THE THEORY OF DISTRIBUTION – 1

This theory deals with the process through which the total money value of goods and services produced by the producers is distributed amongst the factors of production.

Prices of factors of prodn – remuneration of factors for the services provided by them in the process of prodn i.e. income of the owners of factors of prodn. This is cost to the producers. These prices are determined in the factor market.

A Special characteristics of factor market

1) Derived demand. Demand for final goods and services is direct demand since they are demanded by the consumers for getting satisfaction from their consumption. But in the case of factors of prodn the purchaser does not consume them directly; they are demanded to be used for prodn. For e.g. bricks are not demanded for direct consumption; they are demanded for construction say for e.g. a house. The bigger the house to be constructed the greater the demand for bricks. So demand for bricks originates from the need to construct a house. The bigger the house you want to construct the greater is the demand for bricks. So demand for factors of prodn is known as derived demand or created demand or indirect demand..
2) Joint demand. It is not possible to produce a commodity by using only one factor of prodn. For e.g. in the construction of a house you need sand cement together with bricks. On the other hand final goods and services are usually demanded separately.
3) Law of supply may be inoperative. Generally speaking supply is positively related to price. But in the case of factors of prodn this may not always hold. For e.g. the supply of land is fixed with reference to the whole country.
4) Different theory for different factors of prodn. Price of final goods and services is determined by the theory of price i.e. through the interaction of demand and supply. But in the case of factors of prodn, besides the general

theory of price, separate theories are required as the factors influencing demand and supply are different for different factors. Thus there is:

Theory of rent --- for determining the price that the owner of land gets.

Theory of wages --- for determining the price that supplier of labour gets.

Theory of interest ---- for determining the price that the supplier of capital gets .

Theory of profit----- for determining the price that the supplier of organization gets.

5) Owner may not have control over the supply of factor. For e.g. the saver does not have any control over the supply of capital; it depends upon the banking system, govt policies, national income etc.

B) The demand for factor of production of a firm depends on:

1) The technique of prodn. More advanced technique may require less factor of prodn for a definite level of prodn.

2) The efficiency of factors of prodn. The greater the efficiency lesser the amount of factors of prodn required for the prodn of a given level of output.

3) The price of factors of prodn. The higher the price the lower the demand.

4) The elasticity of supply of the factors of prodn. The more inelastic the supply the greater the difficulty in procuring it.

A) and B) imply that separate theories are required for the determination of factor prices.

SOME CONCEPTS

MARGINAL PHYSICAL PRODUCT (MPP) : Keeping all other factors of prodn constant, MPP of a factor is the change in physical output brought about by the change in one unit of that factor.

VALUE OF MARGINAL PHYSICAL PRODUCT (VMP)

VMP= PRICE OF THE PRODUCT X MPP

i.e. money value of MPP

MARGINAL REVENUE PRODUCT (MRP) : Other factors of production remaining constant MRP of a factor is the change in total revenue due to increase in the employment of one unit of the factor.

MRP=MRXMPP

Under perfect competition, P=MR.

Hence VMP=MRP

AVERAGE FACTOR COST : TOTAL FACTOR COST/UNITS OF FACTOR

TOTAL FACTOR COST (for labour) =Average Wage (W) x Labour (L)

AFC= TFC/L =(WXL)/L=W

MARGINAL FACTOR COST : CHANGE IN TFC/ CHANGE IN LABOUR

MARGINAL PRODUCTIVITY THEORY OF DISTRIBUTION

ASSUMPTIONS

- There exists perfect competition in the product and factor market.
- Homogeneous factors i.e. productivity of each unit of factor is same.
- Factors of prodn are substitutes.
- All factors of prodn are fully employed.
- Factors of prodn are mobile.
- Law of diminishing marginal product operates.
- Marginal products can be measured
- Objective of the producer is to maximize profit.
- Factors are perfectly divisible.
- Each factor is paid according to its marginal productivity.
- Total output gets exhausted if factors are paid thus

EQUILIBRIUM

Consider fig 1. Let us consider labour as the factor of prodn.

