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Editor:
Janmejoy Khuntia

SCHOOL OF OPEN LEARNING
UNIVERSITY OF DELHI
5, Cavalry Lane, Delhi-110007
TOPIC 6

INCOME DISTRIBUTION
AND FACTOR PRICING
Introduction

The total output of an economy is the result of the joint productive efforts of the various factors of production; land, labour, capital and enterprise. This total output ultimately gets distributed among the factors that contributed to its production in the form of wages, rent, interest and profit. The purpose of the theory of distribution is to explain the principles that govern this distribution. The distribution of total product depends on how the various factors are priced in the market. Thus, pricing of the various factors of production is the subject matter of the theory of distribution.

There are two aspects of the factorial distribution of national income; (i) determination of the per unit prices of the different factors and (ii) the division of the national income as between the different factors, i.e., absolute and relative shares of different factors in national income. The first question is essentially a micro-economic problem concerning the determination of equilibrium at the level of an individual firm or an industry. The second question concerns the factorial distribution of income at the level of the economy and, therefore, forms part of macro analysis. Thus, we have micro and macro theories of distribution. In the present set of lessons we are concerned only with the micro theories of distribution i.e., the question of factor-price determination.

Just as the price of any commodity is determined by the interaction of the forces of supply and demand, similarly the price of a factor is determined by the interaction of the forces of supply and demand for it. The theory of distribution is, thus, a special case of the theory of price determination discussed in the earlier set of lessons. However, the supply and demand for factors exhibit some peculiarities which have to be taken into account while considering the pricing of particular factors. Herein lies the justification for a separate theory of factor price determination. Let us first examine the demand for and supply of factors in some detail.

16.1 THE DEMAND FOR FACTORS

1. The Nature of the Demand for a Factor

Why does a producer demand a factor? The demand for a factor is derived (or indirect) and not direct demand. The demand for a commodity is direct in the sense that it directly satisfies some human want. The demand for a factor, on the other hand, is not direct in this sense. A factor is demanded not for its own sake, but simply because it can contribute to the production of some commodity demanded by the consumers. For example, a farmer pays rent for the use of land simply because it helps to produce, let us say, wheat which is demanded by the consumers. Similarly, he pays for seeds and fertilizers because they help to produce commodities, which are demanded by the consumers.

When a producer employs an additional unit of a factor it yields him some extra output. While demanding a factor, the producer is not so much interested in the extra output that it yields him as
in the amount of the extra revenue he will get from the sale of that output. In other words, he demands a factor simply because it ultimately contributes to his revenue. Hence the price a producer will be willing to pay for a factor unit will depend upon the addition to his total revenue which results from the employment of an additional unit of that factor. The additional revenue yielded due to the employment of an additional unit of a factor is called the marginal revenue product (MRP). For example, suppose that by employing 10 labourers on a given plot of land a farmer gets 100 quintals of wheat which sell for Rs. 20,000 in the market and by employing 11 labourers instead of 10 he is able to raise 110 quintals of wheat which sell for Rs. 22,000. It is evident that due to the employment of an additional labourer total revenue of the producer rises from Rs. 20,000 to Rs. 22,000. Rs. 2000 is, thus, the MRP of the 11th unit of labour. While demanding a factor the producer has his eyes set on this quantity. It is in this sense that the demand for factors is derived out of the demand for the commodities that they help to produce.

2. Different Concepts of Marginal Product

There are three different senses in which the concept of marginal product (MP) is used. Firstly, it may be used to express the addition made to the total physical product of a producer due to the employment of an additional unit of a factor, the amounts of all other factors remaining constant. We call this additional physical product as the marginal physical product (MPP). For example, if by employing 11 labourers on a given piece of land instead of 10, the total wheat output of a farmer increases from 200 quintals of rice to 220 quintals, then the MPP of the 11th unit of labour will be said to be 20 quintals. Thus, the MPP of a factor is the addition made to the total physical output of a producer due to the employment of an additional unit of a factor while keeping the amounts of all other factors constant.

Secondly, the concept of MP may be used in value productivity sense. The addition to the total revenue of a producer made by the employment of an additional unit of a factor, with amounts of all other factors remaining constant, is called the marginal revenue product (MRP) of the variable factor in question. According to this above example, the total physical product of the producer increases from 200 quintals to 220 quintals when he employs 11 labourers instead of 10 on the same plot of land. Now if the total revenue of the producer increases from Rs. 40,000 to Rs. 42,000 when he sells 220 quintals instead of 200, the MRP of the 11th labourer will be said to be Rs. 2,000.

It is evident that the MRP of a factor depends upon two things: (a) the additional units of output produced and (b) the contribution of each unit of output to the total revenue of the producer. The additional output produced by the employment of an additional unit of a factor is called the MPP and the contribution of an additional unit of output to the total revenue of a producer is called the marginal revenue (MR). Thus:

$$\text{MRP} = \text{MPP} \times \text{MR}$$

Thirdly, the concept of marginal product may also be used to denote the market value of the MPP of a factor. For instance, the MPP of the 11th labourer according to the above example is 20 quintals of wheat. Now if the ruling market price of wheat, when the larger output is sold (220 quintals instead of 200 quintals) is Rs. 200 per quintal, the market value of the additional output will equal Rs. 4,000, Rs. 4000 then will be said to be the value of marginal product (VMP) of the 11th labourer. VMP is simply the MPP multiplied by the market price of the commodity. As already explained in the context of the theory of firm, market price and average revenue (AR) are one and the same thing. Thus:

$$\text{VMP} = \text{MPP} \times \text{AR}$$

3. Relation between MRP and VMP

MRP equals MPP × MR while VMP equals MPP × AR. MPP is common to both concepts. MPP, as discussed in detail in Set VI of this paper, depends solely on the technical conditions of production

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while MR and AR depend upon the structure of commodity market where the firm sells its output. If the firm sells its output on a perfectly competitive commodity market, it will be faced with a perfectly elastic demand curve and its AR and MR will then be identical. Thus in the event of perfect competition in the commodity market the MRP (=MPP × MR) and VMP (=MPP × AR) of a factor to a firm will be the same because AR and MR are identical. But if the firm is faced with an imperfectly competitive commodity market, then MRP and VMP will not be the same. In the event of imperfect competition in the commodity market, as we have already studied, MR will necessarily be less than AR. From this it follows that in the event of imperfect competition in the commodity market, MRP (which equals MPP × MR) will necessarily be less than VMP (which equals MPP × AR) because MR is less than AR. Thus, in conclusion we note that in case of perfect competition in the commodity market MRP equals VMP and in case of imperfect competition MRP will necessarily be less than VMP. Thus:

\[
\text{MRP} (=\text{MPP} \times \text{MR}) = \text{VMP} (=\text{MPP} \times \text{AR}) \quad \text{in case of perfect competition in commodity market.}
\]

\[
\text{MRP} (=\text{MPP} \times \text{MR}) < \text{VMP} (=\text{MPP} \times \text{AR}) \quad \text{in case of imperfect competition in the commodity market.}
\]

We clarify the point further with a simple example. Suppose the total physical product of a farmer per year increases from 200 quintals to 220 quintals of rice when he employs 21 labourers instead of 20, on a given piece of land. The MPP of the 21st labourer, according to this example, would be 20 quintals. Further suppose that the farmer sells his output on a perfectly competitive commodity market so that the price of rice remains constant at Rs. 100 per quintal even when he sells the larger output. MRP of the 21st labourer in this case would equal the change in the total revenue of the producer due to the sale of the larger output i.e., \[220 \times 100 - 200 \times 100 = 22000 - 20000 = \text{Rs. 2000.}\] VMP (MPP × AR) in this case would also equal Rs. 2000 (\[=20 \times 100 = 2000\]). Now suppose the farmer is faced with an imperfect commodity market so that he is able to sell the larger output at Rs. 98 per quintal and not at Rs. 100 per quintal. In this case MRP of the 21st labourer would equal \[220 \times 98 - 200 \times 100 = 21560 - 20000 = \text{Rs. 1560.}\] And VMP would equal \[\text{MPP (}=20\text{)} \times \text{AR (}=\text{Rs. 98)} = \text{Rs. 1960.}\] Why is MRP in this case smaller than VMP? The reason is very simple. When the price falls from Rs. 100 to Rs. 98, this reduction in price applies not only to the extra output but also to the earlier output (i.e., 200 quintals) which was earlier sold at Rs. 100 instead of Rs. 98. Thus, while the producer gets additional revenue from the sale of the extra output (=20 quintals) at the current market price equal to Rs. 98, at the same time he suffers a loss in his earlier total revenue equal to the fall in price (i.e., Rs. 2) multiplied by the earlier total output (i.e., 200 quintals) i.e., output but also to the earlier output (i.e., 200 quintals) i.e., Rs. 400. The MRP (or the net addition to the earlier total revenue of the producer) would thus equal Rs. 1960 – Rs 400 = Rs. 1560. Thus as a general rule we note that in the event of imperfect competition in the commodity market MRP will be less than VMP by the amount of loss of revenue suffered by the producer on his earlier output due to the fall in price. In the present case when, in order to sell the larger output (220 quintals instead of 200, quintals), price falls from Rs. 100 to Rs. 98, he is compelled to sell the earlier output (200 quintals) also at Rs. 98 per quintal and thus suffers a loss of revenue of Rs. 400/-. Therefore, MRP of 21st unit will be less than its VMP by Rs. 400.

**The Shape of the MRP Curve**

The demand for a factor is derived from its MRP. MRP, as we have seen above depends upon MPP and MR. The behaviour of MRP will thus depend upon the behaviours of its components with changes in the quantity of the variable factor employed. Under a given set of conditions the behaviour of MPP is determined by the operation of the law of diminishing returns (or the law of variable proportions). The law states that as more units of a variable factor are used with a given amount of other factors, after a point its MPP starts diminishing, provided there is no change in the state of technology. We can explain this law with a simple numerical example. Imagine a farmer employing more and more
labourers on a given plot of land. The table below records total, average and marginal products as the farmer employs more and more labourers on the given plot of land and other equipment etc.

<table>
<thead>
<tr>
<th>No. of workers</th>
<th>Total Product (In physical units)</th>
<th>Average Product</th>
<th>Marginal Product (In physical units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>2</td>
<td>36</td>
<td>18</td>
<td>21</td>
</tr>
<tr>
<td>3</td>
<td>60</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td>4</td>
<td>92</td>
<td>23</td>
<td>32</td>
</tr>
<tr>
<td>5</td>
<td>120</td>
<td>24</td>
<td>28</td>
</tr>
<tr>
<td>6</td>
<td>144</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>7</td>
<td>161</td>
<td>23</td>
<td>17</td>
</tr>
<tr>
<td>8</td>
<td>176</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>9</td>
<td>189</td>
<td>21</td>
<td>13</td>
</tr>
<tr>
<td>10</td>
<td>189</td>
<td>19</td>
<td>0</td>
</tr>
<tr>
<td>11</td>
<td>176</td>
<td>16</td>
<td>-13</td>
</tr>
</tbody>
</table>

The figures in the above Table show that both the average and marginal products increase at first and the decline. The marginal product falls faster than the average. The important point to note is that with the employment of the fifth unit the marginal product starts diminishing. The same phenomenon is depicted in the diagram below.

In the diagram 16.1 below the MPP curve rises till the employment of OA units of labour and thereafter it falls continuously. The APP curve rises till the employment of OB units and thereafter starts declining. The relationship between APP and MPP is the same as that between AC and MC explained in the earlier set of lessons.

In order to convert the MPP curve into the MRP curve we need to know the contribution to revenue made by the MPP at each level of employment of the factor. It bears repetition to point out at this stage that while MPP depends entirely on the technical conditions of production, its value productivity...
depends upon the commodity market where the firm sells its output. If the firm sells its output on a perfectly competitive market, its MR will equal its AR and thus the MRP curve can be derived from the MPP curve simply by multiplying the MPP corresponding to each level of employment of the factor by the given market price of the product (AR). Diagram 16.2 depicts the MRP curve corresponding to the MPP curve of the diagram 16.1.

Carefully note the fact that just like the MPP curve the MRP curve is also downward sloping. The reason for this is the diminishing marginal productivity of the factor. Also note the fact that in this particular case MRP curve is also the VMP curve.

However, as already explained, if the firm is confronted with an imperfectly competitive commodity market, it will be able to sell larger outputs only by reducing the market price so that MR will be less than AR. As a result two things happen. Firstly, as the firm is able to sell its extra output at a lower price, the VMP curve (which is derived from the technically given MPP curve by multiplying MPP corresponding to each level of employment of the factor by the market price of the product) will fall more sharply than the MPP curve. Secondly, since MR will be less than AR, the MRP curve will lie below the VMP curve and slope more sharply than the latter. Diagram 16.3 depicts the VMP and MRP curves of a firm selling its product in an imperfectly competitive commodity market.

The difference between MRP and VMP is further explained with hypothetical figures given in Table 16.2 below.

### TABLE 16.2

<table>
<thead>
<tr>
<th>Units of the Factor</th>
<th>Total Product</th>
<th>MPP.</th>
<th>Perfect Competition in the Commodity Market</th>
<th>Imperfect Competition in the Commodity Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td>15</td>
<td>100</td>
<td>1500</td>
</tr>
<tr>
<td>2</td>
<td>36</td>
<td>21</td>
<td>100</td>
<td>3600</td>
</tr>
<tr>
<td>3</td>
<td>60</td>
<td>24</td>
<td>100</td>
<td>6000</td>
</tr>
<tr>
<td>4</td>
<td>92</td>
<td>32</td>
<td>100</td>
<td>9200</td>
</tr>
<tr>
<td>5</td>
<td>120</td>
<td>28</td>
<td>100</td>
<td>12000</td>
</tr>
<tr>
<td>6</td>
<td>144</td>
<td>24</td>
<td>100</td>
<td>14400</td>
</tr>
<tr>
<td>7</td>
<td>161</td>
<td>17</td>
<td>100</td>
<td>16100</td>
</tr>
<tr>
<td>8</td>
<td>176</td>
<td>15</td>
<td>100</td>
<td>17600</td>
</tr>
<tr>
<td>9</td>
<td>189</td>
<td>13</td>
<td>100</td>
<td>18900</td>
</tr>
<tr>
<td>10</td>
<td>197</td>
<td>8</td>
<td>100</td>
<td>19700</td>
</tr>
</tbody>
</table>
Explanatory Notes:

1. MPP = Difference between two successive total products.
2. T.R. = Total revenue = Total product \times price at which it is sold:
3. MRP = Marginal revenue product = Difference between two successive total revenues.
4. VMP = Value of MPP = MPP \times the price at which total product sells.

Carefully note the following:

1. Total product and MPP figures are the same because they are determined purely by-technical factors.
2. In case of perfect competition in the commodity market, MRP and VMP figures are identical,
3. In case of imperfect competition in the commodity market MRP is always less than VMP.

5. Firm’s Demand Curve for a Factor

Just as it is true that a profit maximizing firm, whether it is selling its product under conditions of perfect competition, imperfect competition or monopoly, will produce to the point at which its MC equals its MR, so it is true that a profit-maximizing firm will purchase units of a variable factor up to the point at which the addition to its total cost resulting from the employment of an additional unit (i.e., marginal factor cost, MFC) equals the MRP of the factor in question. Thus, in the purchase of a single variable factor a firm will be in equilibrium when MFC equals MRP of the factor.

Thus, in equilibrium:

\[ MFC = MRP \]  \hspace{1cm} (1)

The above is a perfectly general equilibrium condition applicable to all market situations. If we further assume that the firm is able to purchase any amount of the factor without influencing market price (i.e., purchases in a competitive factor market), the MFC of the factor to the firm is simply the market price (AFC). Therefore, for firms that purchase their factor supplies in a perfectly competitive market the above equilibrium condition (1) can be alternatively stated as follows:

\[ AFC = MRP \]  \hspace{1cm} (2)

This condition allows us to derive a firm’s demand curve for a factor from the MRP curve. The factor’s MRP curve shows different MRPs corresponding to the different amounts of the factor employed with given amounts of all other factors. Firm’s demand curve for a factor would show the different amounts of the factor that the firm would be willing to purchase at different prices of the factor. Therefore, when a firm purchases its factor supplies in a competitive factor market (so that MFC = AFC) the MRP curve of the factor becomes the firm’s demand curve for the factor as shown in the diagram below.

