YEAR - 2021

INDIAN ECONOMIC SERVICES

Previous Years Solved Papers

(First Edition)

By

ECONOMICS HARBOUR

2. Bertrand model: The competing firms simultaneously and independently choose the price at which they will sell their products. The market demand at this price then determines the quantity supplied.

Based on this, the **similarities between Cournot and Bertrand model** can be explained as follows:

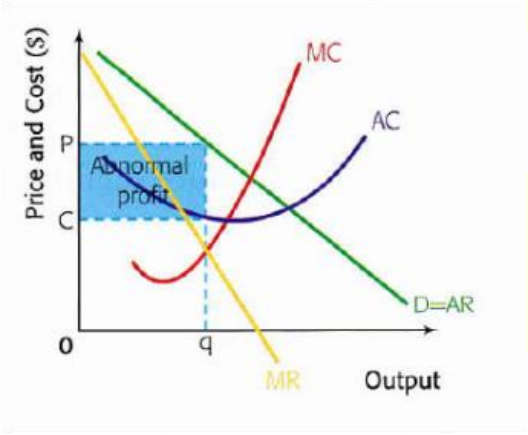
1. Both models represent a monopolistic competition in oligopoly.
2. Both models consider firms that make identical products.
3. Outcomes of both models are based on game theory.

However, there are **differences between the two models** which can be listed as follows:

1. Cournot model considers firms that make output decisions independently while the Bertrand model considers firms that enter into competition on the basis of pricing.
2. In Cournot model, firms simultaneously choose the quantity that has to be produced, while in Bertrand model, firms have to choose a price at which their product can be sold.
3. The result of Cournot model is that firms would not have to share the market. The firms have to choose the lowest price that will serve the whole market. In Bertrand competition, market reaches an efficient equilibrium where firms do not earn profits and price is equal to the price of perfect competition.

b) Why is it possible for a monopolist to earn supernormal profits in the long run?

Supernormal profits, also known as abnormal profits, is all the excess profit a firm makes above the minimum return necessary to keep a firm in business. In the case of monopoly, a monopolist earns supernormal profits in both short run and long run. This can be diagrammatically represented as:



A monopoly is the market structure where there is only a single seller who is the only owner of the firm. The products and price are decided as per his choice. Additionally, the product does not have a close substitute. As a result, a monopoly firm can earn supernormal profit in the long run as well as in short run because the seller has control over the prices of the products and the entry of new firms is also restricted.

Question 5:

a) State and explain the modern theory of rent. Show how it can be applied to other factors of production.

Modern theory of rent was first discussed by J.S. Mill and later developed by economists like Jevons, Pareto, Marshall, Robinson, etc. According to modern theory, rent arises due to scarcity

of land, that is, income earned by the factor in excess of its minimum income is called economic rent.

However, recent development state the economic rent is a surplus that is not peculiar to land alone. It can be a part of income of labour, capital and entrepreneur. As per the modern version, rent is a surplus that arises due to difference between actual earning and transfer earning.

Rent = Actual earning – Transfer earning

Where transfer earning is the amount of money that any particular unit could earn in its best paid alternative use.

Features of modern theory of rent are as follows:

1. Rent can be a part of income of all factors of production.
2. Amount of rent depends upon the difference between actual earning and transfer earning.
3. Rent arises when supply of the factor is either perfectly inelastic or less elastic.

When supply is perfectly elastic:

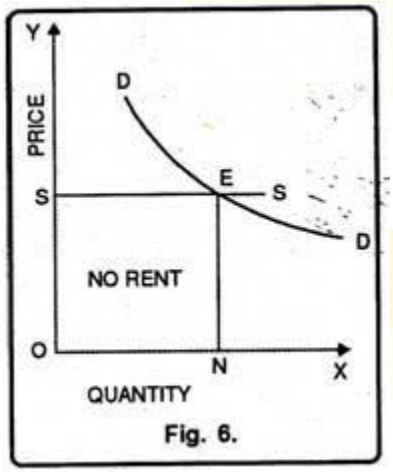
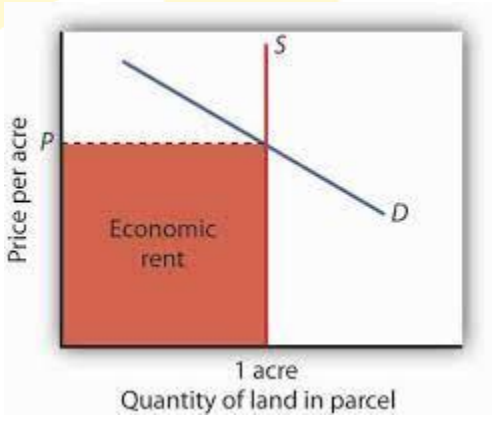


Fig. 6.

