Market Structure Perfect and Imperfect Markets

Market

- Market is a system by which buyers and sellers bargain for the price of a product, settle the price and transact their business.

- Personal contact between buyer & seller is not necessary.

Market Structure

- Market structure – identifies how a market is made up in terms of:
  - The number of firms in the industry
  - The degree of monopoly power each firm has
  - The degree to which the firm can influence price
  - Profit levels
  - Firms' behaviour – pricing strategies, non-price competition, output levels
  - The extent of barriers to entry

Types of Market structure

Market structure	Examples	Number of producers	Type of product	Power of firm over price	Barriers to entry	Non-price competition
Perfect competition	Parts of agriculture are reasonably close	Many	Standardized	None	Low	None
Monopolistic competition	Retail trade	Many	Differentiated	Some	Low	Advertising and product differentiation
Oligopoly	Computers, oil, steel	Few	Standardized or differentiated	Some	High	Advertising and product differentiation
Monopoly	Public utilities	One	Unique product	Consider-able	Very high	Advertising

Market Structure

Cont...

Less competitive (greater degree of imperfection)

Degree of Competitiveness

- Under Perfect Competition degree of competition is close to one, as long as firm compete against each other.
- Under Monopolistic Competition, degree of competition is less than 1, as there is product differentiation.
- Under Oligopoly, degree of competition is quite low, as few sellers are there.
- Under Monopoly degree of competition is close to zero.

Perfect Competition

- Perfect Competition is a market structure where there are many firms selling identical products with no firm large enough relative to the entire market to be able to influence market price.

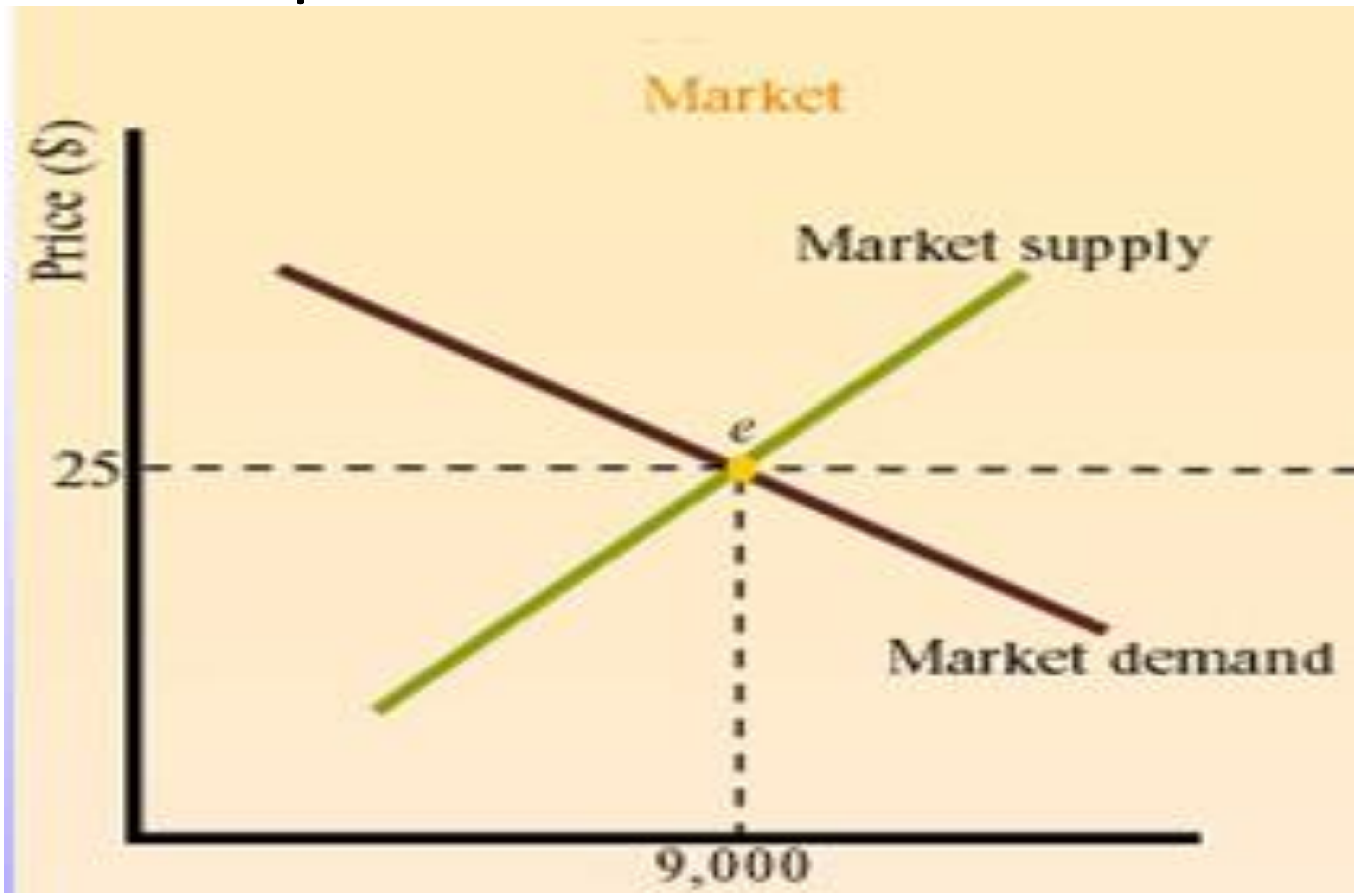
Examples of perfect competition

- The expulsive growth of the Internet promises a new age of perfectly competitive markets.
- With perfect information about prices and products at their fingertips, consumers can quickly and easily find the best deals. In this brave new world, retailers’ profit margins will be competed away, as they are all forced to price at cost.
- Financial markets – stock exchange, currency markets, bond markets.

