Unit 4: Market Structure and Pricing Practices

Introduction

- The theory of product pricing is the part of microeconomics, which deals with the determination of price and output in the different market structures.
- The price determination depends upon the nature of market and degree of competition between the sellers.
- The determination of appropriate price of the product is very important for business decision making.
- The success of business depends upon the determination of appropriate price of the product.

Concept of Market, Industry and Firm

Concept of Market

In the ordinary sense, market refers to a particular place where goods and services are sold and bought. But in economics, it refers to mechanism by which buyers and sellers interact to determine the price and the quantity of a good or service.

Concept of Firm

Generally, a firm is taken as a production unit producing the output. In other words, a firm is a single unit of an industry producing goods and services for sale with the objective of maximizing the profit.

Concept of Industry

In the ordinary sense, an industry means the economic activity concerned with processing of raw materials and manufacturing of goods in factories. But in economics, it is defined as the group of firms producing homogeneous goods or services

Perfect Competition

Definition

Perfect competition is the market structure in which there are many buyers and sellers of a homogeneous product. Under this market structure, the price of a product is determined in the industry and the sellers and buyers accept that price, so the price is fixed.

Characteristics of Perfect Competition

1. Large number of sellers and buyers
2. Homogenous products
3. Free entry and exit
4. Perfect mobility of factors of production
5. No government intervention
6. Perfect knowledge about the market
7. Profit maximization objective

Monopoly

Definition

Monopoly is defined as the market structure where there is a single seller of a product having no close substitutes. The word 'monopoly' has been derived from the Greek words 'monos polein', which means 'alone to sell'.

Characteristics of Monopoly

1. Single seller
2. No close substitutes
3. Barriers to entry
4. Firm and industry
5. Independent price policy
6. Price discrimination
7. Profit maximization

Monopoly Contd.

Factors that give rise to Monopoly (Sources of Monopoly)

1. Patent over new innovations
2. Control over the raw materials
3. Cost of establishing an efficient plant
4. Market franchises

Monopolistic Competition

Definition

Monopolistic competition is defined as the market structure where there are many sellers and buyers of differentiated or heterogeneous product. Differentiated products are products that are similar but not identical.

Characteristics of Monopolistic Competition

1. Large number of sellers and buyers
2. Differentiated Product
3. Free entry and exit of firms
4. High selling cost
5. Relatively elastic demand curve
6. Heroic assumption
7. Profit maximizing objective

Oligopoly

Definition

Oligopoly is a form of market structure where there are a few sellers of homogeneous or differentiated products. If the products are homogeneous, it is called homogeneous or perfect or pure oligopoly and if products are differentiated, it is called heterogeneous or differentiated or imperfect oligopoly.

Characteristics of Oligopoly

1. A few sellers
2. Interdependence of decision making
3. Barriers to entry
4. Indeterminate price and output
5. Advertising and selling cost
6. Nature of the product
7. Price rigidity

Causes Responsible for Raising Oligopoly

1. Huge capital investment
2. Economies of scale
3. Economies of scope
4. Patent rights
5. Barriers to entry
6. Merger and take over

Non-collusive oligopoly and Collusive oligopoly

- **Non-collusive oligopoly** is one of the two types of oligopoly market in which oligopoly firms act independently, they is competition with one another and there is no-collusion between the firms.
- **Collusive oligopoly** is another type of oligopoly market where firms have been found to be in some kind of collusion or agreement. There are mainly two models of collusive oligopoly which are:

  1.Cartel: It is a type of collusive oligopoly market, where firms or sellers of a commodity are formally organized with the aim of restricting competition and maximizing profits.

  2.Price Leadership: The form of market collusion in oligopolistic markets whereby the firm that serves as the price leader initiates a price change and other firms in the industry soon match it.

Profit Maximization and Equilibrium of a Firm

- The main objective of a firm is to maximize profit. The firm attains equilibrium when it maximizes profit.
- In other words, a firm is said to be in equilibrium when it attains the stage from which it does not want to move forward or backward.
- A firm is also said to be in equilibrium when it has no tendency to change its output.

Approaches of Firm's Equilibrium

There are two approaches of firm's equilibrium, which are as follows:

1. Total revenue and total cost approach (TR-TC Approach)
2. Marginal revenue and marginal cost approach (MR-MC Approach)

Total Revenue and Total Cost Approach (TR-TC Approach)

- According to TR-TC approach, a firm attains equilibrium at the output at which the difference between the total revenue (TR) and total cost (TC) is maximum. The total profit is the difference between total revenue (TR) and total cost (TC).
- The firm maximizes the profit when the difference between TR and TC is maximum.
- The every rational firm or producer aims at maximizing the profit.
- For this purpose, s/he will produce that quantity of output at which profit or the difference between TR and TC is maximum.

The firm or producer does not want to change this position. Symbolically,

$$\pi = TR - TC$$

where

π = Total profit

TR = Total revenue

TC = Total cost

Total Revenue and Total Cost Approach (TR-TC Approach) Contd.

