MANAGERIAL ECONOMICS

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Lecture No - 25 : Perfect Competition

Session Outline

- Features of Perfect Competition
- Demand and Revenue of a firm
- Short run Equilibrium
- Market supply and firm's supply analysis

Perfect competition market is a most basic form of market structure.

It is theoretical and hypothetical, but the most ideal form of market

The term perfect competition refers to set of conditions prevailing in the market.

- Perfect competition is a market structure chactarised by a complete absence of rivalry among the individual firms.

- In economic theory it has a meaning diametrically opposite to the everyday use of this term.

- In practice, businessmen use the word competition as synomyous to rivalry.
- In theory, perfect competition implies no rivalry among firms.

Perfect Competition - Characteristics

- A large number of buyers and sellers in the market.
- Homogeneous Product
- Perfect Mobility of Factor of Production
- Free entry and Free Exit of Firms

Perfect Competition - Characteristics

- Perfect Knowledge
- Absence of Collusion and artificial restraint
- No Government intervention

Perfect Competition

- Perfect competition is an uncommon phenomenon in real business world .
- However the actual market that approximate to the conditions of perfect competitive models include share markets, securities and bond markets and local vegetable market and agricultural product market etc.

Perfect Competition

Although the form of market is an uncommon phenomena, perfect competitive model has been the most popular model used in economic theories due to its analytical value as it provides a starting point and analytical framework for pricing theory.

Demand and Revenue of a Competitive Firm

- Total revenue for a firm is the selling price times the quantity sold.

$$TR = (P \times Q)$$

- Average revenue tells us how much revenue a firm receives for the typical unit sold.
- Average revenue is total revenue divided by the quantity sold: TR/Q

The Revenue of a Competitive Firm

- In perfect competition, Average revenue equals the price of the good: PQ/Q = P

- Marginal revenue is the change in total revenue from an additional unit sold.

$$MR = \Delta TR / \Delta Q$$

- For competitive firms, marginal revenue equals the price of the good.

Total, Average, and Marginal Revenue for a Competitive Firm

Quantity	Price	Total Revenue	Average Revenue	Marginal Revenue
(*Q*)	(*P*)	($TR = P \times Q$)	($AR = TR/Q$)	($MR = \Delta TR/\Delta Q$)
1 gallon	$6	$ 6	$6	
				$6
2	6	12	6	
				6
3	6	18	6	
				6
4	6	24	6	
				6
5	6	30	6	
				6
6	6	36	6	
				6
7	6	42	6	
				6
8	6	48	6	

Revenue of Firm

- In order to determine just how much each firm wants to sell or how much each firm willing to offer at prevailing market price, we can analyze by using concept of cost.

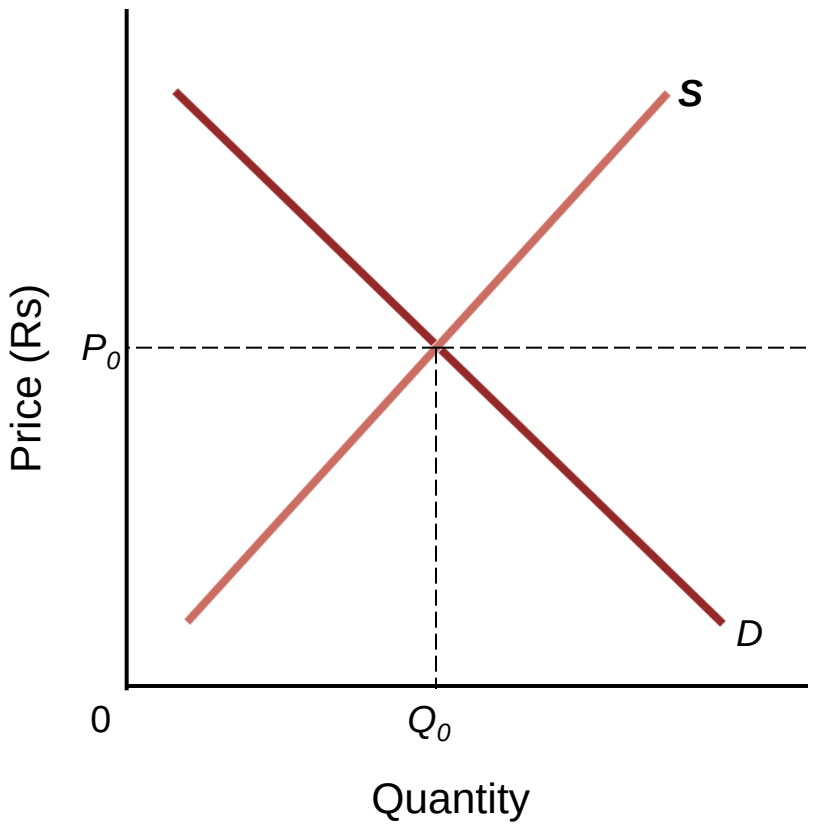
Demand for a Competitive Price-Taker and Market Demand

- The market demand curve for the whole industry is a standard downward sloping curve, which shows alternative combination of price and output available to buyers, such that an individual buyer is able to get maximum amount of output at existing price at a given time.
- The demand curve of individual firm is a horizontal straight line showing that the firm can sell infinite volume of output at the same price.