Perfect Competition

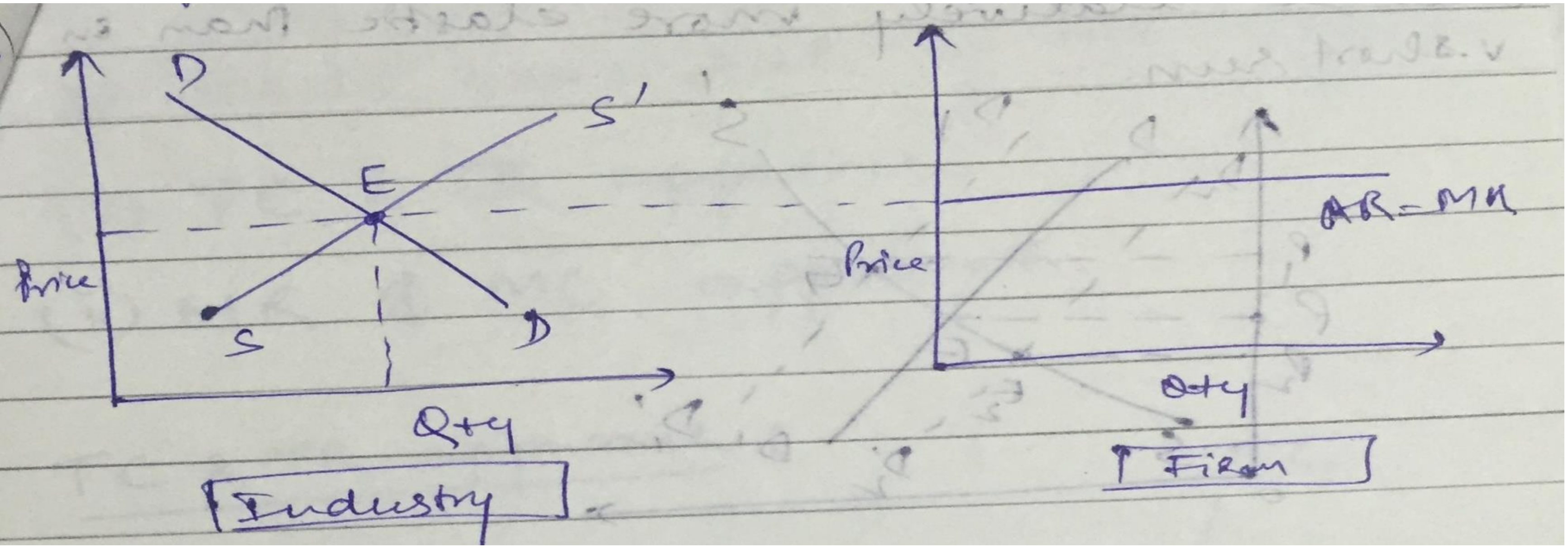
- **Characteristics:**
  - Large number of firms
  - Products are homogenous (identical) – consumer has no reason to express a preference for any firm
  - Freedom of entry and exit into and out of the industry
  - Firms are price takers – have no control over the price they charge for their product
  - Each producer supplies a very small proportion of total industry output
  - Consumers and producers have perfect knowledge about the market

Equilibrium point of Market

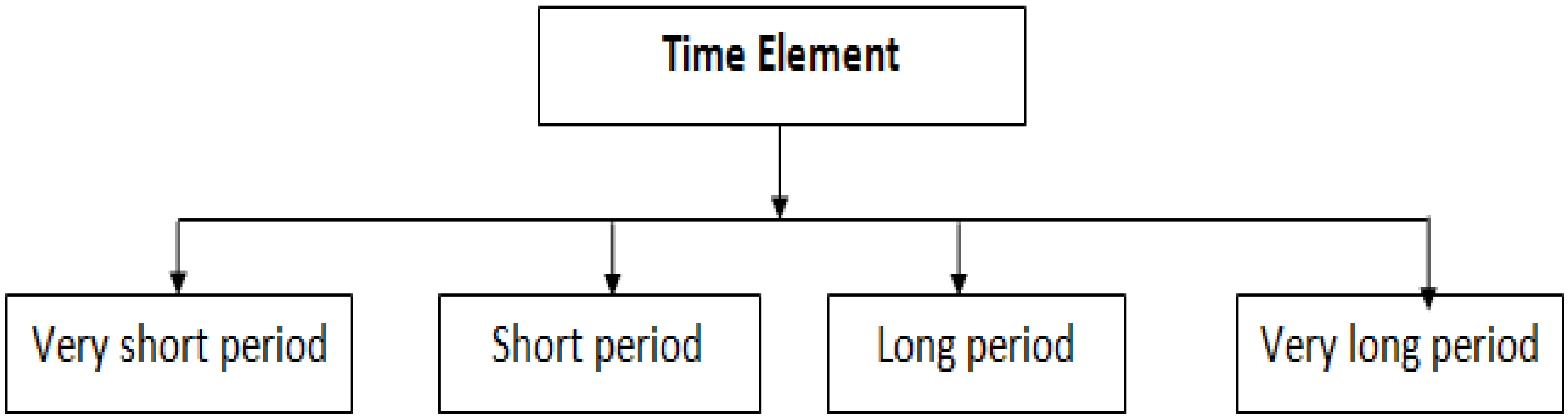


Equilibrium point of Industry

Price of the good is determined by the industry and each firm has to sell the products at this very price.

