Micro Economics Notes PDF

On

The Theory of the Firm under Perfect Competition

(Class – 11)

Market: "Economists understand by the term market, not any particular market place in which things are bought and sold, but the whole of any region in which buyers and sellers are in such free intercourse with one another that the prices of the same goods tend to equal easily and quickly".

PERFECT COMPETITION

It is a market structure where there are a large number of buyers and sellers selling identical products at uniform price with free entry and exit of firms and absence of government. control.

- **Under perfect competition**, price remains constant therefore, average and marginal revenue curves coincide with each other i.e., they become equal and parallel to the x-axis.
- **Under perfect competition** price is determined by the industry on the basis of market forces of demand and supply. No individual firm can influence the price of the product. A firm can take the decision regarding the output only. So industry is the price maker and the firm is the price taker.

FEATURES OF PERFECT COMPETITION

1. **Large number of sellers:** In perfect competition there is an existence of a large number of sellers. The number of sellers is so large that each seller sells so little that none of them is in a position to influence the price in the market.
2. **Large number of buyers:** Similarly the number of buyers is also large. Each buyer buys so little that none of them is in a position to influence the price in the market. It is natural that, when there are millions of buyers in the market none of them can be strong enough to influence the price to his advantage.
3. **Homogeneous Product:** An important feature of a perfect competitive market is that the goods sold by the large number of sellers must be identical or homogenous in the eyes of the buyers. Here, homogeneity does not mean that goods are identical in all respects. They are perfect substitutes for each other.
4. **Free entry and free exit for firms:** In perfect competition there should be a complete freedom for firms to enter or exit the industry at their choice. Likewise, if some firms are incurring losses, they can exit from the industry.
5. **Perfect knowledge of the market:** Both the buyers and sellers have perfect knowledge of the price. At this 'price', total demand is equal to total supply and this price is known as 'market-clearing price'.
6. **No transport cost:** A perfectly competitive market assumes the non-existence of transport costs. The assumption is on the basis of reasoning that the various firms are so close to each other that there are no transport costs.
7. **Perfect Mobility of factors of production:** The smooth functioning of perfect competition necessitates perfect mobility of factors of production. The factors of production should be free to move into any industry which they consider profitable for themselves.
8. **No Government Interference:** In perfect competition, it is necessary to have nonexistence of any artificial restrictions on the demand, supply, and prices of commodities and factors of production in the market.
9. **Single price:** It is assumed that price is determined by interaction of market demand and supply forces. This equilibrium price is accepted by a large number of sellers and buyers.
10. **No selling cost:** As a large number of sellers sell homogeneous products at a given price, it rules out the possibility of advertisement and other sales promotion expenses

Price Line in Perfect Competition:

- The price line and demand curve for an individual firm in a completely competitive market is the same.
- The line denotes that a company's goods and services may be sold at the current price.
- The price line in such a market is a horizontal straight line that depicts that the firm can sell any quantity of a product only at a certain price. If the firm tries to change the price, the overall demand falls to zero,

because as there are a large number of small firms, no firm is capable enough to impact the overall price or supply.

- The price line is shown as below:

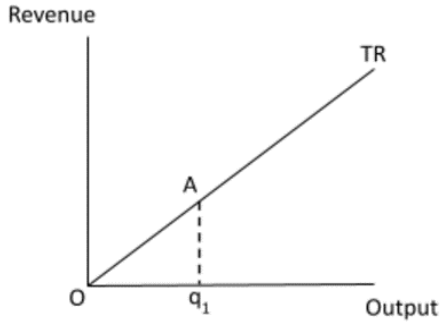
REVENUE

It refers to the money receipts of a firm from the sale of its output.

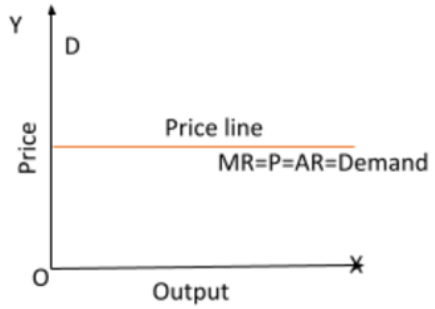
Total Revenue (TR): It is the sum total of revenue derived from the sale of all units of the commodity.
TR= P x Q or AR x Q
or ΣMR
Here, P = Price, Q = Output
AR = Average revenue.MR = Marginal Revenue

Total Revenue Curve:

- The relationship between the total revenue earned by a firm for selling its output and the quantity of output sold is visually represented by a curve.
- To determine economic profit and the profit-maximizing level of production, it is paired with a firm's total cost curve.



