# A2 – ECONOMICS (9708)

## PAST PAPER SESSION

## MICRO

## CHAPTER 1: Utility and Consumer Choice

# MAIN QUESITONS

**(M/J 2016, V2), Q3 [ECR]**
With the help of diagrams, use indifference analysis to:
(a) Explain what is meant in economic theory by consumer equilibrium and how it is related to a consumer's demand curve. [12]
(b) Discuss how this equilibrium might be affected by a government fiscal policy that raises taxes on goods. [13]

## Answer (a)

**Introduction:** In the real world, given the limited incomes, consumers have to make choices about what to buy and how much. Since they do not want to waste their money, therefore consumer theory assumes that they act rationally. It, therefore, suggests that a consumer is in equilibrium when he gets the best value for money from his purchases. Consumer theory of Indifference curve helps explain consumer choices in different situations. The concept explains the willingness (using the indifference curve) and the ability (budget line)
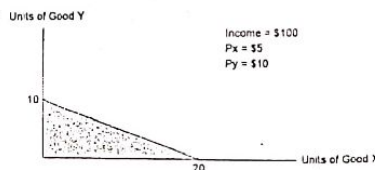
### 1. Indifference Curve

An indifference curve(Ic) shows various combinations of different quantities of two goods that give an equal amount of satisfaction or utility. A typical Ic slopes downward from left to right and it is usually drawn bowed in towards the origin. Its slope gets shallower as we move down the curve due to the diminishing marginal rate of substitution. MRS is the rate at which the consumer is willing to substitute one good for the other while maintaining the overall satisfaction intact. It, therefore, represents the marginal utility ratio [MUx/MUy]. The more further out to the right the higher the combination of satisfaction.
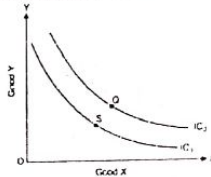


### 2. Budget Line

An indifference map illustrates people's preferences, but the actual choices they make will depend on their incomes. The budget line, therefore, is the other important element in this analysis. The budget line shows what combinations of two goods a consumer is able to buy at given prices and with a given budget. It, there-fore, represents price ratio (Px/Py).



Let us examine the following graph where we put the two elements — the indifference map and a budget line — together. This will enable us to show how much of each of the two goods the 'rational' consumer will buy from a given budget.
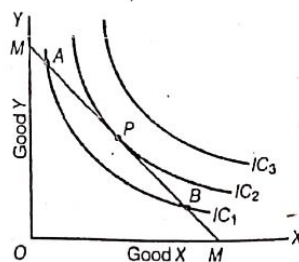


Economic theory predicts that a rational consumer would like to consume along the highest possible indifference curve with the given money income. This is curve IC2 at point p. IC3, though represents higher utility than but it represents combinations of X and Y that cannot be afforded with the current budget. The consumer could consume along curve IC1 but it gives a lower level of utility than at point p. The optimum

1

consumption point for the consumer therefore is where the budget line is 'tangential to' the highest possible indifference curve. This is where the MU ratio equals price ratio. We can establish the relationship between a consumer's equilibrium and his demand curve by using income and substitution effects of a price change. Let's assume that the price of a normal good X rises, consumer will purchase less of it for two reasons: Firstly he cannot afford to buy so much due to the income effect. Secondly, the good is now more expensive relative to other goods. He, therefore, substitutes alternatives for it. This is the substitution effect. Consider the following graph:
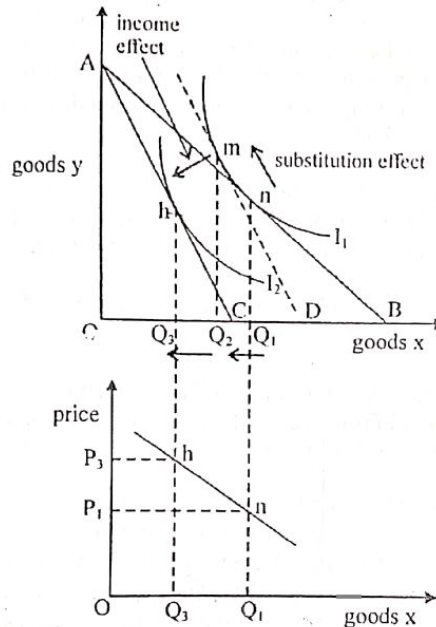


The price of normal good X has risen and the budget line has pivoted inwards from AB to AC. The consumption point has moved from n to h. Part of this fall in consumption is due to the substitution effect and part is due to the income effect. To separate these two effects a new budget line is drawn, parallel to AC but tangential to the original indifference curve I at point m. Being parallel to AC, it represents the new price ratio i.e. the higher price of good X, however, it enables the consumer to obtain the same utility as before because there is no loss in real income to the consumer. So, we have excluded the income effect and therefore the movement from Q1 to Q2 is due purely to a change in the relative prices of X and Y. In reality, the budget line has shifted to AC and the consumer is forced to consume on a lower indifference curve 12: real income has fallen. Thus the movement from Q2 to Q, is the income effect. In the case of a normal good the income and substitution effects of a price change reinforce each other. They are both negative: they both involve a reduction in the quantity demanded as price rises.

In order to derive the consumer's demand curve for good X we need to show the effect on the consumption of good X of a change in its assuming the prices of all other goods are held constant. We illustrate the rise in the price of X by pivoting the budget line inward on the upper part. it is then a simple matter of transferring these price—quantity relationships on to a demand curve. In figure above point n and on the demand curve in the lower part of the diagram corresponds to the two points on the upper part of the graph.

## Answer (b)

**Definition:** Fiscal policy involves the use of government spending, and taxation to influence both the pattern of economic activity and also the level and growth of aggregate demand, output and employment. While Deflationary fiscal policy is raising taxes in some form that is detrimental to consumer expenditure. There are TWO types of taxes and the effect of both of them are different. In order to understand the impact we have to take into account the income and the substation effect:

<u>Definition | Substitution Effect:</u> This is the effect that states when the price of good falls, the consumer tends to shift consumption from the expensive good towards the cheaper good. Example: If the price of Good X decreases, an individual would shift consumption from Good Y to Good X. Substitution Effect always acts to <u>INCREASE</u> the consumption of the product

<u>Definition | Income Effect:</u> This is an effect that states that when consumer changes his consumption of a good with increase or decrease in their real income. As when the price of a good falls the total expenditure on the original bundle decreases hence there is an income effect. Income effect can entire <u>INCREASE</u> or <u>DECREASE</u> consumption when price falls.

Note: The combined effect for Substitution and Income effect is known as price effect.

### 1. Direct Taxes

An increase in direct taxes is a tax imposed on incomes and this is an unavoidable tax. This would reduce disposable incomes and therefore would influence purchases of different goods and services. Graph below explains this:
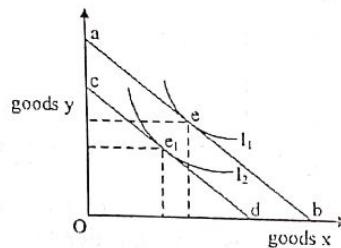


— A decrease in income caused by higher rates of a direct tax, say income tax, is represented by a parallel shift inwards of the budget line assuming no change in the price of x and y. This will then lead to a new optimum consumption point el on a lower indifference curve. In other words, people can buy less than they did before. A uniform increase in indirect tax on all goods might also produce the same effect on consumers' real incomes.

### 2. Indirect Taxes

Indifference curve can also be used to analyze the effects on consumers' purchase of different goods when government increases tax on selected items. It can help analyze the impact of the tax on THREE types of goods.

#### 1. Normal Good

Consider the following graph where 'x' is a normal good.
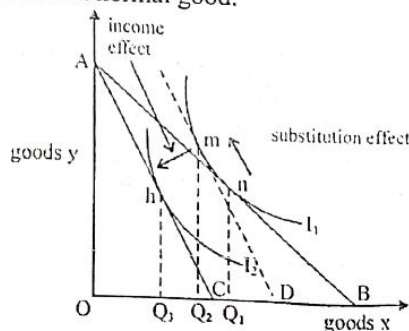


An increase in tax on good x has increased its price and the budget line has pivoted inwards from AB to AC. The consumption point has moved from point n to point h. Part of this shift in consumption is due to the substitution effect and part is due to the income effect. In order to reach the new equilibrium at point h first the consumer would substitute good x with its relatively cheaper substitute. The substitution effect is shown by drawing a new dotted budget line parallel to BC but tangential to the original indifference curve I1 at point m. Being tangential to I1 enables the consumer to obtain the same utility as before, in other words, there is no loss in real income to the consumer. Thus the movement from Q1 to Q, is the substitution effect. In reality, the budget line has shifted to BC and the consumer is forced to consume on a lower indifference curve 12; real in-come has fallen. Thus the movement from Q2 to Q3 is the income effect. In case of a normal good, therefore, the income and substitution effects of a price change reinforce each other. They are both negative:

they both involve a reduction in the quantity demanded as price rises 10 The bigger the income and substitution effects, the higher will be the price elasticity of demand for good x.

## 2. Inferior Good

If the good subject to higher tax is inferior then the substitution effect will be in the same direction as for a normal good: i.e. it will be negative. People will Consume less x relative to y, since x is now more expensive relative to y. For example, if the price of inferior-quality margarine went up, people would tend to use better-quality margarine or butter (good y) instead. This is illustrated in Figure below.
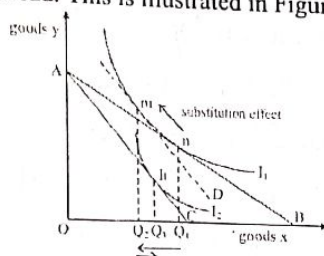


Again the substitution effect is indicated by a movement along the original indifference curve I1 from point n to point m. The quantity of X demanded falls from Qi to Q2. The income effect of the price rise, however, will be the opposite of that i for a normal good. The reduction in real income from the rise in price of x will tend to increase the consumption of x, since with a fall in real income more inferior goods will now be purchased including more x. Thus point h is to the right of point m; the income effect increases quantity back from Q2 to Q3. Over all substitution effect outweighs income effect therefore QD of inferior good is likely to decrease from Q1 to Q3.

It, therefore, follows that increase in tax on different goods will increase their prices which will affect their quantity demanded partly due to the substitution effect and partly due to income effect.

*However This law of Equi-Marginal Utility has been criticized on the following grounds*

| Factor | Description |
|---|---|
| 1. Utility cannot be measured | It is difficult to measure utility because there is no method to do that. Further utility can neither be added not it can be compared physically. |
| 2. Ceteris paribus | In reality things don't remain constant and consumer preference, incomes, etc. changes with time. This can lead to new consumption habits which might have an impact on consumer satisfaction |
| 3. For some goods utility goes up | For some goods an increase in consumption actually leads to an increase in utility. Examples include money, collections, land in some cases an owning a collection tends to increase value. |
| 4. Durable Goods | This is difficult to apply to durable goods as they are not continuously used. Specially for diminishing marginal utility this law is important. |
| 5. Consistency of goods | The assumption holds that all the goods are similar in nature, however that might not be true. Example: If the consumer is eating an apple, the quality might be different in successive units and depending on that the utility may be more or less than the previous one. |
| 6. Consumers are not rational | Sometimes consumers are not rational as they buy goods on basis of impulse or even indulge in conspicuous consumption. Hence they are not basing their decision on marginal utility. |

## EVAL

1. Depends on the percentage of tax. The greater the % of tax the greater would be the impact.
2. Normal goods have a greater impact from the tax
3. Depends on which type of tax is being imposed
4. Depends on the elasticities
5. Can Utility be calculated ?

ECR Version (a) [Marks awarded 12/12]

a.

① Indifference curve is a curve drawing the possible combinations of goods and services that give the same amount of total utility. Consumer equilibrium is achieved when budget line is tangential to the indifference curve. This means the total utility is maximised. Budget line is a line showing the maximum possible combinations of goods and services that can be consumed at a constant price level with constant disposable income.
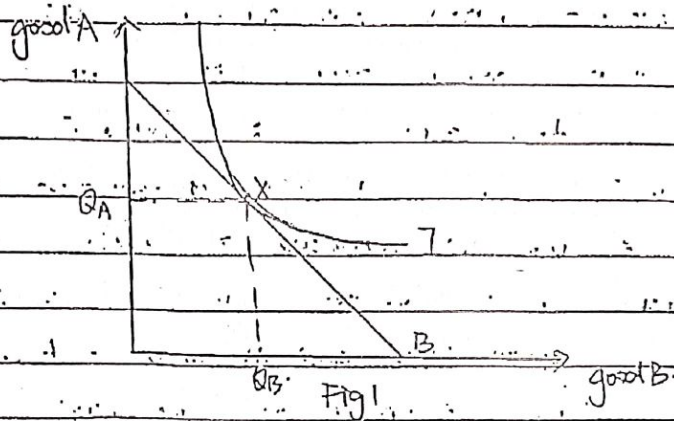

Fig 1

According to Fig 1, the point X is the consumer equilibrium point. At this point, the quantity of good A consumed B $O_A$ and the quantity of good B consumed is $O_B$. At point X, $\frac{MU_A}{P_A} = \frac{MU_B}{P_B}$. This means that the marginal utility per unit of price of good A and B is the same. This means that the extra additional satisfaction derived from the consumption of goods A and one extra unit of good A and B per unit of price is the same. As a result, total utility from consumption of A and B is maximised.
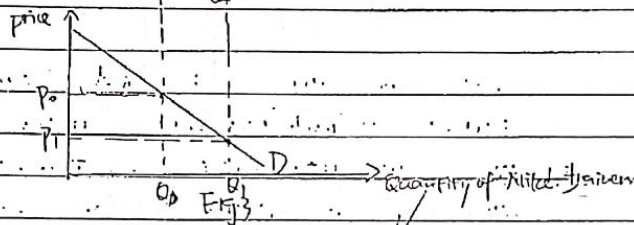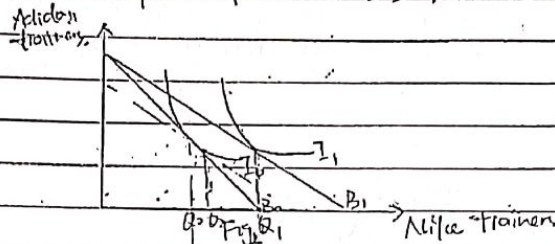


According to Fig 2 and 3, if the price of Nike trainers decrease from $P_0$ to $P_1$, the budget line will shift from $B_0$ to $B_1$ because of the real income of consumers increases. The budget constraint increases. As shown in Fig 1, due to the substitution effect, the consumer will prefer to buy more cheaper Nike trainers rather than buy more expensive Adidas trainers. As a result, the quantity of Nike trainers increases from $Q_0$ to $Q_2$. Moreover, due to the income effect, the consumer will increase its demand to $Q_1$ to obtain a higher total utility. As a result, due to the substitution effect and income effect of a normal good, the demand curve is downward sloping. This means as price decrease, quantity demand will increase.

In conclusion, for an abnormal good like giffen good, the negative income effect will be greater than positive substitution effect. Therefore, the demand curve is upward sloping.

**(M/J 2017, V2), Q2**

Choice is an essential part of economics. Sometimes consumers change their choices either when shops have **special offers on previously very expensive luxury products**, or when **advertising persuades them to change their preferences.**

Q. Analyse how the economic theory of indifference curves can be used to construct a consumer's demand curve. Discuss whether this theory can explain the above changes in choice. [25]

The first part of the essay is the same as (M/J 2016 V2), (a) [How to derive the demand curve]

**1. Special offers on previously very expensive luxury products**

We can use indifference curve theory in order to ex-plain changes in consumer choices when shops have special offers on previously very expensive luxury products. These products usually have relatively income elastic demand. This implies that the proportion-ate change in QD is larger than the given change in income. This suggests that the income effect of a fall in price will have a larger share in overall change in QD.
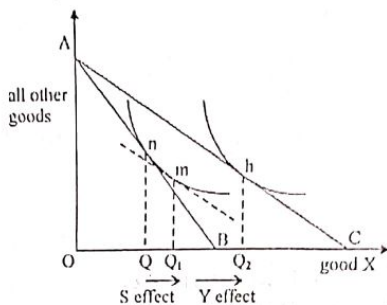


The price of expensive luxury good X has fallen due to the special offer and the budget line has pivoted outward from AB to AC. The consumption point has moved from n to h. Part of this rise Q Q1 is due to the substitution effect and part Q1 — Q2 is due to in-come effect. Clearly the change in quantity of good X resulting from income effect is larger because it is a luxury good and therefore has a stronger income effect.

**2. Advertising persuades them to change their preferences**

We know that people's preferences can also change in the real world. One obvious example is the case of advertising. If advertising is effective, it should make the advertised good more desirable i.e. it shifts consumers' preferences towards that good. Consider the consumer choice diagram below.
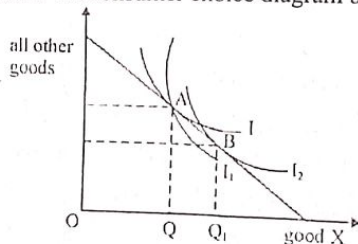


Say there is a successful advertisement campaign for Good X. This makes Good X more desirable. In other words, the consumers would now be willing to give up more of all goods to buy one more unit of good X. This means that the marginal rate of substitution will now be higher than before, the indifference curve therefore becomes steeper at point A i.e it Pivots around to the curve I. Now, the bundle of goods at point A is no longer the consumer's best affordable choice. He can reach a higher indifference curve 12 by buying the bundle of goods at point B instead that includes more of Good X and less of all other goods. 1 So, the effective advertising campaign for Good X induces the consumer to buy more of Good X, by changing his preferences.

It therefore follows that not only can we use consumer theory of indifference curve for derivation of a consumer's demand curve but we can also show any changes in his preferences resulting from factors such as advertisement and special offers.

**(O/N 2017, V2), Q3**
(a) Analyse how indifference curve theory explains why a consumer will normally buy more of a good at a lower price than at a higher price. [12] **[Normal Good]**
(b) Discuss why there might be exceptions to this normal response, distinguishing the income effect from the substitution effect. Consider the relevance of these exceptions to firms and the government. [13] **[Inferior and Giffen Goods]**

**Answer (a) [Repeat from (M/J 2016, V2), (a)**

**Answer (b)**

## 1. Inferior Good [When Price ↑]

In case of an inferior good substitution effect will be in the same direction as for a normal good: i.e. it will be negative. When, price of an inferior good increases people will consume less X relative to Y, since X is now more expensive relative to Y. For example, if the price of inferior-quality margarine went up, people would tend to use better-quality margarine or butter (good Y) instead. This is illustrated in figure below.
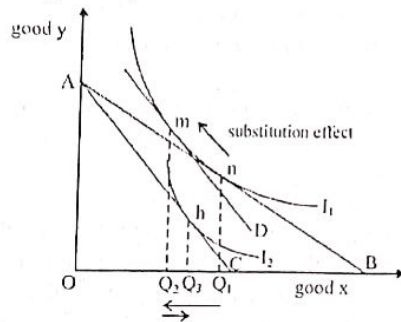


Again the substitution effect is indicated by a movement along the original indifference curve I from point n to point m. The quantity of X demanded falls from Q1 to Q2. The income effect of the price rise, however, will be the Opposite of that for a normal good. The reduction in real income from the rise in price of X will tend to increase the consumption of X, since with a fall in real income more inferior goods will now be purchased — including more X. Thus point h is to the right of point m: the income effect increases quantity back from Q2 to Q3. Over all substitution effect out-weighs income effect therefore QD of inferior good is likely to decrease from Q1 to Q3.

## 2. Giffen Good [When Price ↑]

The other exception is a case of a Giffen good. It is an inferior good that takes a large proportion of a consumer's expenditure. This implies that a change in price of such a good would have a significant change in consumer's real income and therefore it would result in a large income effect that outweighs substitution effect and hence producing an exceptional demand curve. following graph illustrates this exception.
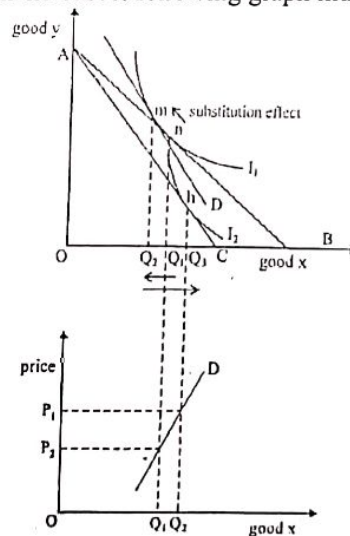


In this case an increase in price of good X, a Giffen good, causes a fall in consumption (Q1 - Q2) due to substitution effect that is more than offset by a rise in consumption (Q2 - Q3) due to a large positive income effect, hence it produces an upward sloping demand curve.