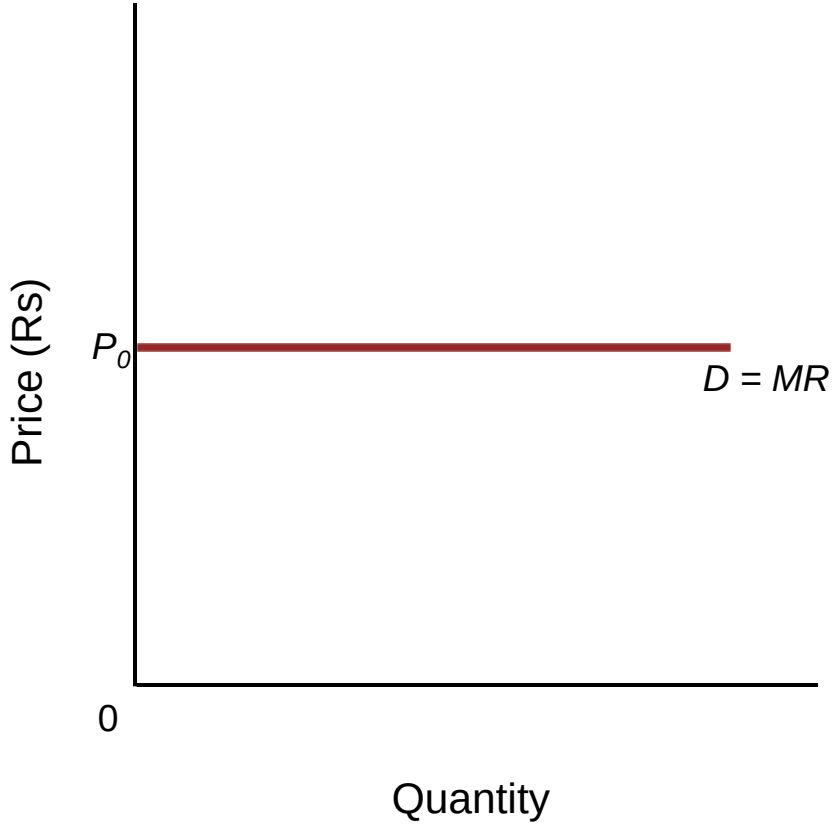
Demand for a Competitive Price-Taker and Market Demand

- The market supply curve is upward sloping, giving various combination of price and output – shows maximum output any firm is willing to produce and supply at each specified price.
- The market supply curve is the horizontal summation of all the individual supply curves.

