grades of land will have their average cost curve at a lower level than those working on the inferior or less fertile grades of land.

Likewise, differences in location cause differences in costs of various farmers because of the differences in transportation costs. In practice, land will be of numerous grades, shading off gradually from the best to the poorest. To simplify our analysis, we however, assume that in our island there are three grades of land. Land A being the superior most and C the poorest, B grade of land lies between A and C.

When people first come to island, they will take up the best grade land A for the production of corn. So long as some of grade A land is yet lying idle, there will be no rent. When with the increase in the population of the island or with the development of the island, the demand for corn increases, the whole of the grade A land will be put into use for the production of corn.

At this stage each of the many farmers who will be using the grade A land will work at the lowest point of the average cost curve as shown in the figure below. When once the whole of grade A land is brought into use and the demand for corn still further increases due to either growth of population or the development of the island, two courses of action will be adopted. First, grade B land will also be taken up for cultivation. Secondly, grade A land will be more intensively used i.e., more doses of labour and capital will be applied to the pieces of grade A land.

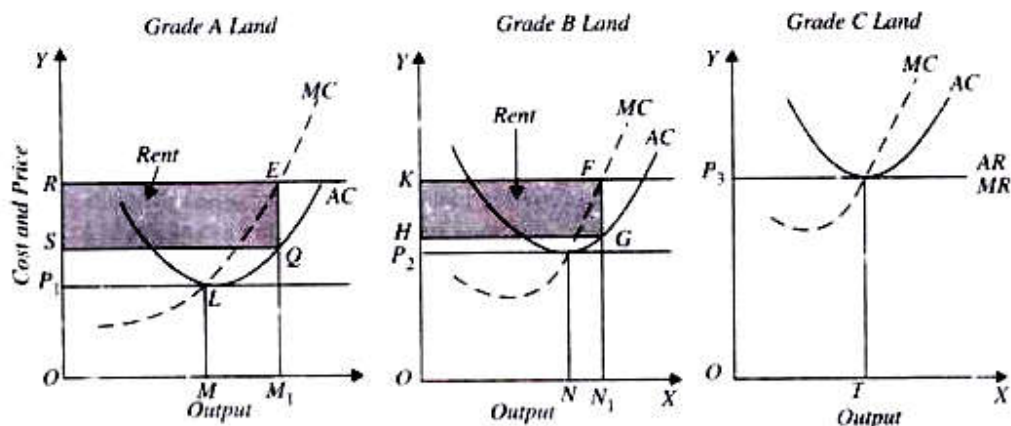


Fig. 34.2 Differential Rent

Now, the grade B land can be taken for use only when the price sufficiently rises so that it covers the average cost of production on grade B land. In other words, price must be high enough to cover the minimum average cost (exclusive of rent) on grade B land otherwise it will not be worthwhile to cultivate it.

In other words, if the price is lower than the lowest average cost on grade B land, its cultivation will not pay back even the labour and capital cost incurred and therefore it will not be brought under cultivation. It is evident from figure that price must rise to OP_2 if the grade B land is to be taken up for production.

Now suppose that demand for corn has risen so much that price of corn is OP_2 and therefore grade B land has been brought under cultivation. Thus, margin of cultivation has been extended to grade B land. In other words, grade B land is now on the margin of extensive cultivation.

Every farmer cultivating the grade B land will operate on the lowest point of average cost curve AC in Fig. 34.2(b). Since the price of OP_2 is equal to average labour and capital cost on grade B land, there is no

surplus over cost of production and hence grade B land does not earn any rent. But because price OP_2 stands higher than the lowest average cost on grade A land, surplus over cost of production would appear on grade A land. This surplus is rent which will be paid to the landlord of grade A land.

It should be noticed that besides extending the margin of cultivation to grade B land, there will also be side by side more intensive cultivation of grade A land by applying more doses of labour and capital on it. In other words, margin of intensive cultivation will also be pushed forward.

In terms of the figure, it will mean that the farmers operating on grade A will not produce at the lowest average cost, they will also expand output to meet the increased demand. With the expansion in output, the marginal costs on farms of grade A land will rise.

The price must rise to cover this increase in marginal cost, if the extra costs incurred on additions to capital and labour for expanding output are to be recovered. In the figure when the farmers of grade A land extend the margin of their intensive cultivation in response to increased demand, their new equilibrium position will be where the marginal cost is equal to new higher price OP_2 .

It should be noticed that rent on grade A land would have arisen even if no more intensive cultivation was done and the output was restricted to OM level since the price OP_2 stands higher than the lowest average cost ML on grade A land.

But, in practice, both the extensive and intensive margins are pushed further in order to meet the increase in demand and the surplus over cost of production i.e., land rent on intra-marginal lands arises because of both the more extensive and intensive cultivation. At this stage grade B land is marginal land which earns no rent and grade A land is intra-marginal land, which will earn rent.

Now suppose that population of the island further increases which brings about further increases in demand for the produce of land so that the price of corn further rises to the level OP_3 . As a result of this, the grade C land will also be brought under cultivation and lands of grade A and B will be more intensively cultivated.