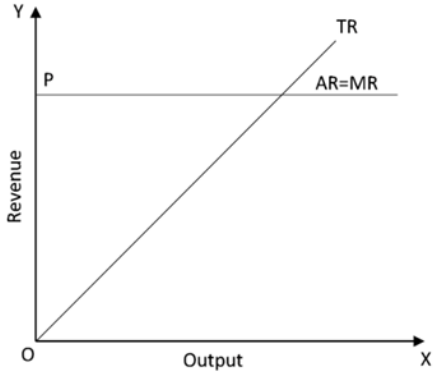
Marginal Revenue: It is the change in total revenue as a result of selling one more (or less) unit of output. When an additional unit of a commodity is sold on the market, it results in a change in overall revenue.
The following equations can be used to describe the link between market price and marginal revenue:
MR= $TR_n - TR_{n-1}$ or MR = ΔTR/ΔQ



SHAPE OF TR, AR, MR, CURVES IN PERFECT COMPETITION:

(i) Under Perfect Competitions TR curve in an upward sloping straight line starting from the origin.

(ii) Under Perfect Competition AR and MR curve is same and || to X-axis.



Profit: The difference between revenue and expense is profit.

Profit is calculated as:

Profit = Revenue – Cost

Break Even Point: Break even for a firm occurs when it is able to cover its all costs of production.

Accordingly, break- even point is defined as a situation when T'R- TC or AR- AC

Under this situation, the firm earns only normal profits.

Shutdown Point: It occurs when a firm is just able to cover its variable costs, increasing the loss of fixed cost of production. Accordingly shut down point is defined as a situation when TR= TVC or AR= AVC

Profit Maximisation or Profit equilibrium: When a producer maximizes earnings or minimizes losses, he is considered to be in equilibrium.

Profit maximisation condition:

- MR Equals MC.
- MC is rising, or MC should cut MR from below.

Profit Maximisation in the Short-run under Perfect Competition:

• Condition-1, MR= MC or AR = P

• Condition-2, MC curve should cut the MR= AR curve from below

• Condition-3 P ≥ AVC

Short run Supply Curve: The supply curve of a firm tells us the quantity of the product that a profit maximising firm is willing to produce at each possible price.

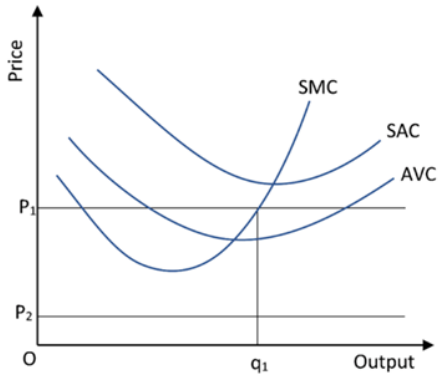
Supply: The amount of a commodity that enterprises are able and willing to sell in the market in a particular period and at a specific price is referred to as supply.

Supply Schedule: Tabular statements of relationship between price and supply of commodity is called supply schedule.

Supply Curve: Graphical presentation of relationship between price and supply of a commodity is called supply curve.

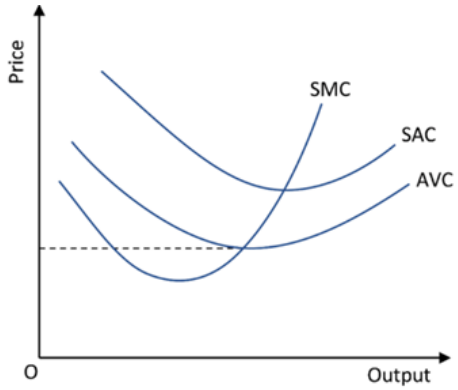
Case 1: Price is greater than or equal to the minimum AVC:

- Assume the market cost price is P_1, which is greater than the minimum AVC. To begin, we equalise P_1 with SMC on the increasing part of the SMC curve, yielding the output degree Q_1. It is also worth noting that the AVC in Q_1 does not exceed the market cost price, P_1.
- As a result, at Q_1, all three conditions in section 3 are satisfied. In the short run, the enterprise's output degree is equal to Q_1 when the market cost price is P_1.



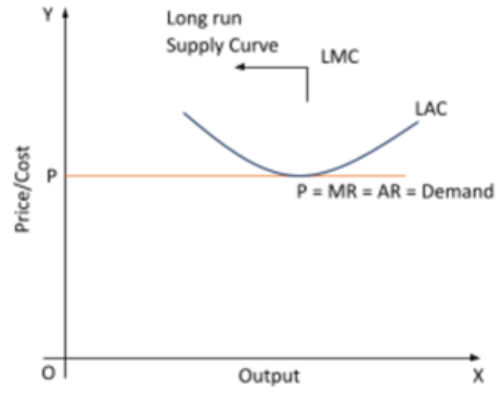
Case 2: <u>Price is less than the minimum AVC:</u>

- Presume the market cost price is P_2, which is lower than the AVC minimum.
- If a profit-maximizing firm produces a positive output in the short run, the market cost price, P_2, has to be higher than or equal to the AVC at that output level.
- The AVC clearly outperforms P_2 in the image.
- To put it another way, the company is unable to generate a profit. As a result, if the market price is P_2, the enterprise produces no output.