In the diagram 16.4 amount OA of the factor equates its MRP at point a with the price OW. Therefore, at OW price the firm would be willing to purchase OA amount of the factor. Amount OB of the factor equates its MRP at point b with price OWS. Therefore, with OW, as the price the firm would be willing to purchase OB amount of the factor. Similarly, at OW₂ price the firm would be willing to purchase

[Diagram 16.4]
However, at this stage let us carefully note that the MRP curve is the firm’s demand curve for the variable factor in question on the assumption that the price of the product and the price of the factor are both given for the firm.

**6. Market Demand Curve for a Factor**

In the preceding diagram the MRP curve is the firm’s demand curve for the factor in question on the assumption that changes in the price of the factor do not, directly or indirectly, affect the price of the commodity produced and hence the given MRP curve. This assumption would be valid only if all other firms in the industry keep their outputs fixed. However, this is not a realistic assumption. In the event of a fall in the price of a variable factor we would expect all firms in the industry to employ more of this relatively cheaper factor. This would increase the total output of the industry and cause the price of the commodity to fall. A fall in the price of the commodity would cause the MRP curves of all the firms (based on the higher price of the commodity) to shift leftward. Firms will adjust their purchases of the factor with reference to the new MRP curve (corresponding to the lower commodity price). Thus, each fall in the price of a variable factor (via its effects on the factor’s total employment, total output and hence the price of the commodity produced) will give rise to a new lower MRP curve with one equilibrium point corresponding to the new factor price. The line joining such equilibrium points on the different MRP curves will be the firm’s demand curve for the variable factor in question when the reactions of other firms in the industry to changes in the price of the factor are allowed for. This is shown in the diagram 16.5.

![Diagram 16.5](image)

In diagram 16.5 let us start from an equilibrium position such as point a on the curve MRP, with OW as the factor price and OA as the amount demanded of it by the firm. Now suppose the price of the variable factor falls from OW to OW₁. All firms in the industry employ more of this factor, as a result total output of the commodity increases and consequently price of the commodity falls. Fall in the price of the commodity (say, from Rs. 100/- to Rs. 98/-) causes the MRP curves of all firms to shift leftward. Suppose as a result of these indirect effects the MRP, in the diagram above shifts position MRP₂ with MRP₂ and OW₁ as the factor price equilibrium is established at point b with OB as the amount demanded of the factor 0. Similarly, when the price of the factor rises further to OW₂, MRP₂ shifts leftward to the position of MRP₃ on which equilibrium with the lower factor price (OW₂)
is established at point c; with OC as the amount demanded of the factor. The line DD joining equilibrium points such as a, b, c, etc., is the firm's demand curve for the factor when reactions of other firms in the industry to variations in the price of the factor are allowed for.

The lateral summation of the demand curves of all firms for a factor, as derived above, gives us the market demand curve for the factor in question. Just like the firm’s demand curve, the market demand curve for a factor will also be downward sloping.

7. Firm’s Demand Curve for a Factor when factor Market Imperfect
As explained earlier, equality of MRP with MFC of a variable factor determines a firm’s equilibrium in the purchase of a single variable factor under all market situations. However, a firm’s demand curve for a factor, defined as indicating the different amounts of the factor demanded by the firm at different prices of the factor, is based on the assumption that MFC of the factor to the firm equals its price (AFC) so that equality of MFC with MRP also means the equality of price of the factor (AFC) with MRP. This implies that the firm purchases its factor supplies in a perfectly competitive factor market so that it is able to purchase any amount of the factor without influencing the given market price and as a result MFC of the factor equals its AFC. We derived the individual and the market demand curves in the preceding sub-section on the basis of this assumption. However, if a firm does not purchase its factor supplies in a perfectly competitive factor market, it will be able to purchase larger amounts of the factor only at higher prices. When a firm purchases larger amounts of a factor at higher prices, MFC of the factor will necessarily be higher than its AFC. For example, if in order to purchase 51 instead of 50 units of a factor a firm has to raise the factor price from Rs. 100 to Rs. 102, the MFC of the additional unit to the firm will equal Rs. 202 (102 × 51 - 100 × 50 = 202) which is greater than AFC.

When the MFC of a factor to a firm is greater than its AFC, it cannot afford to equate MRP with the AFC because in doing so it will incur a net loss equal to the excess of MFC over AFC and thus reduce its profits. In such a case the MRP curve cannot be described as the firm’s demand curve for the factor in the sense of indicating the different amounts of the factor demanded by the firm at different prices of the factor. Even in such cases MRP curve will be described as the firm’s demand curve for a factor but in a different sense which we will explain in a later section.

2. SUPPLY OF FACTORS
1. Supply of Factors to the Whole Economy
At first glance it may appear that quantities of most factors are fixed in an economy. For example, there is an upper limit to the number of workers. Similarly, there are upper limits to quantities of coal, oil, copper, iron ore, etc., available in the economy. However, in practice we are never near these limits. Often a large undiscovered or unexploited quantity exists, and a shortage of the resource that raises its price encourages exploration and the development of previously unprofitable sources. Thus, the supply of a resource to the economy usually varies considerably with changes in the price of the resource. With this brief introduction we now come to a discussion of the characteristic features of the supplies of individual factors.

2. Supply of Land
Land in economics includes all natural resources provided free by nature. The quantity of a particular natural resource existing in the world is, of course, limited. But we are never near these upper limits. Generally large undiscovered (or unexploited) sources exist and a shortage that raises their prices encourages exploration, research and development of previously unprofitable sources. Therefore, the supply of any natural resource usually varies considerably with changes in its price. A high return to land provides
incentives for the development of its productive powers through irrigation, drainage, fertilization, etc., which greatly increase the supply of arable land. On the other hand, if the return to land is low, its fertility may be allowed to be exhausted within a short period of time. Traditionally, however, the supply of land (which includes all natural resources besides mere space) to the whole economy has been assumed to be absolutely inelastic.

3. Supply of Labour

By the supply of labour (or the supply of effort) we mean the total number of hours of work that the population is willing to supply. The supply of effort depends upon the following factors,

(1) The size of the population: The size of the population sets the upper limit to the total of labour. While there is some evidence that the birth and immigration rates are higher in good times than in bad times, it is doubtful, especially in advanced economies, whether economic factors are of paramount importance in determining the growth of population. It is difficult to establish any definite relationship between the reward of labour and growth of population. The reasons for which population varies are at the moment largely unexplained. Therefore, for our purpose we may take the size of population as fixed.

(2) The proportion of the population willing to work: The proportion of the population entering the labour market varies considerably in response to variations in the wage rate. Generally, an increase in the wage rate results in an increase in the proportion of the population willing to work. Women, old people and even young boys are induced to join the labour force when the wage rate is high. For example, the proportion of married women and old persons in the labour force increased dramatically during the Second World War. In addition to the rate, the proportion of the population entering the labour market also depends on the age composition of population, social institutions, customs and distribution of wealth in the economy. For example, the extent to which women, especially married women, enter the labour market partly depends on customs and opportunity. Customs and opportunity can vary from one time to another and from one place to another even within the same country. Greater equality in the distribution of property in a society, by reducing the number of those who live on unearned incomes and consequently do not need to work, will increase the supply of labour in an economy.

(3) The number of hours of work offered by each individual worker: By hiring out his services a labourer gets some money as his wage. With this money he purchases goods and services for his consumption. Thus, the labourer trades his leisure for goods, by giving up leisure (i.e., by working) he gets money, and hence, goods. A rise in the wage rate means that there is a change in the relative price of goods and leisure. Leisure becomes dearer relative to goods (since each hour of leisure consumed now is at the cost of more goods forgone), or alternatively, goods become cheaper relative to leisure since each hour worked (i.e., leisure traded for goods) now results in more goods than before. In the context of the theory of consumer’s demand we noted that a consumer tends to substitute a cheaper good at the cost of a dearer good when their relative prices change. The same logic applies to change in the wage rate also. Due to rise in the wage rate goods become cheaper relatively to leisure and as a result a labourer tends to substitute goods at the cost of his leisure; he tends to have more goods by reducing his leisure. This is known as the, ‘substitution effect’ of wage increase.

The substitution effect of a wage increase will tend to expand the supply of effort in two ways. Firstly, some of those who were not willing to work at the lower wage rate would now like to work because leisure has now become costlier in terms of goods forgone. Secondly, for the same reason those who were already working would now like to put in more hours of work per day or per week by reducing their leisure. Thus, the total supply of effort will tend to expand due to these two factors.

Quite apart from the substitution effect discussed above, a wage increase also generates an income effect. With an increase in the wage rate a labourer grows richer than before even if he continues to
work the same number of hours per day or per week as he did when the wage rate was lower. Being richer the worker would demand more of all normal goods including leisure. He will spend a part of the increase in his real income in the purchase of leisure. He can do so by reducing the number of hours worked. So, the income effect of a higher wage rate induces the worker to reduce the number of hours worked per day or per week. Thus the substitution and income effects of a wage increase tend to pull in opposite directions; the substitution effect tending to increase the number of hours worked while the income effect tending to reduce the number of hours worked. The net effect of a wage increase on the supply of effort will, therefore, depend on the relative strengths of the two opposing tendencies. If the substitution effect is stronger than the income effect, labourers will put in longer hours of work in response to a rise in the wage rate. But if at any stage income effect becomes stronger than the substitution effect, labourers will put in shorter hours of work consequent upon arise in the wage rate. The supply curve of effort in this case will be backward rising as the one shown in figure below.

In figure A of diagram 16.6 below as the wage rate rises from $W_1$ to $W_3$ and then to $W_2$. The supply of effort expands from OA to OC and then to OD. In other words, up to the wage level $W_3$ substitution effect is stronger than the income effect and as a consequence supply of effort expands in response to increases in the wage rate. But when the wage rate rises beyond $W_3$ the income effect becomes stronger than the substitution effect and consequently the supply curve of labour starts sloping backwards to the left. In the figure B of diagram 16.6 when the wage rate increases from $W_3$ to $W_4$ instead of expanding, the supply of effort actually contracts from OD to OB.

Concluding our discussion of the supply of effort we can say that the backward rising supply of effort curve presents a strong possibility but cannot be taken as the typical case. There is no conclusive evidence available in support of a backward labour supply curve. Therefore, we assume that normally labour supply curve will be upward rising bending.

4. Supply of Capital

Capital is a man-made factor of production and interest is its cost. The supply of capital in a country consists or the existing machines plants, equipment, buildings, etc., and is called the Capital Stock. In the course of production during the year a part of the existing capital stock is used up and to that extent the supply diminishes. On the other hand, new machines, buildings, plant and equipment are produced.
every year which go partly to replace the worn-out part of the capital stock and partly to add to the stock. Ignoring cyclical fluctuations, the supply of capital has been increasing over time in all modern economies.

5. Supply of factors to particular uses

Different factors of production can normally be put to alternative, uses. Only few resources may be specific to a particular use and that too only in the short run. A given piece of land can be used to grow a variety of crops. Similarly, a labourer can be employed either to weave cloth in a factory or to build a road or to dig a canal or to grow various crops on a farm. Therefore, factors have to be allocated among various competing industries and among different firms in the same industry in a rational manner.

Factor owners choose the use for their resources in which they earn the most. They, of course, take many other things into account besides monetary benefits. Factors move among different uses until there is no net advantage in further movement. A change in the relative price paid to a factor in two uses leads factor owners to increase the quantity supplied to the use in which the relative price has increased and to decrease the quantity supplied to the use where it has decreased. This means that higher the (relative) price offered to a factor in a particular use, the larger will be the amount of the factor supplied to it. This gives rise to an upward rising supply curve to an industry as shown in the diagram below.

SS curve in the diagram 16.7 is the supply curve of a factor to an industry. It is upward rising indicating that higher the price offered to the factor, larger is the quantity supplied to the industry in question. For example, when the price offered is OW₁ only OA amount of the factor is supplied.

But when the price offered rises to OW₂, amount supplied increases to OB. And when the price offered rises to OW₃ amount supplied increases further to OC.

As explained previously, the supply curve of any factor to the economy as a whole will be normally more than perfectly inelastic. However, even in a case where the supply curve of a factor to the economy as a whole is perfectly inelastic (as for example, classical economists assumed the supply of land to be), its supply to a particular industry will not be perfectly inelastic, it will be more classic because the industry will always be able to attract more units of the factor from other industries by offering a slightly higher price. Therefore, the supply curve of a factor to an industry will normally be more elastic compared to its elasticity of supply for the whole economy.

6. Supply of a factor to an individual firm

In a factor market a firm may be either one of a large number of purchasers or one of the few purchasers of a particular factor. If the firm is one of a large number of purchasers of the same factor, its purchases will constitute a negligibly small fraction of the total market supply of the Factor. As a result, the firm would be able to purchase any amount of the factor at the going market price. In other words, the supply of the factor to such a firm will be perfectly elastic at the price determined by the forces of market supply and demand for the factor. As already explained, when the supply of a factor is perfectly elastic, price (AFC) and marginal factor cost (MFC) to the firm are identical. On the other hand, if the firm in question is one of the few big purchasers of a factor, its purchases will constitute a sizeable fraction...
of the market supply of the factor and as a result when the firm buys a large amount of the factor, its price is raised. Thus, in such a case the firm is able to buy more units of the factor only at higher and higher prices. The supply curve of the factor to the firm in such a case will rise upward. When the supply curve is upward rising, as already explained, MFC is higher than AFC and therefore, the MFC curve lies above AFC curve.

We may conclude our discussion by observing that normally the supply of all factors to an economy is responsive to factor prices in the long run. In the short run the same factor can have supply curves ranging from the vertical (i.e., perfectly inelastic supply curve) to the horizontal, depending on which demand curve is coupled with supply-the demand curve of a small firm, of an industry (or a big firm) of a group of industries (i.e., the whole economy). This is shown in the diagram 16.8.

It is thus evident that even when the supply of a factor to the economy as a whole is rigidly fixed (as in fig. A below), it will be more elastic to a particular use (as shown in fig. B), and will be perfectly elastic to a small user of the factor (as shown in fig. C).

![Diagram 16.8](image)

**Conclusions**

1. In the economic sense factor supplies for the economy as a whole are never perfectly inelastic except, possibly, in the very short run.
2. Supply of a factor to an industry is generally more elastic than its supply to the whole economy.
3. Supply of a factor to a small user of the factor can be assumed to be perfectly elastic.
INTRODUCTION

Having developed the necessary tools of analysis the demand and supply curves of factors under different market situations—we are now in a position to demonstrate factor price determination under different market situations. The theory of factor pricing is quite general applicable to all factors of production. In the following we discuss wage determination as a special case. However, the analysis is equally applicable to other factor prices as well. If one is interested in capital, he should interpret factor price as interest; if one is interested in land, then factor price should be interpreted to mean rent, and so on.

1. Under Competitive Conditions

When there is perfect competition in both the factor market and the commodity market, market wage rate is determined by the interaction of the forces of market demand for and supply of labour as shown in the diagram below.

In figure A diagram 17.1, the market demand and supply curves of labour intersect at P, determining AP(=OW) as the equilibrium wage rate. At this wage rate amounts of labour supplied and demanded are both equal to OA. At any higher wage rate supply of labour exceed the demand for it. For example, in the above diagram, at the wage rate OW1 supply of labour exceeds the demand for it by BC. This
excess supply exerts a downward pressure on the wage rate. On the other hand, if the wage rate is lower than the equilibrium rate the demand for labour will exceed its supply. For example, at the wage rate \( W_2 \), demand for labour exceeds its supply by HP. This excess demand will tend to push up the wage rate towards its equilibrium level. Thus, in either case the wage rate will gravitate towards its equilibrium level where supply and demand are equated.

Figure B diagram 17.1 depicts the equilibrium or a competitive firm for which the wage rate and the price of the product (and therefore the ARP and MRP curves) both are given. At the given wage rate determined by the market forces of supply and demand for labour (as shown in Figure A above) the firm only decides to employ so much of labour which equates MRP with the given wage rate. In this particular case MRP being equal to VMP, wage rate equals MRP as well as VMP. Thus, with perfect competition in both the factor market and product market, wage rate is determined by the forces of market demand and supply of labour and at the given wage rate thus determined an individual firm only decides to employ that amount of labour which equates MRP (and also VMP) with the given wage rate.