Income and substitution effect of a price change help the firms to predict the direction and the extent of changes in quantity demanded of different goods. In case of an inferior good, for in-stance, income and substitution effects tend to offset each other. However substitution effect outweighs income effect and makes the demand curve to slope downward from left to right but the change in QD is likely to be proportionately smaller. This implies that the PED of an inferior good is likely to be relatively low, therefore a decrease in price could result in a fall in a firm's total revenues (TR), and increase in price could increase its TR. However in case of a Giffen good a large income effect outweighs a small substitution effect that produces an upward sloping demand curve. It implies that an increase in price would increase QD, therefore an increase in price would always increase a firm's TR. Government is also likely to generate higher tax revenues by raising indirect taxes on both these types of goods.

*However This law of Equi-Marginal Utility has been criticized on the following grounds*

| Factor | Description |
|---|---|
| 1. Utility cannot be measured | It is difficult to measure utility because there is no method to do that. Further utility can neither be added not it can be compared physically. |
| 2. Ceteris paribus | In reality things don't remain constant and consumer preference, incomes, etc. changes with time. This can lead to new consumption habits which might have an impact on consumer satisfaction |
| 3. For some goods utility goes up | For some goods an increase in consumption actually leads to an increase in utility. Examples include money, collections, land in some cases an owning a collection tends to increase value. |
| 4. Durable Goods | This is difficult to apply to durable goods as they are not continuously used. Specially for diminishing marginal utility this law is important. |
| 5. Consistency of goods | The assumption holds that all the goods are similar in nature, however that might not be true. Example: If the consumer is eating an apple, the quality might be different in successive units and depending on that the utility may be more or less than the previous one. |
| 6. Consumers are not rational | Sometimes consumers are not rational as they buy goods on basis of impulse or even indulge in conspicuous consumption. Hence they are not basing their decision on marginal utility. |

It therefore follows that inferior and Giffen goods are exceptions to a normal response of income and substitution effect and firms can use them to set prices of their goods and government use them to decide changes in their taxes.

Note: Consumer Equilibrium relates to law of equi-marginal utility.

**Similar Questions**

**(M/J 2014, V2), Q2**

Q. 'The analysis of marginal utility as an explanation of consumer equilibrium can only be related to the purchase of one good, cannot be used if incomes increase, and is not applicable if advertising causes a change in tastes. It is, in practice, not a useful guide to consumer behaviour'.

Assess this opinion. [25]

**(M/J 2015, V2), Q2**

(a) Describe how consumer theory suggests a rise in income will cause a consumer's demand to change for a normal good and for an inferior good. [12]

**Variant 1**

**(O/N 2016, V1), Q3**

(b) Consider whether indifference curves can be used to analyse the effects of a fall in the price of a good on the demand for both a normal good and a Giffen good. [13]

# A2 – ECONOMICS (9708)

## PAST PAPER SESSION

### MICRO

## CHAPTER 3: Market Structures

# A2 – ECONOMICS (9708)

## PAST PAPER SESSION

## MICRO

## CHAPTER 3: Market Structures

# MAIN QUESTIONS

**(O/N 2010, V2), Q3**
Q. Discuss whether there is a relationship between the marginal cost curve of the firm and the supply curve of the industry to which it belongs. [13]

**Definition | Marginal Cost:** It is the extra cost of producing one more unit of output. MC is determined by the following:

$$MC = \frac{\text{Change in Total Cost}}{\text{Change in Output}}$$

In the short run MC can also be calculated from the total variable cost because the only difference between total cost and total fixed cost is the constant amount of fixed cost. Thus the change in TC and that of variable cost for an extra unit of output is always the same. A typical MC curve first shows a decline, it reaches the minimum and then rises. This shape of MC curve is a consequence of the law of diminishing returns.
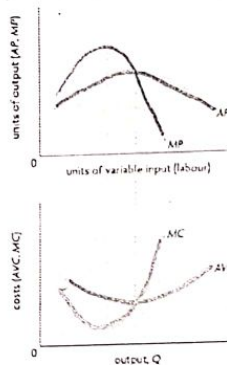


## Perfect Competition and the Supply Curve

Relationship between the marginal cost curve of the firm and the supply curve of the industry can only be established in a perfectly competitive market. Perfect competition is characterized by large number of relatively small firms producing homogeneous products in the absence of entry exit barriers. Price in such conditions is determined by total demand and supply forces in the market and each individual firm produces such a small fraction of total output that a change in its output does not affect the total market supply. Thus all the firms are price takers and each firm faces a perfectly elastic demand curve.

For a perfectly competitive firm its demand curve is simultaneously its average revenue (AR) and marginal revenue( MR) curve i.e. AR=MR=Price. Profit maximization rule suggests that firm maximizes revenue or minimizes loss where MC = MR as shown in the graph below:
(Diagram)

Thus the profit-seeking competitive firm, faced with certain costs, would choose to offer OQ out-put at OP price because firm's MC = MR. Since P = MR therefore this information — product price and corresponding quantity supplied — gives us a point on the supply curve for the competitive firm. The graph below illustrates the MR = MC rule and the relationship between short-run MC and the firm's supply behavior. The ATC, AVC, and MC curves are shown, along with several marginal-revenue lines drawn at possible market prices. Let's observe quantity supplied at each of these prices:
(Diagram)

In the graph above price OP is below the firm's minimum average variable cost, so at this price the firm won't operate at all. Quantity supplied will be zero, as it will be at all other prices below P2. Price P2 is just equal to the minimum average variable cost. The firm will supply units of output (where MR2 = MC) and just cover its total variable cost. Its loss will equal its total fixed cost. Actually, the firm would be indifferent shutting down or supplying Q2 units of output but we assume it produces. At price P3 the firm will supply Q3 units to minimize its short-run losses. At any other price between P2 and P4 the firm will minimize its losses by producing and supplying the quantity at which MR (= P) = MC. The firm will just break even at price P4. It will supply Q4 units of output

(where MR4 = MC), earning a normal profit but not economic profit i.e. total revenue will just cover total cost, including a nor-mal profit. Note that each of the MR (= P) = MC intersection points labeled b, c, d and e in Figure above indicates possible product price corresponding quantity which the firm would supply at that price. Thus, points such as these are on the upward sloping supply curve of the competitive firm. Note too that quantity supplied would be zero at any price below the minimum average variable cost (AVC). Therefore we conclude that the portion of the rising marginal-cost curve lying above average variable cost curve is short-run supply curve. In Figure the solid segment of the marginal cost curve MC is this firm's short-run curve because it tells us the amount of output the firm supplies at each price. However, in the long run the rising portion of long run marginal cost curve (LRMC) above long run average cost curve (LRAC) is the firm's supply curve. So far we have developed the competitive firm's short run supply curve by applying the MR(= p) = MC. We can now derive the industry's supply curve by adding the supply curves of the individual competitive firms. Thus the industry's sup-ply curve is the horizontal sum of the rising portion of MC curves of all individual firms.

## Monopoly and the Supply Curve

On the contrary monopolist has no supply curve because there is no relationship between price and quantity supplied. Like the competitive firm, the monopolist equates MR and MC to determine out-put, but for the monopolist MR is less than price. Because the monopolist does not equate MC to price, it is possible for different demand conditions to bring about different prices for the same output. To consider this we use the following graph:
**(Diagram)**

The MR2 intersects the MC curve at the same point as does the MR1. With the AR2 and MR2 the same output OQ now corresponds with a higher profit maximization price.

In conclusion a relationship between the marginal cost curve of the firm and the supply curve of the industry can be established only in a perfectly competitive market. However no such relationship exists in any other form of market structure.

**(M/J 2011, V2), Q4 [ECR]**
(a) Discuss whether it is always advantageous for a firm to grow in size. [12]
(b) Explain the economic theory of profit maximisation for a firm and consider whether firms are likely to follow this theory in fixing their price and output. [13]

### Answer (a)

There are a number of reasons for a firm to wish to grow. In most cases firms target growth as their objective in order to reduce their average costs and hence take advantage of economies of scale. Economies of scale have the effect of increasing the productive capacity of the business and they help to raise profit margins. They also give a business a competitive edge in domestic and international markets. In other cases firms may wish to grow to increase their market dominance thereby giving them increased pricing power in specific markets. Monopolies for example can engage in price discrimination. Also the expansion of a business might be motivated by a desire to diversify production and sales so that falling sales in one market might be compensated by healthier demand and output in another market. Whatever motivates a firm to grow, the impact can be explained on the firm's long run average cost curve. A long run average cost curve (LRAC) shows how per unit cost varies with output on the assumption that the least cost method of production will be chosen for each level of output. If the firm experiences economies of scale its LRAC curve will fall but if diseconomies of scale predominate, the LRAC curve will rise. If the firm experiences neither of them, the LRAC curve will be horizontal as shown in the figure below:
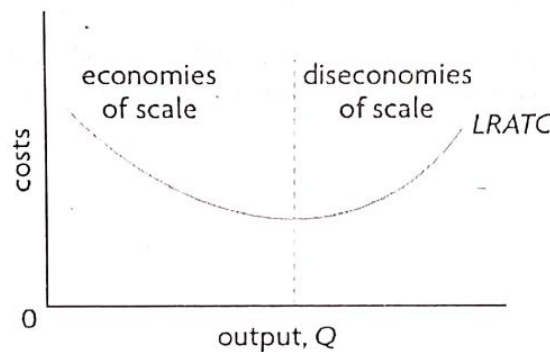


These cost saving benefits are referred to as economies of scale. They occur because initially the firm's output rises proportionately faster than the inputs. These benefits come in a variety of ways known as technical, marketing, financial, managerial and risk bearing economies.

**[First Side — Economies of Scale/Advantages of Growth]**
1. **[Technical Economies]** Firstly the firm gains from technical economies. As a firm grows in size it may be able to take advantage of increased specialization. If the firm pro-duces only a small output it may not be possible to employ a worker solely on one process but as the level of production increases workers may be able to specialize, leading to a lowering of the firm's costs.

2. **[Increased Dimensions]** Secondly, the firm can reduce its per unit costs through what is known as increased dimensions. For example, if the size of a container is doubled its surface area is increased 4 fold and its volume is increased 8 fold. It is possible, therefore, to obtain cost savings by making use of larger containers, say, for the storage or distribution of finished products since the cost per unit will fall. A large firm may also devote proportionately more re-sources to research and development which could lead to an improvement in the quality of the goods and services produced, and possibly to a lowering of the cost per unit.

3. **[Marketing]** Firm also gains on marketing its products. For instance, when a firm buys its raw materials in bulk it may obtain preferential terms in the form of a dis-count, thus reducing the cost of each unit. A large firm may employ specialist buyers whose sole responsibility it is to purchase raw materials at the cheapest price. Administration, advertising, and packaging costs may also be lower for larger companies since they can spread the cost over larger orders. For example, the packaging costs per item for I million units is likely to be substantially lower than if 100 items were packaged.

**4. [Financial]** On the financial front larger firms may be able to obtain finance on favorable terms, obtaining loans from financial institutions at lower rates of interest. Banks will be more willing to give loan on preferential terms to a large, well-known company, which can offer more collateral as security for the loan, than it will to a smaller company!

**5. [Economies of Scope]** In addition the large firms normally produce more than one product and therefore take advantage of economies of scope. Economies of scope refer to the reduction in average total cost (ATC) made possible by a firm increasing the number of different goods it produces. The reason is that the firm advantage of skilled it is able to take advantage staff and technology which can be shared by the different goods produced.

**[Second Side — Diseconomies of Scale/Disadvantages of Growth]**
As mentioned above, with the firm experiencing diseconomies of scale its average costs may increase. These diseconomies of scale also come in a variety of different ways.

**1. Poor Communication:** In large business sending and receiving messages becomes a problem. This results in mistakes and leads to lower efficiency.

**2. Clash of Cultures:** A merger between the two firms may be unsuccessful due to clash of cultures. Usually in this situation a firm prefers to demerge.

**3. New Resources:** When a firm expands it needs more capital, land and labor. This results in the overall cost of the firm to increase, which in return increases the average cost.

**4. Low Morale:** Large businesses are usually structured hierarchically where workers might never see the top managers. This makes the worker feel unimportant which reduces his motivation resulting in low productivity.

**5. Slow Decision Making:** A large company would need to do research, create an assembly line, determine which distribution chains to use, plan an advertising campaign, etc., before any changes could be made. By this time, the smaller competitors may well have grabbed that market niche.

<div align="center">

**EVAL**
</div>

1. To what extent is the growth ? [Local less chances of DEOS, international more chances of EOS]
2. Depends on the skills of the managers ? [Are they trained to handle that growth]
3. Resources [Are financial institutions and investors willing to fund to prevent DEOS]

To conclude with big firms there are small businesses competing in the same markets and industries. One cannot ignore the impact of specialization and quality. While firms that exploit economies of scale and can become major players in an industry as a whole, there is always room for countless small firms to find a niche in which they can perform better than any other firm, including the biggest ones. however there also exist myriad small businesses that have a niche (often very obscure) in which they can perform better than anyone else. Also the continued survival of small firms in markets where large firms might dominate is caused by the size of the market itself and the factors such as demand for specialized or hi that can not necessarily be the-quality product, answered by large of exploiting economies of scale. Thus the growth of firm is not always beneficial rather larger firms are prone to suffer with disadvantages if they grow in size.

**(O/N 2014, V2), Q3**
Q. Discuss the similarities and differences between a firm's likely price and output policy in perfect competition and oligopoly. [25]

Definition | Market Structure: A market structure describes the characteristics of market organization that influence the behavior of firms within an industry.

**[Perfect Competition]** This is a type of market place where there is intense competition. Example: Agricultural commodities, other commodities (silver and gold) and foreign exchange. It is a theoretical model. It acts as a benchmark for real world competition. Features of perfect competition include:

| Features | Description |
|---|---|
| 1. Many buyers and sellers / Price Takers | No firm has significant power over the market which means they cannot control the prices, hence they are said to be price takers. The price is fixed through the forces of demand and supply. |
| 2. No barriers to entry | There is free entry and exit from the market. If firms make profits more firms will enter. If firms make a loss firms will exist. There is not restriction. |
| 3. Homogeneous Product | Products are identical. The consumer cannot differentiate between the products and cannot identify from where the goods come from. Example Fruits |
| 4. Perfect Knowledge | Both consumers and producers know about the prevailing prices, methods of production and resources in all the markets. (i) Hence no firm can produce at a lower cost than its competitor. (ii) Consumers will not pay a price higher than the market price. |
| 5. Perfect Resource Mobility | Resources bought by the firms for production are completely mobile. This means that they can easily and without any cost be transferred from one firm to another, or from one industry to another. |

**[Oligopoly]** An oligopoly is a market structure where a few firms dominate a market. Since there are only a few firms the actions of one can have a significant effect on the behavior of the others. There is no one price and output in oligopoly. Firms are interdependent and firms behavior will depend on what it thinks the others are going to do. Examples: Oil, pharmaceuticals, aircraft manufacturing etc. Therefore we will examine THREE different models with different assumption, each will have its own price and output decisions
1. Non Collusive Model of Oligopoly: Kinked Demand Curve
2. Collusive Model of Oligopoly
3. Oligopoly and Game Theory

The features of oligopoly will include:

| Features | Description |
|---|---|
| 1. Small number of firms | There are few firms with different sizes |
| 2. High barriers to entry | It is difficult to entry the industry because of several reasons like, high start-up costs, aggressive advertising or takeover potentials, product differentiation, legal barriers like patents, large economies of scale etc. |
| 3. Products might differentiated or homogeneous | Differentiated products include pharmaceuticals, cars, aircraft, breakfast cereals, cigarettes, refrigerators and freezers, cameras, tires, bicycles, motorcycles, soaps, detergents. Homogeneous products are fewer; examples include oil, steel, aluminum, copper, cement. |
| 4. Interdependence | Decisions taken by one firm affect other firms in the industry, so they depend on each other. If any one firm changes its behavior, this can have a major impact on the demand curve facing the other firms. Therefore, firms are keenly aware of the actions of their rivals. They make strategies to compete along with anticipating the moves of their rivals. |
| 5. Price Rigidity | The uncertainty and risks associated with price competition may lead to price rigidity which means: (i) If price goes up no one would follow as there are substitutes (ii) If price goes down all firms will reduce the price hence there is no incentive to change the price. |
| 6. Profit Maximization is optional | Firms may or may not choose to maximize profits. It depends on the situation of the market. |

## Similarities

1. First they both share the same objective of maximizing profit therefore they produce a level of output where their MC=MR. However the chances of earning abnormal profit are higher in oligopoly because of entry barriers. Firms in perfect competition earn only normal profit in the long run due to the ease of entry of new firms in the industry.

2. Secondly firms in both markets face **similar cost conditions**. There is no difference in their cost structure and firms in both markets do take account of changes in their costs and revenues at varying prices. This is because a change in either cost or revenue has bearing on the level of profit they earn.

## Differences
## PERFECT COMPETITION

### 1. Profit Maximization | Short-Run
There are FIVE situations available to the firm in the short-run:
1. Abnormal or Supernormal Profits
2. Normal Profits
3. Loss – the firm continues to produce
4. Loss – with shut-down price, indifferent about producing
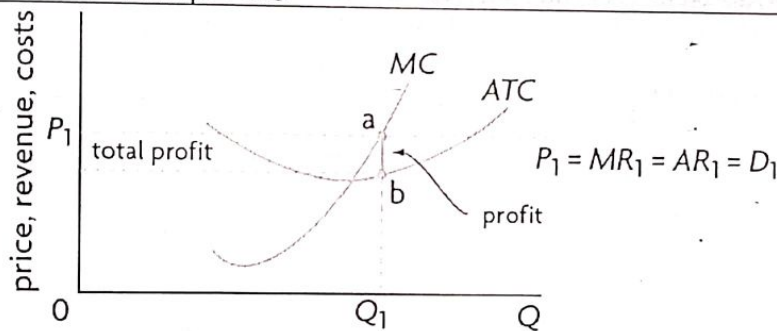5. Loss – where the firm will shut-down

The analysis consists of THREE steps:
STEP 1: Identify (MC = MR) to calculate the profit maximizing output level
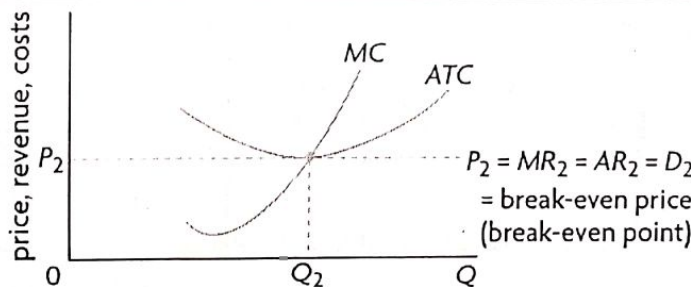STEP 2: Identify (AC and AR) to calculate the profit per unit
STEP 3: Multiple with number of units to calculate the total profit
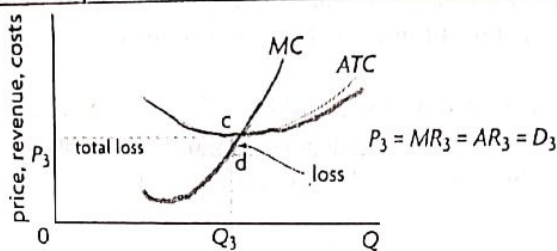
---

**Abnormal or Supernormal Profits | P > AC**



$P_1 = MR_1 = AR_1 = D_1$

When P>ATC at the level of output where MC = MR, the firm earns positive economic profit (supernormal profit).

