



PERFECT COMPETITION

WHAT IS PERFECT COMPETITION ?

- There are large number of buyers and sellers of the homogeneous product in the market
Well-informed producers and consumers about the market
Only one price of a commodity in the whole market
Free entry (for new firms) and free exit (for old firms)
Price of a commodity is determined by the Industry and at the determined price all the Firms can sell any number of units of the commodity
So under perfect competition the firm is **price-taker**
not a **price-maker**

What is firm ?

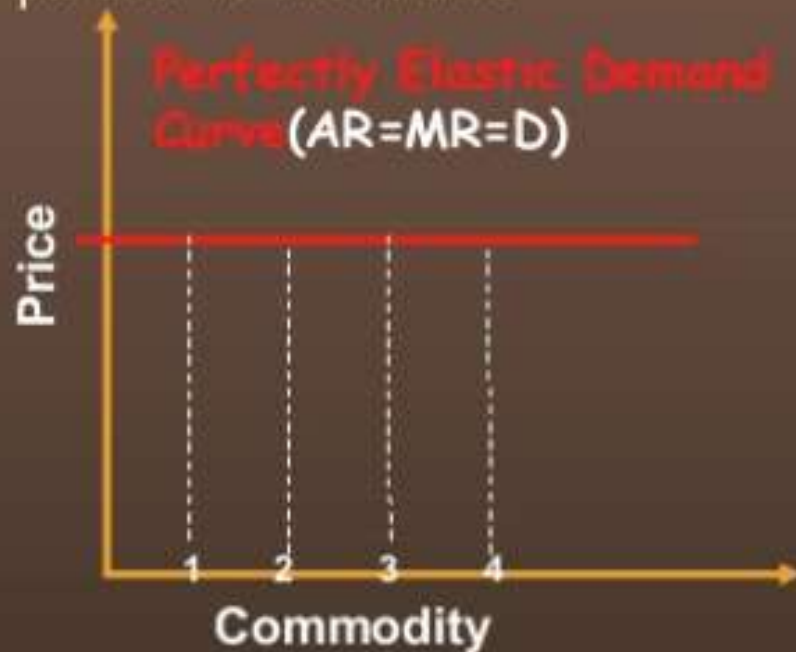
- A Firm is a group of people, with production tools, located in some premises, who, with work, transform raw materials into goods and services, and sell them
- Can also be defined as a business unit which owns, controls and manages a plant or plants, where plant refers to the technical unit



AR & MR CURVES UNDER PERFECT COMPETITION

- AR(Average revenue) curve and MR(Marginal Revenue) curve under perfect competition becomes equal to D(Demand) curve and it would be a horizontal line or parallel to the X-axis

The curve simply implies that a firm under perfect competition can sell as much quantity as it likes at the given price determined by the industry i.e. a perfectly elastic demand curve



Now the Meaning of Firm equilibrium

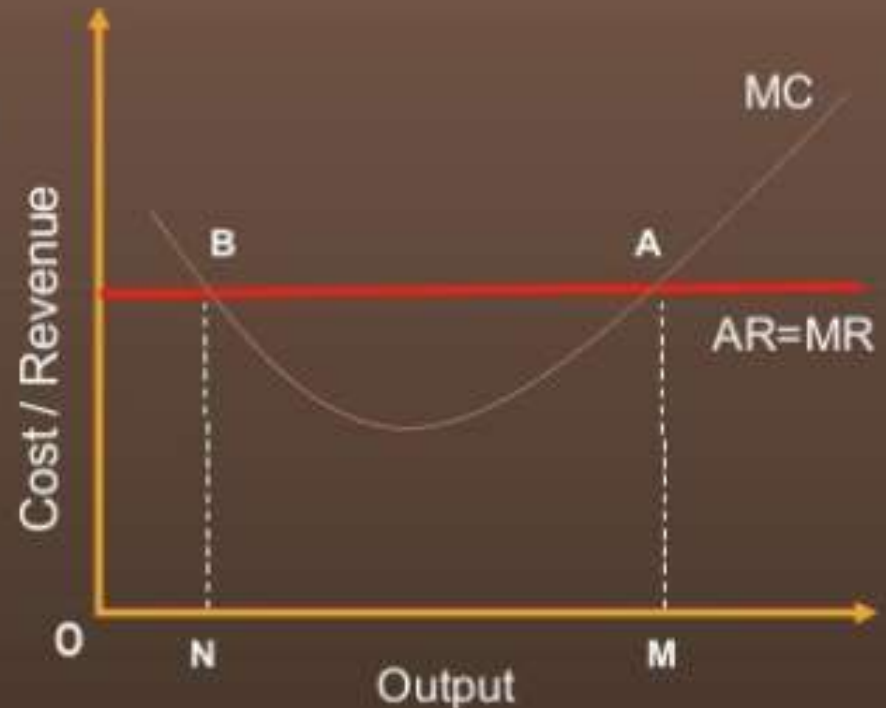
- 'Equilibrium' means a state of rest from which there is no net tendency to move
- So the Firm's Equilibrium means, "the level of output where the firm is maximizing its profits and therefore, has no tendency to change its output".
- In this situation either the Firm will be earning maximum profit or incurring minimum loss i.e. it refers to the profit maximization
- In the words of **Hansen**, "A Firm will be in equilibrium when it is of no advantage to increase or decrease its output".

