

## Module 3

### Lecture 21

#### Topics

#### 3.6 Alfred Marshall III

##### 3.6.1 Marshall on supply

##### 3.6.2 On Distribution

##### 3.6.3 Stability of Equilibrium

#### 3.6 Alfred Marshall III

##### 3.6.1 Marshall on supply

- Supply curve we study these days is a contribution of Marshall. He formulated the notion of supply curve under three different time frames -- the market period (very short run), short run and long run.
- Divided cost in two categories -- long run and short run. In the long run there is no fixed factor and hence, no fixed cost. In the short run there will be both fixed and variable cost.
- He did not however come up with a precise derivation of short run cost curves based on diminishing return.
- He used his distinction between fixed and variable costs in the SR to show that a firm would continue to operate in the SR even if it was incurring a loss as long as it was covering total variable cost ( $TVC$ ). This situation arises if  $TVC < p \cdot q < TC$  i.e. ( $AVC < p < AC$ ) where  $TC$  refers to total cost. In this situation if the firm continues to produce the level of profit would be  $-TFC + (p \cdot q - TVC) > -TFC$ . If it closes down production, both  $p \cdot q$  and  $TVC$  would be zero. Total profit would be  $-TFC$ . Hence, even if price is not good enough to cover average cost (but higher than average variable cost), it makes sense to continue production because by doing so the firm will be able to cover part of the fixed costs.

- Marshall said that if  $P < AVC$ , firms are hesitant to sell as they are concerned about spoiling the market by lowering the prices today. This concept however is not consistent with the concept of perfect competition.
- This idea however inspired John Robinson and Chamberlin's theory of imperfect competition which was developed in the late twentieth century.
- Marshall also introduced the concepts of long run supply curves for firms and industries. His explanation however lacked the rigor of a sound theory. His writing on these issues however triggered a very important literature contributed by Clapham, Knight, Sraffa, and Viner.
- In explaining supply curves for firm and industries Marshall talked about two very important concepts of *internal economies* and *external economies* of scale.
- Some factors are internal to the firms that lead to decrease in the average cost as the firm expands. This decrease in costs is known as *Internal economies* of scale. On the other hand, when the firm has expanded too much, costs will start to increase as the *internal diseconomies of scale* sets in.
- Similarly some factors from outside the firm or industry (Marshall never made it clear whether it applies to firm or industry) which can lead to downward or upward shift of the cost curves.
- Marshall's discussion on external and internal economies of scale triggered a very important literature on cost curves which emerged between 1900 and 1940.

### 3.6.2 On Distribution

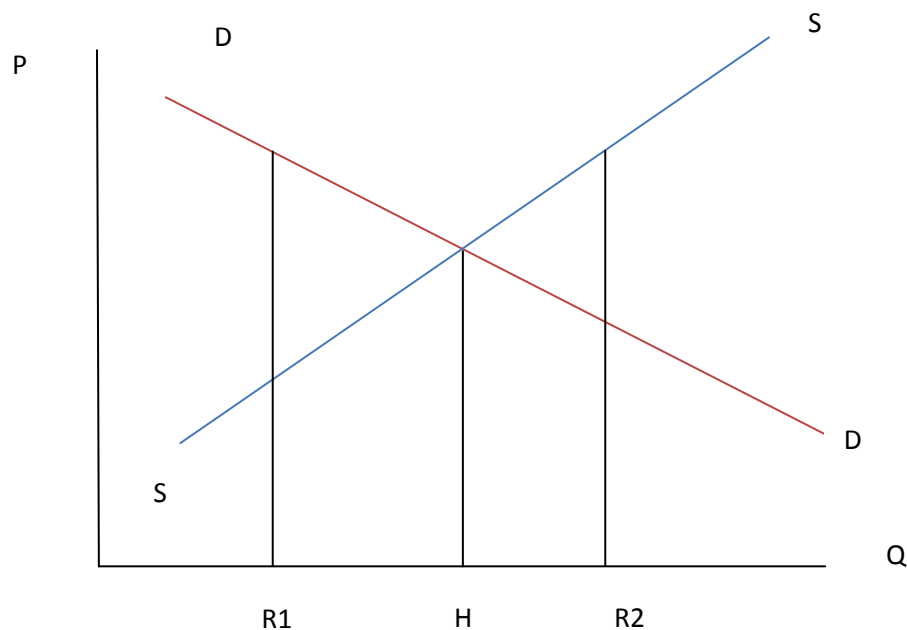
- According to Marshall factor prices are also determined using supply and demand framework. How to solve the problem of measuring marginal productivity?
- Marshall's solution was to take net product at the margin. This is defined as  $NPM = \text{labor addition to total revenue} - \text{the cost of capital equipment}$ .
- **Quasi-rent:** Prices of final goods depended upon costs of production at the margin.

- Because there is no rent at the margin, the classical doctrine held that wages, profits and interest were price determining, but not rent.
- Ricardo found that the supply of land was perfectly inelastic and there were no alternative uses of land. Hence, price determines rent.
- Marshall realized that the issues are more complex than was conceived by the classical economists.
- From the perspective of the society/economy the rent is price determined and therefore not a cost of production.
- From the perspective of the farmer rent is a cost of production. The farmer, who wants to rent land to grow oats, must pay a price sufficient to keep the land from alternative uses. If a wheat farmer cannot pay the rent he will not be able to retain land. It will go to alternative uses such as rice cultivation or real estate.
- But socially which activity will be done on land depends on prices of final products produced by each activity. If houses are sold at higher prices than rice or wheat, rent will be determined by house price. For the society, rent is determined by price.
- Marshall pointed out that in a country that has abundant amount of land, rent may be considered price determining even from the perspective of the economy. While making this statement he had the new world in his mind (America or Australia).
- For a country with unsettled land, the supply curve of land is upward sloping.
- The wage paid to a particular type of labor (eg. teacher) in a long run equilibrium is a payment just sufficient to bid those persons in that occupation away from other occupation (say, engineer)
- In the long run wage is the supply price that must be paid by the society to ensure the supply of labor { wages are price determining.
- The key to understanding this issue is the elasticity of the supply curve. In a very short run, the supply curve of a particular kind of labor can be thought of as perfectly inelastic. An increase in demand will lead to an increase in wage as there is

no income in supply In the short run wages are price determined and are like rent. Marshall called this payment *quasi rent*.

- He said for all factors long run prices are (*final product*) price determining but in the short run factors prices are price determined and therefore are like rent.
- Marshall also applied this idea to profit. In the long run comes to what is necessary to keep somebody in business But in short run profits are price determined and therefore can be called *quasi rent*.

### 3.6.3 Stability of Equilibrium



- At  $R_1$ , demand price  $>$  supply price. This means consumers are ready to pay more than the minimum acceptable price for the seller. Price and quantity will increase.
- At  $R_2$  supply price  $>$  demand price. This means buyers are ready to pay less than the minimum that suppliers are ready to accept. This means that supply must go down.
- The equilibrium is reached at  $H$ .

- What about the stability? Marshall assumed quantity as the independent variable while Walras assumed price as independent. If the demand is downward and supply is upward, both systems will yield stable equilibrium at the intersection.