The equilibrium condition of the equality of MRP and the given wage rate (or any other factor price) is the short run condition for profit maximization. For example, in fig. B above, at the given wage rate the firm employs OA of labour which equates MRP with the given wage rate at L. But in this equilibrium position, ARP being greater than the wage rate by LM the firm is earning abnormal profits equal to the area of the rectangle WLMN. In an industry where there is no restriction on the entry and exit of firms, the possibility of earning abnormal profits is bound to attract new firms into the industry. Entry of new firms into the industry, will mean (1) increased demand for the factor in question and (2) the increased output of the commodity. Increased demand for the factor will tend to push up its market price and increased output of the commodity will lower MRP curve, i.e., the demand curve for the factor. Thus, as a result of the entry of new firms into the industry, the price of factor will tend to rise and demand curves of the firms for the factor (and therefore, its market demand curve) will fall. This process of the entry of new firms into the industry and the consequent increase in the price of the factor and the fall in the MRP curves of firms will continue so long as firms in the industry earn abnormal profits (ARP>factor price). This process will come to an end when factor price equals ARP (in addition to its equality with MRP) so that there are no abnormal profits to be earned in the industry. Therefore, in long-run equilibrium under perfect competition factor price will equal not only MRP but also ARP. Given the shapes of the ARP and MRP curves, it is evident that there is only one point where the two are equal. It is the highest point on the ARP curve where MRP equals it. Therefore, in long run equilibrium the factor price curve (i.e., AFC curve) will be tangential to the ARP curve at its highest point as shown in the diagram 17.2.

The diagram 17.2 depicts the long-run equilibrium of the firm and the industry. The firm is in its long-run equilibrium because in the present situation it is earning only normal profits (i.e., the normal earnings of management) neither more nor less. The industry is also in its long-run equilibrium because there is no tendency either on the part of old firms, to leave the industry or on the part of new firms to enter the industry since there are no abnormal profits to be earned in the industry. How long the competitive process will take to wipe out abnormal profits will depend on the extent of the various frictions in the economy and the difficulties of entry into the industry.

The important conclusion of our discussion above is that in long-run competitive equilibrium factor prices equal ARPs as well as MRPs whereas in short-run equilibrium, they may be greater or less than ARPs (but still equal to MRPs). When factor prices equal their ARPs, prices or goods equal their average costs and total costs equal total revenue, thus leaving no residue over and above what are called ‘normal profits’ (or earnings of management). Managerial functions are different from entrepreneurial functions. Pure profit, which is a residue left after all contractual payments (including normal earnings of management) have been made, is the reward for the entrepreneurial functions. Thus, in long-run competitive equilibrium
pure profits are zero, or stated differently, entrepreneurial functions become redundant in perfectly competitive equilibrium system. We will have to examine this point more critically when we analyse the nature and causes of pure profits in the last section of this set.

2. One Seller (Monopolist) and Many Buyers

Suppose there is a labour union which controls the whole supply of a particular kind of labour but where buyers are many. The supply curve of labour (which is assumed to be upward firing) represents to the union the marginal costs of supplying different quantities of labour. The market demand curve for labour is downward sloping for the reasons explained earlier. The demand curve shows the different quantities of labour that can be sold in the market at different prices. The union is in the position of a monopolist. The market demand curve is the AR curve for the monopolist union. The union knows that it can sell larger quantities of labour only by lowering the wage rate against it and as a consequence the contribution of each additional unit of labour sold to its total receipts (i.e., marginal revenue) will be less than the wage rate. For example, suppose that the wage rate falls to Rs. 99 from Rs. 100 when the union supplies 51 units of labour instead of 50. In this case MR from the sale of an additional unit of labour will equal Rs. 49 only (i.e., $99 \times 51 - 100 \times 50 = Rs. 49$), which is less than the wage rate (Rs. 99). This is so because the union receives a lower wage rate not only for the additional unit sold but also suffers a loss of Rupee 1 each on the 50 units which were earlier sold at ‘Rs.100 instead of Rs. 99 each. Knowing that the MR from the additional units sold is less than the wage rate, it will regulate labour supply in such a manner that MR from the last unit supplied equals the MC of supplying it. The supply curve of labour represents to the union the MC of supplying labour. Therefore, as a rational calculator the union will equate the MC of supplying labour not with -the wage rate offered (as indicated by the demand curve) but with the MR (as indicated by a curve marginal to the demand curve). In the diagram 17.3, equilibrium is established at point H where the supply curve intersects the MR curve and not at point F where the supply curve intersects the demand curve. Wage rate in this case is AB which is higher than the competitive wage rate DF. Level of employment OA is lower than the competitive employment level (OD).

Thus, monopoly in the labour market results in higher than the competitive wage rate ($AB>DF$) and lower than the competitive employment level ($OA<OD$).
3. **One Buyer (Monopsonist) and Many Sellers**

Such a situation can obtain when there is a single employer in a particular town or area when labourers are not organized. To the employer the supply curve of labour represents the average cost (AFC) of employing different quantities of labour. The supply curve is upward rising indicating that larger quantities of labour can be bought only by offering higher and higher wage rate. Being the only buyer of labour in the market, the employer knows that if he employs an extra unit of labour he drives the wage rate up against him and as a consequence the addition to his wage bill (MFC of labour) will be greater than the wage rate (AFC). For example, suppose that when the monopolist employs 51 units of labour instead of 50, the wage rate is pushed up to Rs. 101 from Rs. 100. In this case the MFC of employing an additional unit is Rs. 151 \((101 \times 51-100 \times 50 = 151)\) and not Rs. 101. Therefore, the monopsonist equates the MFC of employing labour (and not AFC) with the MRP of labour. In other words, the monopsonist’s equilibrium is determined at the point of intersection, of the MFC curve and the demand curve and not at the point of intersection of the AFC and demand curve. This is shown in the diagram 17.4.
In the diagram 17.4 the intersection of the MFC curve which is marginal to the AFC curve) and the demand curve (i.e., the MRP curve) at E determines the monopsonist’s equilibrium. At E, MFC equals MRP. In equilibrium the monopsonist purchases OA quantity of labour at OW wage rate. The intersection of the demand curve and the AFC curve at point F determines competitive wage rate (OW) and competitive employment (OB). Thus, the effect of monopsonistic conditions in the factor market is to lower the wage rate as well as the level of employment below what would have obtained under competitive conditions. Compare this case with that of monopoly in the factor market. Both, types of imperfection tend to reduce the level of employment below the competitive level. But while monopsony tends to reduce the wage rate below its competitive level, monopoly tends to push up the wage rate above its competitive level.

4. One Buyer and One Seller—Bilateral Monopoly

In this case a monopolist (say, a trade union which may be controlling the whole supply of a particular kind of labour) sells labour to a monopsonist who may be the sole employer of a particular type of labour in a certain region. The monopolist knows that the demand curve for the factor is downward sloping and as a consequence the marginal revenue from selling extra labour is always less than the wage rate. Therefore, he regulates labour supply in such a manner that the marginal cost of supplying an extra unit of labour (which is represented by the AFC curve) is equated with the marginal revenue obtained from selling that unit (which for him is represented by a curve marginal to the demand curve of labour). Thus, the intersection of the AFC curve and the marginal revenue curves determines his equilibrium. The monopolist, on the other hand, knows that the AFC curve of labour being upward rising, MFC of buying labour to him is higher than the AFC. In his case equilibrium is determined by the equality of MFC (which is represented by a curve which is marginal to the AFC, curve) with the marginal revenue product of labour (which is represented by the demand curve of labour). This is illustrated in the diagram 17.5.

In the diagram 17.5, the AFC curve represents the marginal cost of supplying different quantities of labour for the monopolist and the demand curve represents the average price or average revenue at which he can sell different quantities. The marginal revenue curve (the curve marginal to the MRP curve) represents the marginal revenue obtained from selling different quantities. Therefore, the intersection of the AFC curve and the marginal revenue curve at E determines his equilibrium. The monopolist would, decide to sell OA amount of labour at OW wage rate. The monopolist, in his turn, equates the MFC of buying labour with the marginal revenue product of labour. The MFC curve of labour for the monopsonist lies above the AFC curve which shows the average cost of labour to him. Therefore, his equilibrium is determined by the intersection of MFC curve and the demand curve (i.e., the marginal revenue product curve) at D. In equilibrium he would like to purchase OB amount of labour at OW wage rate. Thus, while the monopolist wants to sell OA amount of labour at OW wage rate, the monopsonist wants to buy OB amount of labour at OW wage rate. The wage rate is thus indeterminate. If both parties are stubborn to the point where neither will yield a penny, no labour will be bought or sold. But this is not a likely situation. Instead, depending upon their relative bargaining positions, we should expect the two parties to bargain and settle the wage rate somewhere between the two limits.

Diagram 17.5
LESSON 18

MARGINAL PRODUCTIVITY THEORY OF DISTRIBUTION

1. Statement of the Theory

Having examined the general process of factor price determination under different market situations, we are now in a position to undertake critical examination of the Marginal Productivity Theory of Distribution. This theory was first formulated by J.B. Clark, a distinguished Columbia University economist and put forward as a general theory of distribution designed to explain the pricing of all factors of production. However, this theory is mainly concerned with what determines the demand for factors of production. It completely ignores the supply side. It is essentially a micro-economic theory concerning the determination of equilibrium at the level of an individual firm. The main proposition of the theory is that factors get rewards equal to the values of their respective marginal products.

What a factor gets as price represents to the employer the average cost (AFC) of employing that factor. Value of marginal product of a factor (VMP) is simply the MPP of the factor multiplied by the market price (AR) of the product. Therefore, the main proposition of the marginal productivity theory that factors get rewards equal to the values of their respective marginal products can be expressed by the following equation:

\[ \text{AFC} = \text{VMP} (\text{MPP} \times \text{AR}) \]

The demand for a factor is derived out of the demand for the product it helps to produce. When a firm employs an additional unit of a factor with a fixed amount of other factors, it yields some extra output. The producer is not so much interested in the extra output produced as in the extra revenue he will get from the sale of that extra output. The contribution made to the total revenue of a firm due to the employment of an additional unit of a factor (i.e., MRP) depends on (1) the addition to total (physical) output (i.e., MPP) and (2) the contribution of each unit of output to total revenue (i.e., MR). Thus, MRP equals MPP x MR. The demand for a factor depends on the MRP that it yields to the firm. While employing an additional unit of a factor the employer has his eyes set on this quantity.

As already explained in detail, when a firm employs more and more units of a certain factor with a fixed amount of all other factors, after a point the law of diminishing returns comes into operation and as a result the MPP of the factor starts diminishing. In other words, the MPP curve of the factor slopes downward to the right. We have explained in detail why the MRP curve will also be downward sloping even when the firm sells its product in a competitive market. And in case of imperfect competition in the commodity market, the MRP curve of the factor will slope downward even more sharply. The downward sloping MRP curve is the firm’s demand curve for the factor in question.

While employment of an additional unit of a factor yields some additional revenue (i.e., MRP) to the firm, it also adds something to its total cost. The addition to the total costs of a firm made due to the employment of an additional unit of a factor is called marginal factor cost (MFC). Suppose when a firm employs 51 units of a factor instead of 50 its total cost increases from Rs.2000 to Rs.2100. The
increase in the total cost of the firm due to the employment of the additional unit of the factor (= Rs.100) will be said to be the MFC of the factor. A profit-maximizing firm will always compare MFC with MRP while employing an additional unit of a factor. So long as MRP exceeds MFC, the firm will employ an additional unit of the factor because by doing so it will increase its total profits. On the other hand, if in case of any additional unit MFC exceeds MRP, the firm will never employ such a unit because by employing it the firm will incur a net loss equal to the excess or MFC -over MRP and thus reduce profits by that amount. Therefore, the firm will stop employing more units of a factor when MFC equals MRP. Profits will be maximum when MFC equals MRP. Thus, in the employment of a variable factor, the point of equilibrium is determined by the equality of MFC with MRP. This is a perfectly general equilibrium condition which must hold under all market situations.

A firm has to employ several variable factors and not one. What will be the equilibrium condition in the employment of several variable factors? The equilibrium condition remains the same whether a firm employs one variable factor or several. The equality of the MFCs of the different factors with their respective MRPs will still determine the firm’s equilibrium. For example, if a firm is confronted with the problem of employment of three variable factors, X, Y, and Z, equilibrium of the firm will require:

\[
\frac{\text{MFC}_x}{\text{MRC}_x} = \frac{\text{MRC}_y}{\text{MFC}_y} = \frac{\text{MRC}_z}{\text{MFC}_z}
\]

The above equilibrium condition states the simple fact that in the employment or more than one factor the firm will be in equilibrium when MFCs or the different factors are in the ratios or their respective MRPs. By dividing MRPs by the respective MFCs we get:

\[
\frac{\text{MRC}_x}{\text{MFC}_x} = \frac{\text{MRC}_y}{\text{MFC}_y} = \frac{\text{MRC}_z}{\text{MFC}_z}
\]

What does a ratio such as \(\frac{\text{MRC}_x}{\text{MFC}_x}\) stand for? This ratio only indicates the MRC from the last unit of expenditure in the purchase of factor X. The equality or the ratios

\[
\frac{\text{MRC}_x}{\text{MFC}_x} = \frac{\text{MRC}_y}{\text{MFC}_y} = \frac{\text{MRC}_z}{\text{MFC}_z}
\]

simply implies the equality of MRC from the last unit of expenditure in the purchase of all the factors. Therefore, the above equilibrium condition (i.e., MRPs in the ratio of MFCs) can be alternatively expressed by saying that the firm will be in equilibrium when it obtains the same MRP whether it spends an additional unit of money on the purchase of factor X, or factor Y or factor Z. Thus, in the purchase of more than one variable factor firm’s equilibrium requires:

\[
\frac{\text{MRC}_x}{\text{MFC}_x} = \frac{\text{MRC}_y}{\text{MFC}_y} = \frac{\text{MRC}_z}{\text{MFC}_z}
\]

Or alternatively stated:

\[
\frac{\text{MRC}_x}{\text{MFC}_x} = \frac{\text{MRC}_y}{\text{MFC}_y} = \frac{\text{MRC}_z}{\text{MFC}_z}
\]

The above is a perfectly general equilibrium condition which must hold under all market situations.

2. Examination of the Marginal Productivity Theory

Under a certain framework the traditional marginal productivity theory states that factors get prices equal to the values of their respective marginal products (VMPs). In the form of an equation we have already expressed this proposition as follows:

\[
\text{AFC} = \text{VMP} \times (\text{MPP} \times \text{AR})
\]
(AFC stands for average factor cost).

In the preceding sub-section we noted that whatever be the market situation, the equality or MFC with MRP is the necessary condition for the determination of a firm’s equilibrium. From this it follows that the proposition of the marginal productivity theory (i.e., AFC = VMP) will hold only when the necessary equilibrium condition (i.e., MFC = MRP) is also simultaneously satisfied. Thus, the conclusion of the marginal productivity theory will hold when;

1. MFC = MRP (= MPP × MR)
2. AFC = VMP (= MPP × AR)

or, stated alternatively, the theory will hold when (1) MFC = AFC and (2) MRP = VMP. In subsection I above we noted that MRP will equal VMP only when the firm sells its output in a perfectly competitive commodity market. In the event of imperfect competition in the commodity market, MRP will be less than VMP. Therefore, for the marginal productivity theory to hold, the first necessary condition is the assumption of perfect competition in the commodity market. Under what conditions will MFC equal AFC? Equality of MFC with AFC implies that the employment of an additional unit of a factor adds an amount to total cost equal to the price of the factor (AFC). For instance, suppose the market price of a factor is Rs.1001/- and the firm can purchase any amount of the factor without affecting the market price. Suppose the firm decides to purchase 51 units of the factor instead of 51. What will be the MFC of the 51st unit to the firm? Obviously, the MFC of the 51st unit will equal Rs.1001/- (100 × 51–100 × 50), which is equal to the market price (AFC). Under what market situation will this condition obtain? As explained above, this will be the case when the firm can purchase any amount of the factor without affecting the market price. This happens when there is such a large number of purchasers of the factor in the market that purchases of a single firm are a negligibly small fraction of the total market supply of the factor. This will be the case when there is perfect competition in the factor market. Thus, it turns out that the conclusion of the marginal productivity theory that factors get prices equal to the values of their respective marginal products will hold only when there is perfect competition both in the factor market as well as the commodity market.