Necessary Conditions For The Firm Equilibrium

- Profit of a Firm is equal to the difference between its total revenue (TR) and the total cost (TC) i.e., (Profit=TR-TC) and so for the equilibrium of the Firm it should be maximum
- Marginal cost should be equal to Marginal revenue (MC=MR)
And when these are equal profit is maximum
- Equality of MR and MC is necessary but not sufficient, so the sufficient condition is that MC curve should cut the MR curve from below not from the above
- No firm has an incentive to change its behavior

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- There are two points at which $MR (=AR) = MC$ but at both the points the Firm can't be in equilibrium or can't have maximum profit
- As stated before, as a sufficient condition for the equilibrium MC curve should cut the MR curve from below which is point A



Firm Equilibrium Under Perfect Competition In Two Time Periods

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- As a matter of fact, the price of a good is determined at a point where its demand is equal to supply and so further it depends on the time taken by the demand and supply to adjust themselves
- So this time element plays a vital role in determination of price of the goods
- Acc. to **Alfred Marshall** - If the period is short, price determination will be influenced more by the demand, on the other hand, if the period is long it will be influenced more by the supply
- So the two periods we have to study -
 - Short Period
 - Long Period

Short Run Firm Equilibrium

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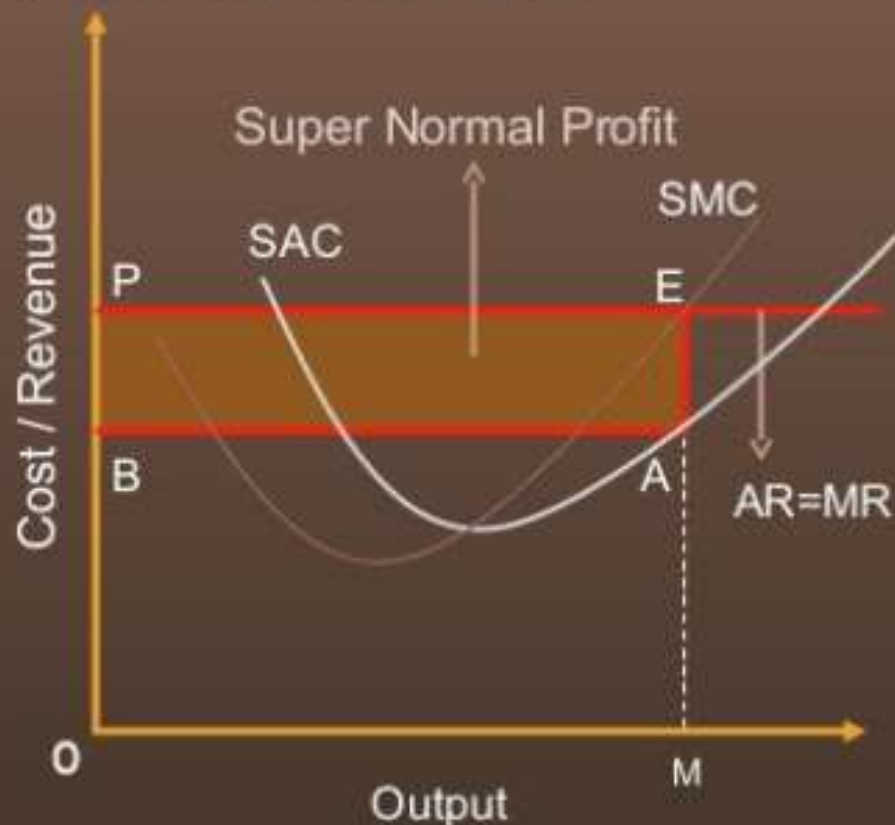
- In Short run, the Firm output (supply) can be changed only by the variable factors (like labor force through overtime), fixed factors (like machinery) can't be changed
- There is not enough time for new Firms to enter the Industry.
- Further, if the demand is increased, the supply can be increased only up to its **existing production capacity**
- A firm in Short Run Equilibrium may face one of these situations
 - Super Normal Profits
 - Normal Profits
 - Suffer Minimum Losses
 - Shut Down Point
- For the analysis of these situations Short-run Average Cost curve (SAC) will be introduced