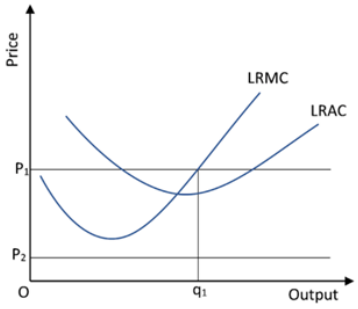
<u>Long-run Supply Curve of a firm:</u>

- When all inputs are variable, the long-run supply is the supply of commodities available.
- The supply curve, in the long run, is always more elastic than the supply curve in the short run.
- In a u-shaped curve, the long-run average cost curve encompasses the short-run average cost curves.
- With the addition of increasing long-run marginal cost curves, the supply curve is upward sloping.



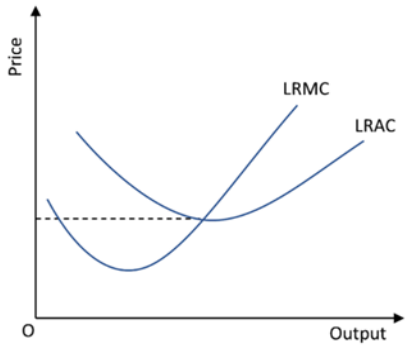
Case 1: Price greater than or equal to the minimum LRAC:

- Presume the market cost price is P_1, which is greater than the minimum LRAC. We obtain the output degree Q_1 by equating P_1 with LRMC on the increasing part of the LRMC curve.
- It's also worth noting that the LRAC in Q_1 does not exceed the market cost price, P_1.
- As a result, at Q_1, all three of the conditions are met. When the market cost price is P_1, the firm's supplies are equal to Q_1in the long run.

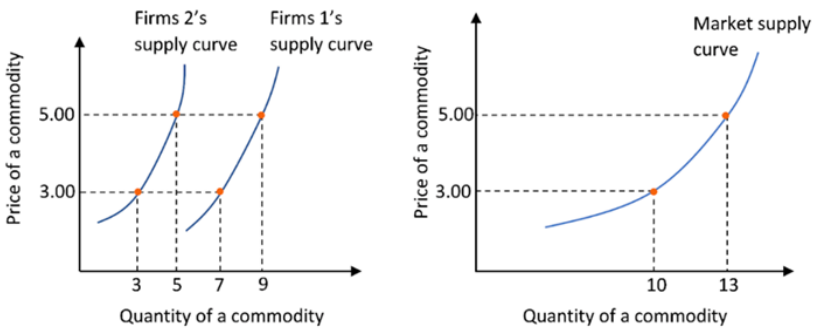


Case 2: Price less than the minimum LRAC:

- Assuming the market cost price is P_2, which is lower than the LRAC minimum.
- If a profit-maximizing firm produces a positive output over time, the market cost price, P_2, must be larger than or equal to the LRAC at that production level.
- In other words, the firm is unable to produce a positive result. As a result, when the market cost price is P_2, the firm produces nothing. We reach an important conclusion by combining Cases 1 and 2.
- The long-run supply curve of a business is the increasing section of the LRMC curve from and above the minimum LRAC, as well as the zero production for all cost prices less than the minimum LRAC.



Market Supply Curve: The market supply curve for a commodity shows the relationship between the price of a given commodity and quantity sellers are inclined to sell.



Determinant of Supply Curve:
(i) Technological progress
(ii) Input price
(iii) Unit tax

Price Elasticity of Supply: It can be defined as a measure of the degree of responsiveness of quantity supplied to changes in the commodity's own prices.

Measurement of Elasticity of Supply:
Percentage method E =% Change in quantity supplied / % Change in price or $\Delta Q/\Delta P = P/Q$
Here, P = Actual Price, Q= Actual Quantity
ΔP = Change in Price, ΔQ = Change in Quantity

Two Extreme Cases of Elasticity of Supply:
(i) Perfectly elastic supply ($e_s = \infty$): The extreme case of perfect elasticity is when the demanded quantity (Qd) or the supplied quantity (Qs) changes by an enormous amount in response to any change in price. The supply and demand curves are horizontal in both instances.
(ii) Perfectly inelastic supply ($e_s = 0$): If a given quantity of a service or commodity can be supplied at any price, it has a perfectly inelastic supply. The supply elasticity of such a service or commodity is zero. A straight line parallel to the Y-axis is a perfectly inelastic supply curve. This illustrates how supply remains constant regardless of price.