Diagram 18.1

What will happen in the event of imperfect competition either in the factor market or in the commodity market or both? Let us examine the implications one by one.
Imperfect competition in the commodity market will imply that the MRP will be less than VMP. Even if there is perfect competition in the factor market (AFC = MFC), the factor will get a price which will equal its MRP but will be less than its VMP as shown in the diagram above.

In the diagram 18.1 the AFC/MFC curve intersects the MRP curve at point B. This determines the firm’s equilibrium. The factor gets a price equal to AB which is less than its VMP by the amount BC.

What will be the result if there is, perfect competition in the commodity market but imperfect competition in the factor market? Perfect competition in the commodity market implies equality of VMP with MRP. Imperfect competition in the factor market implies that the firm is not able to purchase additional amounts of a factor without influencing its market price. In other words, the purchases of the firm are not a negligibly small fraction of the market supply and consequently the firm can purchase additional amounts of the factor only by raising its market price. What happens to MFC of the factor to the firm in the event of imperfect competition in the factor market? Suppose a firm can purchase 51 instead of 50 units of a factor by raising the market price from Rs. 100 to Rs. 101 per unit. In this case the MFC of the 51st unit of the factor will be Rs. 151 (= 101 × 51 – 100 × 50) which is more than the market price of Rs 103. Thus, imperfect competition in the factor market implies that MFC of the factor will be more than its AFC (ie., its price). Therefore, in the event of imperfect competition in the factor market (and perfect competition in the commodity market) the price of the factor cannot equal its VMP as shown in the diagram above.

![Diagram 18.2](image)

In the diagram 18.2 equality of MFC with MRP at point C determines the firm’s equilibrium in the purchase of the factor in question. But the factor gets a price equal to AB (price of the factor is represented by the AFC curve) which is less than both the VMP and MRP. Therefore, in the event of imperfect competition in the factor market a factor gets a price less than its VMP even if there is perfect competition in the commodity market.

**3. Conclusion**

Thus, in conclusion we note that factors get’ prices equal to their respective VMPs only when there is perfect competition in both the factor market as well as the commodity market. Therefore, for the
conclusion of the Marginal Productivity Theory—that factors get rewards equal to the value of their respective marginal products—to hold the necessary condition is the assumption of perfect competition in both markets. In the event of imperfect competition in either market the marginal productivity theory does not hold.

4. Critical Examination of the Marginal Productivity Theory

Before getting down to a critical examination of the theory we first examine the assumptions on which it is based.

1. It assumes perfect competition in both the factor market as well as the commodity market.
2. It assumes that factor proportions are variable.
3. The producer is assumed to know the MRPs and VMPs of the variable factors.
4. The theory assumes full employment.

In the first place it is pointed out that the theory assumes perfect competition in both markets. In the real world, it is argued, imperfect competition is the rule rather than an exception; perfect competition is merely a theoretical construct, and therefore, the theory is unrealistic. It has been discussed above in detail that only in the event of perfect competition in both markets the conclusion of the marginal productivity theory would hold otherwise it would not. However, the strength of this criticism would depend upon how we choose to interpret the theory. If the theory is meant to imply that factor prices are equated to their VMPs, then, of course, it has to assume perfect competition in both markets. For, that alone ensures that MRPs of factors equal their VMPs and their prices (=AFCs) equal their MFCs. However, as noted above, the equality of MFC with MRP is a perfectly general equilibrium condition applicable to all market situations. Therefore, if we interpret the marginal productivity theory to mean that equality of MFC with MRP determines the firm’s equilibrium in the employment of a factor then the assumption of perfect competition is not necessary.

In the second place, the theory is criticised for its assumption of the variability of factor proportions. It is pointed out that very often different factors have to be combined in fixed proportions and in such cases it is not possible even to calculate the MMP of a factor. In such cases output can be increased only by increasing the quantities of all the factors in fixed proportions. However, this is not a very valid point of criticism against the theory. Even if in some cases factor proportions are rigidly fixed, (e.g., a driver and a tractor, a carpenter and a saw, etc.) it is generally possible to use the given equipment more intensively by making labour work longer hours per day or per week. Thus, even in short run factor proportions are usually variable. In the long run, of course, alternative techniques of producing a commodity are generally developed and factor proportions remain no longer fixed. What needs attention is, however, the fact that even if it is not possible to continuously substitute one factor for the other, the theory may still be applicable. The only difference it would make is that small changes in factor prices may not induce corresponding changes in factor proportions. This is because in such a case there are less possibilities of factor substitution. Only when factor prices change substantially, will it pay the employer to rearrange factor proportions.

Thirdly, according to the marginal productivity theory the equality between MRP (or VMP) with factor price determines firm’s equilibrium. Therefore, it is pointed out, the employer is assumed to know in advance the MRP/VMP that an additional unit of a factor is going to yield in future. This is not always true because no one can forecast what the future holds for him. The actual physical yield may fall short of the expected yield and prices in the future may turn out to be different from what one may have expected them to be. The criticism is not very relevant in the present context. The theory merely asserts that firm’s profits would be maximised only when VMP is equated with the price of the factor. The theory says nothing about how the firm guesses the MRP or the VMP of an additional unit; whether the firm does it through a process of trial and error or through some careful calculations...
or merely guess work. The theory only asserts that the equality of VMP/MRP with price (or MFC) is a necessary condition for profit maximization. How the firm guesses the VMP or MRP of the factor is an independent question which we will discuss in the last section of this set.

Fourthly, it is pointed out that production of goods generally takes time. In some cases it may take months or even years before the output actually materializes and is sold in the market to realize the revenue. Therefore, it is argued that the firm cannot afford to pay the full value of the MRP or VMP yielded by a factor but will pay only its discounted value. This criticism is valid and the theory needs to be modified to take care of this point.

Fifthly, we define marginal product as the addition to the output of a firm by an additional unit of a factor, the amounts of all other factors remaining constant. This definition of marginal product gives the impression as if the additional output (MPP) is due solely to the additional unit of the factor in question and the other factors have made no contribution. Thus, the concept of marginal productivity tends to emphasise the contribution of one factor taken in isolation. This is considered to be unrealistic. Output is generally produced jointly and it is unrealistic to attribute the additional output to one factor alone ignoring, the contributions of other factors. Different factors generally increase each other’s effectiveness and are thus complementary. Labour productivity may increase as much due to its own efforts as due to, say, the amount of other factors it works with, the kind of capital goods it uses, the level of technology, etc. Thus, the concept of marginal product fails to isolate the real contribution of a factor of production.

Finally, the theory is primarily concerned with what determines demand for factors of production. It does give precision to what determines the demand for a factor but tends of ignore the supply side completely. This is one of the most serious weaknesses of the theory.
LESSON 19
THE CONCEPT OF ECONOMIC RENT

1. THE CONCEPT

In common usage the term ‘rent’ refers to any periodic payment made regularly for the hire of land, buildings and other goods. For example, rentals paid for the hire of automobiles or television sets and rents paid for houses, flats, shops etc., where they are not bought outright, are all called rent in common usage. However, in economics the concept of rent is used in an entirely different sense. In economic theory it refers to that part (or the whole) of the income earned by a factor of production in its present use which is over and above the minimum earnings necessary to retain it in its present use. The minimum earnings necessary to retain a factor unit in its present use is the income it can earn in its next best alternative use. The income that a factor unit can earn in its next best alternative use is called ‘transfer earnings’ in economic terminology. Thus, economic rent is that part of the actual income of a factor unit which is over and above its transfer earnings. If the transfer earnings of any factor unit are zero (i.e., it has no alternative use), it follows that the whole or its present income is economic rent. For example, suppose the next best alternative employment available to a teacher is to work as a clerk and as a teacher he earns Rs. 1000 per month, whereas as clerk he can earn only Rs.500 per month. From the standpoint of his present employment (teaching) Rs.500 represents the teacher’s transfer earnings and the rest (Rs.500) is economic rent should his present earnings as a teacher sink below Rs.500 he will start working as a clerk. Thus, a part of the teacher’s present income represents his transfer earnings and a part represents economic rent. We take another example, to show that, depending upon circumstances, the whole of the earnings of a factor unit can be economic rent. Suppose there is a plot of land adjacent to sea shore which because of its location, can be used only to build a hotel, and cannot be put to any other use. Suppose, when put to this use the plot earns Rs.1000 per month over and above other running costs. Since the plot cannot be put to any other use, its transfer earnings are zero and therefore, the whole of its present income is economic rent. Therefore, the essence of the modern concept of rent is the concept of a surplus earned by a factor unit in its present use over and above its transfer earnings. When the transfer earnings of a factor unit are zero, the whole of its present income is economic rent.

2. HISTORICAL BACKGROUND OF THE CONCEPT

The concept of rent has a historical background to it. It arose out of the famous corn price controversy. In the early part of the 19th century there arose a controversy regarding the causes of the high prices of corn (the generic term used for all grains). Some people held the view that corn prices were high because landlords were charging high rents from farmers. High rents meant high costs of production to the farmers. In order to meet these high costs the prices that farmers charged for their grains had to be raised to a high level. Therefore, it was argued, corn prices were high because their costs of production were high and costs of production were high because rents of land were high. Thus, according to this view, rent being a cost of production was considered to be the cause of high corn prices. Those
who held this view advocated for restricting the powers of the landlords and somehow forcing them to behave reasonably.

Contrary to the above view, Ricardo (the great classical economist) held that rents of land were high because corn prices were high. He argued that prices of corn had risen high because of the shortage of corn caused by the Napoleonic wars and increased population. Because of the high corn prices corn-growing had become more profitable and as a result there was keen competition among farmers to obtain land. This competition among farmers bid up the rents of land. If the price of corn were to fall so that corn-growing became less profitable, the demand for land would fall and the price paid for the use of land (i.e., rent) would fall accordingly. Therefore, Ricardo advocated for the removal of tariffs so that cheap corn could be imported into the country. *Thus, according to Ricardo, price of corn was high not because rents of land were high, on the contrary, rents of land were high because prices of corn were high.*

In terms of the demand and supply framework of factor price determination developed above, Ricardo’s arguments amount to this: The landlords cannot just charge any rent they like. It is determined by the forces of demand for and supply of land. The demand for land is derived out of the demand for corn it helps to produce. Higher the price of corn higher will be the demand for land. Because of the operation of the jaw of diminishing returns the demand curve for land is downward sloping.

Regarding the supply of land Ricardo assumed that for the economy as a whole land was in perfectly inelastic supply and it had only one use, the growing of corn. In other words, land has no transfer earnings and therefore, whatever land earned was a surplus over and above the minimum necessary to retain it in its present use. Given the perfectly inelastic supply of land, its price-rent-depends on the demand for land, which itself is a function of the price of corn. Ricardo’s argument can be explained with the help of a simple diagram 19.1.

![Diagram 19.1](image)

As usual, on the horizontal axis we measure the quantity of land demanded and supplied and on the vertical axis we measure MRP and rent of land. The supply of land is assumed to be perfectly inelastic implying that whatever the level of rent, the quantity supplied remains fixed at OS. D_1, D_2 and, D_3 are three demand curves for land based on three different, prices of corn. They are downward sloping because of the operation of the law of diminishing returns. With D_1 as the demand curve for land,
equilibrium level of rent will be OR₁, with D₁ it will be OR₂ and with D₃ it will be zero. What needs careful attention is the fact that given the perfectly inelastic, supply of land (i.e., transfer earnings zero), what land earned as rent depends entirely on the demand for land, which itself is as function of the price of corn. Higher is the price of corn, higher the demand curve for land (D₁ > D₂ > D₃), higher, correspondingly, is the level of rent. Because transfer earnings of land are zero, therefore, whatever land earns as rent is a pure circles and hence, rent in the economic sense.

Historically the concept of rent has been closely associated with the concept of the ‘free gifts of nature’. The chief of these ‘free gifts of nature’ is space and for this reason they have usually been referred to simply as land. The essential characteristic of the free gifts of nature is that, in contrast to other factors of production, they do not owe their origin to human effort. A free gift of nature, by its very definition; exists by the grace of nature and no human effort is required to bring it into existence. No amount of human effort can influence its supply in the slightest degree even in the long run. Its supply price to the society is zero and therefore, whatever is paid for its use is economic rent. Subsequently it was realised that factors of production other than land often earn a surplus over and above what is necessary to keep them in their present use. A musician, for instance, may earn a very high income because of the high demand for his services. But if the demand for his services falls and he has to work as an unskilled labourer, he would earn a very low income. Therefore, as a musician he is receiving much in excess of what is needed to retain him in his present use. Secondly, it was also realized that even when the total supply of a factor is assumed to be absolutely fixed (i.e., in perfectly inelastic supply), from the standpoint of any one use, its supply will be more elastic (and may be even perfectly elastic). Consequently, a part or whole of the price paid for the use of land would be a necessary inducement to retain it in its present use. (i.e., its transfer earnings) and only the rest would be a pure surplus. Thus, it was realized that factors other than land were very much the same in these respects; a part of the price paid represents transfer earnings and the rest is a surplus over transfer earnings. Therefore, the term rent which was originally confined to the earnings of land (the free gifts of nature) was latter borrowed by economists as the title of the sort of surplus income earned by any factor over and above what was necessary for keeping it in, the present use (transfer-earnings). This surplus (over and above transfer earnings) is now described as ‘economic rent’ irrespective of to which factor it accrues.

3. ELASTICITY OF SUPPLY AND ECONOMIC RENT

Historically, the concept of land emerged in the context of the free gifts of nature (i.e., land) which do not owe their origin to human effort. Ricardo analyzed the problem from the stand-point of the whole economy. From the economy’s point of view the supply of land is perfectly inelastic and it has no alternative use (i.e., has no transfer price). Therefore whatever land earns is a surplus over its transfer earnings and hence economic rent. However, when we look at the matter from the stand-point of a single use (an industry) or a single user (an individual firm), the supply of land, which is completely inelastic for the economy as a whole, becomes more elastic or ever perfectly elastic. For example, for a single industry the supply of land will be more than perfectly inelastic because by paying a slightly higher price for its use it can always compete away some land from other industries. And from the point of view of a single firm, which uses a very small fraction of the total supply of land, which is assumed to be perfectly inelastic from the economy’s point of view, supply, land is more elastic or even perfectly elastic. The same argument applies to the supplies of factors other than land. What happens to rent when elasticity of supply varies for different uses? In order to answer this question let us analyse the effect of elasticity of a factor on rent.

1. When Supply of Factor is Perfectly Inelastic

The demand for a factor depends on its MRP which itself depends on the price of the commodity which the factor ‘helps to produce. Higher the price or the commodity, higher will be the demand for the factor
and vice versa. When the supply of a factor is completely inelastic, the supply curve would be vertical (parallel to the Y axis) implying that it is totally insensitive to changes in the price of the factor. The given amount of the factor is available for use in production whether or not a price is paid for its use. For example, in the diagram 19.2 the supply of a factor remains fixed at OS whether price paid is zero, OB or OC. The demand curve OD₁ intersects the X axis at A implying that only OA amount of the factor is used, AS remains unused and factor commands no price. DD₂ intersects the supply curve at simplifying that the whole supply of the factor is used but still no price is paid. However, when the demand curve rises to DD₃, the factor starts commanding a price equal to OB. And when the demand curve rises further to DD₄, factor price rises from OB to OC. The conclusion is evident. *When the supply of a factor is completely inelastic (i.e., its supply price is zero), the whole of its earnings will be surplus over its transfer earnings and hence economic rent. Secondly, the level of price will depend upon the height of the factor’s demand curve which, in turn, depends on the price of the commodity the factor helps to produce. Higher the price of the commodity, higher will be the demand curve and higher, consequently, will be the factor price.* This is how Ricardo viewed the problem of rent of land.
2. The Perfectly Elastic Supply Case

When the supply of a factor is perfectly elastic, its supply curve will be horizontal and parallel to the X-axis as shown in the diagram below. A perfectly elastic supply curve implies that any amount of the factor can be purchased at the prevailing price of the factor. For example, in diagram 19.3 above, price of the factor remains fixed equal to OS whether the demand curve for the factor is DD₁, DD₂, or DD₃. Thus, in this case the factor gets a price exactly equal to its transfer earnings (= OS) and nothing more. Thus, in this case the factor earns no rent. Therefore, we conclude that when the supply of a factor is perfectly elastic it earns no rent.