Price OP_3 is equal to the minimum average cost on grade C land. There will be no surplus earned over cost of production on grade C land and hence grade C land does not earn any rent. Grade C land is now on the margin of extensive cultivation. Thus, grade C land is the marginal land. Besides, at price OP_3 , lands of grade A and B will be more intensively cultivated by applying more doses of labour and capital on them. Consequently, output on grades A and B will be expanded to point where the marginal cost equals to the price OP_3 .

It will be seen in the figure that at price OP_3 output is expanded to OM_1 on grade A land and to ON_1 on grade B land. Now, surplus over cost of production has emerged on grade B land. Total revenue earned on grade B land is now ON_1FK , whereas total labour and capital cost is ON_1GH .

The surplus of total revenue over total cost is equal to $HGFK$ which represents rent earned by grade B land. As the result of the increase in

price to OP_3 , the total revenue earned in case of grade A land is OM_1ER , while the total cost of production is OM_1QS . Hence the rent, that is, surplus earned over cost of production on grade A land has increased to $SQER$.

To sum up, with price of the corn equal to OP_3 the land of grade C is the marginal land that earns no rent, whereas the lands of grade A and B are intra-marginal lands. The higher-quality land of grade A is earning more rent than land of grade B.

The important point to be noted about the classical (Ricardian) theory of rent is that rent does not form a part of the cost of production. As seen above, rent on land is the earnings over and above the cost of production. As rent does not enter into cost of production, it therefore does not determine price.

Price of corn (or produce of the land) must be equal to the minimum average cost of production of the marginal land, but the marginal land earns no rent. **It is thus clear that in Ricardian Theory, rent is not price determining.** In fact, in this theory rent is price determined, that is, it is price of corn which determines rent, and not other way around. **To quote Ricardo, “Corn is not high because a rent is paid, but a rent is paid because corn is high.”**

CRITICISM

1. There is no original and indestructible power of land.
2. Supply of land is not limited from the standpoint of the farmer.

3. There must exist production cost if land is considered from the stand point of an individual farmer instead of from the stand point of the society.
4. The assumption that land has no alternative use other than prodn of corn is unrealistic.
5. Ricardian order of cultivation(first grade land, then second grade land and so on) may not be feasible in all cases.
6. Ricardian concept of marginal land is not seen in real world.
7. This theory is applicable only in the case of land but according to modern economists there is rent component in all factor incomes if the supply is limited.
8. According to Ricardo rent is not included in the price of corn. But it is not always true.
- 9.

MODERN THEORY OF RENT

TRANSFER EARNING

The amount of money which any particular unit could earn in its best paid alternative use is sometimes called its transfer earnings. In general the excess of what any unit gets over its transfer earnings is Economic Rent.

The major features of the modern theory of rent are :

1. Rent can be a part of the income of all factors of production.
2. Amount of rent depends upon the difference between actual earning and transfer earning.
3. Rent arises when supply of the factor is either perfectly inelastic or less elastic.

Determination of Rent of Land or Scarcity Theory of Rent

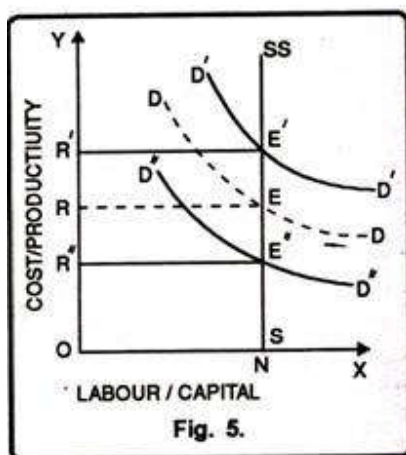
Modern economists opined that rent arises due to scarcity of land. Scarcity of land means that demand for land exceeds its supply. Rent will be determined at a point where demand for land is equal to its supply.

Demand for Land

Land has derived demand. It means that demand for land depends on the demand for agricultural products. If demand for food grains increases, demands for land will also increase and vice-versa. Moreover, demand for land is influenced by its marginal productivity. It means as more and more land is used its MP_1 goes on diminishing.

Supply of Land

Supply of land is fixed. **Its supply is perfectly inelastic.** It means, increase in the price of land will not evoke any increase in its supply.



In the above figure units of land have been measured on X-axis and rent on Y-axis. SS is the supply curve of land which is parallel to Y-axis indicating that the supply of land remains fixed. Rent will be determined at a point where the demand and supply of land are equal to each other.

Initially DD is the demand curve which intersects the supply curve at point E. At this point, equilibrium rent OR is determined. Now, if the population rises which gives boost to the demand for food, the demand curve shifts to D'D' and the equilibrium will be at point E' and the rent will rise to the extent of OR'.

Similarly, if the demand curve shifts to D'' D'' the new equilibrium point will be E'' and the rent will fall to OR''.

Rent as the Difference between Actual Earnings and Transfer Earnings

According to modern economists rent is the difference between actual earning and transfer earning. Rent can be a part of income of factors of production. But, these factors will earn rent only when their supply is less than perfectly elastic.