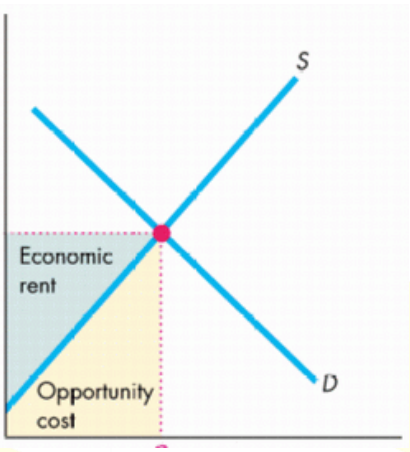
Actual earning = transfer earning = no rent

When supply is perfectly elastic:

Actual earning = Rent because transfer earnings are zero.



When supply is less than perfectly elastic:



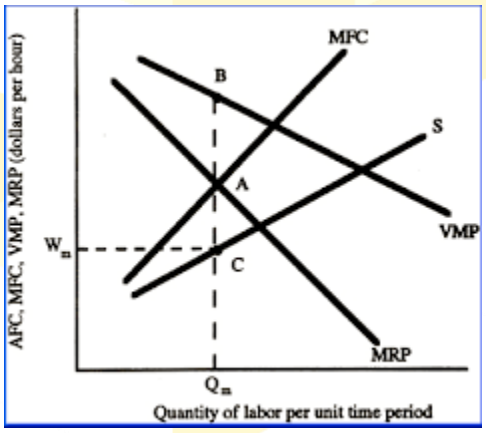
b) Explain in terms of the marginal productivity theory how a 'monopolist-monopsonist' firm exploits the society.

Irving Fisher defined monopoly as a market with the absence of competition, creating a situation where a specific person or enterprise is the only supplier of a particular thing.

On the other hand, monopsony is a market structure in which a single buyer substantially controls the market as the major purchaser of goods and services offered by many sellers.

Under monopsony-monopoly market situation, the worker is subjected to double exploitation because of monopoly he gets less than the value of his marginal product and because of monopsony he gets less than his MRP. The former is called monopolistic competition and the latter is called monopsonistic competition.

This can be diagrammatically explained as:



When there is monopoly in the product market, then MRP is not equal to VMP and MRP curve will lie below VMP curve.

Equilibrium of the monopsonist will be where MRP = MFC

The wage will be set at the corresponding point on the supply curve.

The difference between VMP and MRP curve is monopolistic competition and difference between MFC and AFC is monopsonistic exploitation.

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GENERAL ECONOMICS - I
SECTION – A

Question 1: Answer all the following seven parts:

a) Show that the ordinary demand curve will have a greater demand elasticity than the compensated demand curve.

A consumer's ordinary demand curve (ODC) for a good, also called a Marshallian demand curve, gives the quantity of the good he will buy as a function of its price. The shape of ODC for a good depends upon the properties of the consumer's utility function, namely, DMU in the case of Marshallian utility theory and diminishing marginal rate of substitution in the case of indifference curve theory.

Now, imagine a situation in which a consumer is taxed in the case of a fall in the price of a good and subsidized in the case of a rise in its price in such a way as to leave his real income constant at the initial level.

The demand curve that gives the quantity demanded of the good as a function of its price under these compensated conditions is called a compensated demand curve.

From the definitions of an individual consumer's ODC and CDC for some good X, it follows that price of elasticity of demand coefficient would be higher in the case of ODC as compared to CDC. This is because when price of X decreases, the consumer would be taxed in CDC to keep his real income constant. Therefore, the consumer's purchase either would not have the income effect or very small effect, of the rise in real income due to price fall. His purchase would rise mostly because of the substitution effect of a fall in the relative price of good X. On the other hand, in the Marshallian case, the consumer's purchase of X would increase owing to both the income effect and substitution effect of the fall in price of X.

Therefore, owing to a fall in price of X at any price-quantity combination, the compensated demand would rise by a smaller proportion than the Marshallian demand, that is, at the said price-quantity point, the CDC would be steeper than the Marshallian demand curve and elasticity of demand would be small in the former case.

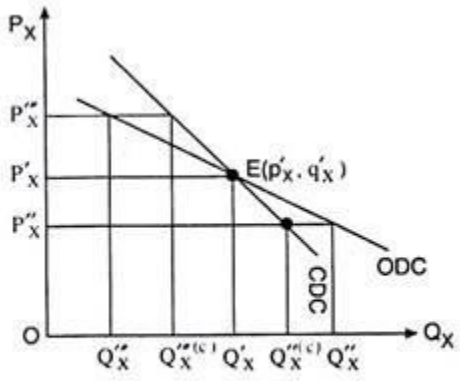


Fig. 6.37 CDC is less price-elastic than the ODC

Tip: In case of General Economics I, you are not given any word limit. You may explain your answer in detail. However, avoid lengthy answers for all. Rather, you must try to include diagrams wherever possible.

b) Discuss the Lerner Index of Monopoly power.