3. Less than Perfectly Elastic Supply Case

A less than perfectly elastic factor supply curve implies that larger amounts of the factor can be bought by offering higher and higher prices. Such a supply curve would be upward rising as shown in the diagram 19.4. Supply curve SS in the above diagram shows that OA amount of the factor can be bought at OE price, OB amount can be bought at OF price, OC amount can be bought at OH price, and so on. Given the demand curve DD (i.e., the MRP curve of the factor) and the supply curve SS, the point of intersection at P determines the equilibrium with ON as the price and OL as the quantity demanded and supplied. Each unit of the factor gets a price equal to ON and the total payment received by the factor equals the area OLPN.

The important point to note in the present case is the fact that only the marginal unit (i.e., the last unit purchased) the OLth unit has a supply price equal-to ON and all the intra-marginal units (i.e., all the units except the marginal unit) get a price which is more than their respective supply prices. For example, the supply price of OA amount of the factor is only OE whereas its actual price is ON, the supply price of OB amount is only OF whereas its actual price is ON, the supply price of OC amount is OH but its actual price is again ON, and so on. Thus, all the intra-marginal units earn more than their respective supply prices. The vertical distance (shown by broken lines in the diagram) between the supply curve and the price line NP represent the surplus earned by each unit, over and above its supply price. The surplus earned by each unit over and above its supply price is economic rent. The marginal unit earns no rent because it earns a reward just equal to its supply price. According to the above diagram the area OLPN represents the total amount actually earned by the factor and the area OLPS represents its transfer earnings. Thus, the area SPN represents the economic rent under the present situation. SPN represents the difference between total amount actually earned and the total transfer earnings (the amount necessary to call forth the requisite amount of the factor). Thus, in the present case a part of the actual price paid to each, except the marginal unit, is its transfer earning and the other part is economic rent.

The above discussion leads us to the following important conclusions.

1. Economic rent arises due to inelasticity of supply. If the supply of a factor is perfectly elastic, it will earn no rent; it will only earn a price equal to its transfer earnings.
2. When the supply of a factor is perfectly inelastic (i.e., its transfer earnings are zero), the whole of its actual price is economic rent
3. When the supply of a factor is neither perfectly elastic nor perfectly inelastic, a part of the factor price will be rent and the other part its transfer earnings.

All the above conclusions can be summed up in a single conclusion: The higher the elasticity of supply of a factor, lower is the share of economic rent in its price and vice versa.
Our discussion in the preceding sub-section has shown that the inelasticity of supply of a factor is the basic reason for the emergence of economic rent. Higher the elasticity of supply of a factor, lower will be the rent element in its earnings and vice versa. If the supply of any factor is perfectly elastic for all amounts, it earns a reward just equal to its transfer price and no rent. On the other hand, if the supply of a factor is perfectly inelastic, by definition, its transfer price is zero and as a result the whole of its income is economic rent. However, inelasticity of supply of factors may be a short-run or a long-run phenomenon. This adds another dimension to the theory of rent discussed thus far.

Inelasticity of supply may be a permanent feature of some factors in the sense that no amount of human effort can increase or decrease their supplies even in the long run. Land (i.e., the free gifts of nature) can be cited as the example of a factor whose supply is perfectly inelastic even in the long run. Similarly, nature has endowed some persons with certain rare gifts whose supply cannot be influenced by human effort even in the long-run. For example, some singers, actors, poets, writers, etc., are endowed with some unique innate qualities which can never be duplicated, whatever the amount of education and training. When the demand for the services of such factors increases, rents earned by them increase without limit, there is no force on the supply side to wipe out these rents even in the long-run. These rents cannot be competed away because supply of such factors cannot be increased or decreased by human action even in the long run. These rents increase or decrease depending entirely on the intensity of demand for such factors.

In contrast, there are also factors whose supplies tend to be inelastic in the short run but not so in the long run. This is true of all man-made instruments of production and investment in human skills. An increase in the demand for residential houses, for example, leads in the long run to the construction of more residential buildings. Or, to take an example of human capital, an increase in the demand for engineers will lead to an increase in their supply, given sufficient time for training and education and given favourable long-run expectations of earning good incomes. However, in the short run their supply is perfectly inelastic (or nearly so) because (1) it takes time to build such durable capital assets and (2) returns from such durable assets being spread over a number of years in the future, investment in them will be undertaken only when they are expected to yield normal returns over their productive lives and not merely on the basis of short-run fluctuations in demand which are expected to be temporary. Because of these constraints the supply of such factors is almost perfectly inelastic in the short run but given sufficient time and favourable long-run expectations regarding their returns, their supplies can always be adjusted to the demand for them. For the same reason their supplies cannot be reduced in the short-run. In other words, their supplies are perfectly inelastic in the short run. Therefore, in the short run they will continue to be used so long as they earn anything over and above their operating costs because from the short-run point of view their transfer earnings are zero. Whatever income, therefore, they earn in the short run over and above their operating costs (i.e., variable costs) is in the nature of economic rent. However, from the long-run point of view capital assets are expected to earn some
normal return over all costs to make investment in them worthwhile. Thus, a part of what appears to be economic rent in the short period will, from the long-run point of view represent only the transfer price of such capital assets necessary to keep them in their present use. *Therefore, factor incomes whose short-run behaviour resembles the behaviour of land rent in the long run are called quasi rents. In short, quasi rent is at the mercy of short-run demand just as rent of land in the long run depends on long-run demand.*

Marshall was the first economist to introduce the concept of quasi rent in economic literature. *However, he restricted the use of this concept only to the earnings of capital goods in the short period. But there seems to be no reason why the use of his concept cannot be generalised to apply to the short-run earnings of all those factors whose supplies can be influenced by human effort in the long run. How are, for example, skilled personnel specialized for particular jobs such, as doctor, engineers, nurses, technicians, etc., different from capital goods? Given sufficient time for education, training and apprenticeship, the supplies of such specialists can always be adjusted to the demand for them in the long-run. Therefore, their short run incomes are strictly comparable to the short-run earnings of capital goods. Supplies of such specialists are perfectly inelastic only in the short run (because engineers and doctors cannot be trained over night) but not so in long-run. Therefore, the concept of quasi rent can be generalized to cover the short-run earnings of all those factors whose supplies are inelastic in the short-run but can be increased or decreased by human effort in the long run.*

Using short run equilibrium situation of a competitive firm we can show quasi-rent as given in diagram 20.1.

Quasi Rent is the surplus of Total revenue over total variable cost in the short run. In the diag. 20.1 equilibrium point of firm given AR = MR is F with price OP and quantity OQ. So total revenue is the area OPFQ. With the average variable cost (AVC) being GQ per unit of output the total variable cost is the area OAGQ. So Quasirent is the area (OPFQ-OAGQ) i.e. area APFG. (Shaded area).

It has two parts, (i) Area APFG = Area ABDG + Area BPFD. Area ABDG is the difference between area OBDQ and area OAGQ. Area OBDQ being total cost and area OAGQ being total variable cost hence area ABDQ is total fixed cost (TFC). Area (ii) The second part is area BPFD which is abnormal Profit (OA) of the firm.

Hence Quasirent = area (ABDG + BPFD)

or Quasirent = Abnormal Profit + Total fixed cost

= TA + TFC.

Note that dA and TFC vanishes in the longrun. So Quasirent is a short run phenomena.

**RENT ELEMENT IN THE EARNINGS OF DIFFERENT FACTORS**

Modern economists define rent as the surplus earned by a factor unit over and above its transfer price. Transfer price is the income that a factor unit can earn in its next most profitable employment. Factors of production do not consist of homogenous units in respect or their efficiency either in a single industry or in different industries and occupations. Each factor unit has a hierarchy of possible alternative uses out of, which it tends to be allocated to the most profitable use. *How much of the present income of a factor unit is economic rent and how much is its transfer price depends on which of its alternative uses we choose to consider; in firms within the same industry, in a different industry, in a different occupation or region.*
Within a single competitive industry each firm will have to pay the same price to a factor. Therefore, within the same industry no unit of a factor is likely to earn economic rent. For example, a textile worker will receive the same wage whether he works in one textile factory or the other. However, this will not be the case when we consider a person’s transfer price in another industry. For example, the next best alternative employment available to a doctor, let us suppose, is to work as a teacher. As a teacher he is likely to earn much less than what he can earn as a doctor. Therefore excess of his income as a doctor over his income as a teacher will be economic rent. Next consider a doctor’s transfer price as an unskilled labourer. As an unskilled labourer his earning are bound to be very low compared to his earnings as a doctor. With reference to his transfer price as an unskilled labourer, the greater part of his income as a doctor will be economic rent. Therefore, we cannot assert that so much of the income of a factor unit is economic rent per se. A factor unit may have several alternative uses and hence a number of transfer prices. How much of the present income of a factor unit is economic rent depends on which of the alternative uses of the factor we choose to consider. If a certain factor unit has no alternative use (i.e., it is completely specific to its present use), by definition its transfer price is zero and the whole of its earnings in the present use is economic rent.

Arguments applicable to the earnings of labour are also equally applicable to the payments made for the use of land, earnings of capital assets and entrepreneurs. Let us first analyse the payment made for the use of land. In the Ricardian framework of analysis, the supply of land for the society as a whole is perfectly inelastic and it has no alternative use except corn-growing. In other words, its transfer price for the society as a whole is zero. Therefore whatever is paid for the use of land is pure economic rent. This is how Ricardo analysed the problem of rent. However, the supply of land, which is perfectly inelastic for the society as a whole, is more elastic from the standpoint of a single industry using land. Let us consider the supply of land to two competing crops such as wheat and cotton. Wheat growers can always divert some land from cotton by paying a price slightly higher than what land can earn under cotton. Even though the supply of land for the society as a whole is perfectly inelastic, its supply to an industry is more elastic. What land can earn when put to cotton growing is its transfer price from the standpoint of wheat growing. The excess of the price paid by wheat growers over what land can earn under cotton is economic rent. We can also look at the problem from the standpoint of a small farmer who is one of a large number of competitors for the available supply of land. At the going market price an individual can obtain as much of land as he may need and he will not be able to command any land at all if he offers a lower price. Thus, at the going market price supply of land is perfectly elastic for him. The going market price represents the transfer price of land to him. Therefore, in this case land earns no rent. Thus, what is pure economic rent from the standpoint of the society as whole, becomes partly economic rent and partly transfer price when looked at from the standpoint of an industry and no part of it remains economic rent when looked at from the point of view of a small producer. Thus, we reach the important conclusion that magnitude of economic rent earned by a factor unit depends on which transfer price we take as our point of reference.

Similar arguments apply to the earnings of capital assets and entrepreneurs. Returns on durable capital assets may represent partly their transfer prices and partly economic rent earned by them. For two reasons the supply of durable capital assets is perfectly inelastic (or nearly so) in the short run. First, it takes a long time to build them. Their supply cannot be increased over-night. Second, returns from durable capital assets are spread over the whole of their productive lives. Therefore, investment in them will be undertaken only if they are expected to yield a certain minimum return (at least equal to the rate of interest) over the whole of their productive lives and not merely on the basis of short-run fluctuations in demand which may be expected to be temporary. Because of these constraints the supply of durable capital assets is perfectly inelastic in the short run. Therefore, in the short run it will be worthwhile to continue using them so long as they earn any income over their operating costs. From the short-run point of view their transfer prices are zero. Therefore, whatever income they earn...
over their operating Cost in the short run 18 economic rent which has been termed as ‘Quasi Rent’. However, from the long ran point of view a part of what appears to be economic rent becomes the transfer price of the capital assets because, unless they are expected to yield a certain minimum return (at least equal to the rate of interest) net of all costs, they will not continue to be allocated to their present uses. It is thus evident that economic rent can accrue even to capita/ assets.

Arguments applicable to the earnings of capital assets are equally applicable to the earnings of entrepreneurs as well. In the long run the necessary minimum for art entrepreneur is the level of earnings which is sufficient to prevent him from relapsing into the ranks of employed labour. Most entrepreneurs earn Incomes much greater than the necessary minimum. The excess of an entrepreneur’s actual income over the necessary minimum is in the nature of economic rent. However, from the purely short-run point of view, when an entrepreneur has committed his resources to a particular field, whatever he earns in the present use is quasi rent because in the short run he cannot move out of the industry. In other words, his transfer price is zero in the short run and the while of his short-run earnings are ‘in the nature of economic rent. From the long-run point of view a part of these short-run earnings represents transfer price.
Topic 7

Market Success and Market Failure
LESSON 21

MARKET SUCCESS AND MARKET FAILURE

1. Basic functions of government: According to Classical economist Adam Smith government must perform two basic duties:
   (a) government must protect the society from the violence and invasion of other independent societies
   (b) government must protect, as far possible, every member of the society from injustice or oppression of every other member of it. In the sphere of economy this implies that government must provide security of property and define and enforce property rights that give people a secure claim to the fruits of their own labour and allow markets to function efficiently. These property rights include effective legislation on consumption and production rights, working of institution such as insurance companies, banking, stock exchanges and joint stock companies etc.


3. Market Failure:- Market failure refers to failure of market mechanism to achieve efficient allocation of resources in the economy allowing a smooth circular flow of income. There are several factors responsible for market failure. They are-
   (i) lack of competition among firms and presence of market power in the form of oligopoly or monopoly which is also called imperfect competition. There is presence of excess capacity in these markets and price exceeds marginal cost causing allocative inefficiency by reducing consumers and producers combined surplus.
   (ii) Provision of public goods whose consumption cannot be only restricted to those who can pay for them and common property resources whose owners are none but users are everybody.
   (iii) Problems of externalities in both consumption and production wherein action of one agent affects another in the society.
   (iv) Asymmetric information which creates a situation where one party to a market transaction has fuller knowledge of it consequences than is available to the other party. For example in the market for secondhand car only the seller knows the actual condition of the car and buyer has no information on the quality of the product.
   (v) If there are missing markets i.e. needed markets do not exist at all.

PUBLIC POLICY TOWARDS MONOPOLY AND COMPETITION

We have already seen that monopoly is allocatively inefficient because of lower output and price being higher than marginal cost which cause dead weight loss to the society. This calls for government intervention. Government intervention can take several forms as given below.
(i) Government may ask monopoly firm to produce at a price equal to marginal cost. This is not a problem if the monopolist continues to earn profit at marginal cost pricing. But in case of natural monopoly marginal cost pricing will create losses to the firm. (See diagram below)

In panel-1 of diagram 21.1 if government controls the price at $p_0$ which is equal to marginal cost at point-E there is still profits for the monopolist since at this price average cost is $C_1$ which is less. So profit is $p_0C_1$, per unit of output. Here the government successfully controls the monopolist who also survives in the market by getting some profit.

But in case of a natural monopoly (panel-2 of diagram 21.1 marginal cost pricing lead to loss because at price $P_0 = MC$ average cost $C_1$ is more so that loss in $C_1p_0$ per unit of output. Natural monopolies emerge in the provision of public utilities where of a single firm can supply the market output.

![Diagram 21.1](image)

(ii) Even controlling price at average cost level may be inefficient again for natural monopoly. As in panel-2 of diagram 21.1 $P_1$ is average cost price which is higher and the corresponding output, is below competitive level of $Q_0$.

(iii) Since both marginal cost and average cost pricing do not yield desired result for natural monopolies, they are directly taken over by government itself in many countries.

(iv) Technological changes have made many natural monopolies behave like competitive industry. So government policies must adjust itself to continuous technological change.

(v) Due to failure of government as business organization there have been a wave of privatization recently in many countries including India. Many nationalized industries have been privatized in UK. Disinvestment of public sector units in India is another example. While allowing privatization to be implemented rapidly governments are also creating public regulatory authorities to look into the functioning of these natural monopolies. In UK example of such bodies are OFTEL (Telephones), OFGAS (gas) etc. Security Exchange Board of India SEBI in a regulatory body in India. Privatization reduces governments’ role in business and allows innovations to take place faster. It is expected that government’s intervention as controller and regulator must allow competition to grow among firms.
Topic 8

INTERNATIONAL TRADE
LESSON 22
INTRODUCTION TO INTERNATIONAL TRADE

Anirudh
Laxmibai College, University of Delhi

The term trade refers to exchange of goods and services and when it takes place across the countries, it is called international trade. All countries are not sufficient in themselves. Different countries different endowed with resources. Generally, while a country has the abundances or surplus of some resources it suffers the scarcity of certain others.