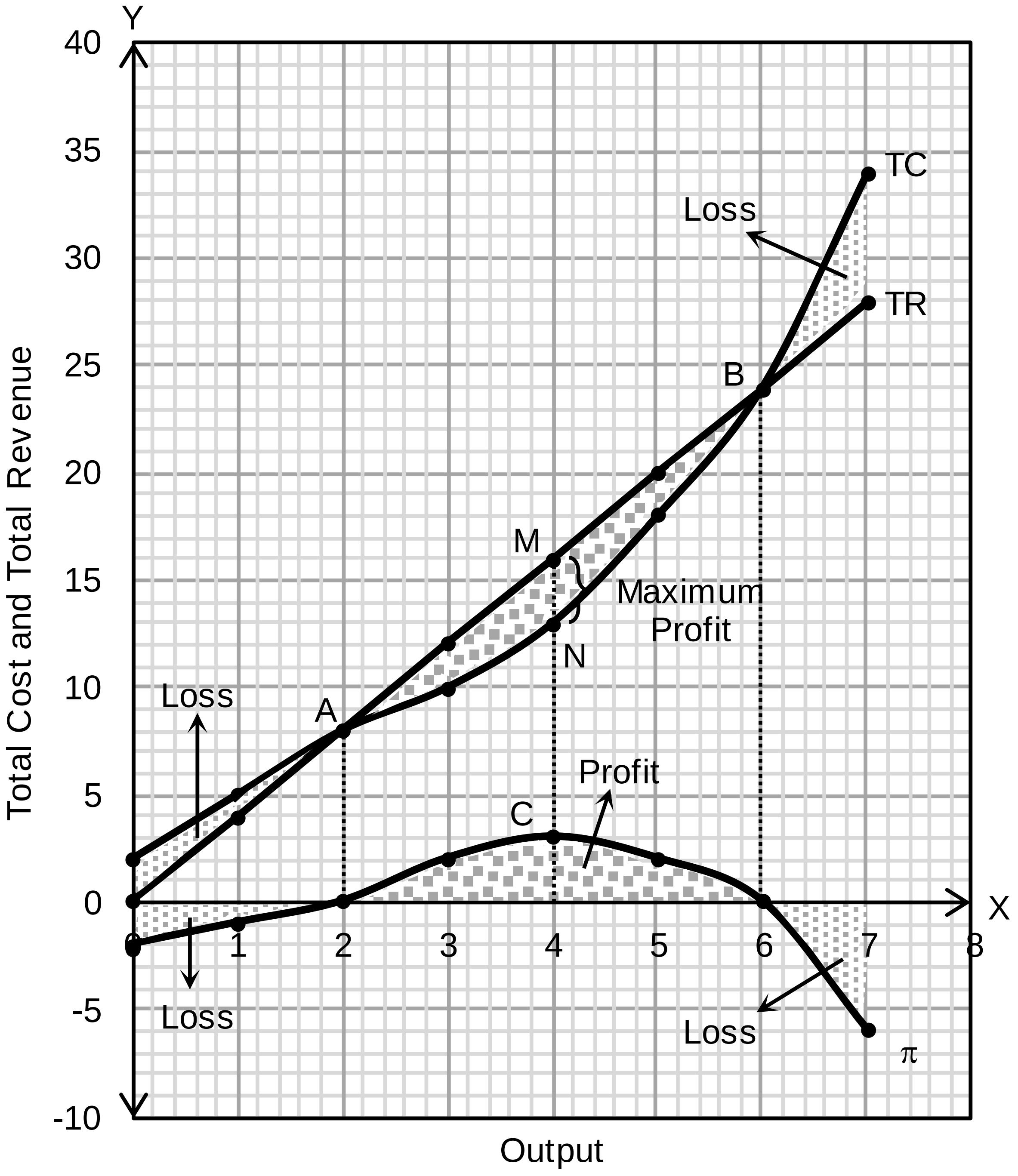
1. Equilibrium of Firm under Perfect Competition

- Perfect competition is the market structure where there is a large number buyers and sellers selling homogeneous products.
- A firm is a small part of the whole industry and price of the product is fixed by the industry.
- All the firms under the industry have to sell at the price fixed by the industry.
- Therefore, a firm is called price taker and the industry is called price maker.
- The individual firm cannot affect the price.
- Therefore, total revenue curve (TR) slopes upward as a straight line with the constant slope.
- Total cost curve (TC) is generally inversely S-shaped.
- The firm attains equilibrium at that output at which the difference between TR and TC is maximum.

Total Revenue and Total Cost Approach (TR-TC Approach) Contd.

Output (Q)	Price (P)	Total Revenue (TR)	Total Cost (TC)	Total Profit (π = TR – TC)	Situation of Loss or Profit
0	4	0	2	-2	Loss
1	4	4	5	-1	Loss
2	4	8	8	0	Breakeven
3	4	12	10	2	Profit
4	4	16	13	3	Max. Profit
5	4	20	18	2	Profit
6	4	24	24	0	Breakeven
7	4	28	34	-6	Loss

Total Revenue and Total Cost Approach (TR-TC Approach) Contd.



Total Revenue and Total Cost Approach (TR-TC Approach) Contd.