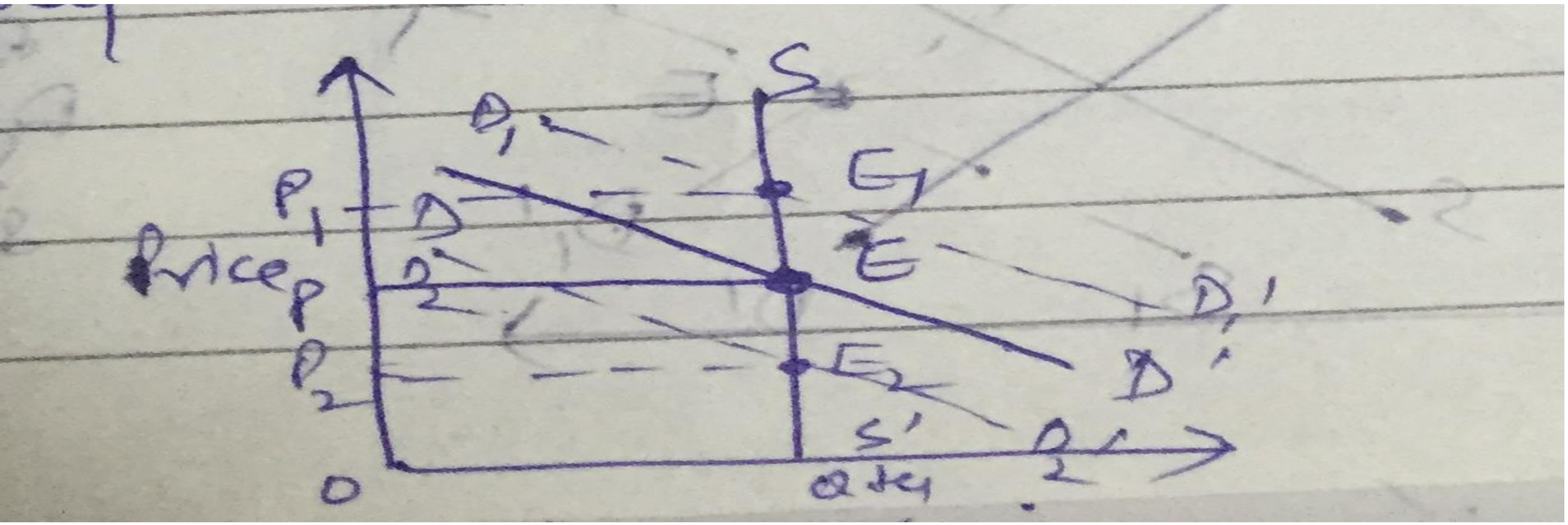


Time element



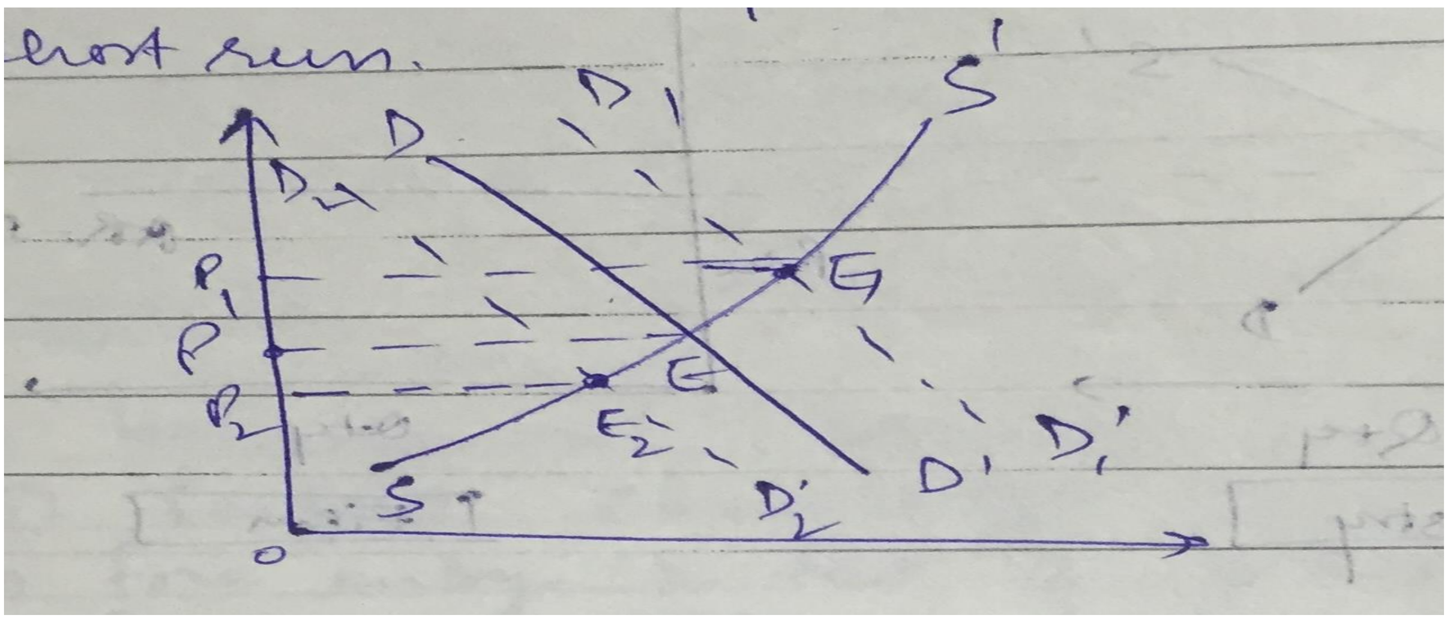
Very Short Period

For very short time period supply remain constant.