---

**Normal Profits | P = AC**



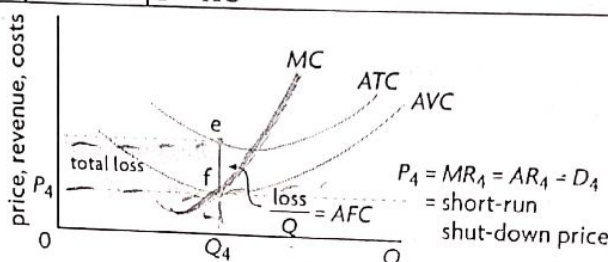$P_2 = MR_2 = AR_2 = D_2$
= break-even price
(break-even point)

The price P = minimum ATC is the firm's break-even price. At this price the firm is breaking even: it is making zero economic profit, but is earning normal profit.

---

## Loss – the firm continues to produce | P > AVC | P < AC
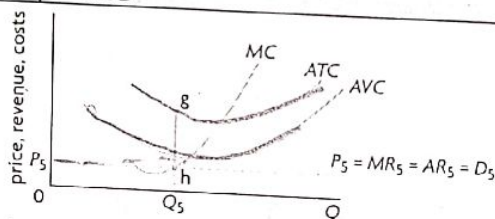


When ATC >P at the level of output where MC = MR, the firm is making a loss but should **continue producing** because its loss is smaller than its fixed cost. This is because if it shuts down the loss would be equal to its fixed cost. This way the firm is minimizing its losses since the revenue will be coving part of the fixed cost.

## Loss – with shut-down price | P = AVC | P < AC



The price P = minimum AVC is the firm's shut-down price in the short run. At this price, the firm's total loss is equal to its total fixed cost. At the shut-down price, **the firm is indifferent between producing, and not producing at all,** because either way it will have a loss equal to fixed costs.
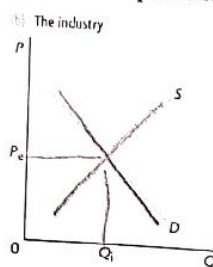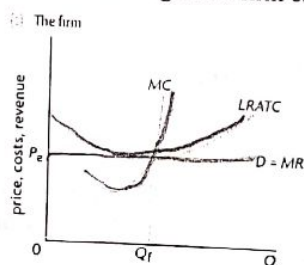
## Loss – with shut-down | P < AVC | P < AC



When price falls below the shut-down price, so that P<minimum AVC, the firm should shut down in the short run, and will make a loss equal to its fixed costs. If it continues production every next unit would add to the loss.
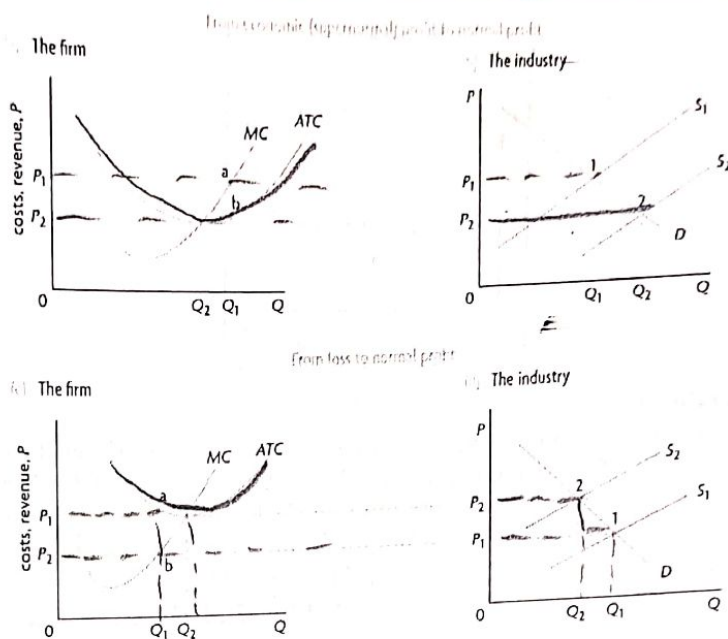
### 3. Profit Maximization | LONG-Run

In a perfectly competitive market in the long-run a firm can make only normal profits.



There are **TWO** reasons for that:

1. Abnormal Profits → Normal Profits: As in the long run if firms are making abnormal profits more firms will start to enter the industry this will shift the supply to the right. This shift to the right will cause the price to fall down until only normal profits are earned.

2. Losses → Normal Profits: If the firms are making losses, firms will start leaving the industry. This will shift the supply curve to the left. This will increase prices which will clear losses and this will continue until only normal profits are earned.

The firm

The industry

costs, revenue, P

MC    ATC

$P_1$
$P_2$

$Q_2$ $Q_1$ $Q$

P

$S_1$

$S_2$

$P_1$
$P_2$

D

$Q_1$ $Q_2$ $Q$

From loss to normal profit

The firm

The industry

costs, revenue, P

MC    ATC

$P_1$
$P_2$

$Q_1$ $Q_2$ $Q$

P

$S_2$

$S_1$

$P_2$
$P_1$

D

$Q_2$ $Q_1$ $Q$

## 5. Efficiency and perfect competition

In order to understand efficiency in market structures we need to look at TWO types of efficiencies:

| Allocative Efficiency | Productive Efficiency |
|---|---|
| Definition: Allocative efficiency occurs when firms produce the particular combination of goods and services that consumers mostly prefer. **P = MC** | Definition: Productive (also known as technical) efficiency occurs when production takes place at the lowest possible cost. Production at minimum ATC |

### 1. Efficiency and Perfect Competition | Short-Run

In the short run, the perfectly competitive firm achieves allocative efficiency but is unlikely to achieve productive efficiency.

| | Allocative Efficiency | Productive Efficiency |
|---|---|---|
| 1. Supernormal Profits | YES | NO |
| 2. Normal Profits | YES | YES |
| 3. Loss | YES | NO |

### 2. Efficiency and Perfect Competition | Long-Run

In long-run equilibrium under perfect competition, the firm achieves both:
1 Allocative efficiency (P = MC)
2. Productive efficiency (production at minimum ATC).

This is because in the long-run a perfectly competitive firm can only earn **normal profits**.

## OLIGOPOLY

### 1. Non-Collusive Model of Oligopoly: Kinked Demand Curve

Definition | Non-Collusive Model: This is a model where the firms do not agree, whether formally or informally to fixed price or collaborate in some way.

### 1. Demand and Revenue Curves — Oligopoly: Kinked Demand Curve

The model is based on THREE assumptions:
1. If the price increase other firms will not follow, this leads to an elastic curve above point Z
2. If the price decrease other firms will follow, this will lead to an inelastic curve below point Z.
3. Therefore the price would be fixed at $P_1$.
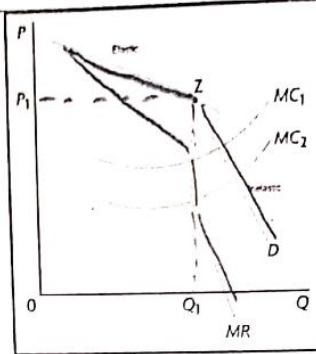
## 2. The Kinked Demand Curve

In the kinked demand curve model, each firm perceives the demand curve it faces to be elastic for prices above P1 and inelastic for prices below P1. If one firm raises its price above P1, the others will not follow; if it lowers its price below P1, the others will match the price decrease. In either case, the firm will be worse off. Therefore, no firm takes the initiative to change its price, and they all remain 'stuck' at point Z for long periods of time.

| Above Z → Elastic | P↑ TR↓ Profits ↓ |
| Below Z → Inelastic | P↓ TR↓ Profits ↓ |

## 3. The broken MR Curve

The broken marginal revenue curve occurs exactly at the point of the kink in the demand curve, and is a reflection of the abrupt drop in marginal revenue at the point where the demand curve suddenly bends.

## 4. Profit Maximization | Kinked Demand Curve Model

The kinked demand causes a discontinuity in the MR curve. Hence changes between $MC_1$ and $MC_2$ do not change the profit maximizing price and output. Hence prices are likely to be relatively fixed despite cost changes. The profit maximization point would be:

**MC = Broken part of MR curve**

## 5. Key Points of the Kinked-Demand Curve Model

| Key Point | Description |
|---|---|
| 1. Take actions of rivals into consideration when deciding price. | The risk of lowering their revenues and profits, which in turn could lead to price instability. The kinked demand curve model illustrates the interdependence of oligopolistic firms. |
| 2. Price Stability, without collusion | Firms are reluctant to change their price because of the likely actions of their rivals, which could result in lower profits for the firm initiating price changes. |
| 3. Non-Price competition | They do not try to increase their sales by attracting customers through lower prices. Rather they focus on more non-price competition. adverting, research and development etc. |

## 2. Collusive Model of Oligopoly

Definition | Collusive Model: A collusive model in oligopoly refers to an agreement between firms to limit competition, increase monopoly power and increase profits. The most common form of collusion involves price-fixing agreements such as by holding prices constant at some level, raising prices by some fixed amount, fixing price differences between different products, adopting a formula for calculating prices, and others. Collusion is illegal in most countries, because it works to limit competition. Collusion has TWO types:
1. Formal Collusion - Cartels
2. Informal Collusion - Price leadership

## 1. Formal Collusion - Cartels

Definition | Cartels: A cartel is a formal agreement between firms in an industry to take actions to limit competition in order to increase profits. In cartels firms work together to act as monopolistic firms that aim to maximize profits. They fix a profit maximizing price and output. Example: OPEC This is achieved through <u>multiple ways</u>:

1. Limiting and fixing the quantity to be produced by each, which results in an increase in price
2. Fixing the price at which output can be sold
3. Setting restrictions on non-price competition (such as advertising)
4. Dividing the market according to geographical or other factors
5. Agreeing to set up barriers to entry

Note: However in cartels the firms have an incentive to cut their own prices and exceed their quota limit to increase their profits at the expense of the industry. Hence unless there is an effective policing mechanism which ensures that firms are not producing too much or cutting price cartel can work.
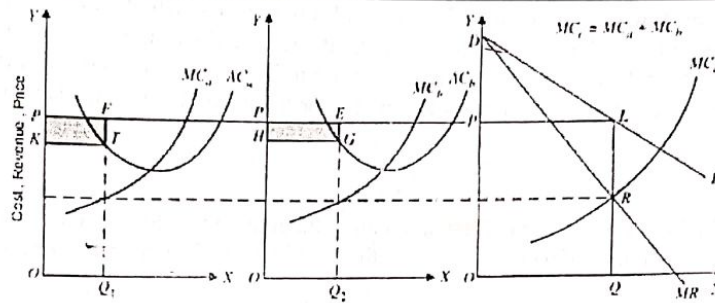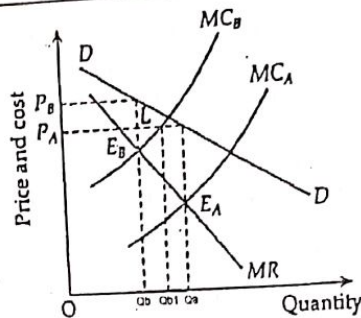


Note: The diagram for cartel is **exactly the same for a profit maximizing monopoly**. What should be noted here is the Q is the profit maximizing output for the industry. This output would now be divided among firms in the form of Q1 and Q2. In some markets firms tend to just divide it on the percentage of their previously held market share and some firms just compete using non-price competition to gain more market share.

### 2. Informal Collusion - Price leadership

Definition | Informal collusion: Informal collusion or tacit collusion refers to co-operation that is implicit or understood between the co-operating firms, without a formal agreement. The objectives of informal collusions are also to co-ordinate prices, avoid competitive price-cutting, limit competition, reduce uncertainties and increase profits. It also attempts to bypass the obstacles created by the illegality of formal collusion (cartels).

### Price Leadership

Definition | Price leadership: This is where a dominant firm in the industry (which may be the largest, or the one with lowest costs) sets a price and also initiates any price changes. The remaining firms in the industry become price-takers, accepting the price that has been established by the leader. The informal agreement binds the firms as far as price goes, but they are free to engage in non-price competition. A characteristic of price leadership arrangements is that price changes tend to be infrequent, and are undertaken by the **leader only** when major demand or cost changes occur. Examples of industries that have at different times followed the price leadership model include US Steel, Kellogg's (breakfast cereals) and R. J. Reynolds (cigarettes).

In price leadership firm A has a lower marginal cost (MCA) and firm B has a higher marginal cost (MCB). Hence firm A is the leader and firm B must follow that price. If firm B continues to sell at a price higher than PA (at price PB) it loses sales to firm A and would make even more losses. If firm B reduces the price from PA firm A would follow that price and since firm A has lower costs firm B can't win in a price war. Hence in price leadership the firm with the lower cost sets the price and other firms follow it. The best course of action for B would be to produce quantity Qb1.

## EVAL

1. How strong is the collusion? Weaker the collusion the more the market would be inclined towards a free market.
2. Which form of oligopoly is being considered ? Non collusive tend to be less harmful for the economy as compared to collusive models
3. The more the players in oligopoly the weak its ability to gain extra profit. Might starts to operate at points where P=MC in cartels to gain extra profit. Can that be stopped through policing ?
4. If the government is regulating

To conclude tow markets are similar in terms of their objectives and calculation of their costs, revenues and profits. However they adopt different pricing and output policies in order to maximize profit due to the different market conditions.

## (M/J 2016, V2), Q5 [ECR]

The traditional theory of firm assumes a single objective for the firm, namely the maximization of profit.

(a) Explain whether a firm with this objective necessarily always makes a profit. [12]

(b) Discuss how the objective in the traditional theory may be varied in different market structures. [13] [Objectives other than Profit Maximization]
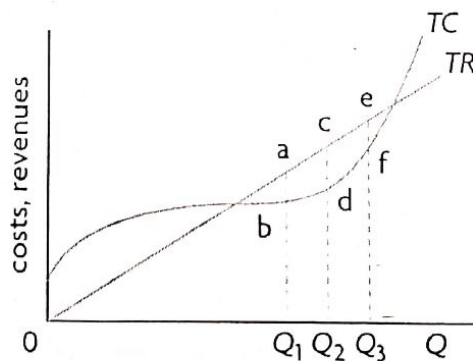
**Answer (a)**

Standard economic theory of the firm assumes that a firm's behaviour is guided by its goal to maximise profit. It involves determining the level of output that the firm should produce to make profit as large as possible. There are two approaches to analyse profit maximisation (or loss minimisation): one involves use of the total revenue and total cost concepts, and the other involves use of marginal revenues and marginal costs. Both these approaches yield the same results. Consider the graphs below

**MC = MR**



MR = MC

No extra profit. Profit is maximised
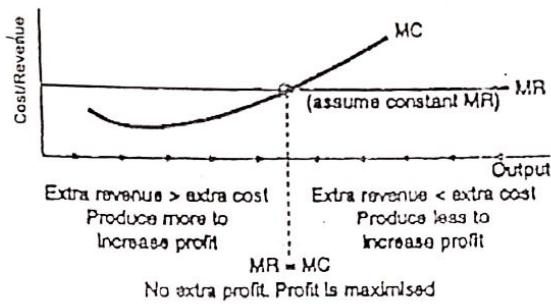
| | |
|---|---|
| MR > MC | The firm will make extra profit by selling the unit. It should always make units where extra profit can be made. Hence will **increase output**. |
| MR < MC | The firm will make an extra loss by selling an extra unit. Hence they should cut back on production to maximize profits. Hence will **reduce output** |
| MR = MC | This is the point where the firm makes maximum profit possible because no extra profit can be made. Hence **profit maximizing output**. |

According to the rule, MC=MR, the point of intersection between the MC and MR curves deter-mines the profit-maximizing level of output; this is OQ in the upper part of the figure. Now Consider this firm producing output Q1, where MR > MC. If it increases its output by one unit, the additional revenue it would receive (MR) will be greater than its additional cost (MC). Since each additional unit produced will add to its profit therefore increasing output will raise firm's total profit. It is therefore in the firm's interests to increase its level of output until it reaches OQ where MR = MC. If it continues to increase output beyond OQ, say to Q2, where MR < MC, the additional revenue it would receive for an extra unit of output is less than the additional cost, and so if it cuts back on output to OQ its total profit will increase. There is only one point where the firm can do nothing to improve its position, and that is OQ, where MR = MC, and profit is the greatest.

**ECR Version [Marks Awarded = 10/12]**

**(a)**

**①** The objective of a firm is usually what it wants to achieve or what it aims for. Profit is the amount of money that calculated by total revenue minus total cost. In some companies, ~~their~~ their objective is the profit maximisation. ~~Using mc~~

**②**



Using monopolistic as an example, profit maximisation achieved when MR=MC. ~~And as~~ so it produces at the output level $Q_1$. Refer to the AR=Price and average total cost, the profit it makes is ABCD.

In the perfect competition, AR=MR=Price=Demand. When ATC is lower than the Price, the company will make a normal profit. When ATC is equal to Price, the company experiences a zero profit. all the revenue cover the cost. ~~Although the~~ It aims for an profit maximisation, but at that point it fails to achieve. In reality, the company won't shut down ~~start~~ at the same time although ~~if~~ it fails to achieve, ~~to~~ because the revenue can still cover the A fixed cost. ~~As~~ If it ~~stop~~ cease production, it still needs to pay for the fixed cost. It's not worthwhile. However, if the ~~AF~~ AFC = Price, the company needs to consider carefully. at that time the company has already made a loss. It's agreed that as long as the AFC is larger than Price, the company will immediately to avoid a more serious loss. Before that point, the company will never ~~achieve~~ (Shut down) the production because maybe ~~to~~ someday, the company may recovery and achieve the profit maximisation again.

**③**

**④** This model explains that a company who has profit ~~bot~~ maximisation objective doesn't always need to make a profit necessarily. For a small company in the perfect competition, it may tough to keep profit maximisation during the whole production process.

As the start-up lost is, a large amount of money for them, they won't give up easily even if they fail to achieve the objective. The only thing they must take care is that they do not make a big loss in the production process. With the growing of the size and revenue, they can begin to achieve profit ~~maximusatic~~ maximisation always. ~~In the sho~~ The company need to achieve the objective in the long run.

**(O/N 2016, V2), Q4**

Q. Explain what is meant by the 'equilibrium of a perfectly competitive firm' and consider the view that equilibrium is always achieved in perfect competition but never in a monopoly market. [25]

Perfect competition describes the market structure where large number of relatively small firms pro-duce homogeneous product that are perfect substitute. This leads to all firms being "price takers" with a perfectly elastic demand curve for their product. In addition to this there exists perfect freedom of entry and exit from the industry. This implies that firms face no sunk costs and entry and exit from the market is feasible in the long run. Moreover, consumers have all readily available in-formation about prices and products from competing suppliers and can access this at zero cost. Like-wise sellers have perfect knowledge about their competitors. Furthermore, the inputs land, labor and capital can be switched in response to changing market conditions, prices and incentives. Since the individual firm is powerless to change the price of its product, therefore, it is in equilibrium when it maximizes profit profit by adjusting output to the Point where its marginal revenue equals marginal Cost. In such conditions profit may range from ab-normal, normal and subnormal in the short run. However, due to the absence of entry exit barriers, profit is maintained at the normal level in the long run. The graph below illustrates this:
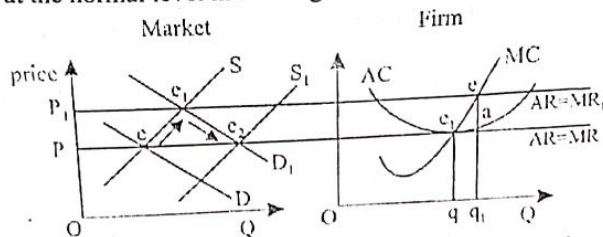


In the short run, the interaction between demand and supply determines the "market-clearing" price OP. This price is taken by each firm. The average revenue curve is their individual demand curve. Since the market price is constant for each unit sold, the AR curve also becomes the marginal revenue curve (MR) for a firm in perfect competition. For the firm, the equilibrium output is Oq where its MC = MR. This output generates a total revenue (OP x Oq) which is the same as total cost (e1q x Oq). In this situation the firm is said to earn normal profit because the AC incorporates the element of normal profit. It is the minimum level of profit required to keep factors of production in their current use.

Let's now assume that an increase in the market demand to DI raises the price to P 1. The firm adjusts its output to q 1 because its MC= MR, at point e. In this case the firm is earning abnormal profit because its AR is greater than AC. If most firms are making abnormal profits in the short run, this encourages the entry of new firms into the industry. This will cause an outward shift in market supply forcing down the price. The increase in supply will eventually reduce the price until price = long run average cost. At this point, each firm in the industry is making normal profit. Other things remaining the same, there is no further incentive for movement of firms in and out of the industry and a long-run equilibrium has been established. Similarly firms may earn sub normal profits in the short run. However, the loss will not persist in the long run because some firms will be forced to leave the industry. This will decrease the market supply and increase the price to the level where remaining firms earn normal profit.