Demand for a Competitive Price-Taking Firm



Panel A – Market



Panel B – Demand curve facing a price-taker

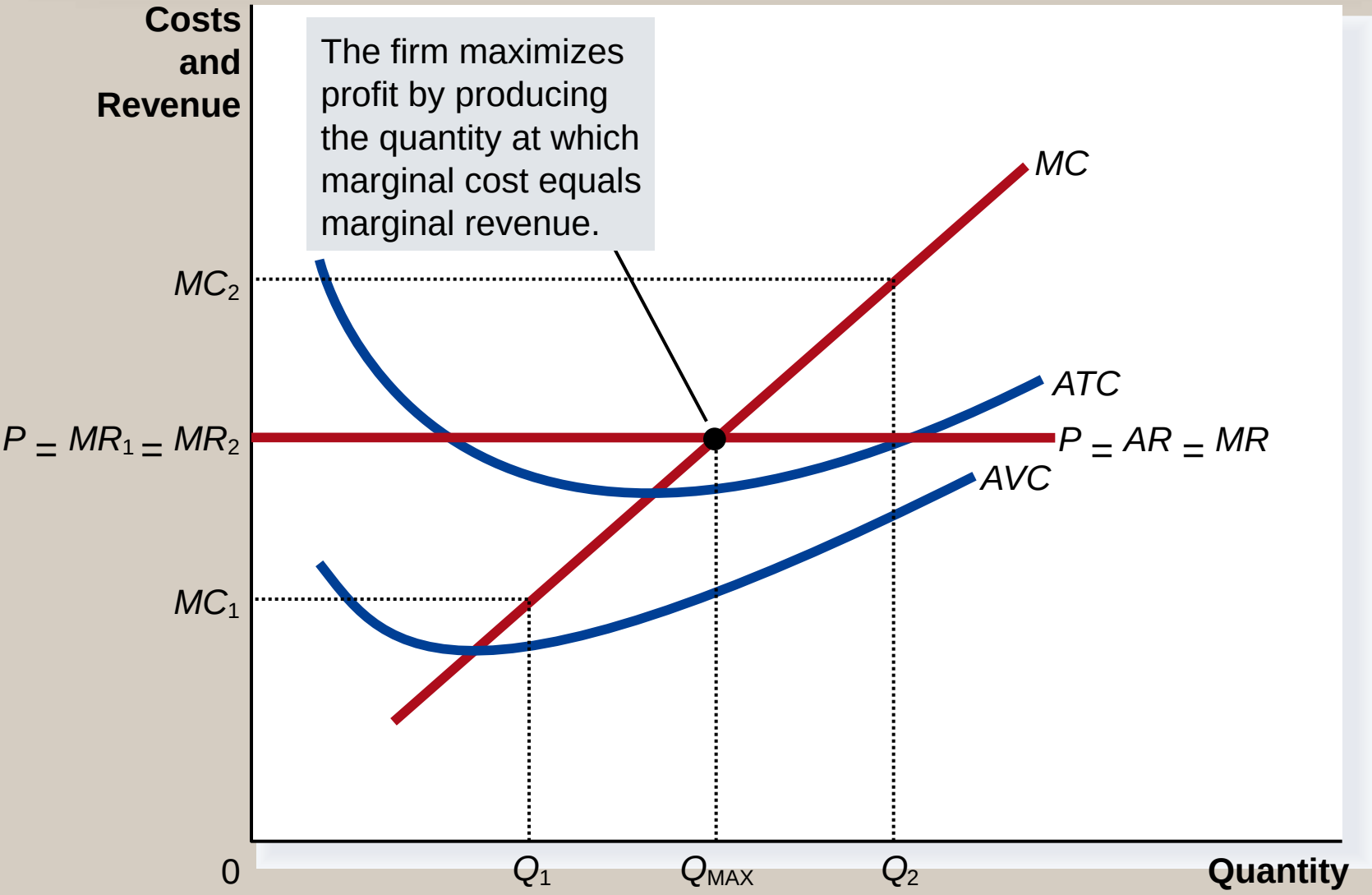
Profit maximization

- The goal of a competitive firm is to maximize profit.
- This means that the firm will want to produce the quantity that maximizes the *difference between total revenue and total cost*.
- Profit maximization occurs at the quantity where *marginal revenue equals marginal cost*.

Profit Maximizing conditions

- Necessary Condition: Marginal revenue is equal to marginal cost.
- Sufficient Condition: Marginal curve cuts marginal revenue from below.

Profit Maximization for a Competitive Firm



Profit maximization

- When MR > MC - increase Q
- When MR < MC - decrease Q
- When MR = MC - Profit is maximized.

Profit maximization

In the short run, an individual firm may either earn super normal profit or normal profit or incur losses.

This depends on position of short run cost curves.

These three possibilities can be analyzed with the help of three short run equilibrium position.

Profit-Maximization in the Short Run

- In the short run, managers must make two decisions:
  1. Produce or shut down?
     - If shut down, produce no output and hires no variable inputs $\pi = TR - TC$
     - If shut down, firm loses amount equal to TFC
  2. If produce, what is the optimal output level?
     - If firm does produce, then how much?
     - Produce amount that maximizes economic profit

Profit Margin (or Average Profit)

$$\text{Average profit} = \frac{\pi}{Q} = \frac{(P - ATC)Q}{Q}$$

$$= P - ATC = \text{Profit margin}$$

Profit Margin (or Average Profit)

- Level of output that maximizes total profit occurs at a higher level than the output that maximizes profit margin (& average profit)
  - Managers should ignore profit margin (average profit) when making optimal decisions

Short-Run Output Decision

- If price is less than average variable cost *(P < AVC)*, manager will shut down
  - Produce zero output
  - Lose only total fixed costs
  - Shutdown price is minimum ***AVC***

Short-Run Output Decision

- Firm's manager will produce output where $P = MC$ as long as:
  - $\boldsymbol{TR \geq TVC}$
  - or, equivalently, $\boldsymbol{P \geq AVC}$

Summary of Short-Run Output Decision

- *AVC* tells whether to produce
  - Shut down if price falls below minimum ***AVC***
- *SMC* tells how much to produce
  - If ***P*** $\geq$ minimum ***AVC***, produce output at which ***P = SMC***

Summary of Short-Run Output Decision

- ATC tells how much profit/loss if produce
  - $\pi = (P - ATC)Q$

Session References

Managerial Economics: Geetika, Ghosh and Choudhury
Managerial Economics : D N Dwivedi