Since there exists perfect competition in the factor market, W=AFC=MFC.

Since there exists perfect competition in the product market, VMP=MRP.

MPP is downward sloping because of the assumption of diminishing marginal productivity.

Hence PXMPP i.e. VMP will also be downward sloping. MRP will also be downward sloping.

Producer will employ labour upto the point where his profit is maximized. The condition is MC=MR i.e. W=MRP.

In the fig this takes place at points A and B.

A is unstable equilibrium

B is stable equilibrium. The producer will employ L_1 amount of labour.

Thus conditions of equilibrium

i)VMP=MRP=W=AFC=MFC

ii)VMP=MRP curve will be downward sloping

CRITICISM

- In reality most markets are imperfectly competitive. So this theory cannot be applied.
- Homogeneity of factors of prodn not seen in reality.
- Substitutability between factors is not always true.
- Perfect divisibility of factors may not be possible.
- This theory assumes that if all factors are paid according to their marginal productivity then the total product will be exhausted. This will be possible

only if constant returns to scale operate. However this theory is based on the law of diminishing marginal productivity.

- Full employment of factors is an unrealistic assumption.
- According to modern economist marginal product is not measurable.
- This theory neglects the supply side of factors as it is assumed that supply is infinite at a fixed price.

MODERN THEORY OF FACTOR PRICING

According to the modern economist price of a factor is determined through the interplay of demand and supply just as it is determined in the case of any good.

Demand for a factor depends upon the demand for the final good. Since the objective of the firm is profit maximization a firm will employ a factor upto the point where Marginal Revenue Product of that factor equals the price of that factor.

Consider fig 2. If price of a factor is OP_0 then the profit maximizing level of factor employment will be OQ_0. If price increases to OP_1 then factor employment will fall to OQ_1. Again if price falls to OP_2 factor employment will increase to OQ_2. Hence the downward sloping MRP curve is the firm's demand curve for a factor.

The supply curve of a factor is generally an upward rising curve; if the supply is fixed (e.g. land) then the curve will be vertical.

The price of the input is determined at the point of intersection of demand and supply curves. (fig 3)