Unlike perfect competition a pure monopoly exists when there is a single seller of a product for which there is no close substitute. The firm is the industry and is usually protected from actual competition by a number of entry barriers. This means that the monopolist faces a downward sloping demand curve as shown in the figure below:
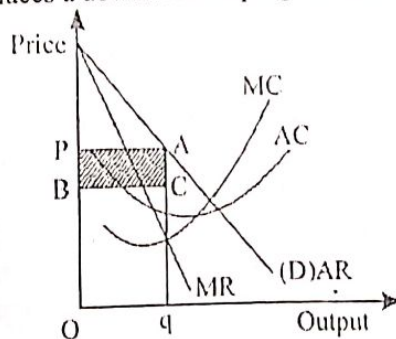
Since the demand curve (AR) is downward sloping, MR must be less than AR. The monopolist finds its equilibrium where its MC = MR — the profit maximizing level of output. The price charged is OP and the output OQ. This results in supernormal profit highlighted by the area PBAC in the graph above. As with perfect competition monopolist may undergo a short period sub normal, normal or supernormal profit. However, in the long run the monopolist, unlike perfect competition, is expected to continue to earn supernormal profit owing to the existence of entry barriers. Control over the supply of raw material, for instance, will create an effective barrier to entry. In certain markets legal protection such as patents or copy rights might prevent the emergence of competition. In certain other industries there may be a natural tendency towards monopoly. This is especially true of industries where economies of scale result in average cost to fall as output expands.

Thus it follows that firms in both market structures produce where their MC = MR and therefore both will be in equilibrium in the short run as well as in the long run. For both market structures there may be different levels of profit in the short run but a perfectly competitive firm earns only normal profit in the long run while a monopolist may continue to earn supernormal profit even in the long run mainly due to the existence of effective entry barriers.
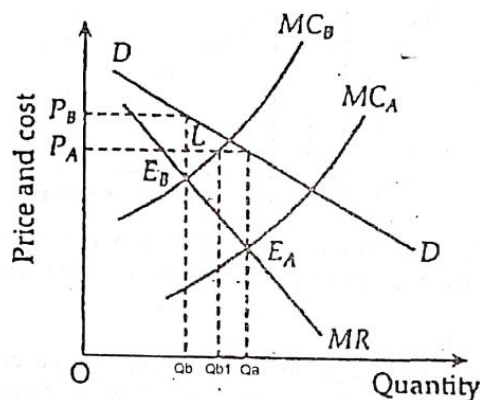
**(M/J 2017, V2), Q3**

(a) Explain the difference between price leadership and price discrimination. [12]

(b) Discuss whether firms always want to maximise profits and are able to do so in the way suggested by economic theory. [13] **[Repeated part from objectives of a business]**

### 1. Informal Collusion - Price leadership

Definition | Informal collusion: Informal collusion or tacit collusion refers to co-operation that is implicit or understood between the co-operating firms, without a formal agreement. The objectives of informal collusions are also to co-ordinate prices, avoid competitive price-cutting, limit competition, reduce uncertainties and increase profits. It also attempts to bypass the obstacles created by the illegality of formal collusion (cartels).

### 1. PRICE LEADERSHIP – DONE BY OLIGOPOLY

Definition | Price leadership: This is where a dominant firm in the industry (which may be the largest, or the one with lowest costs) sets a price and also initiates any price changes. The remaining firms in the industry become price-takers, accepting the price that has been established by the leader. The informal agreement binds the firms as far as price goes, but they are free to engage in non-price competition. A characteristic of price leadership arrangements is that price changes tend to be infrequent, and are undertaken by the **leader only** when major demand or cost changes occur. Examples of industries that have at different times followed the price leadership model include US Steel, Kellogg's (breakfast cereals) and R. J. Reynolds (cigarettes).



In price leadership firm A has a lower marginal cost ($MC_A$) and firm B has a higher marginal cost ($MC_B$). Hence firm A is the leader and firm B must follow that price. If firm B continues to sell at a price higher than $P_A$ (at price $P_B$) it loses sales to firm A and would make even more losses. If firm B reduces the price from PA firm A would follow that price and since firm A has lower costs firm B can't win in a price war. Hence in price leadership the firm with the lower cost sets the price and other firms follow it. The best course of action for B would be to produce quantity $Q_{b1}$.

### 2. PRICE DISCRIMINATION – POSSIBLE FOR A MONOPLY

Definition: It is a situation where a firm sells the same product, with same cost at different prices in separate markets. There are several conditions necessary for price discrimination:

| Condition | Description |
|---|---|
| 1. Monopoly Power | The firm must exercise some monopoly power in the market meaning the firm must be a price marker. |
| 2. Separate the two markets | The firm must be able to keep the two markets sperate example: Student vs. Professionals, Children vs. elders etc. |
| 3. Prevent Re-Sell | It should be possible to buy in one market and re-sell in the other. Otherwise people will tend to buy in the cheaper market and sell it in the expensive market. (Prevent arbitrage) |
| 4. Different PEDs in different markets | This would allow the firm to charge a high price to the inelastic consumers and low price to the elastic consumers. Examples: More rates on peak hours and cheaper rates on off-peak hours. |

## THREE Types of Price Discrimination
1. First-Degree Price Discrimination
2. Second-Degree Price Discrimination
3. Third-Degree Price Discrimination

### 1. First-Degree Price Discrimination
Definition: This occurs when the monopolist charge each individual consumer the maximum amount they are prepared to pay for a product. Individuals with spare tickets for major sell-out concerts and sports events will try to bargain with potential buyers to try and estimate the maximum they are prepared to pay. If first degree price discrimination is successful the whole consumer surplus will be eliminated.
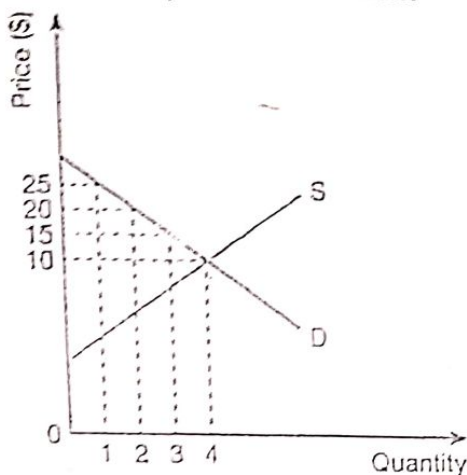


As we see from the diagram that if all four units were sold at the same price the total revenue would be $40 [$10 x 4] however if each unit was sold at the maximum price the total revenue would be $70 [$25 + $20 + $15 + $10]

### 2. Second-Degree Price Discrimination
Definition: This occurs when once price is charged for some units of the product and a different price is charged for further units. Some companies charge a high price for the first block of units and then lower prices for the rest.
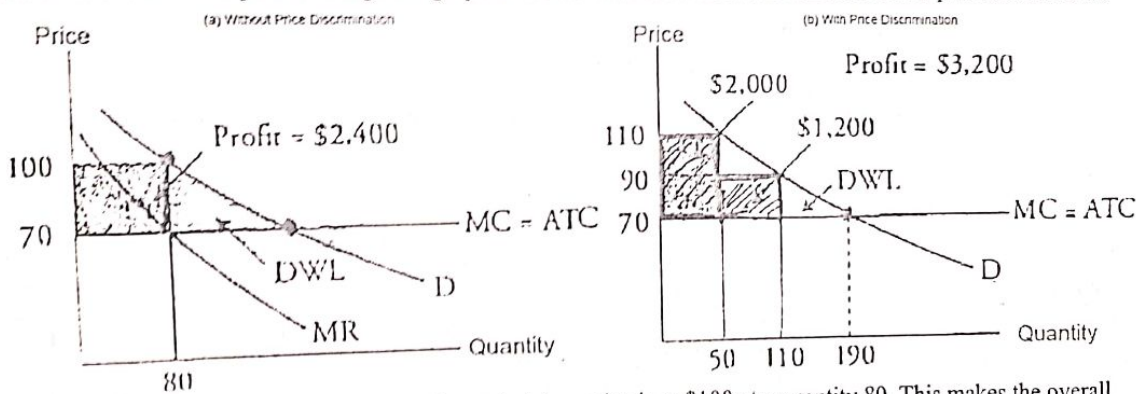


Diagram (a): In the first diagram the profit maximizing price is at $100 at a quantity 80. This makes the overall profit $2400 (30 x 80).

Diagram (b): In the second diagram the firm is able to separate the consumers. It charges one group $110 and sells them 50 units and sells an additional 60 units to another group at price $90. The total profits increases to $3200 units and the total output increases from $80 to $110 units.

19

**Note:** Compared to the quantity produced under perfect competition, the quantity produce by a monopolist reduces the sum of consumer and producer surplus by an amount represented by the triangle DWL.

1. Diagram (a): Consumer surplus reduced not only by the decrease in quantity but also by the increase in price relative to perfect competition.

2. Monopoly is considered inefficient because the reduction in output compared to perfect competition reduces the sum of consumer and producer surplus. Since MB > MC less then efficient quantity of resources are allocated to the production of the good.

3. Diagram (b): Price discrimination reduces this inefficiency by increasing output toward the quantity where marginal benefit equals marginal cost.

### 3. Third-Degree Price Discrimination

**Definition:** This refers to the selling of the same product in different markets to different consumers at different prices. Examples: Airline tickets, public transport (different age groups pay different rates), different rates in foreign and domestic markets etc.



(a) Market 1     (b) Market 2     (c) Market 1 and market 2
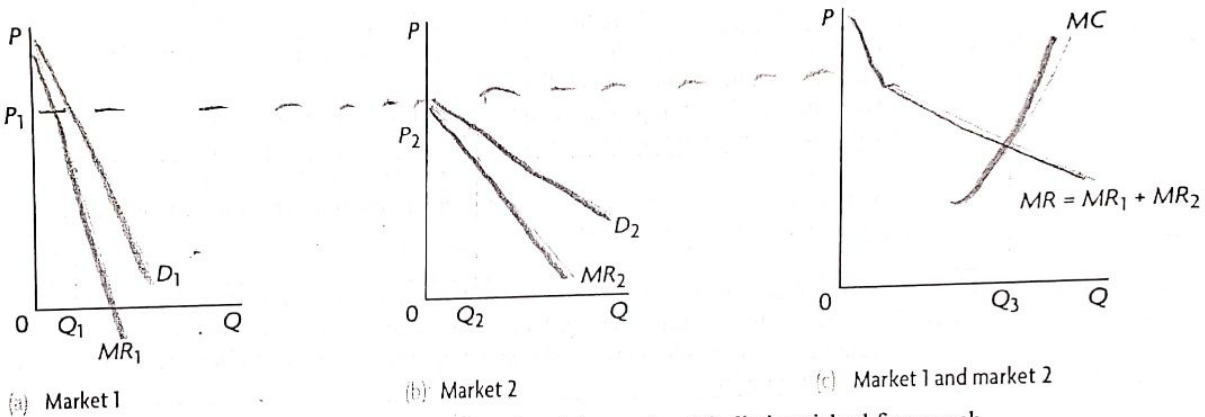
Assume there are two consumer groups (or two markets) for product X, distinguished from each other on the basis of differing PEDs.
- Part (a) shows the consumer group of market 1 to have a relatively inelastic demand (low PED)
- Part (b) shows the consumer group of market 2 to have a relatively elastic demand (high PED).

The two marginal revenue curves are added horizontally, leading the total market marginal revenue curve in part (c), which also shows the firm's marginal cost curve. To maximize profit, the firm equates market MR with MC, thus finding the profit-maximizing level of output Q3. Output Q3 must now be divided between the two markets. The firm does this by equating its MC of the total market with the MR of each individual market:

- **Output Level Q1:** $MC = MR1$. This determines output level Q1 in market 1, sold at price P1 (given by the demand curve D1)
- **Output level Q2:** $MC = MR2$. This determines the output level in market 2, sold at price P2 (given by the demand curve D2).

This shows that:
1. A higher price (P1) for the consumer group with relatively inelastic demand
2. A lower price (P2) for the consumer group with relatively elastic demand.

**Note:** Third-degree price discrimination results in higher revenues and profits for firms. If profits did not increase, firms would not practice price discrimination.

## Variant 3

### (M/J 2012, V1), Q3

(a) Distinguish between perfect competition and monopolistic competition. [12]

Definition | Market Structure: A market structure describes the characteristics of market organization that influence the behavior of firms within an industry.
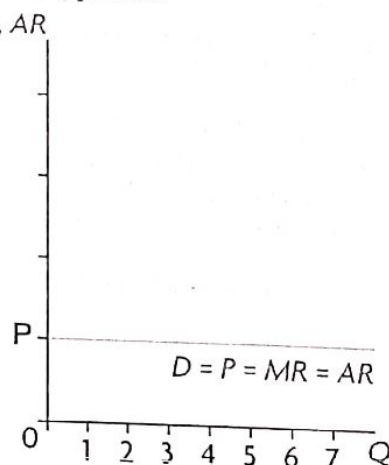
### 1. Perfect Competition

Definition: This is a type of market place where there is intense competition. Example: Agricultural commodities, other commodities (silver and gold) and foreign exchange. It is a theoretical model. It acts as a benchmark for real world competition. Features of perfect competition include:

| Features | Description |
|---|---|
| 1. Many buyers and sellers / Price Takers | No firm has significant power over the market which means they cannot control the prices, hence they are said to be price takers. The price is fixed through the forces of demand and supply. |
| 2. No barriers to entry | There is free entry and exit from the market. If firms make profits more firms will enter. If firms make a loss firms will exist. There is not restriction. |
| 3. Homogeneous Product | Products are identical. The consumer cannot differentiate between the products and cannot identify from where the goods come from. Example Fruits |
| 4. Perfect Knowledge | Both consumers and producers know about the prevailing prices, methods of production and resources in all the markets. (i) Hence no firm can produce at a lower cost than its competitor. (ii) Consumers will not pay a price higher than the market price. |
| 5. Perfect Resource Mobility | Resources bought by the firms for production are completely mobile. This means that they can easily and without any cost be transferred from one firm to another, or from one industry to another. |

Note: Perfect Competition is only a theoretical model and is mostly used for comparisons. The closest real life example can be a fruit vendor market where nearly every seller has the same quality and the price is the same for every fruit. If it is was to operate in the real world there would be maximum consumer welfare and effect production with no possibility of exploitation.

### 1. Demand and Revenue Curves — Perfect Competition
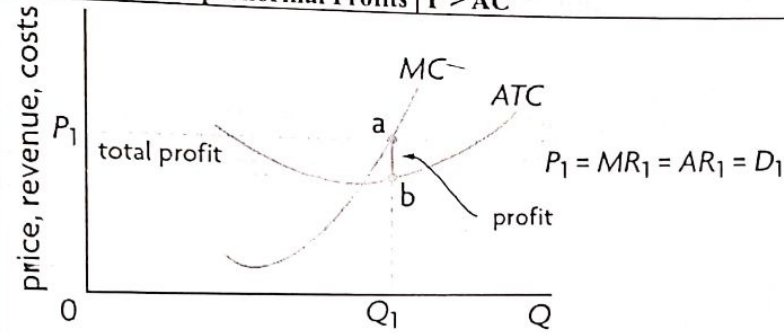


$D = P = MR = AR$

## 2. Profit Maximization | Short-Run

There are FIVE situations available to the firm in the short-run:
1. Abnormal or Supernormal Profits
2. Normal Profits
3. Loss – the firm continues to produce
4. Loss – with shut-down price, indifferent about producing
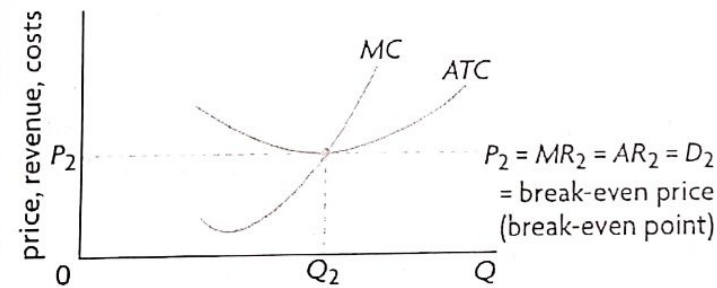5. Loss – where the firm will shut-down

The analysis consists of THREE steps:
STEP 1: Identify $(MC = MR)$ to calculate the profit maximizing output level
STEP 2: Identify $(AC$ and $AR)$ to calculate the profit per unit
STEP 3: Multiple with number of units to calculate the total profit

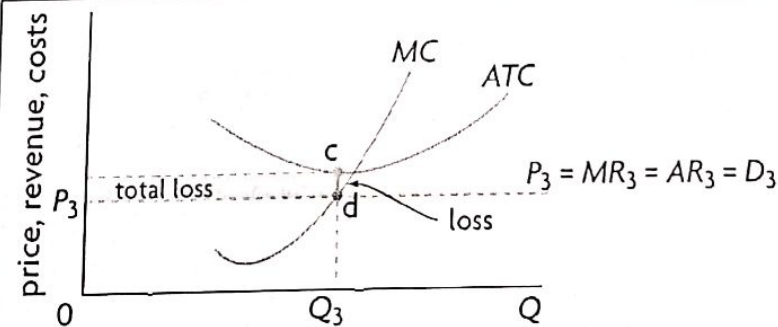### Abnormal or Supernormal Profits | $P > AC$



$P_1 = MR_1 = AR_1 = D_1$

When P>ATC at the level of output where $MC = MR$, the firm earns positive economic profit (supernormal profit).

### Normal Profits | $P = AC$

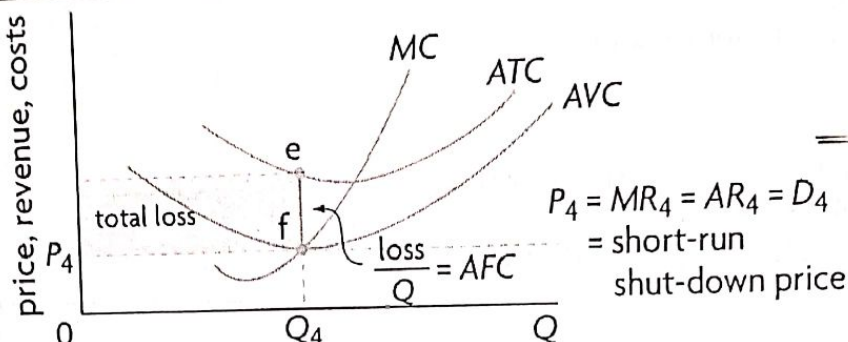

$P_2 = MR_2 = AR_2 = D_2$
= break-even price
(break-even point)

The price $P =$ minimum ATC is the firm's break-even price. At this price the firm is breaking even: it is making zero economic profit, but is earning normal profit.

### Loss – the firm continues to produce | $P > AVC | P < AC$



$P_3 = MR_3 = AR_3 = D_3$
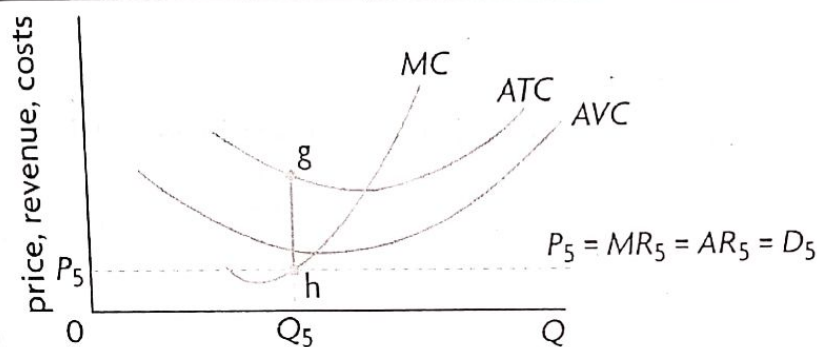
When ATC >P at the level of output where $MC = MR$, the firm is making a loss but should **continue producing** because its loss is smaller than its fixed cost. This is because if it shuts down the loss would be equal to its fixed cost. This way the firm is minimizing its losses since the revenue will be coving part of the fixed cost.