Gulf countries for example are endowed with expensive oil beyond what they themselves would need. But there fare suffering the scarcity of industrial goods and food grains. In such situations, trade across the boundaries helps to exchange your surplus goods with those who do not have. International trade implies international specialization.

An economy that engages in international trade is an open economy. A country that does not involve in trade is called closed economy and situation in which a country conducts no foreign trade is called autarky. The advantages which are gained from trade with other country fare called the gains from trade.

22.1 DISTINGUISH BETWEEN INTERPERSONAL, INTERREGIONAL AND INTERNATIONAL TRADE

Each person would have to be self-sufficient without trade. If the person would produce all the food, clothing, shelter, medical services, entertainment and luxuries etc. But it is impossible for the particular person. Therefore trade between individual allows people to specialize in those activities of which they can do relatively well and to buy from others the goods and services at which cannot be produced by them easily. It is called interpersonal trade.

International trade is also based on interpersonal trade. Each region would be forced to be self-sufficient. If trade does not exist between these regions. But trade exist in the region where each region can specials in producing those goods or services for which it has some natural resources plain regions can produce that specialized goods which their abundance in that natural resources. For example, plain areas can produce different food grains while mountains regions can specialize in mining and forest products.

Therefore each region showed produce that goods in which it has some natural resources or acquired advantage and obtains other products of trade when all region scale to self-sufficient.

The interpersonal and interregional principles which have been mentioned in the case the nations, the international trade arises. Almost all countries produce more of some goods than their residents wish to consume. At the same time, they consume more than of that particular commodities whatever are producing.
International trade is necessary to achieve the gains that international specialization makes possible. Trade allows each individual region or nation to concentrate on producing those goods and services that it produces relatively efficient while trading to obtain goods and services that it would produce less efficiently than others.

**Question 1** What do you mean by International trade or specialization?
**Question 2** What is the basic of trade? Why do nations trade?
**Question 3** What are the main difference between international and international trade?
**Question 4** What is the scope of study of international trade?

### 22.2 INTERNATIONAL TRADE IMPLIES INTERNATIONAL SPECIALIZATION

From the individual’s point of view, specialization refers to the acquisition of a specialized skill in the performance of particular activity or in the production of a particular commodity. From the country’s point of view, it refers to utilization of the country’s resources, in specialized areas of production in which the country has absolute or comparative cost advantage compared to the rest of the world. When the country’s resources are utilized in certain specialized areas, production of specialized commodity tends to be more than their domestic need. The surplus products are exposed.

On the other hand, when resources are withdrawn from the non-specialized areas production of certain commodities falls short of the country’s domestic requirements. This refers import situation. International trade-exports and imports are the obvious outcome of international specialization. Since international specialization is based on the principle of some theory which were given by different economists, the significance of international specialization lies in gains from trade.

**Determinants of International Trade**

There are different factors which affect the international trade or international specialization which follows:

1. **Natural Endowment:** Natural endowment is the basic of international specialization. It refers to the resource base of a country available to it as a free gift of nature. Natural endowment also include nature and fertility at the soil as well as climate conditions. Thus India and Srilanka specialize in the production of tea simply because of the conducive climatic conditions.

2. **Technical condition:** International specialization also depends upon technical conditions of the country with their technical advancement developed of the world have solved all confronts of natural endowment. Japan, for example, is just a small coastal country which has a few natural resources but its technical superiority had made the distinction of most advanced nation in their field of Automobile production.

3. **Lost differences:** The fundamental basis of international specialization is the difference between the cost of production of the different commodities. Different countries specialize, in the production of those goods in which they have absolute or comparative cost advantage. The important parameter of competitiveness in the international market is the cost different of the produced goods.

4. **New Economic order:** Globalization of the World market through multi national corporative and the emergence of new economic order has forced various nations to integrate their economies with the rest of the world, leading to greater degree of specialization and international trade.

### 22.3 ADVANTAGE OF INTERNATIONAL SPECIALIZATION OR INTERNATIONAL TRADE

There are different advantages from international trade or specialization which follows:
1. **Fuller utilization of Natural Resources:** International trade enables the natural resources to be exploited fully. Underdeveloped countries are not in a position to utilize natural resources fully. Such countries export their raw materials to developed industrial countries.

2. **Cheaper goods:** International trade provides cheaper goods to those countries which cannot produce the particular goods. It is so because every country produces those goods in the production of which it has to incur less comparative cost. Accordingly, international specialization or trade facilitates higher level of consumption and therefore better quality of life.

3. **Surplus production:** International specialization enables every country to dispose off its surplus production. Some countries produce more goods than their own requirement. They sell this surplus production in other countries and they avoid the occurrences of deflationary pressures in the domestic economy.

4. **Bulk production and economies of scale:** On account of international specialization, ‘different countries specialize in the production of those goods alone in which they enjoy favorable production conditions. As a result goods are produced in large quantity at low price in consonance with the economics of scale in the words of Mconnell, "International trade is a means by which nations can specialize increase the productivity of their resources and thereby realize a larger output than otherwise.

5. **Possibility of Economic Development:** Economic development of any countries depends upon the international trade. Underdeveloped countries can make the optimum use of their available natural resources and raw materials by imparting machinery and technical equipment from, the developed countries. They are thus enabled to increase their output and exports and thereby promote economic development. In the words of Robertson, "International trade is an engine of growth".

6. **International co-operation:** Mutual co-operation can be developed on the basis of international specialization with the different countries. It creates an atmosphere of good will, cordiality and friendship among the trading countries. According to Henry Cornez, "International specialization is the greatest civilizing agency."
LESSON 23
GAINS FROM TRADE

23.1 THE GAINS FROM TRADE OR SPECIALIZATION WITH GIVEN COSTS

The gains from trade depend on different theory is which some are discussed below: According to this theory difference is cost of production of different goods across different nation constitutes the fundamental basis of international trade. Difference in costs may be of three kinds.

1. Absolute Difference in costs

Adam Smith gave absolute differences cost theory. According to this theory, absolute difference in the cost of production of different goods across different counties is the basic reason behind the international specialization trade. The absolute cost difference arises when one country is in a position to produce a commodity at a very low cost compared to another country and the other country can produce some other commodity of a very low cost compared to the first country. All there becomes possible when a country is endowed with a special kind of soil, climate conditions and facilities. Consequently, a country specializes in the production of a particular commodity and exports it to other countries and imports another commodity from another country in which the latter specializes. It is further elaborated with the help of table.

<table>
<thead>
<tr>
<th>Countries</th>
<th>Rice</th>
<th>Wheat</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Nepal</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

It is clear from above table that one unit of labour produces 2 units of rice or 4 units of wheat in India, on the other hand one unit of labour in Nepal produces 4 units of rice and 2 units of wheat. It is clear that

- In India 1 unit of rice = 2 units of wheat
- In Nepal 1 unit of rice = 0.5 units of wheat

It is quite clear from the above example that India has an absolute advantage in the production of wheat and Nepal in production of rice. It is an essential condition of interference Trade that the production cost in two trading countries should be different.
The cost of the rice for wheat in India is 1 : 2 and in Nepal it is 1 : 5 there is no trade between those two countries and both produce both the commodity then two days of labour will produce in the two countries total of 6 unites of wheat and 6 units of rice. Suppose India specializes in wheat and Nepal in rice and they trade with each other. This can be shown by diagrammatically:

In the above figure, AB curve is the production possibility curve of Nepal and AC curve is the production possibility curve of India. Production possibility curve states that with the help of a given quantity of factors of production in order to produce more unit of a commodity how many units of another commodity will have to be sacrificed. Slope of these curves indicates the opportunity cost to two commodities opportunity cost also means that in order to produce one more unit of a given commodity how many units of another commodity are to be sacrificed. This figure is based on the assumption of the law of constant costs. That is why production possibility curves are straight lines/ AB curves states that if Nepal is to produce one unit of rice, it will have to sacrifice 0.5 unit of wheat Hence if by giving one unit of rice it gets more than 0.5 unit of wheat, it will be a gainer. Similarly, AC curve indicates that if India chooses to produce one unit of rice it will have to sacrifice two units of wheat if, however, India gets one unit of rice by making with less than two units of wheat then India will stand to gain by producing what shaded area ABC in the above figure refers to the gain from international trade. Distribution of this gain between the two countries will depend upon the terms of trade. Terms of trade are governed by the reciprocal demand of the countries concerned for each other’s product.

**Question: Examine the Absolute advantage theory of International trade.**

**Question: Explain the Adam Smith absolute advantage theory of international trade,**

**Theory of Comparative Costs**

Theory of comparative costs was discussed by the famous economist David Ricardo in his book principles of political economy and taxation. The theory is also called theory of comparative advantage. Ricardo theory of comparative costs claims that trade enables countries to specialize in producing the products that they produce best. According the theory, specialization and free trade will benefit all trading partners even those that may be absolutely less efficient producers.

Ricardo’s comparative cost theory is based on the following assumptions:

1. There are only two countries and they produce two goods
2. Labour is the only factor of production and cost of production is measured in terms of labour units
3. All units of labour are homogenous
4. Production is subject to law of constant returns
5. Factors of production are perfectly mobile within the country but are perfectly immobile between two countries
6. There is no cost of transportation
7. International trade is free from all government comforts
8. There is full employment in countries engaged in international trade
9. There is perfect competition both in the goods market and factor market.

**Comparative Difference in Costs**

The comparative difference in the costs was given by David Ricardo. According to him, comparative difference in cost is the safe cause of international trade. Comparative difference in costs means that a country is in a position to produce both the goods at absolutely less cost than the other country. Yet it has greater comparative advantage in the production of one of the two goods, while it has less
comparative advantage in the production of the other good. The other country produces both the goods at a higher cost, but it has less comparative disadvantage in the production of one goods, while it has greater comparative disadvantage in the production of the other good.

Comparative advantage refers to the advantage in the production of a product by one country over another when that product can be produced at lower cost than in the other country in terms of other goods.

For example, there is a leading practicing lawyer in Delhi who is also a proficient typist. His clerk also knows typing but nothing about legal practice. Although the said lawyer is competent in both the jobs, yet he will gain comparatively more if he confines all his time to legal practice. On the other hand, the clerk is less capable than the lawyer, still in typing job his comparative disadvantage is least. If the lawyer confines himself to legal practice and entrusts the typing job to his clerk he will enjoy greater comparative advantage.

In short, a country may have absolute cost advantage in the production of both goods A and B. Yet it may opt to specialize in A rather than B, because A offers comparatively greater cost advantage than B.

This can be shown by Table 1

<table>
<thead>
<tr>
<th></th>
<th>Wheat</th>
<th>Clothes (Metre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>0.60m cloth</td>
<td>1.67 kg wheat</td>
</tr>
<tr>
<td>Nepal</td>
<td>2.00m cloth</td>
<td>0.50 kg wheat</td>
</tr>
</tbody>
</table>

We assume that the opportunity cost of producing 1 kilogram of wheat is 0.60 metre of cloth in India, while in Nepal it is 2 metres of cloth. The second column of this table gives the same information again but expressed as the opportunity cost of 1 metre of cloth. India has a comparative advantage in wheat production and Nepal is in the cloth.

It can be seen diagrammatically

AB is in the production possibility curve of India and AC of Nepal. It means that to get one metre of cloth, India has to sacrifice one unit of wheat. Nepal can get two units of wheat, by sacrificing one metre of cloth. It is clear that India has greater comparative advantage in the production of cloth and Nepal has least comparative disadvantage in the production of wheat.

By giving one unit of cloth to Nepal, India can get in exchange more than one unit of wheat. On the other hand, by with less than 2 units of wheat, Nepal can get one metre of cloth from India. Advantage arising out of international trade to both the countries is shown by the shaded area A advantage will be distributed between the two countries on the basis of settled terms of trade. Terms of trade are settled on the basis of reciprocal demand for each other’s product.

**Criticism of the Theory**

Ricardo’s theory of comparative costs is an important theory of international trade. In the words of Samuelson, "The theory of comparative advantage has in it a most important glimpse of truth". Despite being reciprocal from the logical point of view, it has many shortcomings.

1. **Only a Normative Theory:** Ricardo’s theory of comparative costs is only a normative theory. It does explain as to how the resources of the country can be put to optimum use but it fails to explain the composition of international trade or the nature of exports and imports and what are their problems. It is not a positive explanation of international trade.
2. **Based on labour Theory of value:** Theory of comparative costs is based on the theory of labour cost. According to this theory, cost of a good depends upon the amount of labour necessary to produce it. But in reality cost of a good is also influenced by the price of other factors like land, capital etc in addition to that of labour. Critics of this theory therefore like to examine it in terms of money cost in place of labour cost.

3. **Transport costs ignored:** One of the main defects of the theory of comparative costs is that it does not take into account transport cost. In case of some commodities transport costs are higher than their production costs. It is therefore essential that while exporting and importing of goods total costs should be calculated by taking into account both production and transport costs. International trade is very much influenced by transport costs. It cannot be ignored.

4. **Based on the low of constant costs:** The theory assumes that cost of production per unit remains constant even if production is increased or decreased. The assumption is not only unrealistic but unscientific also. Ordinarily one finds that production is subject to the law of increasing costs or law of diminishing costs. The possibility of the opinion of law of constant costs is rare.

5. **Impossibility of complete specialization:** It is not possible for the countries participating in international trade to specialize fully in the production of some goods supposing India and Nepal enter into international trade India specialists in the production of cotton cloth and Nepal in the production of woollen cloth. Nepal being a small country cannot meet fully the demand of India for woollen cloth nor can it absorb all the cotton cloth produced in and exported from India. Hence we will have to produce both cotton and woollen cloth, It can therefore be asserted that full-scale international trade is possible only when it is between two equi-sized countries producing goods at equal value.

6. **Based on the free trade:** Classical economists assume that international trade is free from all restrictions, but the situation in the modern times is entirely different. No country wishes to expand upon any other country to the extent that it is pushed into the realm of uncertainties. Besides, several other situations like imperfect competition, trade restrictions, state trading, export-import duties and economic planning do not allow complete freedom of international trade.

7. **Static Conditions:** Another assumption implied in this theory is that tastes of the people and production conditions in two countries remain unchanged. Besides the supply of land capital and labour remain static. But in real world all these things go on changing from time to time. This assumption therefore is baseless.

8. **One-sided:** Ricardo’s theory of international trade is one-sided. It takes into account the supply side of the trade but ignores the demand side. It tells us what goods a country imports or exports but does not explain as to how terms of trade and rate of exchange are determined.

**Question:** Explain the theory of comparative cost advantage in the context of International Trade.

**Question:** Distinguish between absolute and comparative advantage and show how all trading nations could gain from trade.

**Opportunity Cost Theory**

Opportunity cost theory was given by Prof. Habarler. He has attempted to elucidate the trade with the help of opportunity cost. In the words of Lipsey, "The opportunity cost of X in terms of Y is the number of units of y that must be sacrificed in order to produce one more unit of X." For example, if to produced one ton of what two tons of grams are sacrificed then the opportunity cost of one tone of wheat is two tons of from that have been sacrificed.
According to Habarler, the factors of production have alternative uses. As such, the rate of exchange of goods is equal to their opportunity costs. It can be shown with the help of the following example.

<table>
<thead>
<tr>
<th>Countries</th>
<th>Opportunity cost of one unit of wheat</th>
<th>Opportunity cost of one unit of rice</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>0.6 units of rice</td>
<td>1.67 units of wheat</td>
</tr>
<tr>
<td>Nepal</td>
<td>2.0 units of rice</td>
<td>0.5 unit of wheat</td>
</tr>
</tbody>
</table>

From the above table, in India one unit of factor can produce 6 quintals of rice or 10 quintals of wheat. Thus in India, opportunity cost of 1 unit of wheat is 0.6 unit of rice and the opportunity cost of 1 unit of rice is 1.67 units of wheat. On the other hand, in Nepal one unit of a factor can produce 8 quintals of rice or 4 quintals of wheat. Thus in Nepal, opportunity cost of 1 unit of wheat is 2 units of rice and the opportunity cost of one unit of rice is 0.5 unit of wheat.