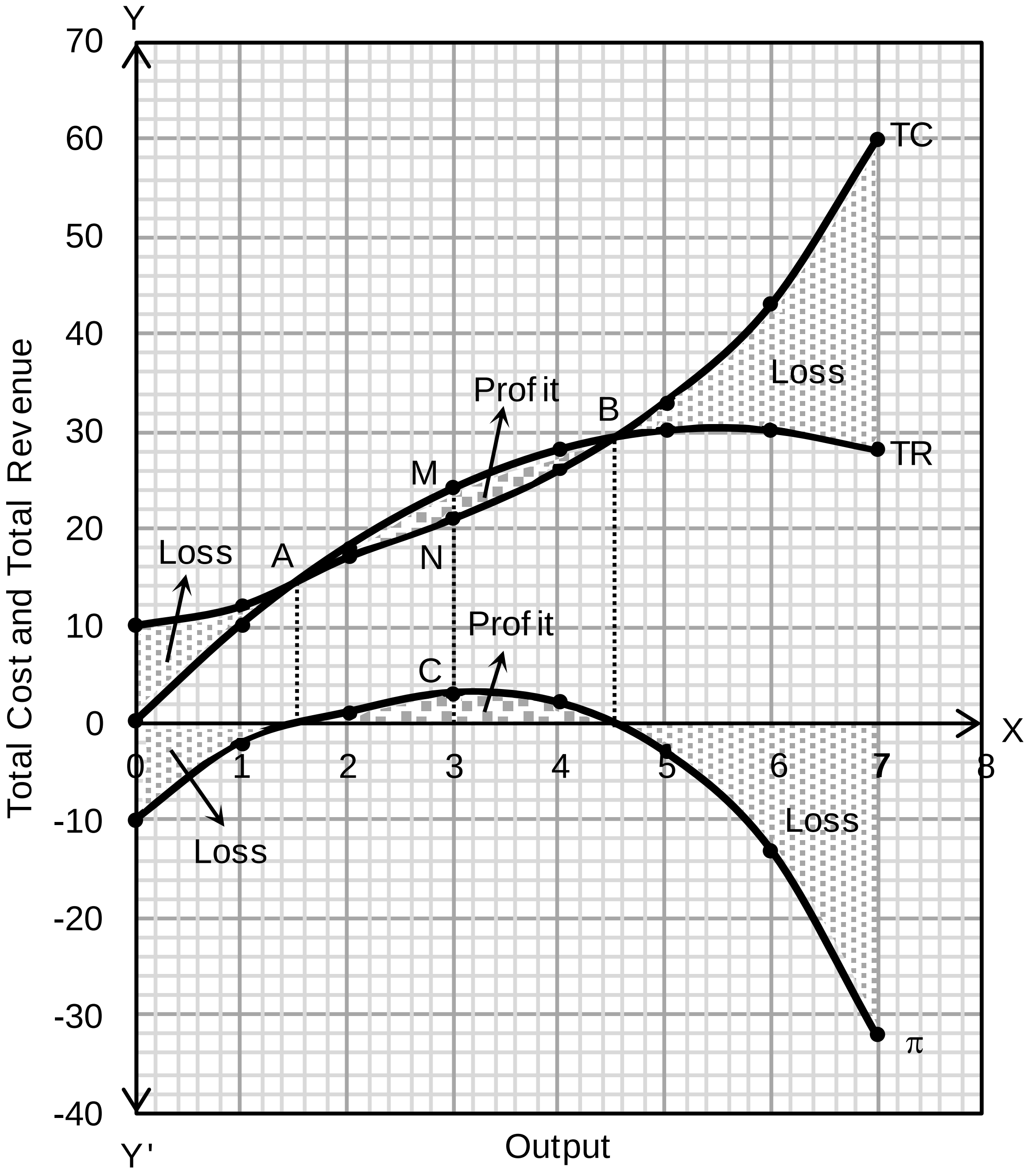
2. Equilibrium of Firm under Imperfect Competition

- Imperfect competition includes the market structures like monopoly, monopolistic competition, oligopoly, etc.
- In all these market structures, firms determine price of their products themselves. Therefore, firms are price maker, not price taker.
- The firms under imperfect competition, reduce price in order to increase sales.
- Therefore, at the beginning, TR increases but at the diminishing rate; becomes maximum and finally diminishes. TR curve is inversely U-shaped. TC curve is inversely S-shaped.
- The firm chooses that level of output at which profit is maximized.
- The profit is maximized where the difference between TR and TC is maximum.

Total Revenue and Total Cost Approach (TR-TC Approach) Contd.

Output (Q)	Price (P)	Total Revenue (TR)	Total Cost (TC)	Total Profit (π = TR – TC)	Situation of Loss or Profit
0	11	0	10	-10	Loss
1	10	10	12	-2	Loss
2	9	18	17	1	Profit
3	8	24	21	3	Max. Profit
4	7	28	26	2	Profit
5	6	30	33	-3	Loss
6	5	30	43	-13	Loss
7	4	28	60	-32	Loss

Total Revenue and Total Cost Approach (TR-TC Approach) Contd.



Marginal Revenue and Marginal Cost Approach (MR-MC Approach)

According to this approach, following two conditions must be fulfilled:

1. **Necessary Condition (First Order Condition)**

   Marginal revenue should be equal to marginal cost (MR = MC).

2. **Sufficient Condition (Second Order Condition)**

   Marginal cost (MC) curve must intersect marginal revenue (MR) curve from below. In other words, slope of MC should be greater than slope of MR (Slope of MC > Slope of MR).