**Loss – with shut-down price | P = AVC | P < AC**



$P_4 = MR_4 = AR_4 = D_4$
= short-run
shut-down price

$\dfrac{loss}{Q} = AFC$

The price P = minimum AVC is the firm's shut-down price in the short run. At this price, the firm's total loss is equal to its total fixed cost. At the shut-down price, **the firm is indifferent between producing, and not producing at all**, because either way it will have a loss equal to fixed costs.
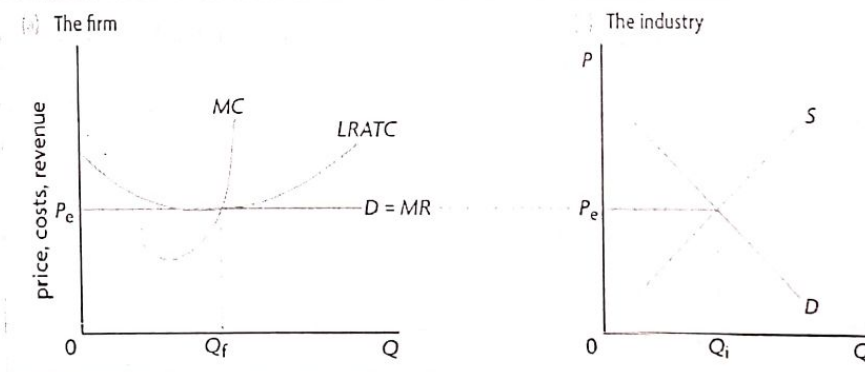
**Loss – with shut-down | P < AVC | P < AC**



$P_5 = MR_5 = AR_5 = D_5$

When price falls below the shut-down price, so that P<minimum AVC, the firm should **shut down in the short run**, and will make a loss equal to its fixed costs. If it continues production every next unit would add to the loss.

### 3. PROFIT MAXIMIZATION | LONG-RUN
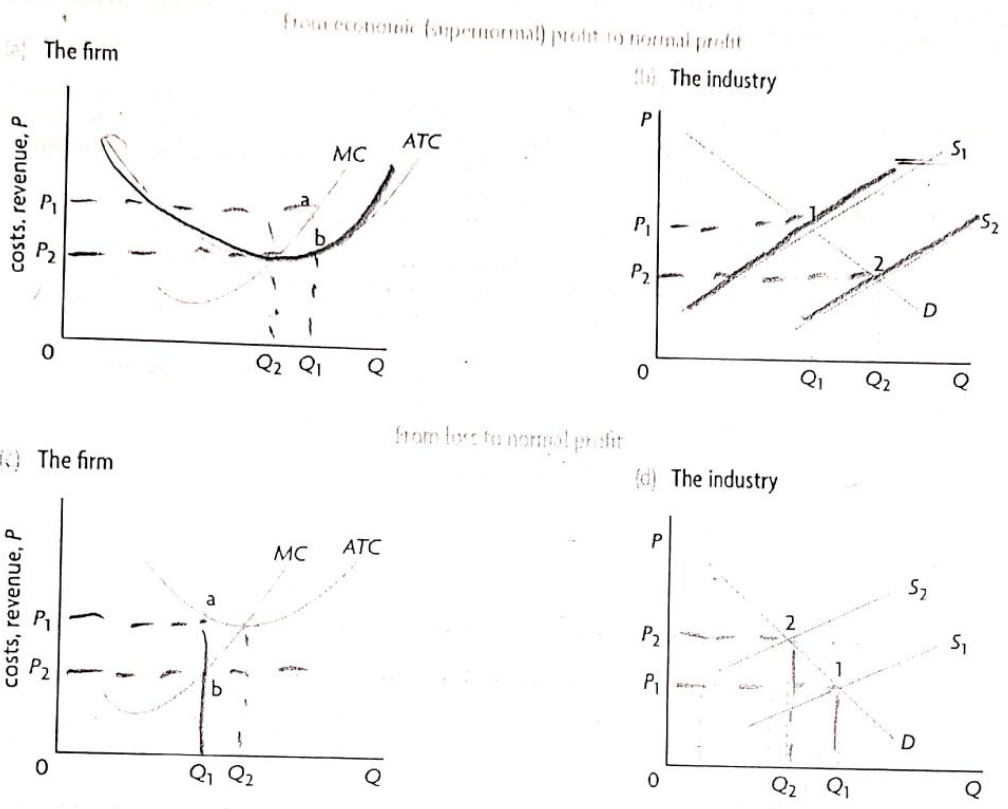In a perfectly competitive market in the long-run a firm can make only normal profits.



There are <u>TWO</u> reasons for that:
1. Abnormal Profits → Normal Profits: As in the long run if firms are making abnormal profits more firms will start to enter the industry this will shift the supply to the right. This shift to the right will cause the price to fall down until only normal profits are earned.

**2. Losses → Normal Profits:** If the firms are making losses, firms will start leaving the industry. This will shift the supply curve to the left. This will increase prices which will clear losses and this will continue until only normal profits are earned.

from economic (supernormal) profit to normal profit



(a) The firm

(b) The industry

from loss to normal profit



(c) The firm

(d) The industry

## 5. Efficiency and perfect competition

In order to understand efficiency in market structures we need to look at TWO types of efficiencies:

| Allocative Efficiency | Productive Efficiency |
|---|---|
| Definition: Allocative efficiency occurs when firms produce the particular combination of goods and services that consumers mostly prefer.<br>**P = MC** | Definition: Productive (also known as technical) efficiency occurs when production takes place at the lowest possible cost.<br><br>**Production at minimum ATC** |

### 1. Efficiency and Perfect Competition | Short-Run

In the short run, the perfectly competitive firm achieves allocative efficiency but is unlikely to achieve productive efficiency.

| | Allocative Efficiency | Productive Efficiency |
|---|---|---|
| 1. Supernormal Profits | YES | NO |
| 2. Normal Profits | YES | YES |
| 3. Loss | YES | NO |

### 2. Efficiency and Perfect Competition | Long-Run

In long-run equilibrium under perfect competition, the firm achieves both:
1 Allocative efficiency (P = MC)
2. Productive efficiency (production at minimum ATC).
This is because in the long-run a perfectly competitive firm can **only earn normal profits**.

# 2. Monopolistic

**Definition:** This is a type of market structure in which there are many firms but each firm produces a product that is slightly differentiated from that of others. Examples: Retail clothing stores, restaurants, mobile companies etc.

Features of monopolistic competition includes:

| Feature | Description |
|---|---|
| 1. Large number of firms | This is similar to perfect competition, where the large firm number ensures that each firm has a small share of the market, and that each firm acts independently of the others. They compete in the form of **price** and **non-price competition.** |
| 2. No barriers to entry and exit | This assumption is also similar to perfect competition in that there are no significant barriers to entry of new firms into the industry. |
| 3. Product differentiation | Unlike in perfect competition, where firms in each industry produce an identical product, in monopolistic competition each firm produces a product that is different from any other. Product differentiation can be achieved by physical difference, quality difference, location, service quality, brand image etc. |
| 4. Price Makers | Firms have some influence on the market price and therefore price makers. |
| 5. Profit Maximization | Each firm seeks to maximize profits |

## 1. Demand and Revenue Curves — Monopolistic Competition
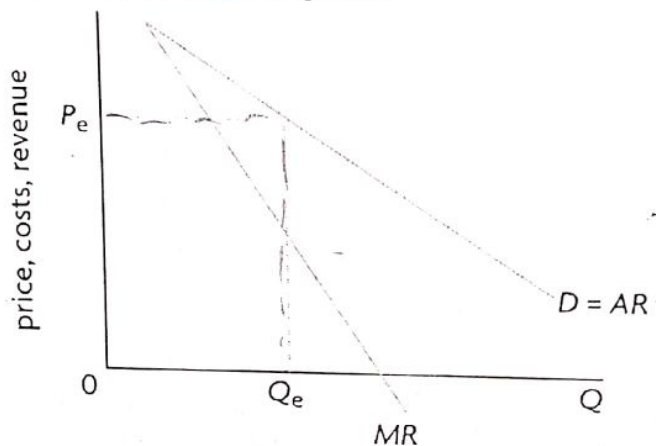


## 1. PROFIT MAXIMIZATION | SHORT-RUN

There are <u>THREE</u> situations available to the firm in the short-run:
1. Abnormal or Supernormal Profits
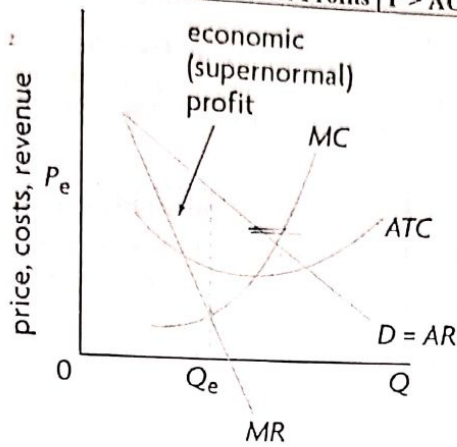2. Normal Profits
3. Losses

The analysis consists of <u>THREE</u> steps:
STEP 1: Identify (MC = MR) to calculate the profit maximizing output level
STEP 2: Identify (AC and AR) to calculate the profit per unit
STEP 3: Multiple with number of units to calculate the total profit

## Abnormal or Supernormal Profits | P > AC



When P > ATC at the level of output where MC = MR, the firm earns positive economic profit (supernormal profit).
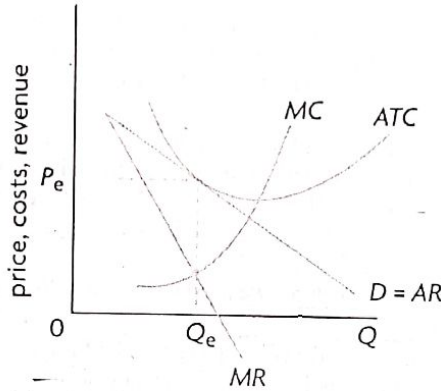
## Normal Profits | P = AC



The price P = AC is the firm is breaking even. It is making normal profit.

## Loss – the firm continues to produce | P > AVC | P < AC



When ATC > P at the level of output where MC = MR, the firm is making a loss.

## 2. PROFIT MAXIMIZATION | LONG-RUN

In monopolistic competition the firms can only make **normal profits** in the long run. In monopolistic competition, in the long run, profit-making industries attract new entrants; in loss-making industries, some firms shut down 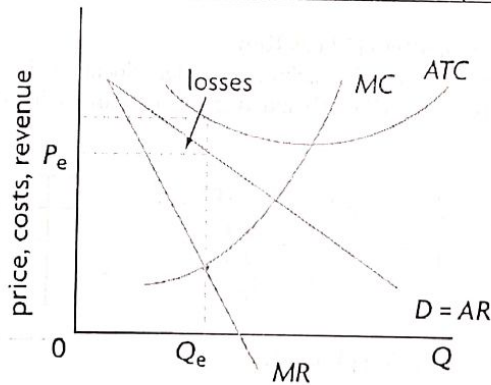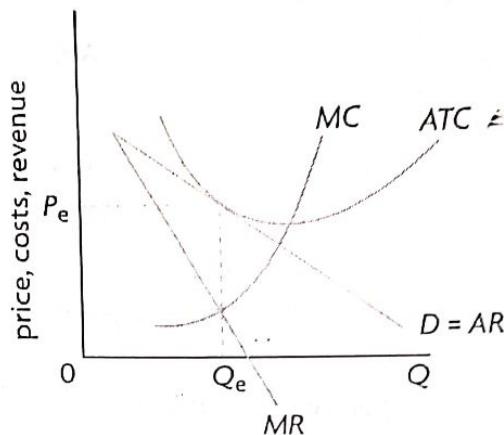and exit the industry. The process of entry and exit of firms in the long run ensures that economic profit or loss is zero and all firms earn normal profit.



1. **Abnormal Profits → Normal Profits:** Presence of abnormal profits make new firms entre the market. These new firms that entre attract customers away from existing firms which shifts the demand curve to the left until it becomes tangent to AC curve. Hence the point where AR=AC (Normal Profit)

2. **Losses → Normal Profits:** Presence of losses will make some firms leave or shut down completely. As they do their customers shift to the remaining firms, hence increasing their demand. The demand continues to shift right wards until it becomes tangent to the AC curve. Hence the point where AR=AC (Normal Profit)

## 3. EFFICIENCY AND MONOPOLISTIC COMPETITION

In order to understand efficiency in market structures we need to look at TWO types of efficiencies:

| Allocative Efficiency | Productive Efficiency |
|---|---|
| Definition: Allocative efficiency occurs when firms produce the particular combination of goods and services that consumers mostly prefer.<br><br>P = MC | Definition: Productive (also known as technical) efficiency occurs when production takes place at the lowest possible cost.<br><br>Production at minimum ATC |

### 1. Efficiency and Monopolistic Competition | Short-Run

In the short run, the monopolistic competitive firm achieves neither allocative efficiency nor productive efficiency. This results in under allocation of resources (P>MC) and average costs are higher than the optimal (not production at the min of AC curve).

| | Allocative Efficiency | Productive Efficiency |
|---|---|---|
| 1. Supernormal Profits | NO | NO |
| 2. Normal Profits | NO | NO |
| 3. Loss | NO | NO |

### 2. Efficiency and Monopolistic Competition | Long-Run
[Same as Short-run]

## Similar Questions
### Variant 1

**(O/N 2014, V1), Q2 | Q3**

(b) Discuss what is likely to happen to the equilibrium price and output if a perfectly competitive firm were to become a monopolist. [13]

(a) Explain how, in theory, a firm might try to increase its profits. [12]
(b) Discuss what alternative objectives a firm might have apart from profit maximisation. [13]

**(M/J 2016, V1), Q2**

Q. 'In a complex modern economy there is no possibility of a perfect market system. A concentration of market power always results and does not serve the public interest.' Do you agree with this opinion? [25]

**(O/N 2016, V1), Q5**

(a) Explain how an equilibrium position is determined for a firm and for an industry in perfect competition in the short run and in the long run. [12]
(b) Outline the conditions that make price discrimination in a monopoly market possible and discuss whether such discrimination is ever beneficial. [13]

### Variant 3

**(M/J 2011, V3), Q4**

Q. Explain the economic theory of profit maximisation for a firm and consider whether firms are likely to follow this theory in fixing their price and output. [13] [Oligopoly]

**(O/N 2017, V3), Q3**

(a) Describe how a firm is said to operate in order to maximise profits. Consider whether it will cease to operate if total revenue fails to cover total cost. [12]
(b) Some large supermarkets publicise the fact that they 'price match' other major supermarkets, charging the same prices for the same brands of products as their competitors.
Analyse how firms are said to behave in oligopolistic markets. Discuss how far this is supported by the above statement. [13]

# A2 – ECONOMICS (9708)

| PAST PAPER SESSION |
| --- |

| MICRO |
| --- |

| CHAPTER 4 |
| --- |
| Economic Efficiency and Market Failure |

## Question 2 MJJ11,V2

The use of cars causes market failure. To achieve an efficient use of resources it would be better if governments intervened to affect both the production and the use of cars.

Explain the meaning of the terms 'market failure' and 'the efficient use of resources' and analyse whether economic theory can be used to support this argument. [25]

## Mark scheme

Candidates need to explain the two terms, market failure and the meaning of the efficient use of resources, and then consider the argument. Market failure can be explained by reference to possible excessive profits, the need for very large investments, the existence of externalities and of merit goods, and of the need for public goods. Economic efficiency should be explained in terms of productive and allocative efficiency.

Government intervention can be through regulation, taxation or subsidies.

There are negative and positive externalities from car use. Negative externalities include pollution. Positive externalities include less crowded public transport with greater comfort; benefits from the expenditure of the tax receipts. Unlike other positive externalities where subsidies have been used, it has never been suggested that subsidies ought to be used to increase the positive externalities from private car use. Any subsidies given are used to make alternative public transport more attractive. However, taxes have been used to decrease negative externalities. Taxing the use of cars is usually presented in the context of negative externalities to achieve allocative efficiency. Taxing production might not result in productive efficiency. [25]

L4 For a thorough explanation of both efficiency and market failure and a competent discussion of the role of the government in promoting efficiency overcoming market failure. A reasoned conclusion should be presented [18–25]

**87**

L3 For a competent explanation with either a more limited comment on both efficiency and market failure (perhaps concentrating on productive efficiency) or a full explanation of one but little comment on the other. The role of the government will be discussed in a more limited way but a conclusion should still be presented. [14–17]
(L3 maximum if there is no mention of production and use of cars)

L2 For an undeveloped explanation of efficiency/market failure with very little discussion of the role of the government. Mention of the government will be descriptive rather than in the form of a discussion related to efficiency/market failure. It is likely there will be no conclusion. [10–13]

L1 For an answer which shows some knowledge but does not indicate that the question has been fully grasped, or where the answer contains irrelevancies and errors of theory. [1–9]

Example candidate response

2 | Cars are modern means of transport and it is inevitable that everyone relies on it to travel from one place to another. However production and usage of cars may not be beneficial to the whole economy as it causes pollution and depletion of natural resources. There will be market failure and inefficient allocation of resources.

Market failure refers to an uefficient allocation of resources where there exits negative externalities, under-provision of merit goods, non provision of public goods and even imperfect markets. Negative externalities include air pollution and traffic jam. Under provision of merit goods exist due to lack of information while public goods are not provided because of free rider problem. Free rider problem means a situation where everybody is waiting for somebody else to produce a public good for the benefit of the whole economy. Imperfect markets are markets which do not produce at allocative and productive efficient points

Efficient allocation of resources include allocative efficiency and productive efficiency. Allocative efficiency occurs when price equals marginal cost which means there is production of goods and services according to demand and supply of the economy. Productive efficiency occurs when price equals to minimum average cost where production takes place at its lowest cost. In other words, efficient allocation of resources refers to an economy producing at its production possibility curve (PPC) and the three economic problems of for whom to produce, how to produce and what to produce have been solve.

capital goods ↑ ... PPC ... B ... C ... → consumption goods
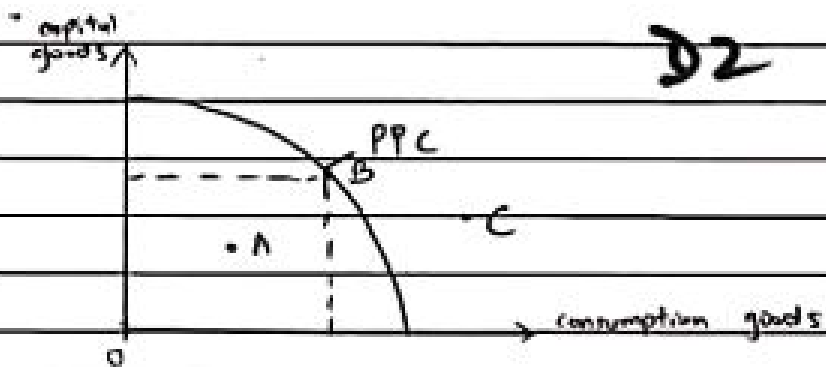
At point A, there is an under-utility of resources and production is inefficient. At point B, there is efficient allocation of resources and at point C, there is not enough resources to produce at that point. Production is unattainable.

Productive efficiency is where P = minimum AC



Price/P ↑ ... x ... y ... min AC ... → cost
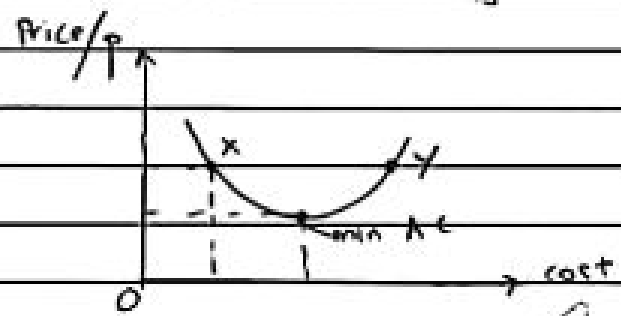
If production is at x, then productive efficiency is not achieved and output has to be increased and price lowered so that cost of production is at minimum AC. If it is at y, then price has to be lowered and output decreased.