It is clear from the above table that in India in order to produce 1 unit of rice more than one unit of wheat is to be sacrificed and in Nepal in order to produce 1 unit of wheat more than 1 unit of rice is to be sacrificed. Both the countries should gain if India specializes in wheat and Nepal in rice.

23.2 THE GAINS FROM TRADE WITH VARYING OPPORTUNITY COSTS

International trade provide facilities to an expansion of the set of goods that can be consumed in the economy in two ways 1) by allowing the bundle of goods consumed to different from the bundle produced and 2) by permitting profitable change in the pattern of production. In the absence of international trade, the bundle of the particular commodities will be consumed which are available in that country. International trade, however, increase the productivity and standard of living of the country. It can be seen by diagrammatically.

Fixed Production

In the above diagrams, the DE is the production possibility boundary curve and TT is the consumption possibilities curve. If there is no international trade, the economy must consume the same bundle of goods that it produces. Thus, the production possibility boundary is also the consumption possibility boundary. Suppose the economy produces and consumes at point A with $X_1$ of good X and $Y_1$ of good y. The slope of TT indicates the quantity of Y that exchanges for 9 units of X on the international market. Let us assume that at the point A good Y can be exchanged for good X internationally. Although production is fixed at 9, consumption can now be anywhere on the line TT. For example, the consumption point could be at B. This could be achieved by exporting $y_1-y_2$ units at Y and importing $x_2-x_1$ units of x. Since point B lies outside the production possibility boundary are potential gains from trade. There is no restriction for the consumer to stay at their country’s production possibilities. Let us suppose consumer prefers point A to point B. They have achieved a gain from trade by being allowed to exchange some of their production of good for some quantity of good x and to consume more of good x than is produced at home.

Variable Production

The country may produce the bundle of goods that is most valuable in world market. There is a further opportunity for the expansion of the country’s consumption possibilities. The production bundle may be changed in response to international prices in case of trade with other countries. This can be shown by diagrammatically.
The consumption possibility set is shifted to the line LL by changing production from A to D and thereby increasing the country’s degree of specialization in goods Y. The change line TT allows more consumption of both goods such as point D and F. The new consumption possibility set lies everywhere above the production possibility curve except the point D with zero trade. The gains from the trade can be achieved by moving from no trade position such as A to a trading position such as B or F. When the production of good Y is increased and the production of good X demanded, the country is able to move to point such as F by producing more of good Y in which the country has a comparative advantage and trading the additional production for good X.

**Question:** Discuss the opportunity cost theory of international trade

**Question:** Discuss international trade equilibrium under constant and increasing in the production of the two goods.
LESSON 24
TERMS OF TRADE, FREE TRADE AND PROTECTION

24.1 TERMS OF TRADE

The terms of trade refer to the rate of which the goods of one country are exchanged for the goods of another country. It is a measure of the purchasing power of exports of a country in terms of its imports and is expressed as the relation between exports prices and imports prices of its goods when the export prices of a country rise relatively to its import prices, its terms of trade are said to have improved. On the other hand, when its import prices rise relatively to its export prices, its terms of trade are said to have deteriorated. In case terms of trade deteriorate for a country its gain from trade is reduced because now it can have a smaller quantity of imports in exchange for a given quantity of exports than before.

Terms of trade refer to the physical exchange ratio at which goods are exchanged for one another between the countries when trade takes place between two open economies certain goods are affected for sale by both the countries. Since many commodities are exported and imported simultaneously from both the sides we can no longer use the physical quantities like in terms of kilogram of wheat or metres of cloth. We find the index of export prices and index of import prices to determine the terms of trade.

We use the following equation to estimate terms of trade:

\[ \text{Terms of trade} = \frac{\text{Index of export prices}}{\text{Index of import prices}} \times 100 \]

This is also called the index of terms of trade. Terms of trade become favourable for a country if this index increases. Suppose export prices increase by 15% (i.e., price index of export increases from 100 to 115) and import prices increase by 5% (i.e., price index of import increases from 100 to 105), then the index of terms of trade increases from 100 to 109 (115/105 × 100 = 109). That is at new terms of trade one unit of exports will buy 5% more imports than at the old terms.

Similarly term of trade becomes unfavourable when percentage change in export prices is less than the percentage change in import prices. In such situations terms of trade index is below 100. Suppose export price index increases by 5% and import price index increases by 10% then the terms of trade index should be

\[ \text{Terms of trade (TOT)} = \frac{105}{110} \times 100 \]

In this case one unit of export will buy approx 5% less imports.

Terms of trade are closely related to competitiveness. If the is 9, substantial increase in export prices implying a significant increase in index of term of trade, it may in fact be a situation of loss of competitiveness.

**Question:** What do you understand by terms of trade?
24.2 THE THEORY OF COMMERCIAL POLICY

Govt. policy towards international trade is known as commercial policy. A country either uses free trade policy or professionals’ policy. The policy of non-intervention in international trade is known as free trade policy. Exporters and importers are allowed to trade policy freely without any export duty or import tariff.

Protectionism or protectionist policy on the other hand, refers to the policy of protecting the local producers (from foreign competition) through the imposition of tariffs or non-tax barriers. Non tax barriers include fixation of groups or making customs procedures deliberately complicated with a view to keeping imports under check.

Meaning of Free Trade

A trade policy which does not impose any barrier on the exchange of goods and services between different countries, is known as the free trade policy. Free trade allows all countries to specialize in producing products in which they have a comparative advantage, According to Smith, the concept of free trade policy refers to a system of commercial policy which draws no distinction between domestic and foreign commodities and thus which neither imposes additional burden on the letter nor grants by special favour to the farmer. Thus free trade policy permits international flow of goods and services without any artificial impediments. Hence a world of free trade would be one with no tariffs and no restrictions of any kind on importing or exporting. In such a world a country would import all those commodities that it would buy from abroad at a delivered price lower than the cost of producing them at home.

Advantages of Free Trade

There are different advantages of free trade policy which are follows:

1. Maximization of output: According to the principle of comparative cost advantage every country would specialize in the production of that commodity for which it is best suited or in the production of which it had comparatively greater advantage. This would create the maximization of wise output of diverse goods and services.

2. Optimum utilization of resources: Since production is conducted on the principle of Comparative cost advantage then the resources are optimally utilized. Each country produces goods with least cost combination of inputs.

Disadvantages of Free Trade

The policy of free trade came to be practically abandoned after the great depression both on theoretical and practical grounds of which the following are the important ones:

1. Free trade pre-supposed the existence of laissez faire and the working of price mechanism under perfect competition. But these conditions do not exist in the present day world. Monopoly, monophony, carrels imperfect labour markets and tariffs led to the abandonment of the free trade.

2. Under the policy of free trade, some industries possess comparative advantage but other industries are not developed so this naturally leads to the one-sided development of the economy.

3. As under the regime of free trade there was laissez faire policy and the state did not impose any restrictions on the international movements of goods among nations. Many harmful commodities ‘came to be imposed by unscrupulous merchants in a number of countries. This had extremely harmful effects on the health and welfare of the country.

4. Free trade policy may lead to the emergence of international monopolies and local monopolies. According to Harbarlor such monopolies developed under free trade which proved harmful to
the other countries and the domestic interests. This factor also led to the adoption of the policy of production.

5. Prof Harbarlor view that policy of free trade would help rapid economic development of backward countries cannot be accepted It is now well recognized that underdeveloped countries can develop better under a policy of protection rather tax free trade.

Question: What is commercial policy and explain the advantages and disadvantages of free trade.

24.3 THE CASE FOR PROTECTION

The term protection refers to a policy whereby domestic industries are to be protected from foreign competitions. The aim is to impose restrictions on the imports of low-priced production in order to encourage domestic industries productions high price products. The domestic industries may be protected by imposing import duties which raise the price of foreign goods by more than the price of domestic goods or they may be protected by groups of other non-tariff restriction which make imports of cheap foreign goods difficult or impossible or the domestic industries may be paid subsidies or aunties to enable them to compete with cheap foreign goods. There are two kinds of argument for protection which are commonly offered 1. Economic Arguments and 2. Non-Economic Arguments

Economic Arguments

The economic arguments usually offered in favour of protection. There are important arguments for the use of tariffs when the objective to make national income as large as possible.

1. To protect infant industries

To protect infant industry was first of all formulated of Alexander Hamilton but was popularized by F List. The aim of protection is to raise the standard of living in the country. It comes in a state and dynamic form. The static form assumes that world technology is given and constant. If an industry has large economies of scale costs will be high when industry is small but will fall as the industry grows. It is argued that if industries in their infancy are not protected from established foreign producers they cannot develop to enjoy the comparative advantages. So they are protected by providing all types of facilities such as subsidies heavy import duties on foreign goods etc. They may expand and enjoy internal economies of scale.

A newly developing country may find that in the early stages development its industries are unable to compete with established foreign rivals. A trade restriction may protect these industries from foreign competition while they grow up If these industries would be in the developed condition then they will be able to produce as cheaply as foreign rivals and therefore will be able to compete without protection.

The dynamic form of the argument emphasizes that technology is constantly increasing endogenously. Those industries which were stagnant in the early stage of development will gain technological experience and advancement. A country needs to protect its domestic industries during the early stages of development when industries are using the technology. The objective is not to move along a given falling long run cost curve but rather to develop industries that will have cost curves that fall over time as fast as the similar cost curves are falling in the advanced countries because of invention and innovation. To prevent the new industries from becoming stagnant under the protection that shields them from foreign competition the protection must be consistent on achieving success in foreign markets within a stated period of time. Once they have developed the skills needed to hold their own in the intense international competition associated with new technologies then protection can be removed. The advocates of their arguments for early protection point out that all the economically advanced countries developed their early industries under tariff protection:
2. To encourage learning by doing:

The dynamic version of the infant industry argument is supposes by the argument based on learning by doing learning by doing suggests that the pattern of comparative advantage can be changed. If a country learner enough through producing product in which it currently is at 9 comparative disadvantages, it may gain in the long run by specializing in those products and could develop a comparative advantage as the learning process lowers their cots.

Protecting a domestic industry from foreign competition may give its management time to learn to be efficient and its labour force time to acquire the needed skills.

Some countries have, succeeded in developing strong comparative advantages in targeted industries but other may failed. One reason such policies sometimes fail is that the industries and complacent. Another reason is the different of identifying the industries that will be able to succeed in the long run.

3. To create or to exploit a strategic trade advantage

An important recent argument for tariffs or other trade restriction is the need to create a strategic advantage in producing or marketing. New product will be expected to increase the normal profits. Some goods are produced in industries containing barrier to further entry. Firms in those industries can earn extra high profits ever long periods of time. Where such industries are already well established then is little chance that a new firm will replace one of the existing grants.

The first firm to develop and market a new product successfully may earn substantial pure profits over all of its opportunity costs and become one of the few established firms in the industry. If protection of the domestic market can increase the chance that one of the protected domestic firms will become one of the established firms in the international market the protection may pay off.

There are lots of high tech industries which are facing declining average total cost because of their large fixed cost of product development. For example, a new generation of civilian aircraft, computers software and pharmaceuticals. They are fixed costs of entering the market. They must be increased before a single unit of output can be sold in such industries a few firms can find place.

The characteristics just described are sometimes used to provide arguments for subsidizing the development of such industries or protecting their home market with a tariff. Suppose for example that there is room in the aircraft industry for only three major producers of the next round of passenger jets. If a government assists a domestic firm, this firm may become one of the three that succeed and the profits that are subsequently earned many more than repay the cost at the subsidy.

On the basis of above discussion the economists advises that their governments should adopt strategic trade policies more broadly than they now do. This means for high-tech industries, government protection of the home market and government subsidization of the product development stage.

Criticism: Critics argue that one all countries try to be strategic. They will all waste vast sums trying to break into industries in which there is no room for most of them. Supposes of strategic trade policy reply that a country cannot afford to stand by white others play the strategic game. According to advocates who support the strategic trade policy that there are key industries that have major spillovers into the rest of the economy. If a country wants to have a high standard of living it must compete with the best if a country lets all of its key industries migrate to others countries many of the others will follow. The country then risks being reduced to the status of a less developed nation.

Opponents argue that strategic trade policy is just the modern version of modernization, a policy of trying to enrich oneself at the expense of neighbors rather than working for mutually beneficial gains from trade. There are real doubts that such prosperity could be maintained if the volume of trade were to shrink steadily because of growing trade barriers.
To Protect Against Unfair Actions by Foreign firms and Governments

Tariffs may be used to prevent foreign industries from gaining an advantage over domestic industries by using practices that will harm domestic industries and hence lower national income. Subsidies and dumping are used to protect against unfair actions by foreign firms and government.

To Alter the Terms of Trade

Trade restrictions can be used to turn the terms of trade in favour of countries that produce and export a large of the world’s supply of some product. They can also be used to turn the terms of trade in favour of countries that constitute a large fraction of the world demand for some product that they import.

Suppose a country that provides a large fraction of the total demand for some product that it imports. But restrictions are imposed on the demand for the commodities through tariffs, it can force the price of that product. This turns the term of trade in its favour because it can now get more units of imports per unit of exports.

Non-Economic Argument

There are important non-economic arguments favouring protection. These factors are not maximizing rational income.

1. Defence Argument: A country should adopt the policy of protecting its industries from the standpoint of national defence. If a country is dependent on the other countries for its requirements of agricultural and industrial products, it will be very harmful for its national interest in terms of war.

2. Non-economic advantages of diversification: Comparative advantage might dictate that a country should specialize in producing a narrow range of products. The government might decide that there are distinct social advantages in encouraging a more diverse economy. Citizens should be given a wider range of occupations. The social and physiological advantages of diversification would more than compensate for a reduction in living standard.

3. Risk of Specialization: The specialisation in the production of only a few products many involve risks that country does not wish to take. One such risk is that technological advances may render its major product obsolete. The pro-tariff argument is that the government can encourage a more diversified economy by protecting industries that otherwise could not compete.

4. Protection of specific groups: Although free trade will maximize per capita GDP over the whole economy, specific groups may have higher incomes under protection than under free trade. If a firm or industry in a monopoly condition then tariffs are used to restrict foreign competition. Tariffs tend to raise the relative income of a group of people who are in short supply domestically and to lower the relative income of a group of people who are in plentiful supply domestically tree trade does not the opposite.

Question: What do you understand by protection? Explain the economic and non-economic arguments for protectionism.

24.4 METHODS OF PROTECTION

We have now studied some of the many reason why government may wish to provide some protection for some of their domestic industries. Policy instruments of protection are broadly classified as:

1. Tariff barrier
2. Non-tariff barriers

1. Tariff Barriers: Tariff which is imposed by different countries in the world has been the most important type of trade restriction. A tariff is a ban or duty levied on the traded commodity as it crosses a national boundary. An import tariff is a duty on the imported commodity while
an export tariff is a duty on the exported commodity. In the context of the policy of protection, import tariffs are more important than export tariffs. In fact, tariff barriers are basically concerned with import duty. There are mainly two types of protection policy, first policies that directly raise prices and second policies that directly lower quantities.

The first type of protectionist policy directly increases the price at imposed commodities thereby offering protection to the domestic producers from international competition. A tariff which is often called an import duty is the most common policy of this type. This can be shown by diagrammatically in case of free trade and restricted trade.

In the above figure, the D and S are the demand and supply curve in domestic market and \( P_w \) is the world price. In case of free trade, domestic consumption is \( q_1 \) domestic production is \( q_0 \) and imports are \( q_0 - q_1 \).

**In case of restricted trade**

It illustrates how gains/loss occurs to the consumer the government the domestic producer and the foreign producer when the tariff is imposed.

In above figure, D and S are the demand and supply curves of a commodity respectively. In free trade regime \( Q_0 Q_1 \) units are imported at price \( P_w \) (\( Q_0 - Q_1 \) is the excess demand in case of domestic consumer).

Now, tariff given by \( t \) is imposed for each unit imported. Consequently the price increases by the amount \( t \) and each domestic producer receives \( P_d \) price for all units sold.