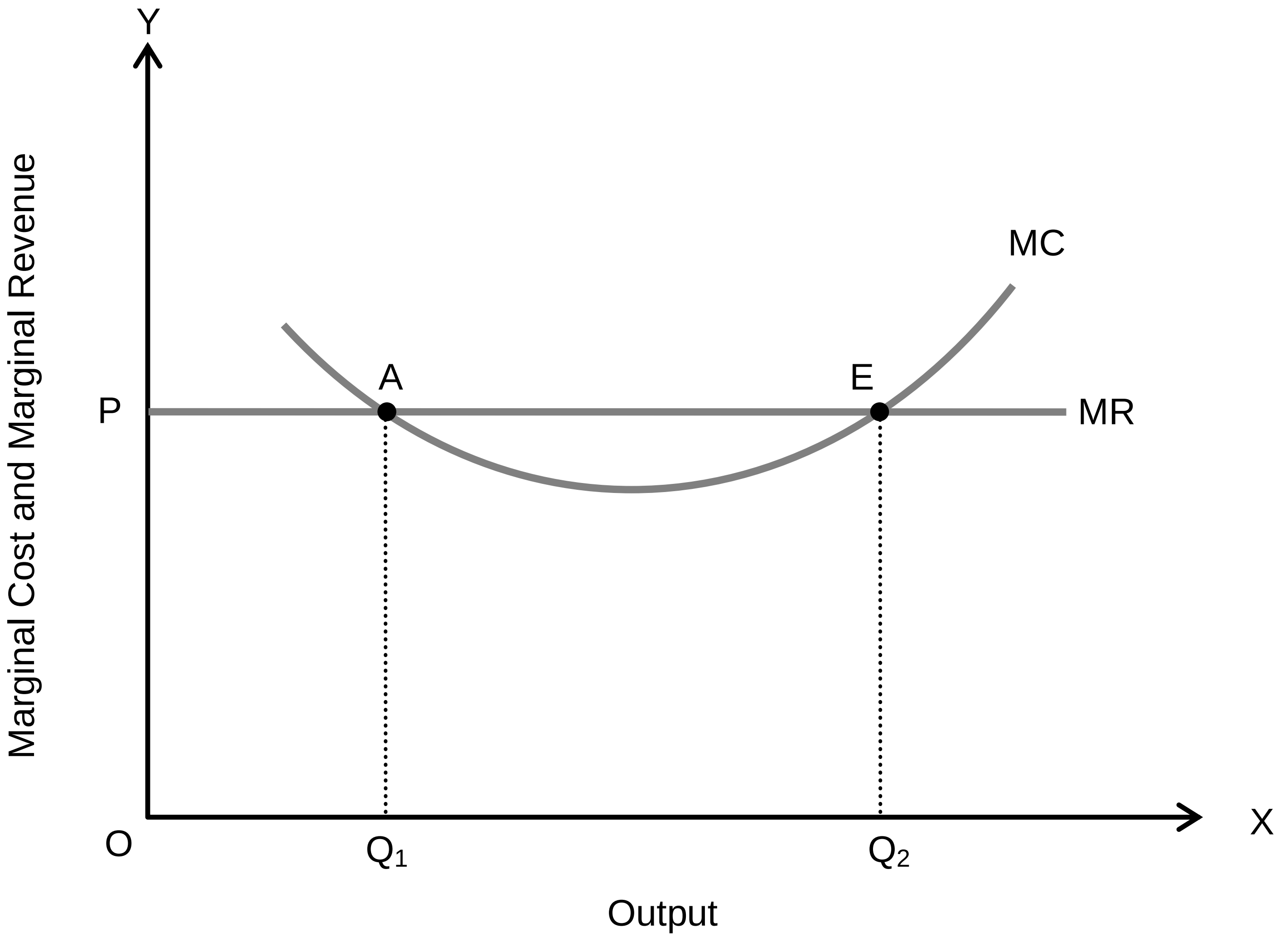
According to this approach, the equality between MR and MC of the firm is the condition for profit maximizing output or equilibrium of the firm. Therefore, the firm produces that level of output at which MC equals to MR.

Marginal Revenue and Marginal Cost Approach (MR-MC Approach) Contd.

1. Equilibrium of Firm under Perfect Competition

- In the perfect competition, there are large number of buyers and sellers.
- Firms produce homogeneous products.
- The price of the product is determined by the industry and firms follow the price determined by the industry.
- Therefore, the firm is called price taker and the industry is called price maker.
- The price of the product remains constant or firms do not need to reduce price of the product in order to increase sales.
- Therefore, AR and MR becomes constant and equal.
- Consequently, AR and MR curves are horizontal straight line which overlap each other.

Marginal Revenue and Marginal Cost Approach (MR-MC Approach) Contd.