Allocative efficiency is where P = MC (marginal cost)



Price/S ↑ ... MC ... b ... MR = P = AC ... P = MC ... a ... → cost
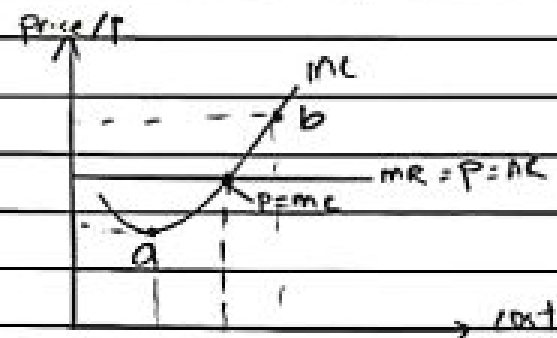
The point where P equals to MC is allocatively efficient and points a and b are not allocatively efficient. Price and output at b is too high whereas price and output

at a is too low.

However, according to principle of Pareto optimality, Pareto efficiency states that when someone is better off, another will be worse off. For example, when John is able to enjoy more goods, Ali will be worse off than before. Therefore, government intervention may be necessary to achieve efficient allocation of resources.

Ways of government intervention in production and use of cars include regulation, or taxes etc. The government intervenes so that pollution caused by usage of cars is reduced. Methods of intervention include imposing road tax. For example, Malaysian government have increased the amount of road taxes and price of tolls to discourage frequent use of cars and encourage the use of trains and other public transports so that air and noise pollution can be reduced. Air pollution is a form of negative externality.
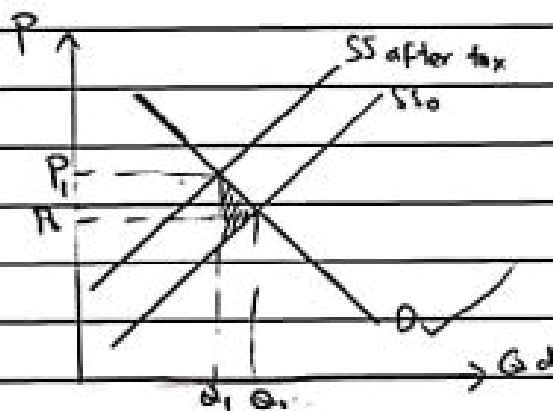


In the diagram above, when road taxes exist, the supply of car will decrease as cost of using cars have increased. Therefore, the quantity of cars on the road will decrease from $Q_0$ to $Q_1$ and cost of using cars increase from $P_0$ to $P_1$. However, government intervention can cause deadweight loss as shown in the shaded region. Deadweight loss are loss in potential welfare of consumers
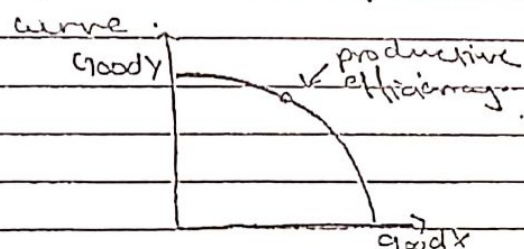
The government should also intervene so that there is no exploitation of natural resources in production of cars. This ~~means~~ that would ensure that the current and future generations are able to consume enough resources. The government ~~re~~ sets regulations in production of cars such that only firms which obtain approval and licences from the government are able to produce cars. For example, the government of malaysia only issue licences to Perodua and Proton ~~to~~ for production of cars. However, this will cause imperfect market structure where only two large firms are involved in production of cars, i.e. ~~Oligopoly market will exist and~~ duopoly market will exist and consumer welfare may be compromised due to high prices and low output of a duopoly firm. The workings of the 'invisible hand' — price mechanism will also be affected.

Besides, the government intervenes so that quality of cars produced are high and consumers are not exploited. This is because consumers usually lack complete information when buying cars. So, the government monitors the production of cars by carrying spot checks in car factories. The government also made it compulsory for car manufacturers to do multiple test runs before launching the product so that money spent on buying cars are worth it. For example, ~~Together Company~~ the Malaysian government sends officers to do spot checks in car ~~manu~~ factories so that ~~that is not~~ Production of cars are smooth and there are no faulty engines being used in production. However, ~~implementation~~ ~~of~~ there may be loopholes and transparency problem as some enforcement officers do not carry out the duty properly.

As a conclusion, government intervention is necessary to reduce market failure. However, ~~it~~ it does not mean that there will be a perfect allocation of resources and

**(M/J 2016, V2), Q2 [ECR]**

Q. Government economic policy is based on the idea that people cannot be trusted to choose what is good for them but instead sometimes choose things that are harmful to themselves or detrimental to the environment (or both). Therefore a free market cannot allocate resources efficiently.' Do you support this argument? [25]

Section B.

Q2.

① A free market system is where the forces of demand and supply allocate the economy's scarce resources and determine the equilibrium price. It is characterized by consumer sovereignty, competition, low prices and a wide choice for consumers. The producers are deemed as 'servants' to the consumers and thus have to produce exactly what is demanded by the customers.

Economic efficiency refers to a situation where the best combination of resources is being used to produce the right types of goods and services in the right quantity. Economic efficiency has two aspects, productive and allocative efficiency.

② Productive efficiency occurs when the least possible resources are being used to produce maximum possible outcome.

On an economy level, productive efficiency is or can be shown by any point on the production possibility curve.

For a firm productive efficiency has two criterias, production on the lowest average cost curve and also on the lowest point of the lowest average cost curve (technical efficiency).
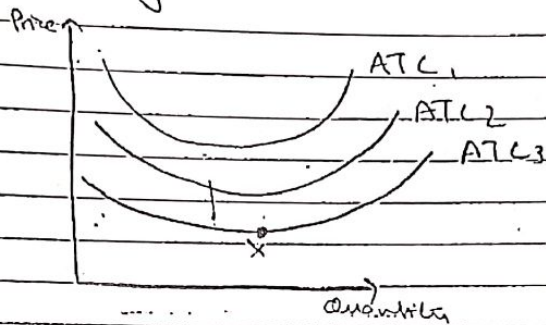


The point X on ATC is where both productive and allocative efficiency occur.

Allocative efficiency is when the right combination of products is being produced and consumed / welfare is being maximized. Allocative efficiency for an economy is on the PPC but the exact combination is still unknown. For a A firm however is said to be allocatively efficient if the $P = MC$ i.e the value attached by the producer to a good is equal to the value attached by the consumer.

Firms in perfectly competitive markets are both productively and allocatively efficient. This is also known as Pareto optimality ie it is not possible to make someone better off without making someone else worse off.

④
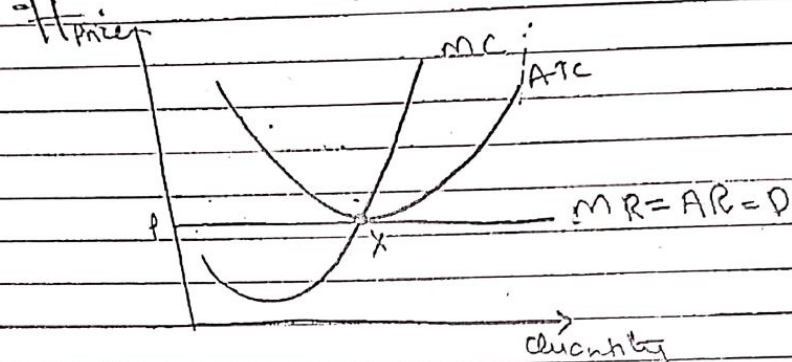


The point X is where P = mc and it is the lowest point of the ATC ∴ economic efficiency in this case does exist in a free market.

However, the market fails to allocate resources efficiently in the real world. Perfect competition is a theoretical extreme which does not exist in reality.

Market failure occurs due to imperfection in the markets. Firms are price makers and have control over the price. They use this power to exploit consumers. A monopoly for example, in order to maximize profits will restrict output,

⑤

produce at MC = MR and charge a very high price to earn a profit. Thus even it is not being pp efficient as it does not meet the criteria of p economic efficiency.
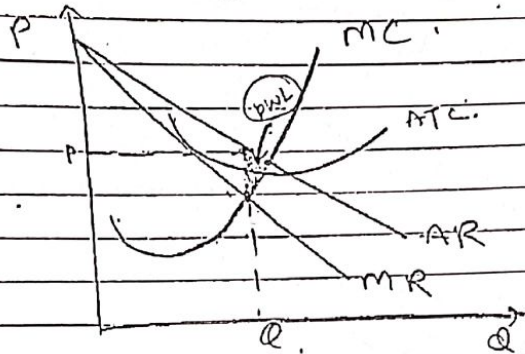


It may or may not be productively efficient but clearly it is not allocatively efficient since P ≠ MC. There is a dead weight loss = the triangle shaded.

Due to information failure, people tend to overestimate the benefits they under harms caused by for certain goods an and overestimate the and also underestimate the benefits of certain goods.

⑥ This happens because the people are not fully aware and lack proper information. Information failure, thus, leads to over production and over consumption of demerit goods and under consumption and under production of merit goods.

Demerit goods are non excludable and non rivalrous goods that have negative externalities. eg cigarettes. Negative externalities are the negative spill over effects of the consumption of a good faced by a third party who is not even involved in consumption or production of this type of good.



**(7)**
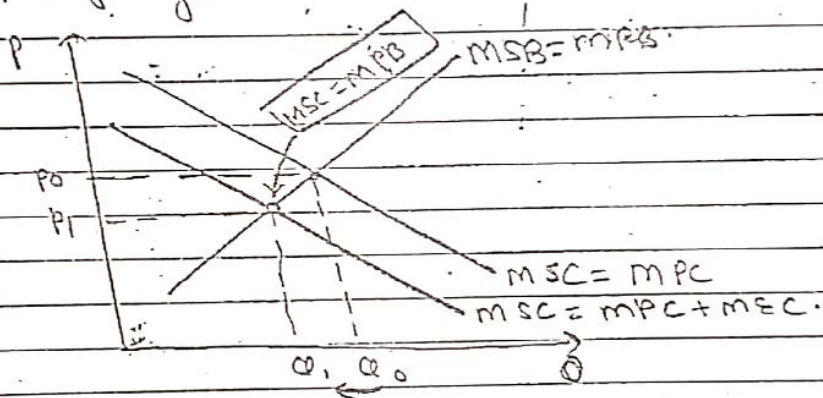
Assuming zero external benefit, if the external cost of such goods is realised, & their production and consumption will fall from to Q0 to Q1 and price from P0 to P1, bringing consumption & production down to the socially desirable level, where MSC = MSB. (This is also the case for positive externality) This shows that resource had been overallocated when left to market forces of demand & supply. The govt thus intervenes to correct this failure and to bring

at consumption down to socially desirable level, by the use of taxation. The same case is for other goods with negative externalities like pollution. The harm caused is not fully realized thus these are too over consumed and over produced.

In the case of merit goods, positive externalities exist i.e the positive spill over effects of production/consumption to the 3rd party.
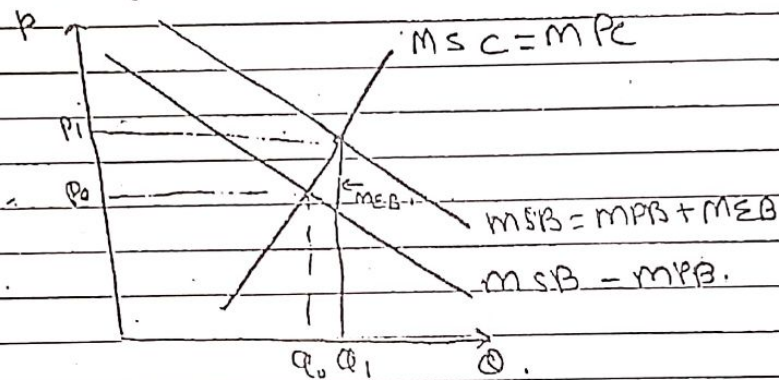


Assuming msc to be zero, if all benefits of these goods are realized, their consumption will rise from Q0 to Q1, socially optimum level of consumption. This shows under allocation of resources. This arises in the case of goods/services like education and health care.

(continued)

Q2 Thus, the government intervenes in order to bring consumption upto socially desirable level by using subsidies.

8. However, govt. failure may also occur is the govt over subsidises or over taxes such goods. This, instead of efficiently allocating resources, may lead to further distortions in the market. The govt may face problems in realising or identifying the exact amount of tax and subsidy to be used. Thus Moreover the govt also may fail to achieve efficient allocation of resources.

9. Moreover, The view that people cannot be trusted on the basis of their choice and that they don't know what is best for them too is against principles of a free market. The govt does not get to choose people's preferences. Also, this view contradicts with economic theory that states consumers are sovereign and know best.

Section B.

**2**

market failure refers to a situation where a market system, left to its own devices and free from any sort of government intervention fails to allocate resources efficiently. Economic efficiency is regarded as making optimal use of scarce economic resources in order to help satisfy changing wants and needs of consumers. It involves too dynamic efficiency and static efficiency which involves the concept of productive and allocative efficiency. Productive efficiency occurs where a firm produces goods with an appropriate combination of inputs of factors of production given their relative prices (X-efficiency) and produces the maximum output given these resources (technical efficiency). However, in a situation of market failure, firms are X-inefficient. They are not operating on the lowest point on the lowest curve or making the best use of scarce resources.

Keynes believed that market failure was a common occurrence. There are several sources of market failure including demerit goods, merit goods, externalities, lack of information etc.

Demerit goods include cigarettes, alcohol and non-prescribed drugs. These goods are harmful for the consumers as they create negative externalities which are spillover effects on third parties. These goods are overproduced and

overconsumed in a market system. For example, negative externalities can include a negative consumption externality. This occurs when consumers smoke and spread spill over effects in terms of costs to non-smokers in the form of passive smoking.

In the diagram below, there is a negative consumption externality which may be considered as 'negative benefits' which is why the MPB (marginal private benefit) curve lies below the MSC (margr marginal social benefit) and the difference between the two illustrates the negative costs.

P

S=mpc=msc

Pm
Po

welfareloss

external-cost

M·SB
D=MPB

O    Qo Qm

Q
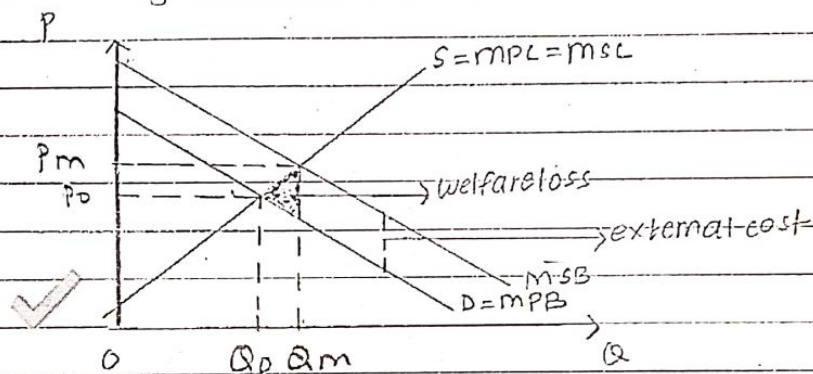
when a negative consumption externality exists, this means that scarce resources are overallocated to the production of the good which is illustrated in the diagram by Qm > Qo. Qo is the equilibrium quantity and Po is the equilibrium price.

Moreover, since consumption depicts the demand, hence the supply curve represents both MPC (marginal private costs) and MSC (marginal social cost).

It is said that government intervention is necessary in these type of goods. The government

can either ban their consumption or place a tax on them and increase information by through awareness campaigns which is a sustained effort to increase information regarding an issue. However, taxes can be regressive and if demand is for perhaps cigarettes is inelastic, they may not be as effective. Moreover, awareness campaigns may not be successful if consumers do not take them seriously.

Moreover, economists are concerned to increase the consumption of certain goods which it considers beneficial for the welfare of the citizens. These are classified as merit goods which are a special form of private goods. These goods are underproduced and underconsumed in a market system. These goods itself include positive benefits to the society however their spillover effects may be underestimated. Examples include state health and education systems. Consumer may not perceive the full benefits for example with seatbelts, they may be unaware of the benefits of inoculation. Economists argue that government intervention is necessary in these types of goods as they are underproduced under the operation of the price mechanism given by Adam smith. The government can either provide them for free to consumers and finance them through taxation. However, these taxes can be of a regressive nature and may not benefit the underprivileged. Moreover, the state can also provide subsidies to producers

so that they are produced at equilibrium quantity. However, this would involve an opportunity cost as the government could have invested the same financial resources in improving infrastructure for instance.

Furthermore, there is lack of information in a market system. If consumers are to maximise their utility, they need to have full information regarding the products being sold and the ~~produc so~~ producers selling them. However, some people in the market have less information than others.

For example, in healthcare, a doctor has more information as compared to his patients. Moral hazards and Adverse selection are two situations where one party is at a disadvantage. Adverse selection refers to when one party has more information prior to a deal between a buyer and a seller. Moral hazards is when the behaviour of one party changes after a deal is struck.

In order to overcome this failure of lack of information, the government can provide information through awareness campaigns and posters however their effectiveness depends on whether consumers are impacted from them or not.

In addition, imperfect competition also exists in a market system. ~~so~~ Firms operate under monopolies and oligopolies restricting prices, producing where P exceeds MC, raising prices, are X-inefficient and

| Question | Part | |
|---|---|---|

are not productively or allocatively efficient, hence exploiting consumers.
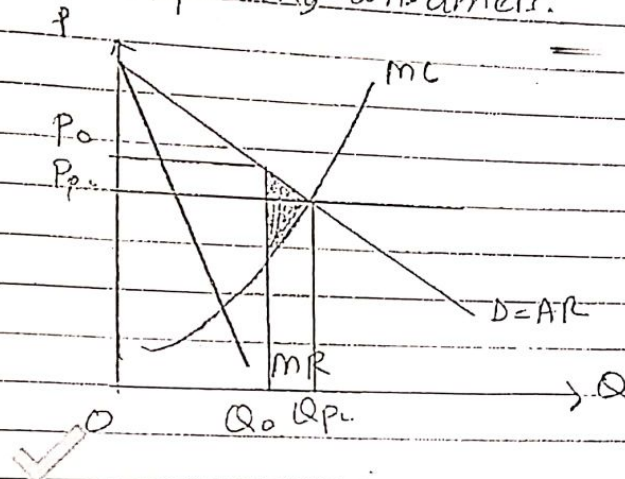


The diagram above illustrates a monopoly. The government could cater to monopolies by providing subsidies & coproducers lower prices and produce where P=MC. However, this involves an opportunity cost. Moreover, the government can cater to oligopolists by preventing collusion, however if it is tacit it may not be picked up easily. Moreover, as already discussed, externalities are spillover effects on third parties. For example, looking at a positive production externality where resources are underallocated to the production of the good. For e.g healthcare. The market system does not perceive its full benefits.

Page

| number | Section B contine- |
|---|---|
| 2 | |
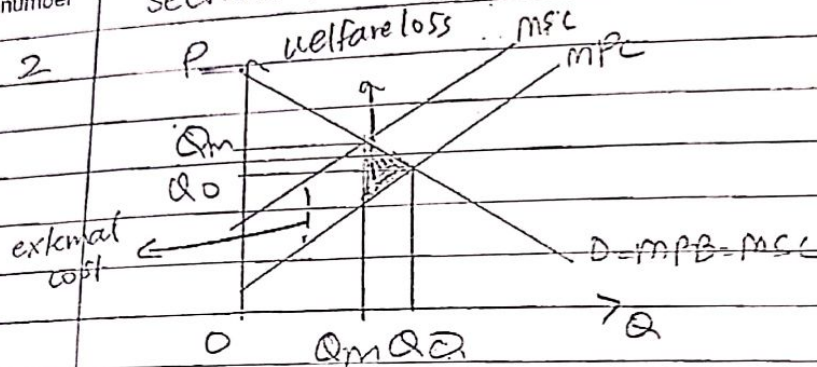


The diagram above illustrates a positive production externality. Since supply illustrates production, the MPC curve lies below the MSC curve which implies underallocation. The demand curve represents MPB and MSC.

Other forms of market failure include short termism, factor immobility.

By way of correcting market failure, there is growing interest how 'nudge theory' can be used to do so. Nudge theory operates on the basis of providing information.

Thaler and Sunstein explain why they called 'choice architecture'. This meant that when choices are provided to consumers in a better way, they make wiser decisions.

For example, if a government wants to reduce the amount of cars on the road (negative externality), it could promote the benefits of cycling through media campaigns which could 'nudge' motorists to pursue other environmentally friendly forms of transportation.

in market failure, the government can apply nudge through awareness and media campaigns and social media.