Super-Normal Profits : $AR > SAC$

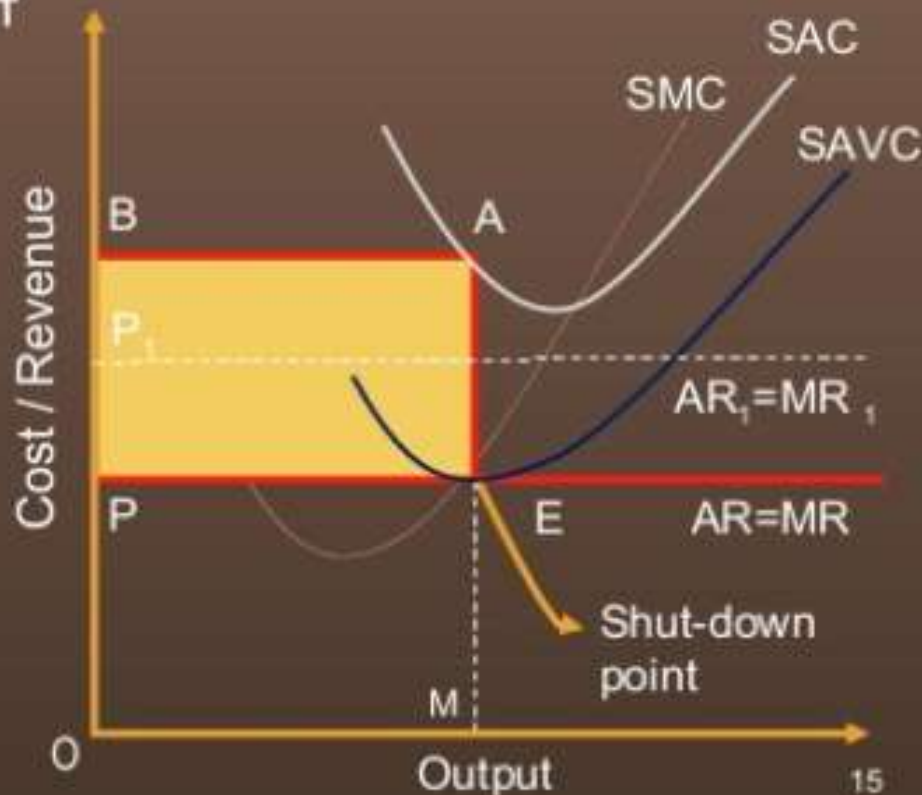
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- A Firm in Equilibrium earns super normal profit, when average revenue (price per unit) determined by the Industry is more than its short-run average cost (SAC)
- Firm equilibrium point = E, where $MR (=AR) = SMC$
- Equilibrium output = EM
- Since $AR(EM) > SAC(AM)$
Firm is earning EA super normal profit per unit of output
- Total super normal profit of the Firm on OM output = $B \times EA$ ($OM \times EA$) = $EABP$
= Shaded area