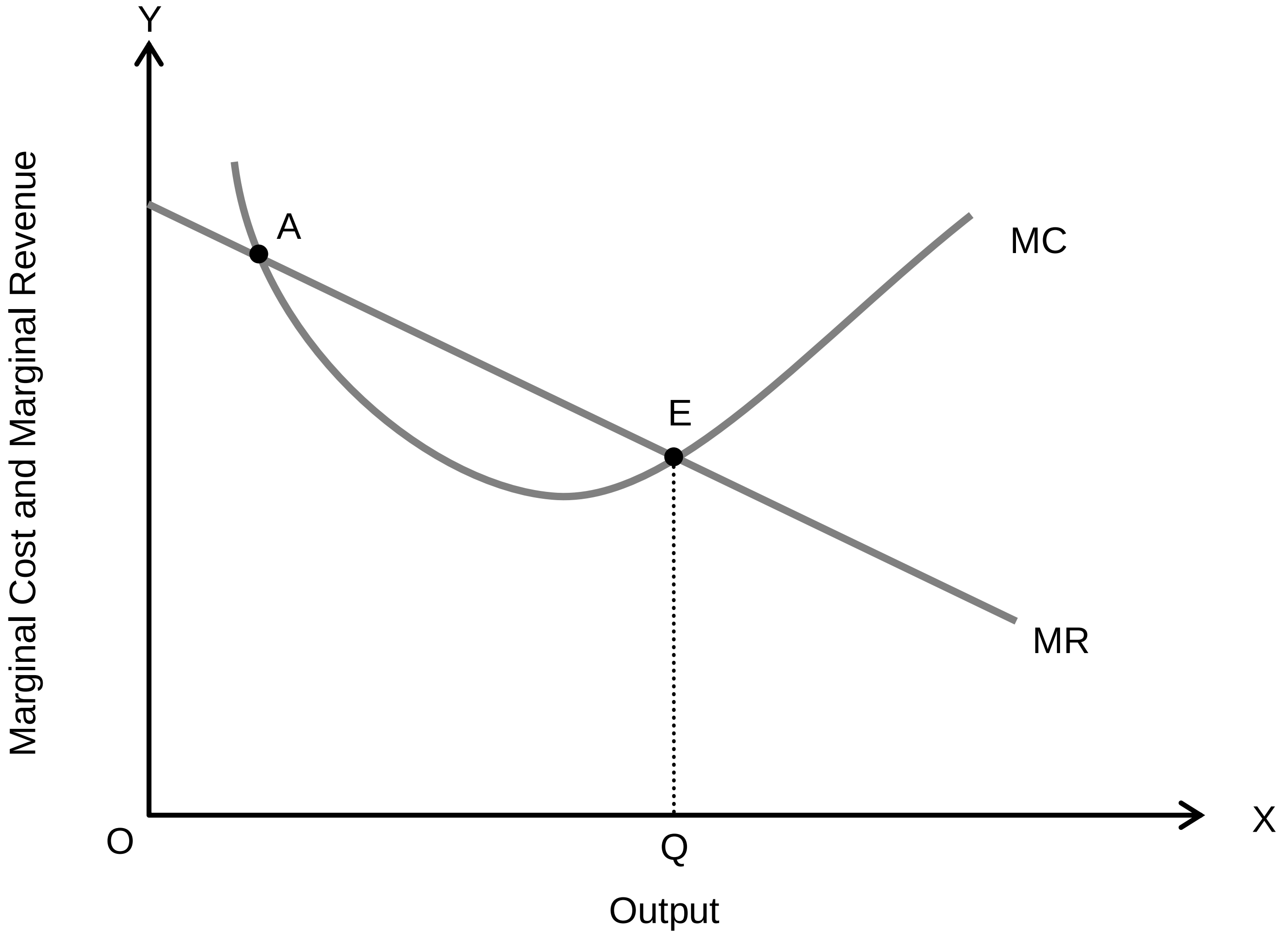


Marginal Revenue and Marginal Cost Approach (MR-MC Approach) Contd.

2. Equilibrium of Firm under Imperfect Competition

- Under the imperfect competition (monopoly, monopolistic competition, oligopoly, etc.), the firms are price maker.
- It means that they can determine price of their own product themselves.
- The firms lower the price of their product in order to increase sales.
- Therefore, AR and MR curves slope downward from left to right.
- The marginal cost curve is roughly U-shaped.

Marginal Revenue and Marginal Cost Approach (MR-MC Approach) Contd.



Price Discrimination

- Price discrimination refers to selling same product at different prices to different customers or in different markets.
- Price discrimination is possible only in the monopoly because even though different buyers would know that they are differently charged, they have no alternative source of buying the product.
- The main objectives of price discrimination are profit maximization, enhance social welfare through pricing, dispose surplus stock, capture foreign markets, etc.