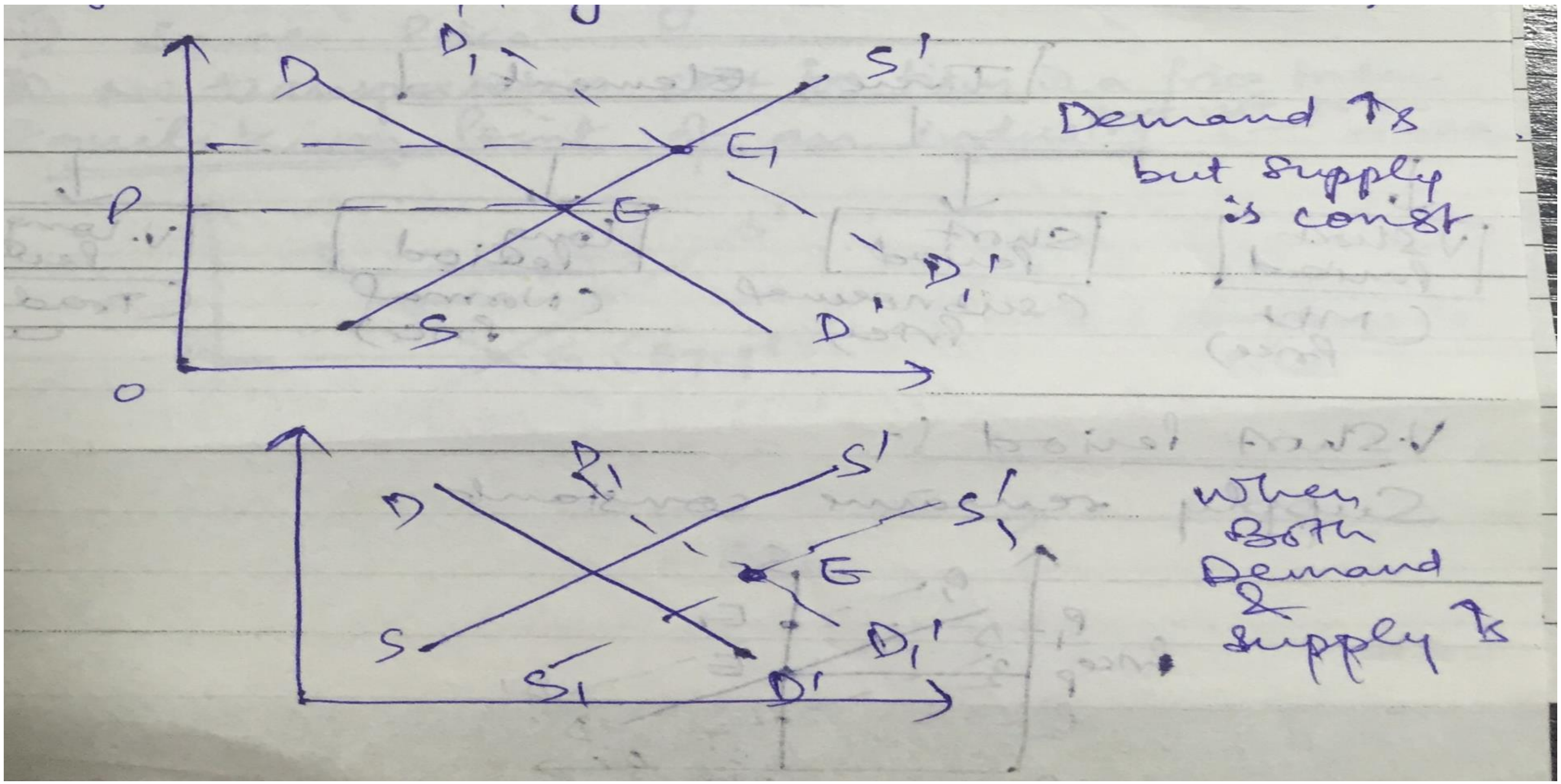
Short Run

Supply will change but non-linearly. Supply for short will be more elastic than for very short run.