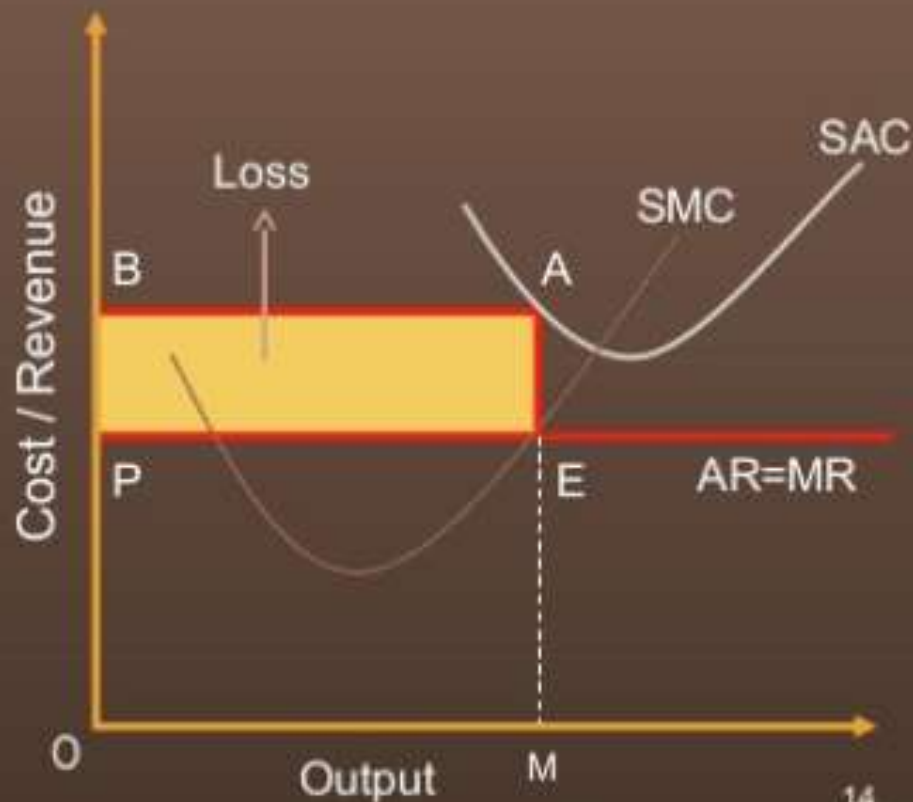
Shut down Point : $AR < SAC$: $AR = SAVC$

- The firm will shut down if it cannot cover average variable costs i.e when $AR = SAVC$
- A firm should continue to produce as long as price is greater than average variable cost
- Once price falls below that point it makes sense to shut down temporarily and save the variable costs
- If prices rises to OP_1 than Firm can cover some of its Fixed costs also
- So the minimum point of $SAVC$ is called Firm's Shut down point
- The shutdown point is the point at which the firm will gain more by shutting down than it will by staying in business



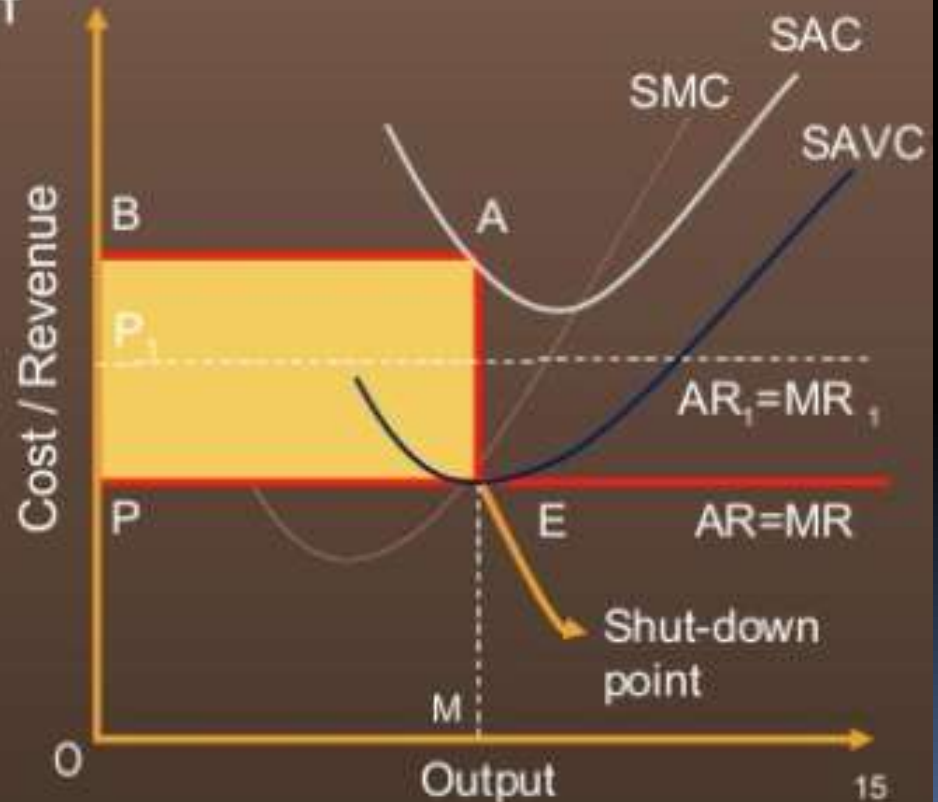
Minimum Loss : $AR < SAC$

- A Firm may continue production even if it is incurring losses because in short run, it can't leave the Industry
- Obviously in this situation of loss, a Firm will be in equilibrium at that level of output where it gets the minimum losses i.e. when SAC is more than AR
- At equilibrium $AR=EM$ and $SAC=AM$ and also from graph $AR < SAC$
- Firm's per unit loss = AE i.e. $(AM-EM)$ Total loss at OM level of output = $OM \times AE$ i.e. $EABP$
- Even if Firm discontinues the production, it will have to bear the loss of fixed cost which is minimum possible loss of a Firm