Condition for Price Discrimination

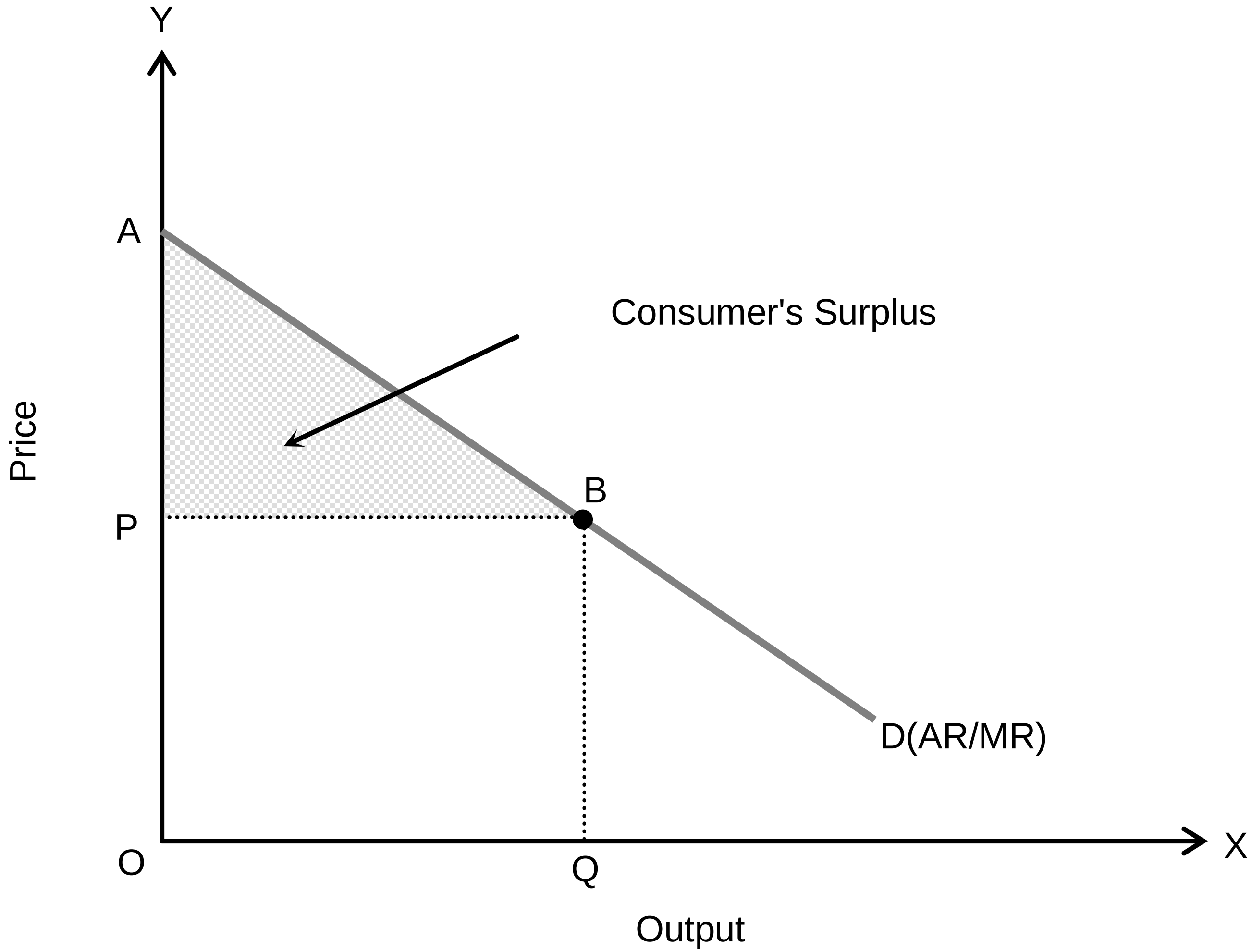
1. Monopoly power
2. Market segmentation
3. Different elasticities of demand
4. Market sealing

Degrees or Types of Price Discrimination

1. **First Degree Price Discrimination**

- In the first degree price discrimination, seller or monopolist chargers each individual consumer his or her reservation price, i.e. maximum price that the consumer is willing to pay. In other words, first degree price discrimination is defined as the situation in which monopolist sells different units of output at different prices.
- In this case of price discrimination, consumer's surplus is totally taken away by monopolist and seller or monopolist obtains maximum possible revenue from each consumer. Therefore, this type of price discrimination is also known as the perfect price discrimination.
- In this case, market demand curve coincides with marginal revenue curve.

Degrees or Types of Price Discrimination Contd.