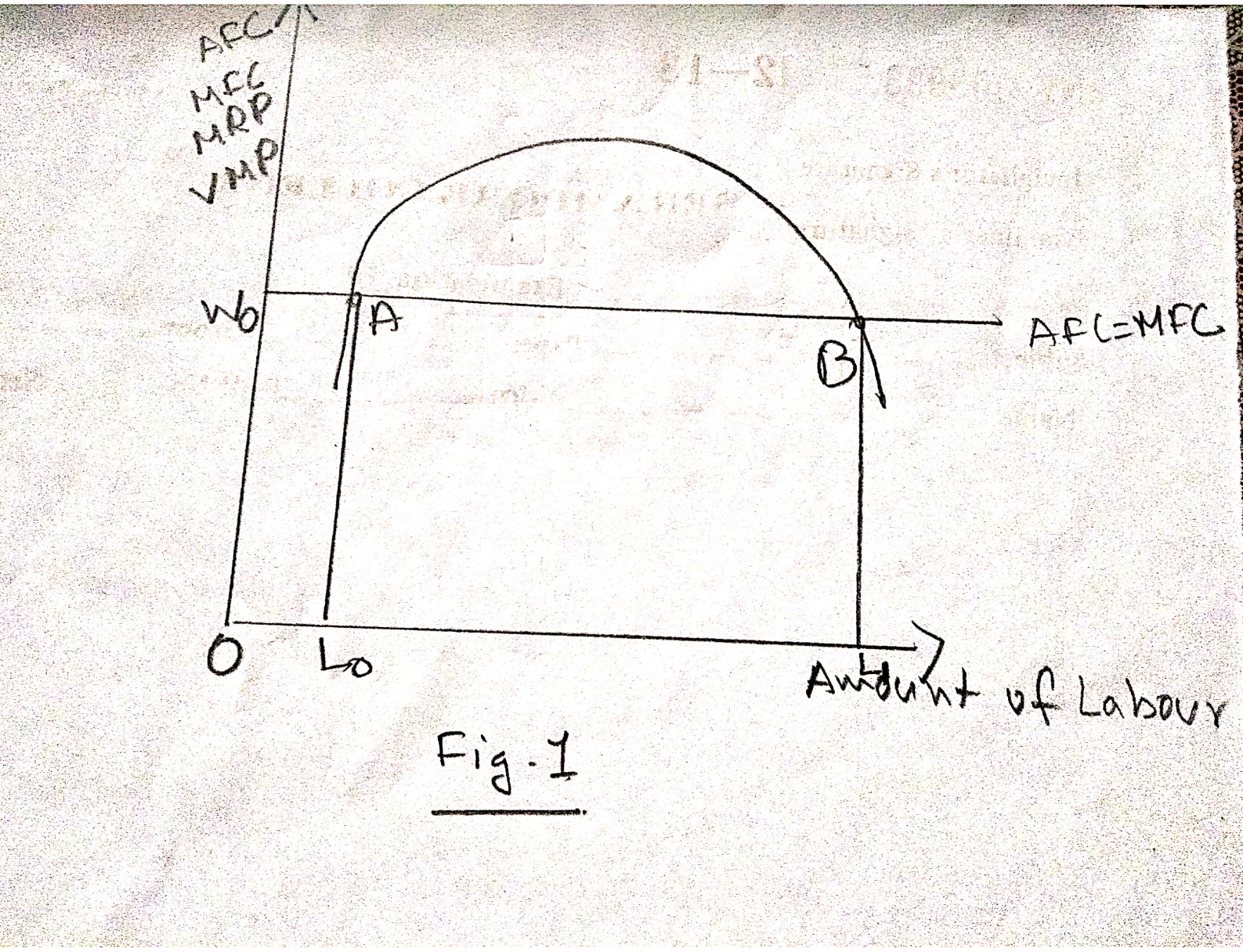

Fig. 1

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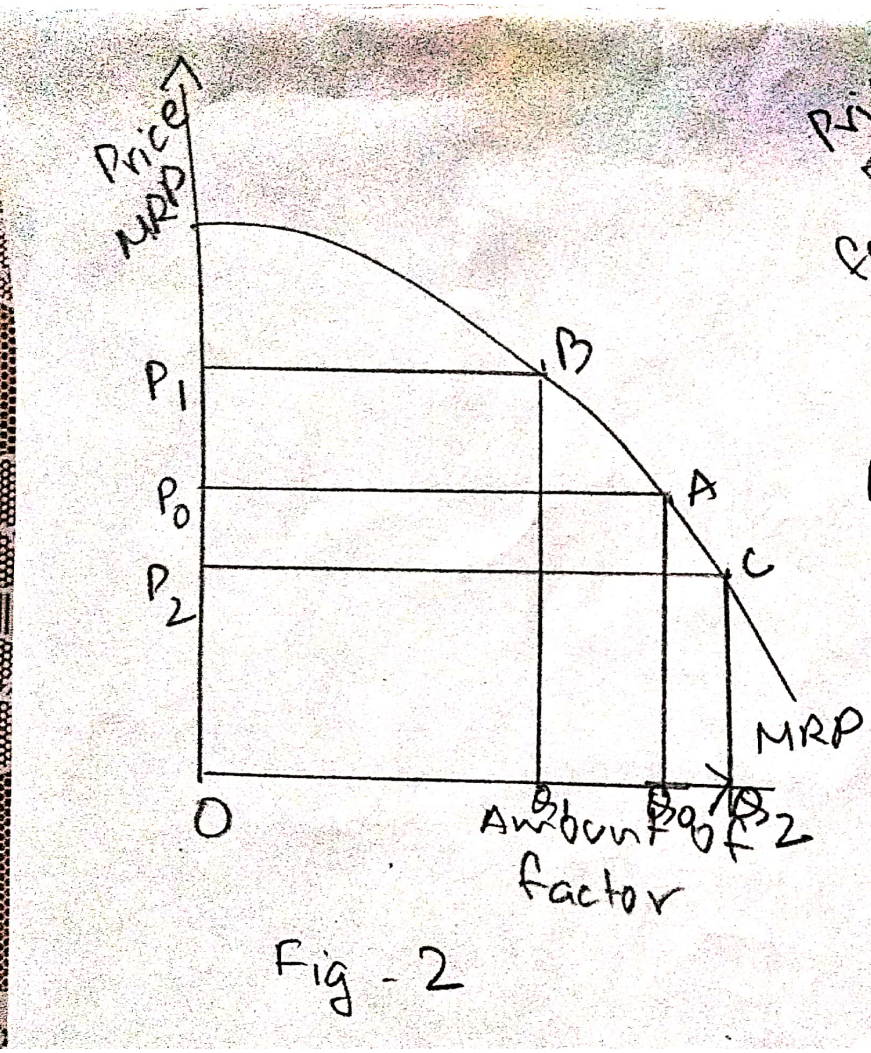