The question is: does nudge work?! It does however only to a certain extent and can work best if it used alongside other tools that are already catering to market failure.

Overall, it can be concluded that government intervention can reduce market failure, however only to a certain extent. By way of correcting market failure, governments may make the markets more inefficient. However this depends on do the costs outweigh the benefits of intervention? If not, then it would not prove to be successful. Moreover, it also depends on which policy is used by the government to correct which type of externality? Furthermore, is the private sector more powerful than the government? (Ayes, then the policies implemented would be weak.

To conclude, ~~who~~ ~~which~~ how successful is government intervention in reducing market failure is uncertain as it can only do so to a certain extent as the policies and tools it makes use of have limitations and opportunity costs and hence come attached with costs and benefits.

**Final Evaluation**

1. Govt. failure. Intervention can be worse.

2. Depends if costs > benefits then it is not worth it.

3. Private sector is more efficient and should be left to deal with its problems

4. Government lacks information. Can this information be arranged ?

5. Depends on which method is used for which type of externality.

6. How strong is the private sector in manipulating the government? Stronger the private sector weaker the policy.

**(M/J 2013, V2), Q7**

Q. The market system is not able to allocate resources efficiently. Discuss this opinion. [25]

**(O/N 2013, V2), Q4**

Q. Discuss whether it is better for an economy if the allocation of resources is left entirely to the private sector operating through the market system. [25]

**(M/J 2014, V2), Q3**

Q. 'The profitability of firms is a measure of their efficiency. The higher the profit, the greater the efficiency. High profits should, therefore, be encouraged.' Do you support this argument? [25]

**(O/N 2014, V2), Q7**

(b) Discuss whether economic growth would necessarily lead to a more efficient use of resources in developing countries. [13]

**(M/J 2015, V2), Q7**

Q. The free market is not the way to achieve a sustainable, efficient use of economic resources. Even the famous economist Adam Smith recognised that there was a need for some government involvement.' Discuss whether government involvement in the economy might overcome the weaknesses of the free market system. [25]

**(O/N 2016, V2), Q2**

Q. It has been said that the aim in the allocation of resources should be to achieve the greatest happiness for the greatest number of people. Discuss whether economics has anything to say about the best way to maximise welfare from the use of resources. [25]

**(O/N 2017, V2), Q2**

(a) A country moved from a point within its production possibility curve to a point on its production possibility curve. Explain what is meant by economic efficiency. Analyse what happened to economic efficiency in that country as a result of this movement. [12]

(b) Discuss whether government intervention in the economy is a necessary and sufficient condition for overcoming inefficiency in resource allocation. [13]

# A2 – ECONOMICS (9708)

## PAST PAPER SESSION

| MICRO |
|---|

## CHAPTER 5: Labor Market

## MAIN QUESTIONS

### (M/J 2011, V2), Q5 [ECR]

Q. In imperfect competition, labor markets can lead to worker exploitation in terms of the wage rates they receive compared with wage rates in perfect competition. Discuss this opinion. [25]

**Definition | Labor Market:** This is the market where the factor of production labor is traded. Wages are the price paid for labor. When looking at the labor market there can be several structures which includes perfect and imperfect labor markets.

| Perfect Labor Market | Imperfect Labor Market |
|---|---|
| 1. Perfectly competitive Labor market | 1. Monopsony<br>2. Trade Unions<br>3. Bilateral Monopoly |

### 1. Perfectly Competitive Labor Market

In a perfectly competitive labor market, so the economic theory goes, wage rate is determined by the demand for and supply of labor. It has several features:
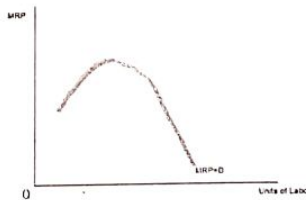
1. Many firms competing with one another in hiring a specific type of labor characterize this type of market.
2. Also, there are numerous qualified workers with identical skills independently supply labor.
3. There exist perfect knowledge, perfect mobility and freedom of entry and exit.
4. Consequently, both firms and individual workers are wage takers.

In order to understand the wage determination we need to look at the demand and supply of labor
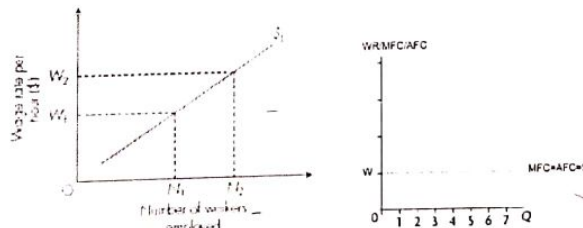
### Demand for Labor [MRP]

The total, or market, labor demand curve is found by summing horizontally the labor demand curves (the marginal revenue product curves) of the individual firms. The marginal revenue product, MRPL, is the increase in revenue due to employing one more unit of labor. MRPL is determined by the MPPL (marginal physical product of labor) multiplied by the MR i.e., MRPL = MPPL x MR. However there are several assumption of this theory:

1. All factors are homogenous
2. They can be substituted for each other
3. Perfect mobility of factors as between different places and employments
4. Perfect competition in the factor and commodity market
5. Full employment of factors and resources
6. The businesses are motivated by profit maximization
7. It is applicable in the long-run
8. It is based on the Law of Diminishing Returns



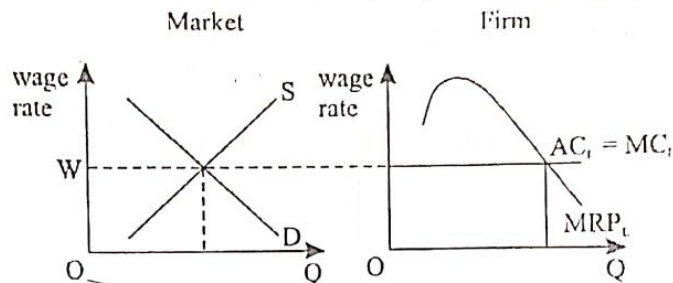### Supply of Labor

On the supply side of the labor market, we assume there is no union; workers compete individually for available jobs. The supply curve for each type of labor slopes Upward, indicating that employers as a group must pay higher wage rates to obtain more workers. This is so because firms must bid these workers away from other industries.



Market                          Firm

## Equilibrium Wage Rate

In the figure below both equilibrium wage rate and level of employment are determined by the intersection of the market demand and supply curves as depicted in the left part of the graph. This is set a wage that each firm would need to pay. Each individual firm will find it profitable to hire this type of labor up to the point at which its marginal revenue product (MRPL) is equal to marginal cost of labor (MCL) shown in the right part of the graph.



## 2. Monopsony [Imperfect]

Although economic theory of wage determination is primarily concerned with a perfectly competitive market, however, the theory could be extended to allow various market imperfections, which exist in real world. For instance, there may be a single buyer of labor — a 'monopsonist' — where a large factory is the main source of employment in a locality. It has several features:

1. Major buyer
2. Wage maker
3. Upward sloping supply curves. As they need to increase wages to attract more workers. They must increase the wage for the last worker and all the ones before, this means **MC of labor is higher than the average cost (Average Wage)**

If this is the case, then the wage rate, (ACL) is no longer represented by a horizontal straight line. Instead the wage rate increases as more labor is employed. Hence, monopsonist will be facing upward sloping market supply curve and in order to recruit additional workers it has to offer a higher wage rate. In such a case, the size of an employer's demand for labor will affect the wage rate. The marginal cost curve for Labor (MCL) being above the average cost curve for Labor (ACL) can be explained by the use of a simple example. At a wage rate of £100, 50 workers may be employed. If, however, the monopsonist wishes to employ one more worker he or is forced to offer £101, the increase being paid to all workers. The average cost is now £101 but the marginal cost is £151, comprising of £101 paid to the 51st worker plus £1 paid to each of the 50 original workers. This is illustrated in the figure below:
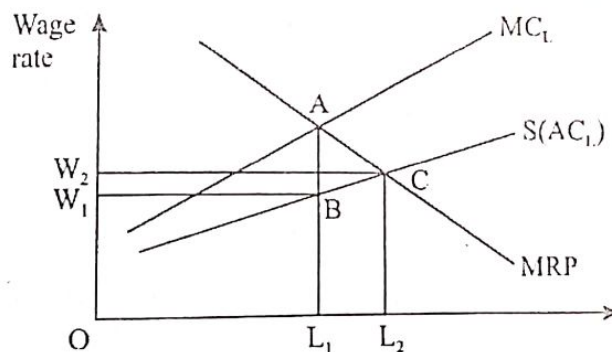


The monopsonist, being a profit maximiser, will employ where the MCL is equal to the MRPL, i.e. point A, hence L1 workers will be employed. The wage rate, however, is given by the average cost curve S (ACS and this will be W1. The overall wage bill to the monopsonist will, therefore, be OWIBLI. In a perfectly competitive non-monopsony market the wage and numbers being employed would have been W2 and L2 respectively. Thus monopsony power in a labor market will result in a lower level of employment and lower wages than would exist in a competitive labor market. However this comparative lower wage rate and employment as compared to perfect competition which operates at W2 with L2 employment. Hence trade unions and government intervenes to correct this problem.
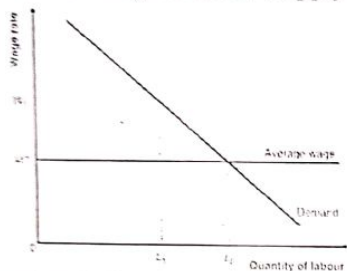
## 3. Trade Unions and the Labor Market

**Definition:** A trade union is an organization of workers who combine together to further their own interest and the interest of their members. There organizations have three main objectives, wage bargaining, improvement of working conditions and security of employment for their members. These unions act as a monopoly supplier of labor. These unions can influence the market in __TWO__ ways:

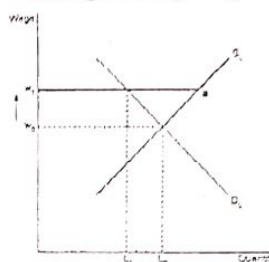1. Restricting the Labor Supply
2. Negotiating Wages

| Trade Union and Perfect Competition | |
|---|---|
| **1. Restricting the Labor Supply** | **2. Negotiating Wages** |
|  |  |
| If the trade union limits the amount of labor available to just L1, then the union will be able to push the wage up to W1. This might happen where there is a **closed shop** (a situation where the firm the can employee only those workers who are members of the trade union). This way the union control how many members they want to keep and hence controlling the labor supply. The advantage of this decisions is that that workers who have jobs are enjoying a higher wage rate however the ones who don't have jobs are entire unemployed or have to look for work somewhere else. | If the employers are producing under perfect or monopolistic competition unions can raise wage rates at the expense of employment. Firm are only earning normal profit . Thus if unions force up the wage rate, the marginal firms will go bankrupt and leave the industry, Fewer workers will be employed. The fall in output will lead to higher prices. This will enable the remaining firms to pay a higher wage rate. However workers who now have jobs would be better off. |

In a competitive market then the union is faced with the choice between wages and jobs. Its actions will this depend in its objectives.

— If it wants to maximize employment it will have to content itself with a wage of W1 unless a productivity deal is negotiated. At W1, Q1 workers will be employed. Above W1, fewer than Q1 workers will be demanded. Below Q1 fewer than Q1 workers will be supplied.

— If the union is concerned with securing a higher wage rate it may be prepared to push for a wage rate above W1 and accept some redundancy. This would be beneficial if the employees leaving the company are voluntary redundancy, leaving for another job or they retire.

| Trade Union and Monopsony |
|---|
| Trade unions seek to increase the wage rate of their members by either restricting the supply of Labor or by direct negotiation. Collective bargaining involves wage negotiation between trade unions, acting on behalf of their members, and the employers. This usually happens when there is a biletreal monopoly. Where there is one seller and one buyer of labor. Successful bargaining could raise the wage rate, for instance, from W1 to W3, as shown in the figure below: |

## 3. Trade Unions and the Labor Market

**Definition:** A trade union is an organization of workers who combine together to further their own interest and the interest of their members. There organizations have three main objectives, wage bargaining, improvement of working conditions and security of employment for their members. These unions act as a monopoly supplier of labor. These unions can influence the market in TWO ways:

1. Restricting the Labor Supply
2. Negotiating Wages

### Trade Union and Perfect Competition

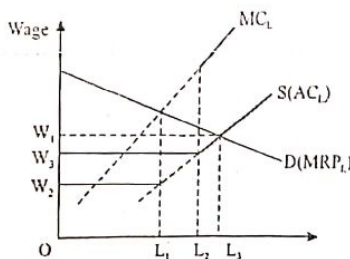| 1. Restricting the Labor Supply | 2. Negotiating Wages |
|---|---|
|  |  |
| If the trade union limits the amount of labor available to just L1, then the union will be able to push the wage up to W1. This might happen where there is a **closed shop** (a situation where the firm the can employee only those workers who are members of the trade union). This way the union control how many members they want to keep and hence controlling the labor supply. The advantage of this decisions is that that workers who have jobs are enjoying a higher wage rate however the ones who don't have jobs are entire unemployed or have to look for work somewhere else. | If the employers are producing under perfect or monopolistic competition unions can raise wage rates at the expense of employment. Firm are only earning normal profit . Thus if unions force up the wage rate, the marginal firms will go bankrupt and leave the industry, Fewer workers will be employed. The fall in output will lead to higher prices. This will enable the remaining firms to pay a higher wage rate. However workers who now have jobs would be better off. |

In a competitive market then the union is faced with the choice between wages and jobs. Its actions will this depend in its objectives.

— If it wants to maximize employment it will have to content itself with a wage of W1 unless a productivity deal is negotiated. At W1, Q1 workers will be employed. Above W1, fewer than Q1 workers will be demanded. Below Q1 fewer than Q1 workers will be supplied.

— If the union is concerned with securing a higher wage rate it may be prepared to push for a wage rate above W1 and accept some redundancy. This would be beneficial if the employees leaving the company are voluntary redundancy, leaving for another job or they retire.

### Trade Union and Monopsony

Trade unions seek to increase the wage rate of their members by either restricting the supply of Labor or by direct negotiation. Collective bargaining involves wage negotiation between trade unions, acting on behalf of their members, and the employers. This usually happens when there is a biletreal monopoly. Where there is one seller and one buyer of labor. Successful bargaining could raise the wage rate, for instance, from W1 to W3, as shown in the figure below:
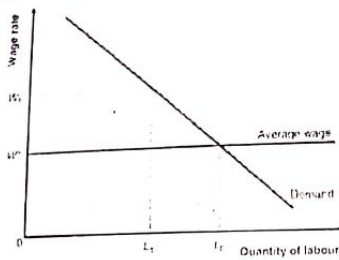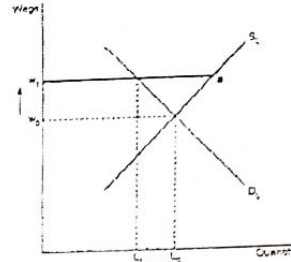
The monopsonist facing a large number of employees in the industry will force the wage rates down to OW2 and restrict employment L1. The entry of a trade union to the industry, which sets a minimum wage of W3, will kink the supply curve of labor and produce a discontinuity in the marginal cost curve of labor. The monopsonist has a profit incentive to hire extra workers so long as the marginal revenue product of labor is greater than the marginal cost of labor. Hence, it will employ L2 workers. Following a union forced wage rise, not only do the workers get a higher wage, but the monopsonist employer actually employs more workers. It is only when the union forces the wage rate above W1 that employment starts to fall. The union can keep doing this up to W1. After W1 up to the point where MC = MRP at L1 it can increase wages but employment begins to fall back to L1.

## Evaluation of Trade Unions

— The extent of the trade-off depends crucially on the elasticity of demand for labor. The more inelastic the demand the greater the power to negotiate for the union.

1. The **more inelastic** the labor demand the greater the wage increase and lesser the unemployment.
2. The more **elastic the labor** demand the smaller the wage increase and greater the unemployment. This is because firm might not be able to substitute labor for capital, or it is a smaller part of the production process or the demand for the product is inelastic.
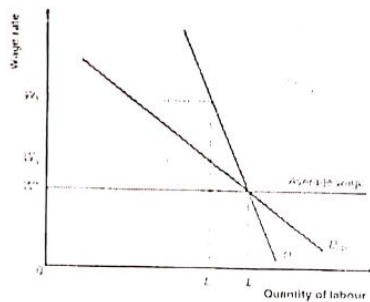


**Restricting Labor Supply**          **Negotiating Wage**
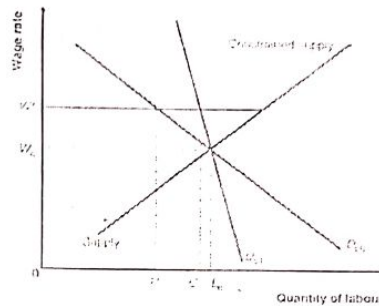
— It also depends on power of the union. Factors like the number of members, profitability of the employer, labor cost as a percentage of total cost all will determine the final impact of trade unions. The greater the number of workers the stronger would be the negotiations.
— Usually unions try to increase productivity at this time to increase their bargaining power.

*Only include this part if the question asks about government intervention*

## 4. Government Intervention and the Labor Market

The government will intervene in the market using minimum wage and laws to protect the workers.

Definition | Minimum Wage: This is a policy adopted by the government according to which employers are not permitted to pay a wage below a level set by the legislation. Minimum wage performs three functions.
(i) Protects workers against exploitation by bad employers
(ii) Improves incentives to work tacking the problem of voluntary unemployment
(iii) Alleviate poverty by raising the living standards of the poorest groups in society

## Government Intervention and Perfectly Competitive Market
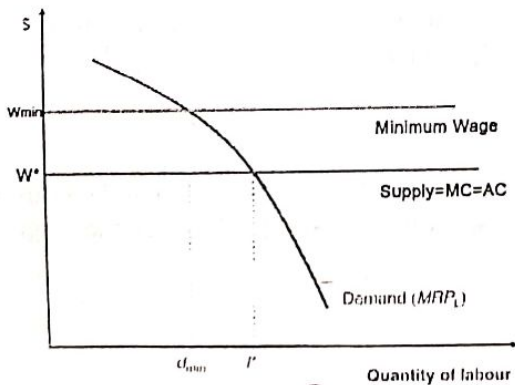
### Firm                                    Industry
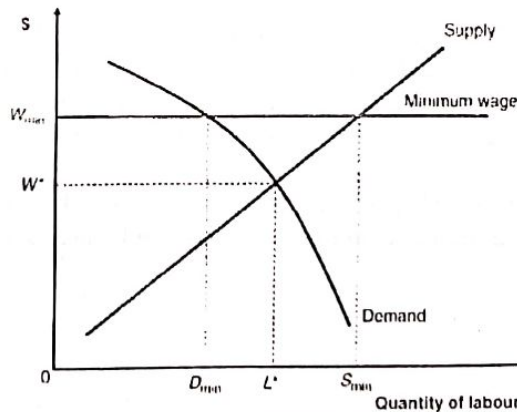
| Initially the firm is operating at wage W* and employing I*. If the government now steps in and imposes a minimum wage so that the firm cannot set a wage below Wmin it will reduce its labor usage to dmin since it will not be profitable to employ labor beyond this point. | The effect on the market would be that, before the minimum wage the wage was W* and quantity of labor was L*. When the minimum wage of Wmin was imposed all firms combined demand became Dmin but the supply of labor became Smin. This caused unemployment between (Dmin – Smin). This creates TWO effects. 1. The number between (Dmin – L*) represents workers who previously had jobs but are now fired. 2. The number between (L* - Smin) represents workers who now want to work because of the higher incentives but don't have jobs. |

Note: If the minimum wage is set below the equilibrium it will not be effective and will NOT cause unemployment.

### Government intervention and Monopsony



In the absence of a minimum wage the firm sets its wage at Wo and employs Lo. When a minimum wage is introduced at level Wmin means that the firm now hires labor up to the point where the wage is equal to the marginal revenue product (MRP). This takes the market back to being competitive. This will not only increase employment but also the wages and reduces market power. However the govt. needs to be careful if the wage is set above the market competitive equilibrium level this will again lead to unemployment.
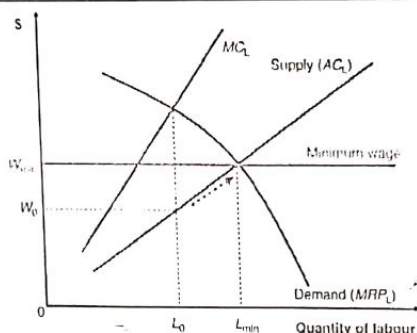
However it should be noted that Wage = MRP based on the economic theory which has several limitations
1. Perfect competition is not real
2. MRP theory not relevant in the service sector
3. Imperfect knowledge will always exist
4. Firms might have other objectives and not always profit maximization
5. Workers might not be wage maximizers. They might work for other reasons like personal satisfaction which are ignored.