Long Run

Supply will increase linearly



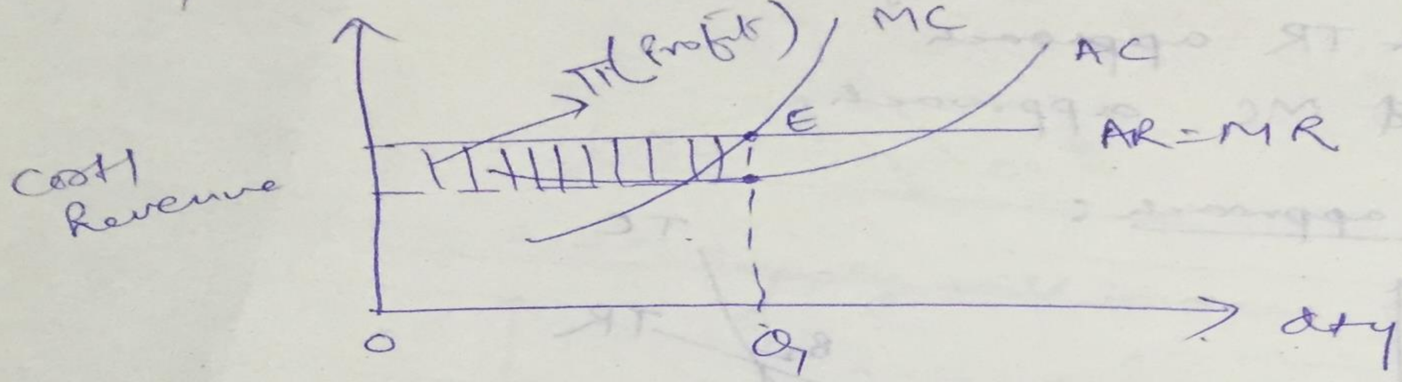
Equilibrium of the firm

- It can be measured by MC and MR approach:
  - MC=MR
  - Here one can be short term equilibrium and other can be long rum equilibrium.
  - In the short three options can be there:
    - Super normal profit (Average Revenue > Average Cost)
    - Normal profit (AR=AC)
    - Minimum losses (AR< AC)