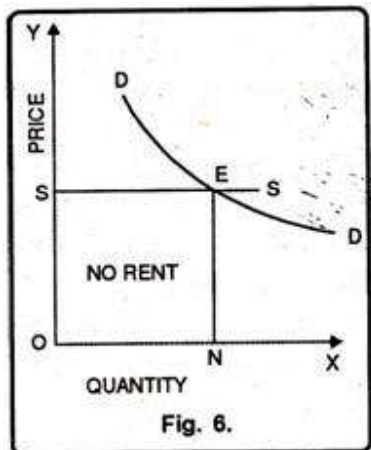
Thus, from elasticity point of view, there are three possibilities, i.e.

1. Supply of factors of production is perfectly elastic.
2. Supply of factors of production is perfectly inelastic.
3. Supply of factors of production is less than perfectly elastic.

(i) When Supply is Perfectly Elastic

Actual Earning = Transfer Earning Rent

Economic Rent = Actual Earning – Transfer Earning = Zero



In this figure the supply curve of the factor of production is represented by SS which is horizontal straight line. It means all factors are available at price OS. DD is the demand curve.

The demand and supply curves intersect each other at point E. ON is the quantity of the factor used and price is OS. The total earnings are OSEN. Since, transfer earnings are equal to actual earnings i.e. OSEN, there is no surplus and, thus, no rent.

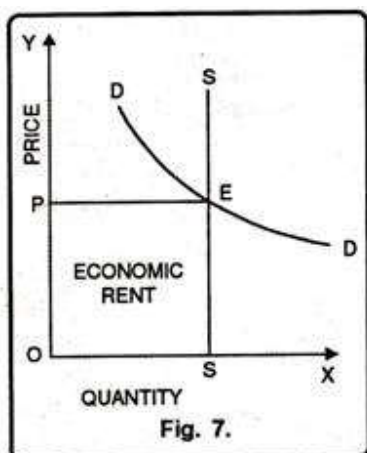
(ii) When the Supply is Perfectly Inelastic

Inelastic supply of a factor indicates that any increase or decrease in demand is not followed by the supply. In such a case, transfer earnings will be zero and the difference between actual earning and transfer earning will be equal to actual earning. Therefore, all the actual earnings will be called rent.

Rent = Actual Earning (Since Transfer Earning is zero)

In Figure 7, SS is perfectly inelastic supply curve of land which indicates that if price of land falls to zero even then supply remains OS. It means the transfer earnings of land are zero.

DD is the demand curve. As both the demand and supply curves intersect each other at point E, price OP is determined. Since transfer earnings are zero, the total earnings (OSEP) represent the economic rent.



(iii) When the Supply is Less than Perfectly Elastic:

Less than perfectly elastic supply means that the transfer earnings of all the factor units are not equal. Mrs. Joan Robinson used the concept of ‘Transfer Earnings’ to explain the amount of rent earned by a factor unit in a particular use. She defines transfer earnings as the price which is necessary to retain a given unit of a factor in a certain industry.

This can be shown with the help of the following table 2:

Table 2

Demand for Labour	Actual Earning	Transfer Earning	Rent
20	20	20	20-20 = 0
35	25	20	25-20 = 5
40	30	20	30-10 = 10

The above table shows that when demand for labourer is 20, their transfer earning and actual earnings are equal. Therefore, Rs. 20 is the minimum wage rate below which there will be no supply of labour. Now, if demand for labourer increases to 35 but supply does not increase to the same ratio, wage rate will rise. As a result actual earning of labourer will rise to 25 while transfer earning will be Rs. 20 per labourer. Similarly, if the demand for labourer increases to 40 but supply does not rise, wage rate of labourer will further rise. Actual

earning will go upto Rs. 30 per labourer. Thus, every labourer will earn rent equal to Rs. 10.

In Fig. 8 labour has been measured on X-axis and price on Y-axis. SS is the somewhat elastic but not perfectly elastic supply curve indicating that what quantity of the factor will be available at various prices. The transfer earning of X_1 unit of factor is AK_1 while the price is OK .

Thus the surplus or rent is AL . In the same fashion, the other unit earns surplus or rent. The transfer earnings of each factor units are less than the price. All units except the last unit K_6 are earning profits which are more than their transfer earnings i.e. they are earning economic rent. The total earnings are OK_6E' and the transfer earnings are OK_6E' . If we take away the transfer earnings, we get $KE'S$ as surplus or rent.

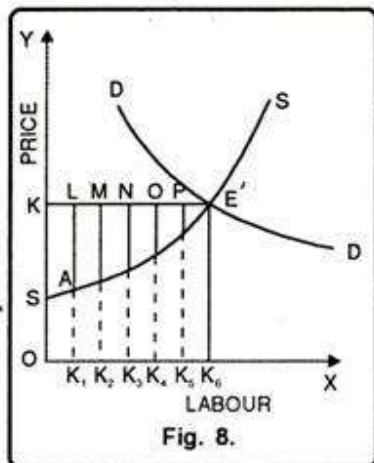


Fig. 8.

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