At their price, the quantity consumer reduces by \( Q_2 Q_1 \) units now the consumers are to pay a higher price \( P_d \) as compared to \( P_w \) for each unit of consumption. The total loss to consumer due to tariff is given by area of region A, B and T As the price increases by \( t \), the consumer pays extra amount \( t \) for each of \( OQ_2 \) units.

The domestic producers now can sell more and their supply increase by \( Q_0 Q_3 \) units. Consequently imports are restricted to only \( Q_3 Q_2 \) units. The domestic producers receive \( P_d \) price for each unit sold. Before their total revenue increase by area of region A B and C. C is the revenue which would have been earned by foreign producer in case of a free trade regime. The foreign producers can sell only \( Q_3 Q_2 \) units at a price. \( P_w \) therefore their total revenue tends to decrease. The area T lost by consumer is received by government. It shows the total revenue collected by government tariffs when \( T \) per unit import duty is imposed (Total cost revenue = \( T \times Q_3 Q_2 \)).

After imposing tariff barriers the domestic price is increased by amount of tariff hence there is loss to domestic consumers and foreign producers and again to the domestic producers of course the government gains in terms of tax revenue.

**Policies that directly lower quantities**

The second type of protectionist policy directly restricts the quantity of an imported product. All the barriers that do not directly increase the price of an imported commodity are called non-tariff barriers. In other words, any direct or indirect trade restriction which does not involve tariff is called non-tariff barrier,. Import quota is one of the important types of non-tariff barriers. Under import quotas, the importing country sets a particular limit for a commodity beyond which no import is allowed during the stipulated time period.

Apart from import quota, for may years there has been in operation the voluntary export restriction (VER) through an agreement between the trading countries exporting country to agrees to limit the amount of a good that it sells to the importing country.

**Question: What are the methods of protection?**

**Question: Distinguish between tariff and non-tariff barriers.**
Fallacious trade policy arguments

There are many fallacies that exist for free trade as well as for protectionism. We have also seen that there are some valid arguments for a moderate degree of protectionism for one specific country. Fallacious arguments are heard on both sides and they colour much of the popular discussion. Such arguments have persisted for ages but their survival does not necessarily make them true. We examine them now to see where their fallacies lie.

(A) Fallacies related to free trade argument

1. **Free trade always benefits fall countries**: It is a standard knowledge that most developed economies do not believe in free trade. Infact a small group of developed countries tend to collude to make and after the terms of trade in their favour by following restrictive trade policies. If they resort to free trade unilaterally they would lose the advantages earlier enjoyed under the tariff protection regime. Thus free trade does not necessarily maximizes income or benefit of every trading partner.

2. **Infant industries never abandon their tariff protection**: It is argued that granting protection to infant industries is a mistake because these industries seldom admit to growing up, and will cling to their protection even when fully grown. But infant industry tariff are a permanent tariff protection would be required to protect a weak industry never able to compete on an equal looking in the international market. But if the industries do grow up and achieve the expected scale and learning economies, the real costs of production are reduced and resources are freed for other uses.

3. **Free trade maximizes world income under real world conditions**: Free trade can be shown to maximize world income when technology and comparative costs are given. But if technology is changing endogenously as a result of conscious decisions taken by firms and other agents of charge it cannot be proved that completely free markets will maximize income over time. it is possible that some types of government interventions or market imperfections will produce more technological change than completely free and fully competitive markets.

Fallacious arguments for protectionism

1. **Avoid exploitation**: According to this argument the free trade policies benefit a nation at the cost of the other. In other words, free trade would never be mutually advantage as one party always gains at the expense of the other. In such a situation, it becomes necessary for weaker nations to protect themselves through various protectionist policies like tariffs, port quota etc. But, the principle of comparative advantage refuses this argument by showing that both the trading partners tend to gain from international trade provided opportunity cost refers differ across the nations. Specialization and trader are expected to enhance production and consumption.

2. **Protects against low-wage foreign labour**: It is often argued that in industrialized countries the cheap imports from low-wage nations will drive out domestic products from the market. This would lower the standard of living in industrialized nations down to the level prevailing in the low-wage nations.

However, this argument is not completely true as the developed nations tend to gain by obtaining imports at a low cost in exchange for the goods which must be exported owning to their surplus domestic production mutually beneficial trade is based on comparative advantage rather than the absolute advantage low-wage nation specializing in the production and export of capital intense commodities. Even if this does not happen high domestic labour costs can be effectively lowered if productivity of labour is higher than in low wage countries of abroad.

Another side of the argument is that in the long run a richer nation can hurt itself by importing cheaply and not exporting at all. But imports can only be obtained by spending currency of
that nation. And foreign currency can be obtained either by exporting or by borrowing since one cannot borrow for long exports become essential. Hence trade always moves in tow directions i.e., imports must watch the exports.

3. **Greater the export better the living standard**: Yet another arguments is that exports of goods and services must enhance domestic income and employment. Thus it is beneficial to encourage exports through subsidies and reduce imports by imposition of trade

   Though it is very convincing this argument favouring protectionism is equally erroneous. Export value to domestic output of course but standard of living in a country depends on the availability of goods and services for consumption. The importance of exports is that they facilitate imports. In international trade goods pay for goods and more of moves from one country to another only to adjust the balance of payments disequilibrium. The currency of one country is for the other unless the country spends it on the purchase of goods in that country.

4. **Creation of employment**: Protection policies are sometimes favoured in country with large-scale unemployment. It is argued that these countries must impose tariff and import quotas to create employment in local industries producing similar products. However this would crate employment only in the short run. On the other hand when imports of a country decline exports of other countries suffer. It leads to unemployment and loss of income in the rest of the world sector. Consequently demand for goods would reduce from the country following protectionism. This implies loss of jobs in the export industry of the country. Hence while jobs are gained in less competitive protected industries, these are list in the unprotected export industry. This in the long urn employment will not rise but will only be redistributed among industries.

   Infact, redistribution of employment in favour of less efficient (protected) industry would only lower the overall level of output and therefore overall standard of living in the country.

**Question:** What are the various fallacious arguments favouring free trade and protection policy.
LESSON 25
GLOBAL COMMERCIAL POLICY

Practically all nations impose some restrictions on the free flow at international trade, since these restrictions and regulations deal with the nation’s trade or commerce, they are generally known as trade or commercial policies. When we take into account the effect of various supranational influences and international agreements on commercial policies, the global commercial policy comes into view.

During the great depression in early 1930’s the world trade fell particularly due to free imposition of tariffs on imports by many countries. This resulted in reduced economic activity lower efficiency and less trade without an increase in employment. Since then several multilateral and regional agreements have taken place to avoid such situations in future.

GATT AND THE WTO

One of the most notable achievements of the postwar era was the creation of the General Agreement on Tariffs and Trade (GATT). It is an international organization which was created in 1947 with headquarters in Geneva (Switzerland) was devoted to promotion of free trade through multilateral trade negotiations. The principle of the GATT is that each member country agrees not to made unilateral tariff increases. This prevents the outbreak of tariff wars in which countries raise tariffs to protect particular domestic industries and to retaliate against tariff of other countries increases.

There are three basic principles on which GATT words.

1. Non-Discrimination: This principle refers to absolute acceptance of any reciprocal tariff reduction negotiated by one country with any of its trading partners. The principle diverts slightly only in cases of economic integration such as customs unions and in the trade between a nation and its former colourless and dominions.

2. Elimination on non-tariff trade barriers: GATT also on each member agrees not to resort to unilateral tariff hikes to prevent outbreak of tariff that only shirkers mutual gain from trade.

3. Consultation among nations in solving trade disputes within the GATT framework. Under the auspices of GATT eight rounds of global trade talks since 1945 have been completed. The three recently concluded GATT agreements are: The Kennedy round (completed in 1967) The Tokyo round (completed in 1979) and the Uruguay round (completed in 1993). Each of these rounds has resulted in reducing world tariffs substantially, the first two by one-third each and the last by about 40 percent.

The Uruguay round replaced the general agreement on tariffs and trade (GATT) with the World Trade Organization (WTO) in 1995 in Geneva with authority not only in trade in industrial products but also in agricultural products and services.
Types of Regional Agreement

Besides WTO, today there are various forms of regional economic associations to liberalize trade in small groups of nations. This is done to promote economic integration which refers to the commercial policy of indiscriminately reducing or eliminating trade barriers only among the nations joining together. The degree of economic integration depends on regional trade liberalizing agreements such as free-trade areas, customs unions, and common markets.

Free Trade Area: A free trade area allows for tariff free trade wherein all barriers are removed on trade among members but each nation regains its own barriers to trade with non-members. Therefore custom points have been set up at the common borders of members so that all imports into free trade areas should not have tariff. Besides this various rules and regulations pertaining to custom duties, duty free passage of goods produced and imported among members, others tariffs etc are formulated with a view to promoting trade. The best examples are the European Free Trade Association (EFTA), North America Free Trade Association (NAFTA), Southern Common Market (Marlousr) etc.

Custom Union: A custom union allows no tariff or their barriers on trade among members and in addition it harmonizes trade policies towards the rest of the world. Since they have a common tariff will against the outside world, there are no customs controls on movement of goods among members or the rules of origin. Examples are: European Union (EU) or European Common Markets, and Zollverin or Custom Union of a large number of Sovereign German States.

Common Markets: A common market goes a step further than the customs union by also allowing the free movement of labour and capital among member nations beside removing barriers on trade and harmonizing trade policies. The EU achieved the status of a common market at the beginning of 1993.

TRADE CREATION AND TRADE DIVERSION

Regional trade liberalization affects resource reallocation which is often studied under two heads: trade creation and trade diversion.

1. Trade Creation: Trade creation occurs when some domestic production in a nation that is a member of a customs union is replaced by lower cost imports from another member nation. This leads to increase in welfare of member nations as it promotes greater specialization in production based on comparative advantage. A trade members because some of the increase in real income spills over into increased imports from the rest of the world.

2. Trade Diversion: Trade diversion takes place when cheaper imports from outside the customs union are replaced by more expensive imports from a member nation due to preferential trade treatment given to members. This leads to lesser welfare because of shifts in production from efficient non-members to inefficient members. Thus international allocation of resources is worsened and production diverts from the principle of comparative advantage.

Trade Diverting: The trade diverting customs union brings mutual benefit to member nations as they result in trade diversion as well as trade creation. The welfare of non-member tends to decline as their economic resources are utilized less efficiently after trade is diverted away from them. Thus, while trade-creating customs union lead only to trade creation and increases welfare of members as well as non-member a trade diverting customs union leads to trade creation and trade diversion and while it tends to increase welfare-of members is surely reduces welfare of the rest of the world.

EFTA, NAFTA and other FATs

In 1960, the free trades are called the European Free trade Association was established among several nations. The United Kingdom, Austria, Denmark, Norway, Portugal, Sweden and Switzerland wish Finland becoming as associate member in 1961. The EFTA achieved free trade in industrial goods in 1967 but
only a few special provisions were made to reduce barriers on trade in agricultural products. On January 1994 the EFTA joined EC to form European Economic Area (EEA) a customs union that will eventually allow the free movement of most goods services capital and people among 17 member nations. In 1995, Austria, Finland and Sweden left EFTA and joined EU.

In September 1993, the United States, Canada and Mexico signed the North America Free Trade Agreement (NAFTA), which came into effect from January 1994. The main impact of NAFTA was on trade between United States and Mexico. Several similar associations have come up which remove restrictions on trade among member nations to accelerate mutual economic growth. Most of these attempts however have met with only limited success or even failure. Some common examples are:

2. The Latin American Free Trade Association (LAFTA), established in 1960 by Mexico and most of South America hoped to increase the safe of economic development and establish a common market. In 1980 it was superseded by Latin American Integration Association (LAIA).
3. The Southern Common Market (Marcos) formed by Argentina, Brazil Paraguay and Uruguay in 1991 became a customs union in 1995 and was joined as associated members by Bolivia and Chile in 1996.
4. The Association of South-East Asian Nations (ASEAN) like Brunei, Indonesia, Malaysia, Philippines, Singapore and Thailand although a political association decided to become a common market in 1977.

COMMON MARKET: THE EUROPEAN UNION

The European Union (EU) was founded by the Treaty of Rome signed in 1957 by West Germany, France, Italy Belgium, Netherlands and Luxemburg European Economic Community (EEC), and after 1993 as the European Union (EU).

This association was joined by United Kingdom, Denmark and Ireland in 1973 Greece in 1989 Spain and Portugal in 1986. Austria, Finland and Sweden in 1995. The EU is now in negotiations to admit 13 new members such as Poland, Hungry the Crèche Republic, Cyprus etc.

Free trade in industrial goods among the members and common agricultural prices were agreed upon in 1968. The establishment of common Agricultural Policy (CAP), which guaranteed farm prices by means of intervention and an import levy, proved to be of limited benefit only. There remained various tasks undone till mid-1980 such as removal of non-tariff barriers, mobility of labour achievement of quality standards, meeting licensing requirements and removal of the regulatory restrictions. Therefore several measures were initiated towards achievement of common market in 1985.

(a) **The Single Market Programme:** In 1986, the EU amended the Treaty of Rome with the single market Act, which provided removal of all remaining barriers to the free flow of goods services and resources among members and bearer a style unified market at the ends of 1992. Elimination of non-tariff barriers is considered on a product-by-product basis to maintain minimum quality standards. The act also simplified the administrative procedure whereby single market legislation needed only weighted majority support instead of unanimity. Some border checks have also been removed among member nations as yet another step towards achievement of a common market. However, these are only a few measures that have been implemented while several are being still pursued. The process is still in operation.

(b) **The Single Market in Financial Services:** Financial services have gained significantly from single market programme. With the implement of Capital Liberalization Directive exchange controls prohibiting investments by residents of one country into another were removed. This
led to immediate integration of wholesale financial markets with the global financial system because sophisticated borrowers and lenders had an incentive to shop around for the best terms. The United Kingdom abolished its exchange controls in 1979 Japan in 1980, France and Italy in 1989, Spain in 1991, Portugal and Ireland in 1992, and Greece in 1994. The introduction of Euro in 1999 also added further impetus go globalization.

A dual set of principles govern the single market in financial services. They are based on home country authorization and host country conduct of business rulers. This allows a firm to a trade throughout the union by the authorization of home regulator but local lowers in the concerned nation must be complied with while trading. This helped foreign firms to get the same treatment as indigenous ones. Thus while home countries regulated entry of firms the hosts regulated performance.

The Cecchini Report of 1989 estimated that full implementation of single market programme would increase GDP of European Union by 6%. Also the European Challenge (Ceechini) 1992 estimated fall in rate of inflation of 0.1% and creation of 1.8% million additional jobs which would reduce average rate of unemployment in EU by 1.5 % points. Thus though the reduction in trade barriers and economic integration faces political obstructions it eventually results in far greater benefits and economic efficiency.

(c) **The Maastricht Treaty:** This historic treaty signed in the Dutch city of Maastricht in 1992 aimed to further centralize macro-economic policies bring about transparency in the price system and reduce exchange rate margins of all member nations. For the achievement of such objections a single currency and a European Central Bank that would engage in foreign exchange market intervention and open market operations were established in 1999. The treaty also included a social chapter to soften various policies regarding labour and other social areas.

**THE FUTURE OF THE MULTILATERAL TRADING SYSTEM**

International trade contributes significantly to the process of economic development. Globalization has also led to greater economic efficiency and the growth of nations. This can largely be attributed to multilateral trade agreements such as GATT, WTO, EFTA, and NAFTA etc, which have brought about successive reductions in tariff barriers leading to phenomenon growth of trade among nations.

However such agreement face serious challenges in the form of regional trading blocks that promote trade only with members and the growth of state managed trade. Also despite great benefits arising from such agreement problems such, as high subsidies and tariff in agricultural product high protectionism in agriculture and textile absence of proper labour and environmental standard abuse of antidumping and other safeguards etc still persists. In addition the countries have not been adequately addressed. In the long run this would result in rising tariffs lower employment creation lower efficiency and incomes.

It would also regard technological dynamism hence overall growth world over with developing and under developed economies being worst hit.

Thus, the challenge for the twenty first century is now to enlist these multilateral agreements in helping all nations reducing international inequalities and protecting the environment for future generations.