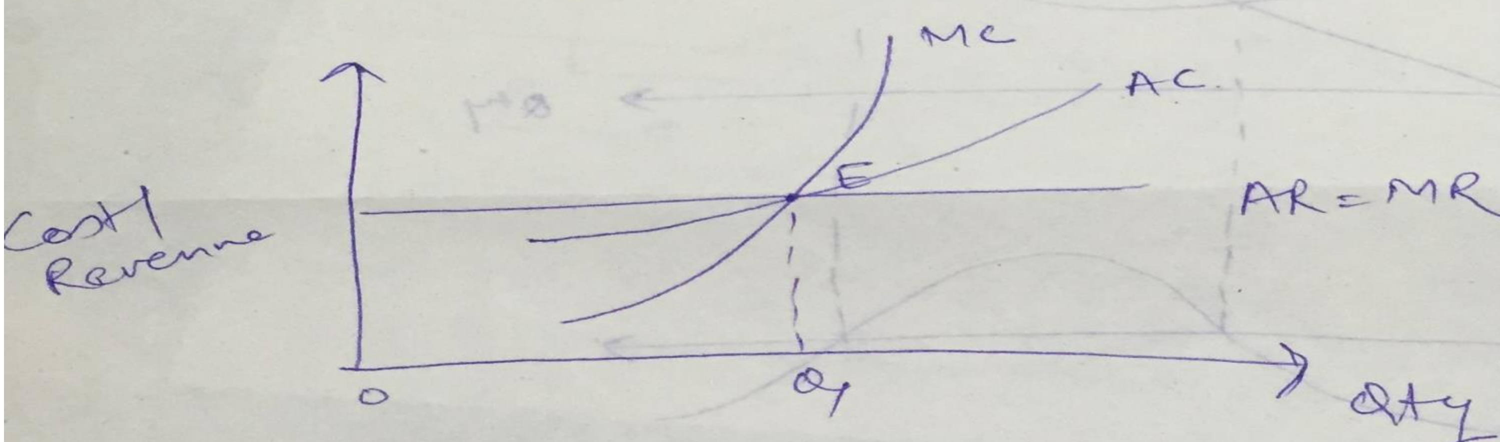
Short run equilibrium

Short Run

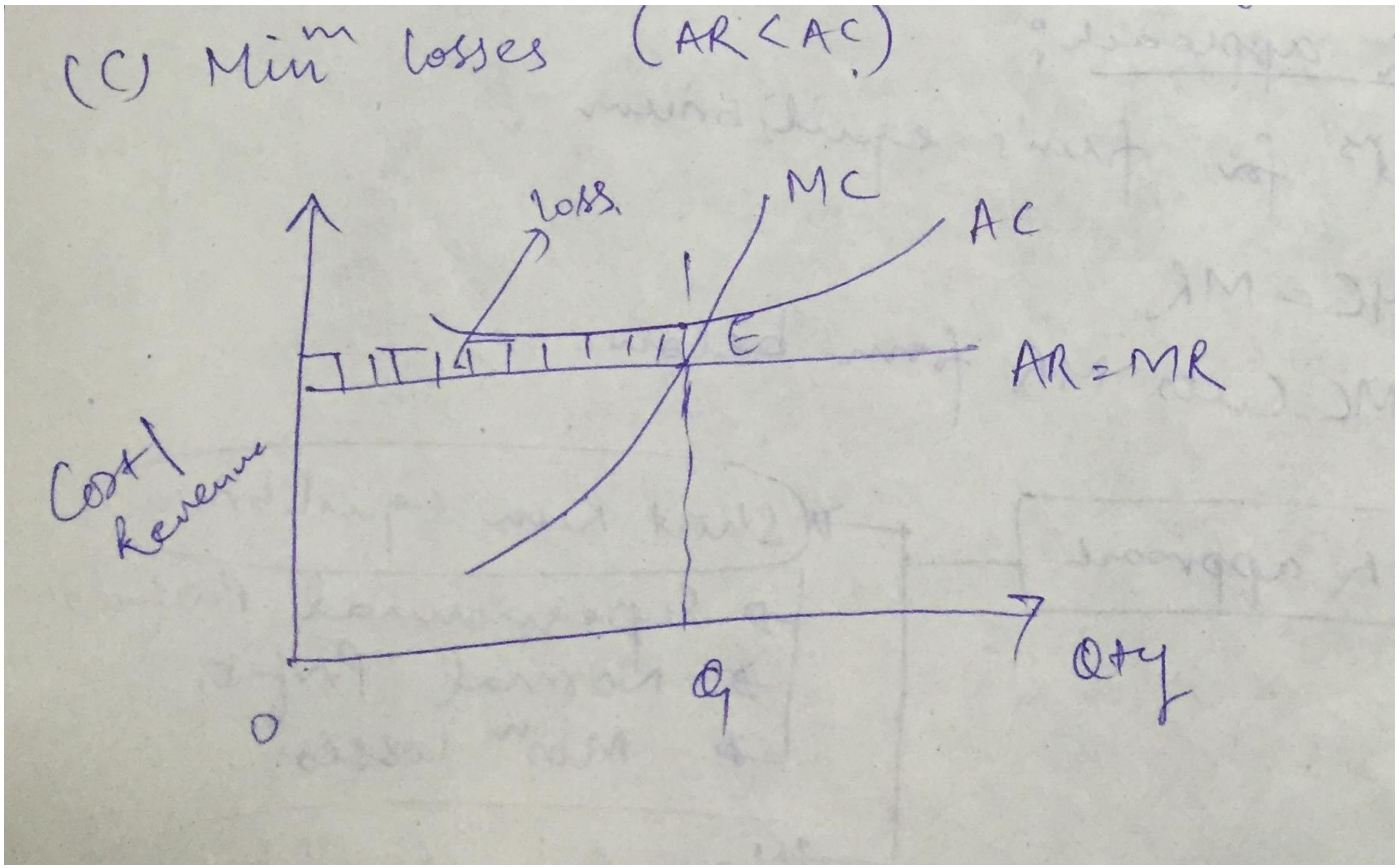
(a) Super-normal Profits (AR > AC)



(b) Normal Profits (AR = AC)