Fig - 2

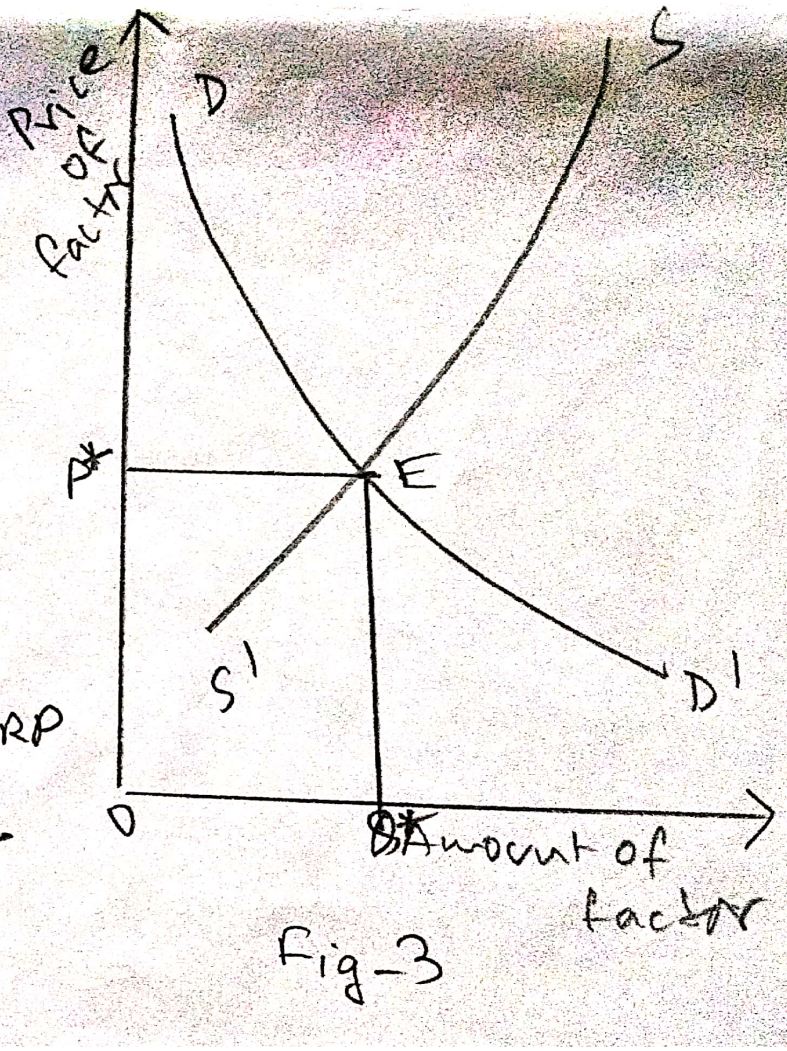

Fig - 3

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