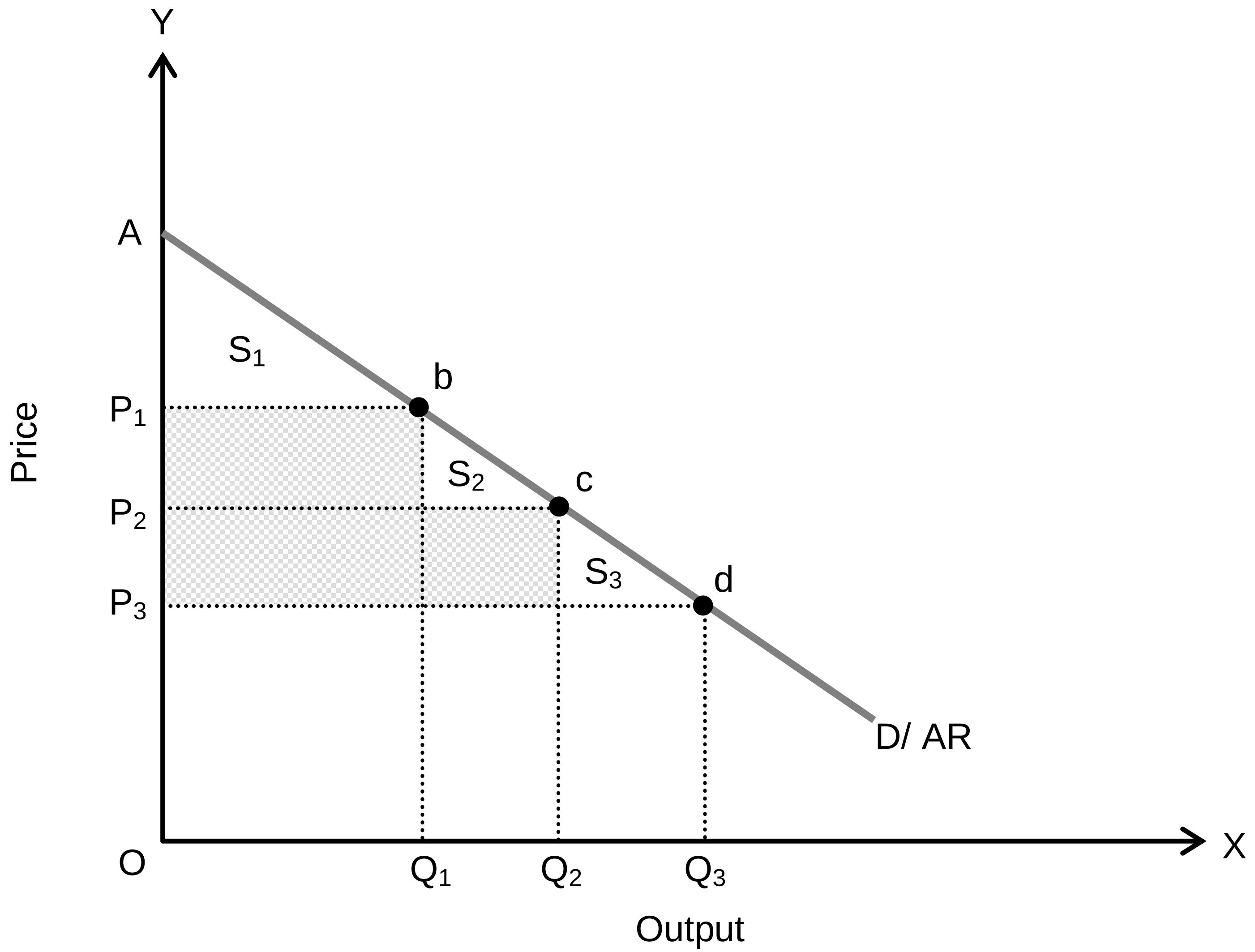


Degrees or Types of Price Discrimination Contd.

2. Second Degree Price Discrimination

- In the second degree price discrimination, different prices are charged for different quantity purchased.
- In other words, the second degree price discrimination is defined as the situation in which the monopolist charges different prices based on how much one buys.
- Such type of price discrimination is common in case of public utilities like telephone and electricity.
- In these public utilities, the price for the first hundred units may differ from the price of second hundred units and so on.
- By doing so, the monopolist captures some part of consumer's surplus but not as in the case of first degree price discrimination.

Degrees or Types of Price Discrimination Contd.

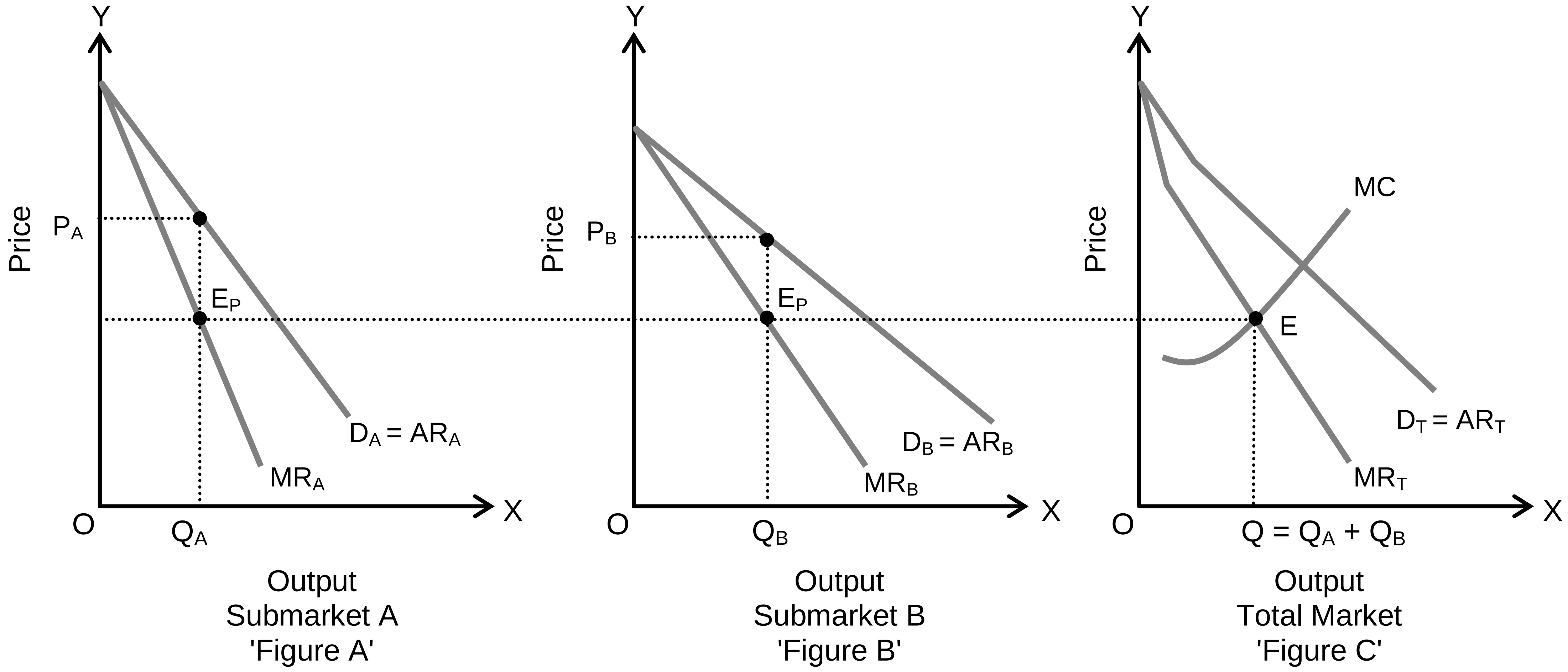


Degrees or Types of Price Discrimination Contd.