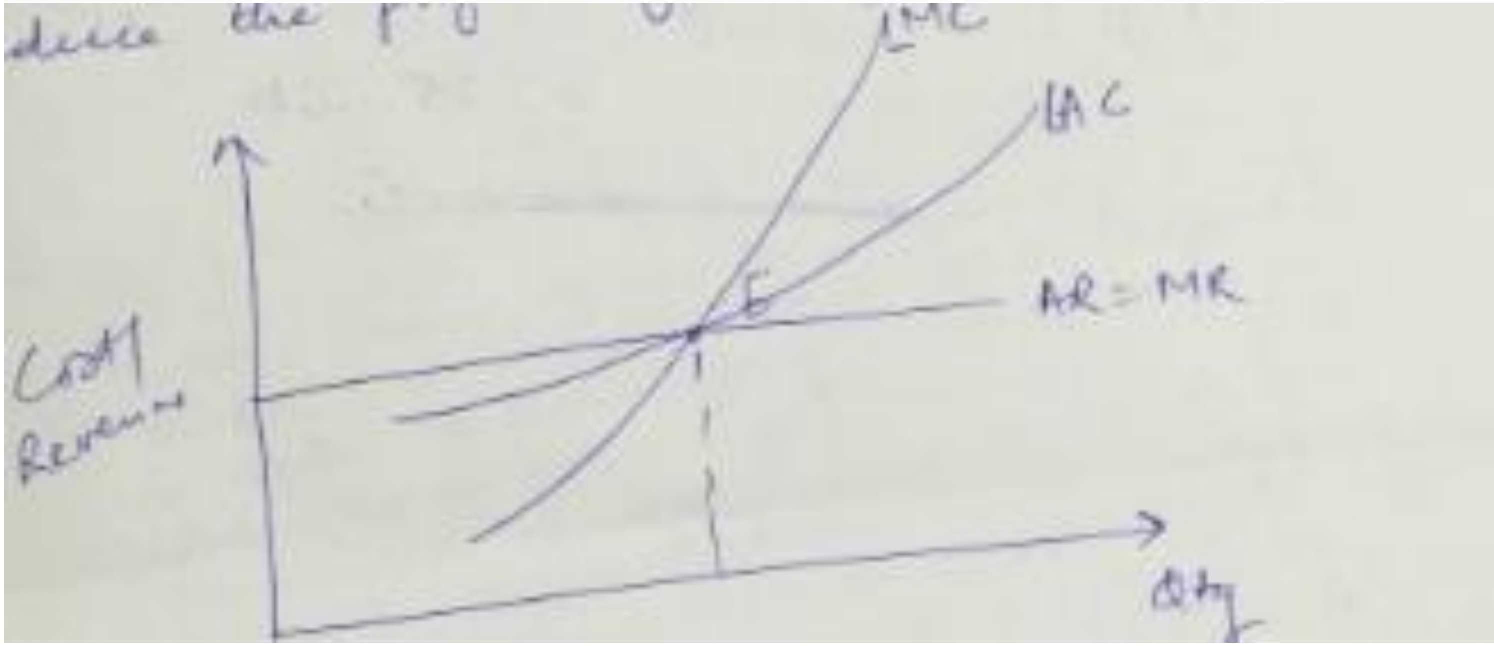


Minimum losses



Very long Run

Company will always have normal profits because in case there are supernormal profits, more firms will enter the market leading to increased supply & thus reducing the price of commodity which ultimately will reduce the profit of the firm.



- Suppose demand and supply equation for perfectly competitive market are:

$$Q_d = 1625 - 50P, \text{ and } Q_S = 25 + 30\,P$$

a) Calculate the market equilibrium price and quantity.

b) Suppose there are 25 firms in the industry how much each firm in the industry needs to produce?

Cont…

(a)For equilibrium $Q_d = Q_S$

$1625 - 50P = 25 + 30P$

$1600 = 80P$

$P = 20/-$, $Q_S = 25 + 30P$, $25 + 30(20) = 625$ units.

So equilibrium Price = 20/-

And quantity = 625 units.

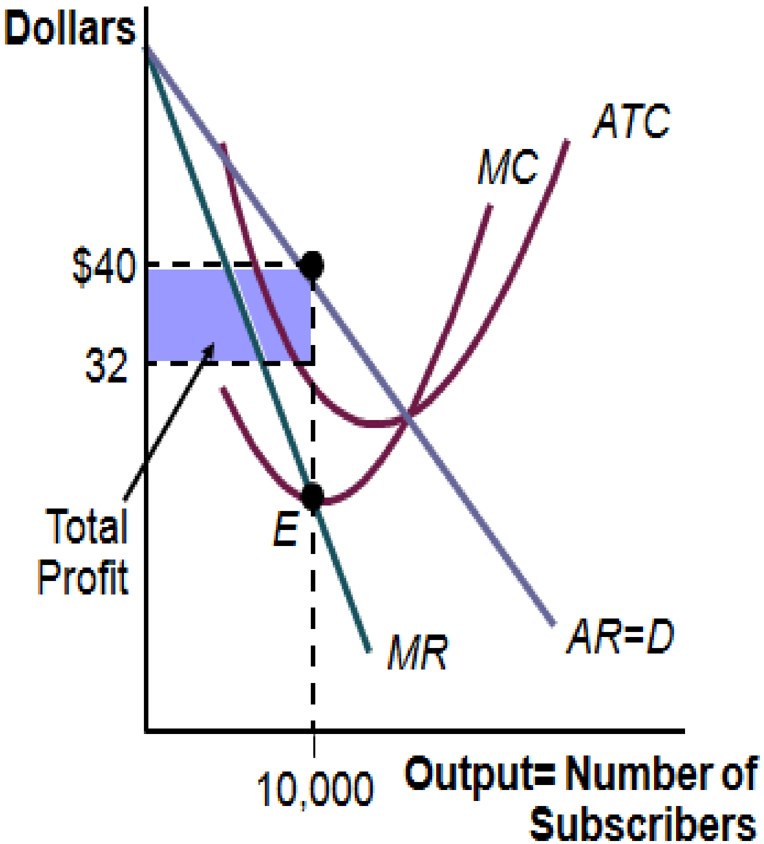
(b) no. of firms in the industry =25

Supply produced by each firm = 625/25=25 units.

Monopolistic Competition

- Large number of sellers
- Free entry and free exit
- Differentiated products
- Complete dissemination of market information

Price determination in Monopolistic competition



- MR intersects Mc at point E if this condition fulfills the firm will have maximum profit.
- The rate of profit would not be same for all the firms under monopolistic competition because of difference in the elasticity of demand for their products.

Pure Monopoly

- The emergence & survival of a monopoly firm is attributed to the factors which prevent the entry of other firms into industry & eliminate the existing ones.
- Barriers to entry are:
    - **Legal restrictions or barriers to entry of new firms**: postal telegraph and telephone services, generation and distribution of electricity, Indian railways etc.
    - **Sole control over the key raw material:** aluminium company of America had monopolized the aluminium industry before world war II, by acquiring control over almost all sources of bauxite supply.