Lerner's index of monopoly power is expressed as:

$$L = (P-MC)/P$$

Where P = price of good, MC = Firm's marginal cost

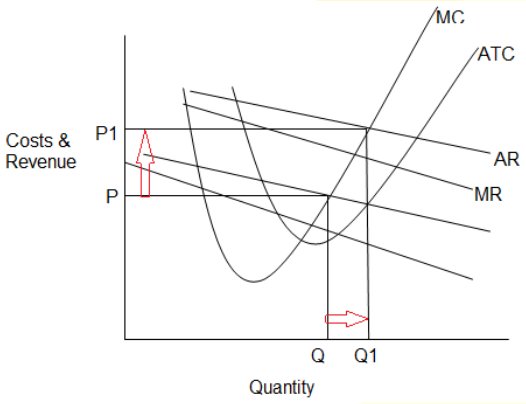
Essentially, the index measures the percentage markup that a firm is able to change over its marginal cost. The index ranges from a low value of 0 to a high of 1. The higher the value of the Lerner Index, the more the firm is able to change over its marginal cost, hence the greater its monopoly power.

However, its use is largely restricted to theoretical studies because of the difficulty of accurately measuring costs in practice. Other measures such as HHI are more commonly used to gauge monopoly power using real industry data.

c) Illustrate graphically the effects of advertising on price and output in monopolistic competition.

Monopolistic competition is characterized by multiple firms that sell differentiated products. Advertising is a technique used by firms in monopolistic competition to create product differentiation. The goal of product differentiation and advertising in monopolistic competition is to make sure that the market is under control and as a result, charge a higher price.

Advertising will increase demand and reduce demand elasticity.



As seen from the short-run equilibrium graph, Q gives the current profit maximizing output at price P. Therefore, advertising will increase the quantities of the product the consumers are willing to purchase, leading to a shift or a move in the demand curve to a higher level. The new demand curve will corresponding to higher levels of quantity demanded and the prices given by Q1 and P1.

Advertising in monopolistic competition is excessive and as long as revenues per product are more in comparison to an increase in average cost per product, it may not result in losses. One of the characteristics of monopolistic competition is relatively easy entry. Firms in a monopolistic competition market will use advertising to maintain their profits because advertising affects the products of the firm by increasing its demand.

d) Distinguish between partial equilibrium and general equilibrium approaches.

Partial Equilibrium	General Equilibrium
Partial equilibrium means an equilibrium derived by considering the effect of only two	General equilibrium means an equilibrium which is derived by considering the effects of many variables at a time.

variables at a time. All other variables are considered to be constant.	
Neglects the interdependence between variables.	Takes into account the interdependence between variables.
Micro-economic analysis is based on partial equilibrium analysis.	Macro-economic analysis is based on general equilibrium analysis.
Studies the equilibrium position of consumer, a firm, an industry, a market, etc.	Studies the equilibrium position of the economy as a whole.

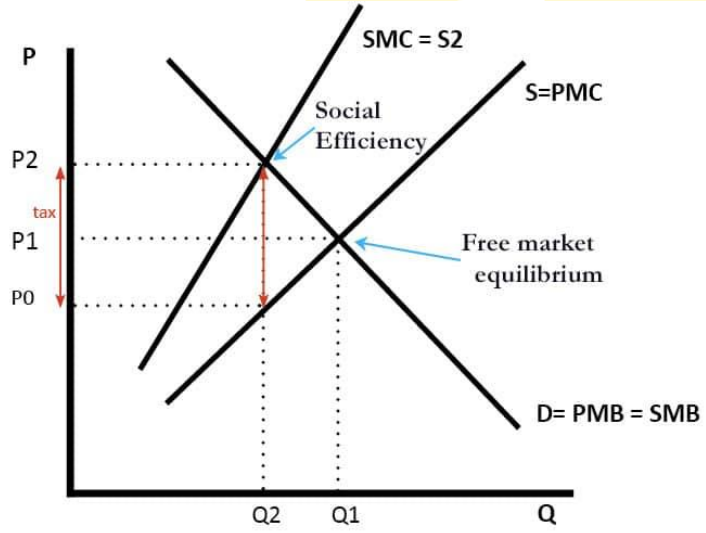
e) "The social optimal output occurs where Marginal Social Benefits (MSBs) equal Marginal Social Costs (MSCs)." Examine the statement.

Social efficiency is the optimal distribution of distribution of resources in society, taking into account all external costs and benefits as well as the internal costs and benefits. Social efficiency occurs at an output where

MSB = MSC

Social efficiency and negative externality

If a good has a negative externality, then in a free market we tend to get over-consumption and social inefficiency.



In a free market, consumers ignore the external costs of consumption. Therefore, the free market equilibrium is at Q1. However, at Q1, the MSC is greater than MSB. Therefore, by consuming at this point, the cost to society is greater than benefit, thus a dead weight loss. If the output is reduced from Q1 to Q2, society is in a better position. At Q2, the MSC = MSB, this is said to be socially efficient.

Social efficiency and positive externality

With a positive externality, we ignore the benefits to third parties. The free market equilibrium (Q1) is less than the socially efficient level (Q2) where SMC = SMB.

At Q1, MSB > MSC, therefore in this situation, if we increase output from Q1 to Q2, the addition to social welfare (MSB) is greater than the MSC, therefore net social welfare increases until we get to point Q1 where SMB = SMC.