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Long Run Firm Equilibrium

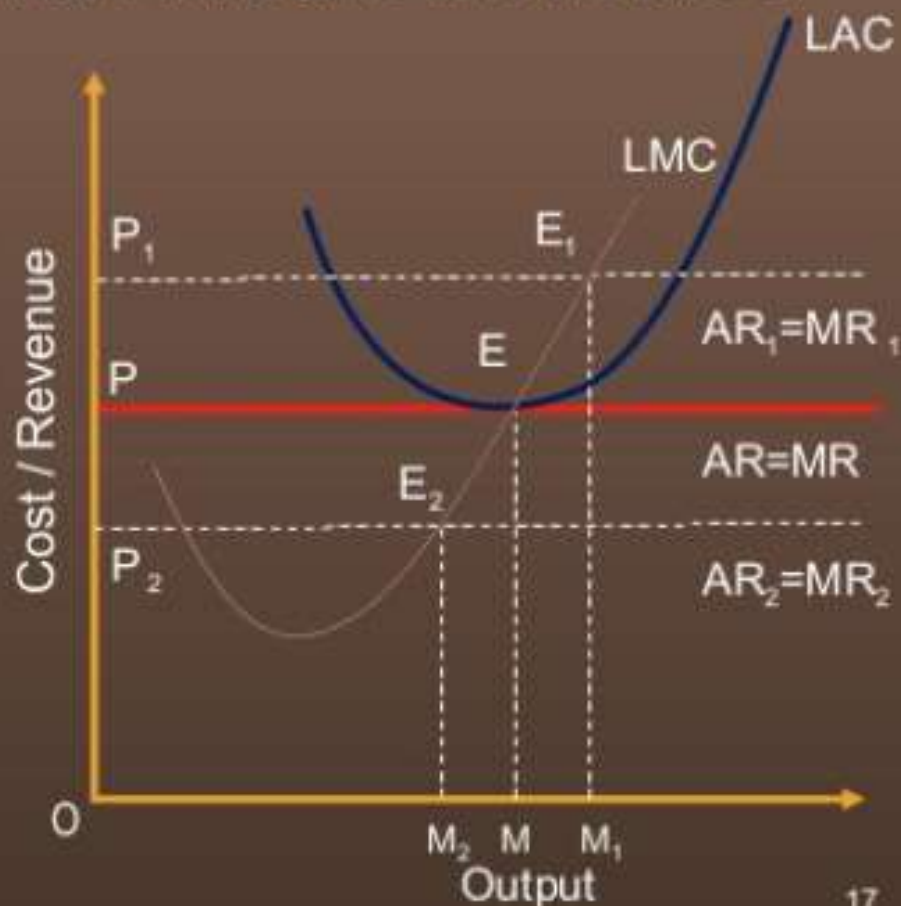
- In Long run, the Firm's output (supply) can be changed by both the variable factors and fixed factors i.e. all factors become variable
- There is enough time for new Firms to enter the Industry
- Further, if the demand is increased, the supply can be increased or decreased according to the demand
- Summarizing, in long run a Firm can make all sorts of changes
- For Long run equilibrium, long run marginal cost (LMC) is equal to MR and LMC curve cut the MR curve from below
- In case of long run equilibrium, all the firms will earn only normal profits
even if there are other situations of short run they will sustain only few a times

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- Take the case when the Firm earn super-normal profit-
Then the existing Firm will increase their production and new Firm will enter the Industry
 - Consequently, the total supply will increase and price fall down and further results in normal profit for the firm
- On the contrary, if the firm is incurring losses
 - Then some Firm will leave the Industry which will reduce the total supply
 - And due to decrease in supply, price will rise and once again Firm will begin to earn normal profit
- The normal profit of a firm is also termed as zero economic profit as this is included in the cost of production not in the economic profit

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- Firm equilibrium is at the minimum point of its LAC and at this point the Firm will get the normal profits
- If AR (price) rises to OP_1 , then Firm's LMC cuts its MR_1 at E_1 and the firm gets super-normal profit but again come to OP yielding normal profits as stated before
- And at price OP_2 Firm incurs losses but again rise to level OP to maintain the equilibrium at normal profit
- Firms equilibrium:
 $MC=MR=AR=\min LAC$



**THANK YOU
FROM,
PROF.SAKSHI SHIVHARE**