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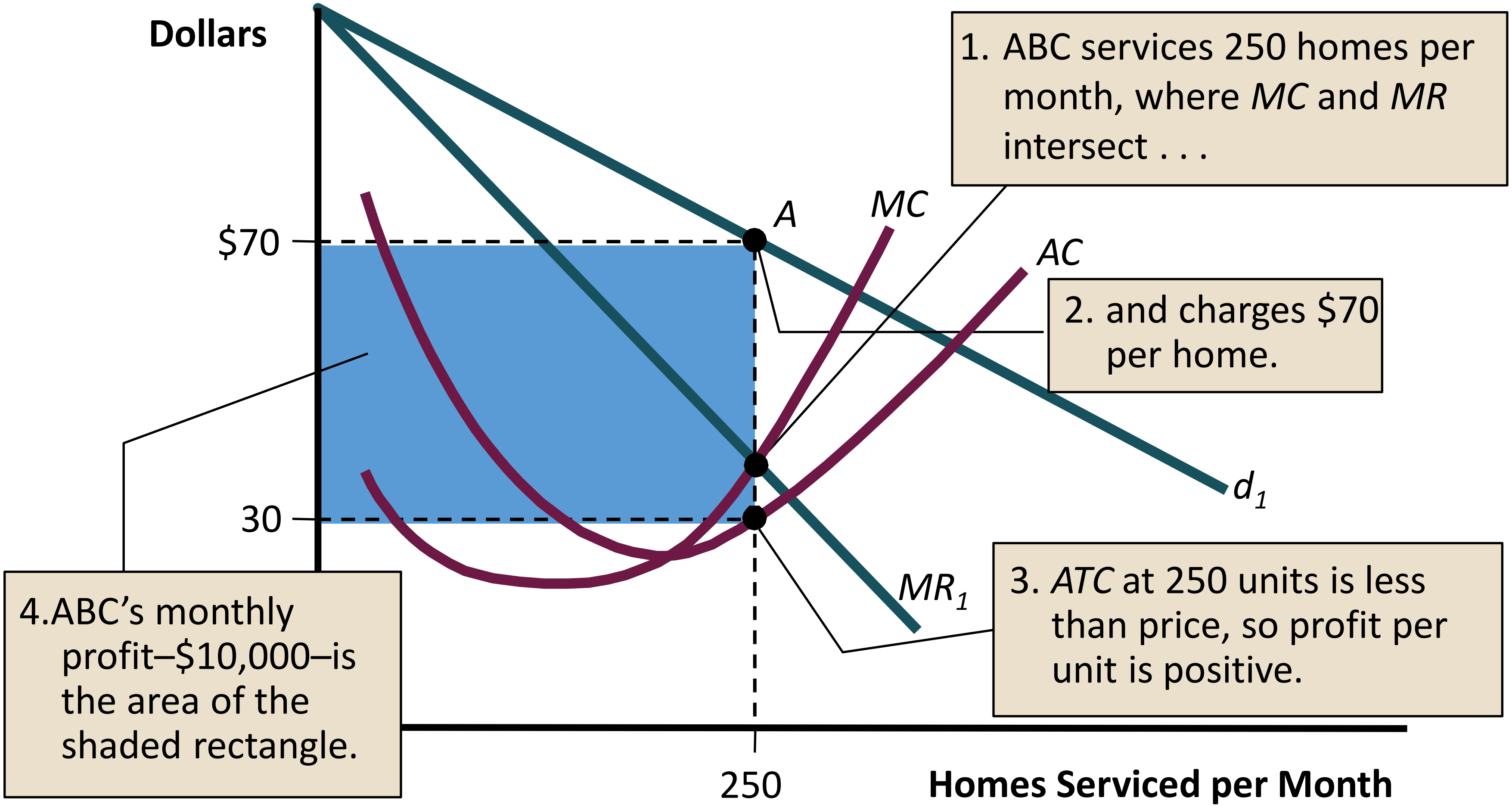
- **Efficiency in production:** efficiency in production reduces cost of production, as a result firm gains the status of a monopoly. Such firms are able to gain government's favor and protection.
- **Economies of scale:** this is primary & technical reason for the emergence & existence of monopolies in an unregulated market. If a firm's long-run minimum cost of production or its most efficient scale of production matches with the size of the market, then large size firm finds it profitable in the long run to eliminate competition through price cutting in the short run.
- Once monopoly is established, it becomes almost impossible for the new firms to enter the industry and survive.

Price determination under Monopoly



- Suppose demand, price and total cost functions for a monopoly firm in the short run are given as demand function: Q: 100-0.2P

  price function: P: 500-5Q

  cost function: TC: 50+ 20Q + Q

Find out the price, output and total profit by a monopoly firm in the short run.

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- TR= P.Q
- MR= $\frac{\Delta TR}{\Delta Q}$
- MC= $\frac{\Delta TC}{\Delta Q}$

- Total Profit= TR-TC

P= 500-5Q by substitution, we have:

TR= (500-5Q)Q

$TR=500\,Q-5Q^{2}$

MR= 500-10Q $\frac{\Delta TR}{\Delta Q}$

MC= 20+ 2Q (by differentiating TC function) $\frac{\Delta TC}{\Delta Q}$

MR= MC, 500-10Q= 20+2Q; Q= 40 (the output Q=40 is the profit maximizing output)

- $P=500-5Q$; $500-5(40)=300$
- Profit maximizing price is 300 Rs.
- Total profit is TR-TC

$=500Q-5Q^2\ 5-(50+20Q^2+Q\ )$

$=500Q-5Q^2-50-20Q-Q^2$

Total profit is 9,550 Rs.

Oligopoly

- An industry which is dominated by a few firms.
- Interdependence of firms, firms will be affected by how other firms set price and output.
- Barriers to entry, but less than monopoly.
- Differentiated products, advertising is often important.
- Firms acts as union.