3. Third Degree Price Discrimination

- When the profit maximizing monopoly firm sets different prices in different markets having demand curves of different elasticities, it is known as the third degree price discrimination.
- In other words, it refers to the case where the total market can be segmented into sub-markets each having its own demand curve.
- In this case, monopolist charges different prices for the same commodity in the different submarkets.
- There are countless examples of third degree price discrimination, such as student discounts in bus, aeroplanes, and train tickets, coco-cola charging different prices in Kathmandu valley and out of the Kathmandu valley in Nepal, etc.
- The aim of the third degree price discrimination is to increase total revenue and profit.

Degrees or Types of Price Discrimination Contd.



Cost Plus Pricing

- According to traditional theory, the price of a product is determined with the help of the MR-MC approach.
- But this approach is not practical because it is very difficult to find out data on marginal cost and marginal revenue.
- Therefore, most of the firms fix prices without considering MR and MC concepts.
- The most popular and short cut method of pricing is the cost-plus pricing method.
- This method is also called **mark-up pricing** or **full cost pricing** or **average cost pricing**.
- In this method, the price of the product is determined by adding a fixed mark-up on average variable cost.
- The mark-up is set sufficiently high to cover average variable and fixed costs and also provide a profit margin for the firm.
- The mark-up varies depending on the industry and demand conditions. Mark-up means the percentage of profit based on cost.
- The general practice under this method is to add a fair percentage of profit to the average variable cost.

Cost Plus Pricing Contd.

The formula for setting the price is given by

P = AVC + AVC(m) ...(i)

where

AVC	= Average variable cost	m	= Mark-up percentage
AVC(m)	= Gross profit margin(GPM)	P	= Price

The mark-up percentage (m) is fixed to cover the average fixed cost (AFC) and a net profit margin(NPV). Thus,

AVC (m) = AFC + NP ...(ii)

Two-Part Tariff

Two-Part Pricing (also called Two Part Tariff) =

A two-part tariff (TPT) is a form of price discrimination wherein the price of a product or service is composed of two parts – a lump-sum fee as well as a per-unit charge. In general, such a pricing technique only occurs in partially or fully monopolistic markets. It is designed to enable the firm to capture more consumer surplus than it otherwise would in a non-discriminating pricing environment. Two-part tariffs may also exist in competitive markets when consumers are uncertain about their ultimate demand. Health club consumers, for example, may be uncertain about their level of future commitment to an exercise regimen. Two-part tariffs are easy to implement when connection or entrance fees (first part) can be charged along with a price per unit consumed (second part).

A form of pricing in which consumers are charged both an entry fee (fixed price) and a usage fee (per-unit price). Examples of two-part pricing include a phone contract that charges a fixed monthly charge and a per-minute charge for use of the phone. Amusement parks often charge an admission fee and an additional price per ride. Golf clubs typically charge an initiation fee and then usage fees based on meals eaten and golf rounds played. College football tickets usually require a "donation" to the athletic department, used for scholarships, and a per-ticket charge for the tickets.

Bundle Pricing

Bundle pricing is a business sales strategy that involves offering two or more related products and services as a package at a discounted price.

The goal of bundle pricing is to increase customer satisfaction by providing access to multiple products while also improving profitability by increasing the average deal size. An added benefit is that it increases customer spending as well.

Bundle pricing is a great way to give customers better value for their money. By bundling multiple products and services together into one package, companies can offer discounts for buying the items together that outweigh any discounts or benefits associated with their individual prices. Customers appreciate this when it comes to overall cost savings.
Although product bundling means that customers won't have to pay the maximum price for each product or service, businesses still profit significantly because they end up selling more, boosting overall revenue growth while increasing the company's profit margin.

Wage Differentials

The theory of wage determination is based on the assumption of homogeneous units of labour. The wage of labour is the same in the perfectly competitions market if labour is homogeneous and non-monetary advantages are the same in all jobs. But in real world labour is not homogeneous and the different kinds of labour are not paid the same wages. It arises wage differentials.

A wage differential is defined as the difference in wages between workers with different skills in the same industry for same work or the difference in wages between the workers with similar skills within the different industries.

Types of Wage Differentials

- Dynamic wage differentials
- Static wage differentials.

Wage Differentials Contd.

Dynamic Wage Differentials

Dynamic wage differentials occur due to the disequilibrium in commodity and factor market time to time. It depends on the demand for and supply of labour. The wage differential removes as the equilibrium is restored. The equilibrium is restored due to the forces of demand for and supply of labour. Therefore, wage differential is a temporary.

Static Wage Differentials

When wage differentials exist in state of equilibrium of industry, it is called static wage differentials. Such wage differentials cannot be removed by the competitive forces of the market. It arises due to the following reasons:

Wage Differentials Contd.

- Heterogeneity of labour, i.e. qualitative differences in labour
- Difference in the nature of occupations
- Differences in the prices of product which various kinds of labour produce
- Market imperfections
- Difference in risk of performing job
- Difference in cost of living
- Difference in cost of education and training
- Difference in hours of leisure.

Interest Rate Differentials

- Interest rate differential refers to the difference in interest rate between two similar interest bearing assets or securities. For example, if a bond yields 9 percent interest rate and next bond yields 6 percent interest rate, then 3 percent would be the interest rate differentials.
- It is mostly used in carry trade. Under carry trade, investors borrow at a low interest rate and invest it in an asset yielding a higher rate of return.
- Interest rate differentials can also be used to calculate the difference between the interest rate and a bank's posted interest rate on the prepayment date for mortgages.