### EVAL
1. Depends in which sector is the monopsony located: No government intervention needed in a monopsony if it is state owned as it might be offering other benefits instead of wages like fringe benefits.
2. What is the wage criteria? It might vary from firm to firm.
3. Does not consider non-wage factors. (job satisfaction, fringe benefits)

Final Statement: Thus a comparison of wage rate between perfect and imperfect market ascertain the opinion. However, a strong trade unions or government can reduce and in some cases completely eliminate the wage difference.

## Example candidate response

Whether labour markets under imperfect competition lead to worker exploitation in terms of wage rates they receive compared to wages in perfect competition is highly subjective and dependant on on analysis of the presence of a monopsonist, trade unions and government intervention in an imperfect market.

Firstly, under perfect competition, the MRP theory best explains how wages are determined in the market. Here, the wages of workers are dependant on their Marginal Revenue Product (MRP). MRP, in essence, is the amount of additional revenue a firm would earn by employing an additional unit of worker. Since firms under perfect competition are profit maximisers, firms will higher workers up to the point where MRP is equivalent to the Marginal cost of labour (MCL) as illustrated in the graph below. [Graph 2]

**Wage Rate**

**Wage Rate**

W₁

S

D

> Qty labour

MCL

MRP

> Qty labour

Q₁

Graph 1 : market

Graph 2 : Firms
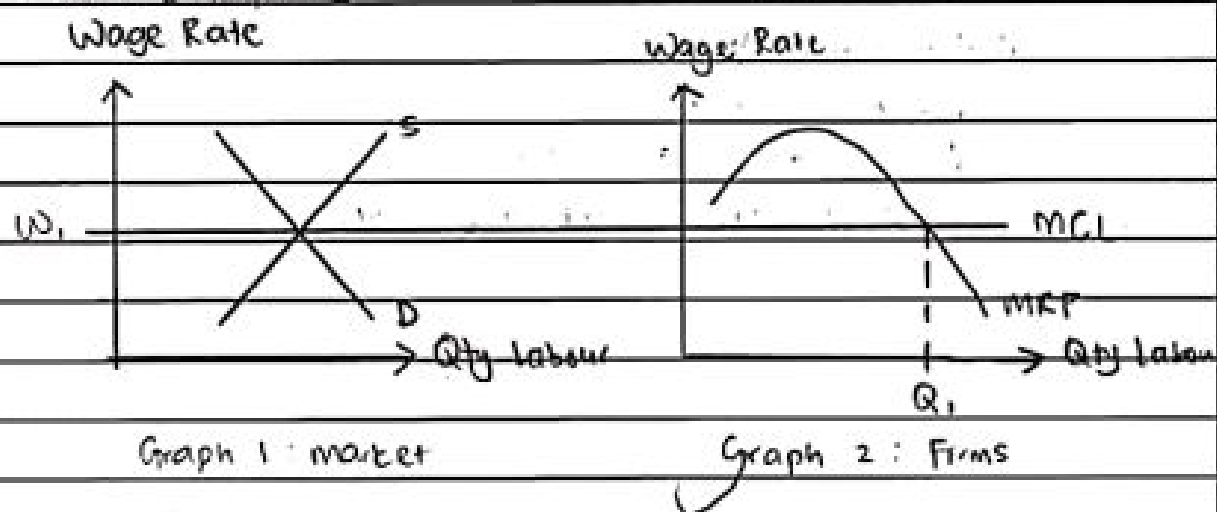
Since under perfect competition buyers (firms) and sellers (workers) are price takers, the wage rate is set by the interaction of demand and supply in the market. The reason that the graph for the individual firm is represented is to distinguish between perfect and imperfect competition. It is assumed that under perfect competition, all workers are homogenous. Hence, the cost of hiring an additional unit of worker to the firm is constant. There is no exploitation of workers in terms of wage rate under perfect competition as a firm who offers a wage rate lower than the market rate would have no worker wanting to work for them given the unlimited buyers (other firms) who offer the market wage.

There are several reasons as to why there could be exploitation in terms of wage rate under imperfect competition. In the presence of a monopsonist, wages are often much lower than what they would have been under perfect competition. ~~this means~~ This is because a monopsonist has an upward sloping supply curve and even steeper marginal cost of labour curve. The reason for this is that a monopsonist would have to increase the current wage rate in order to attract more labour into the market.

To add a definition, a monopsony exists when there is only a single buyer in the market. This is illustrated by the diagram below:



Graph 3
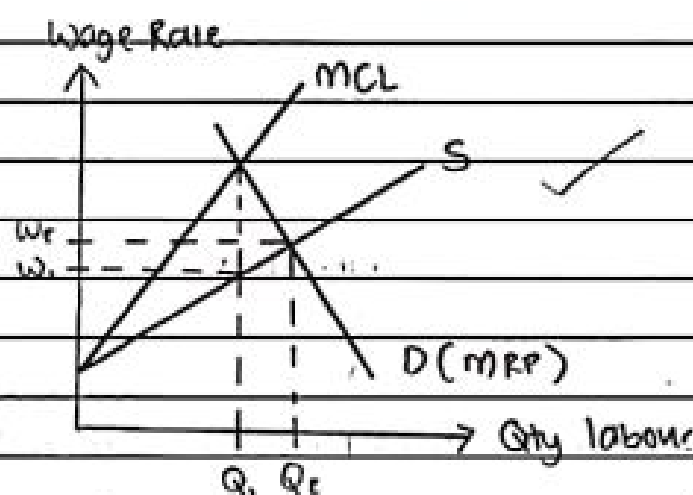
Being a profit maximiser, a monopsony would hire workers up to the point where MCL = MRP. As observed from the diagram above, workers are paid a much lower wage rate ~~than~~ (W,) 1for the market equilibrium (We). Hence, one might conclude that under a monopsony, workers are indeed exploited and paid lower wages. The reason a monopsony is able to do so is because that since it is the sole buyer of labour in the market, workers have no choice but to accept the lower wage rate.

Conditions however, are not too dire when a trade union enters the picture. Trade unions (another key characteristic of imperfect labour markets) serve the purpose of collectively representing workers in negotiating wage rates with employers. This is because collective bargaining power exeds a significantly bige amount of influence than the individual

bargaining with an employer can. The entrance of a trade union in a situation of monopsony is as illustrated below.
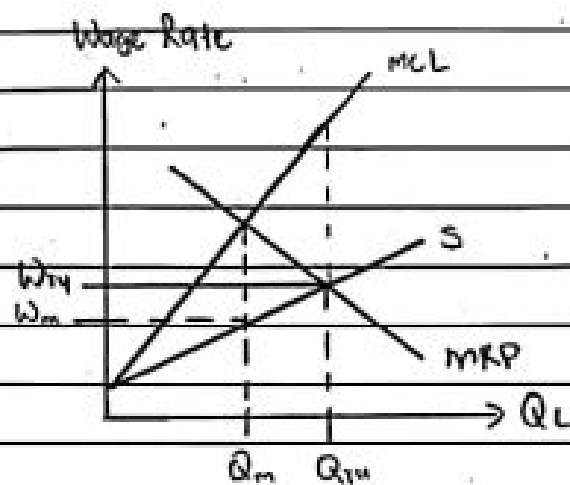


Diagram 4

Here, the trade union has successfully negotiated a higher wage rate for workers than the monopsonist had initially offered ~~Here~~ ~~can they~~ The wage rate the monopsonist offered ($W_m$) ~~this~~ has now increased to $W_{TU}$. In this instance, the trade union had negotiated ~~the~~ a wage rate equivalent to the market equilibrium. However, a trade union with higher bargaining power would be able to demand an even higher wage rate. This would depend on factors like the union density and substitutability of labour. In essence though we might derive from here that it is possible for wage rates to be higher than the market equilibrium (and hence perfect competition) under circumstances of imperfect competition.

Intermediately, we can conclude that a monopsony drives wages lower than what they would be under perfect competition. However, with the presence of a trade union, wages could potentially be much higher.

Besides this, there is no government intervention under perfect competition. Imperfect competition, on the ~~and~~ other hand may evoke government legislature such as minimum wage requirements that could drive up wages. This is ~~illustrated~~ illustrated in the graph that follows.

Graph 5
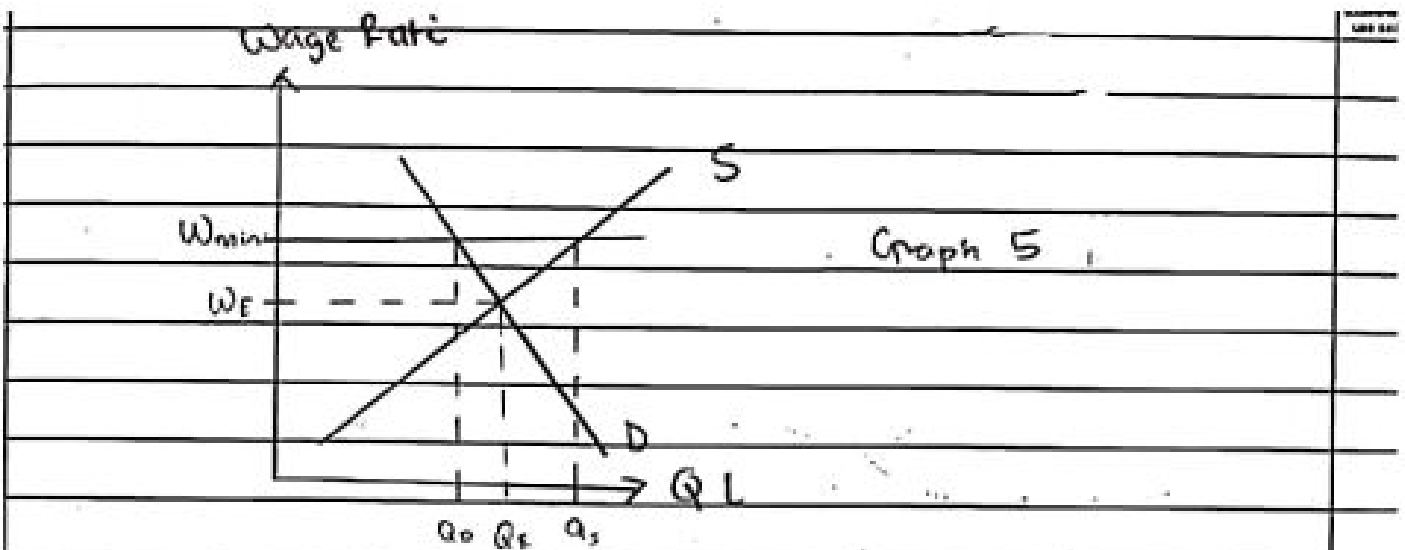
The government could set the minimum wage above what the market would have. Hence, this would drive the wage higher than what it would have been under perfect competition $(W_{min} > W_E)$.

There are arguments.

While intuitive wisdom suggest that exploitation may occur under imperfect competition, the introduction of a minimum wage or trade union may set the price wage rate higher than what it would have been under perfect competition. These efforts, however, are highly controversial as in some instances (Graph 5), they could result in an increase in unemployment $(Q_s > Q_D)$.

L4 (21)

## Examiner comment

This candidate gave a very clear explanation of the determination of wages in perfect competition through the market demand and supply. This analysis was then contrasted with that which applies to imperfect competition. A discussion of the influence and power of a monopsonist, a trade union and a minimum wage determined by a government then followed. A concluding paragraph drew attention to the difference that may occur between perfect and imperfect markets when trade unions and minimum wage regulations exist.

**Mark awarded = 21 out of 25**

## (M/J 2016, V2), Q4 [ECR]

(a) 'In perfect competition in the short run, wage rates in some occupations will be higher than in others.' Explain the economic analysis underlying this. [12]

(b) Do you agree that in an imperfect Labor market any activity by trades unions designed to increase wage rates would inevitably lead to unemployment in that market? [13] [Repeat]

### Answer (a)

**[First Part — Explain the theory of wage determination]**

Definition | Labor Market: This is the market where the factor of production labor is traded. Wages are the price paid for labor. When looking at the labor market, there can be several structures which includes perfect and imperfect labor markets.

| Perfect Labor Market | Imperfect Labor Market |
|---|---|
| 1. Perfectly competitive Labor market | 1. Monopsony |
| | 2. Trade Unions |
| | 3. Bilateral Monopoly |

**Perfectly Competitive Labor Market**

In a perfectly competitive labor market, so the economic theory goes, wage rate is determined by the demand for and supply of labor. It has several features:

1. Many firms competing with one another in hiring a specific type of labor characterize this type of market.
2. Also, there are numerous qualified workers with identical skills independently supply labor.
3. There exist perfect knowledge, perfect mobility and freedom of entry and exit.
4. Consequently, both firms and individual workers are wage takers.

In order to understand the wage determination we need to look at the demand and supply of labor

**Demand for Labor [MRP]**

The total, or market, labor demand curve is found by summing horizontally the labor demand curves (the marginal revenue product curves) of the individual firms. The marginal revenue product, MRPL, is the increase in revenue due to employing one more unit of labor. MRPL is determined by the MPPL (marginal physical product of labor) multiplied by the MR i.e., MRPL = MPPL x MR. However there are several assumption of this theory:

1. All factors are homogenous
2. They can be substituted for each other
3. Perfect mobility of factors as between different places and employments
4. Perfect competition in the factor and commodity market
5. Full employment of factors and resources
6. The businesses are motivated by profit maximization
7. It is applicable in the long-run
8. It is based on the Law of Diminishing Returns



**Supply of Labor**

On the supply side of the labor market, we assume there is no union; workers compete individually for available jobs. The supply curve for each type of labor slopes Upward, indicating that employers as a group must pay higher wage rates to obtain more workers. This is so because firms must bid these workers away from other industries.

**Market**         **Firm**

### Equilibrium Wage Rate

In the figure below both equilibrium wage rate and level of employment are determined by the intersection of the market demand and supply curves as depicted in the left part of the graph. This is set a wage that each firm would need to pay. Each individual firm will find it profitable to hire this type of labor up to the point at which its marginal revenue product (MRPL) is equal to marginal cost of labor (MCL) shown in the right part of the graph.



### [Second Part — Wage Differentials]

In the short run wage differential in perfect competition between occupations is associated with different conditions of demand and supply.

### Reason 1: Demand for Labor

If a unit of labor produces a certain physical amount of a good which sells at a particular price (marginal revenue product) then the employer cannot afford to pay the worker a wage greater than the MRP. Hence an improvement in the productivity of labor would increase the demand for labor; likewise, an increase in the price of the product will increase the demand for labor. Thus the higher the MRP of labor the greater is the demand for labor and higher the wages going to be for labor. This can be shown with the diagram below:
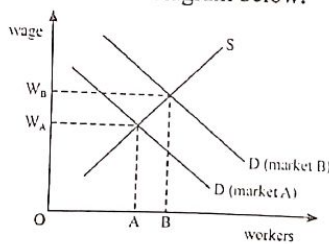


Given the same supply conditions, a higher wage in occupation B is the result of higher demand for labor.

### Reason 2: Supply of Labor

Similarly with same level of demand but different level of market supply can also result in wage differentials in different occupations. This is shown in the graph below
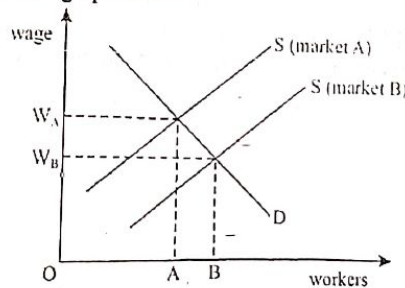
In market B the level of supply of labor is higher than in market A. This difference in supply of labor leads to differences in equilibrium wage rate in two occupations. Different levels of supply can be attributed to the differences in the number of people in the economy available to work in the given industry. This could result due to the situation in other similar industries. If, in relative terms, the wage rate becomes less attractive in a similar industry, or the working conditions deteriorate, then the industry in question will experience an increase in the number of workers offering their labor services. This will shift the supply of labor curve to the right resulting in a lower wage rate.

## Reason 3: Elasticity of Supply for Labor

In addition to this different elasticity conditions of demand and supply of labor in different occupations could also result in wages to be different. Following graph explains this;
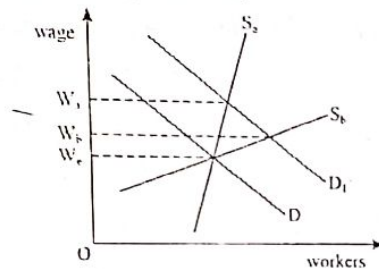


Sa is relatively inelastic supply of Labor and represents occupation 'a' while Sb is relatively elastic supply and refers to another occupation labeled as 'b'. Initially, We is the equilibrium wage rate in both occupations. Now let's assume that demand for Labor in both these occupations increases from D to D1. The new wage rate is Wa in occupation where supply of Labor is relatively inelastic and it is higher than the wage rate in occupation 'b' where supply of Labor is relatively inelastic. Over all sup-ply may be relatively inelastic in market 'b' because it could require talent and a relatively longer training to qualify to work. Thus the workers in market 'b' can command high wages due to a higher MRP and restricted supply.
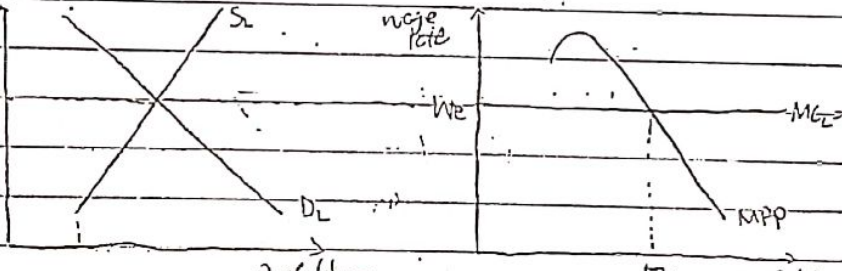
## Reason 4: Elasticity of Demand for Labor

Similarly if demand for; particular type of Labor is inelastic then the likelihood is that Labor will receive higher wages. The following graph explains this;
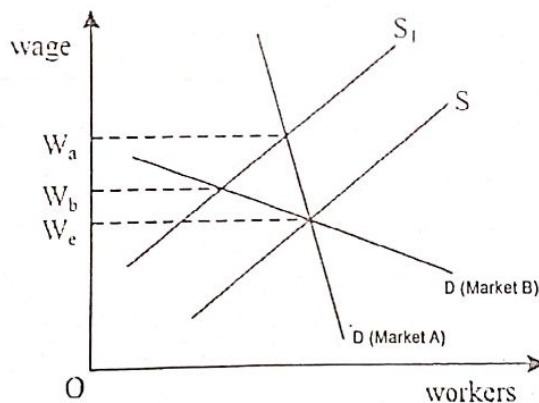


Demand for Labor in market 'A' is relatively inelastic while in market b it is relatively elastic. A fall in supply of Labor in both markets will cause new equilibrium wage rate to be higher in market 'a' than in market 'B'. Demand for Labor will be inelastic 'when other factors cannot easily be substituted for it, when the demand for the good it produces is inelastic and if Labor forms only a small percent-age of the entrepreneur's total costs. It therefore follows that in perfect market wage differentials in the short run could exist due to the differences in demand and supply conditions.

## ECR Version [Part a]

| 4 | a ① | A perfectly competitive labour market is one in which all parties are wage takers, they are not able to alter the market equilibrium wage rate. All labour is identically skilled, so they're paid the same wage rate. All parties have perfect knowledge, so the workers are fully aware of the occupation elsewhere. Also, they're perfectly mobile, both occupationally and geographically. So there won't be un taken job in an area whereas people unemployed in another. Firms are self-interested and pursuing maximisation in profit. So they will employ at the point MC = MRP. There's no barrier to stop wage rise or fall |
|---|---|---|
| | ② | The demand for labour is MRP, marginal revenue product. It equals to MPP; marginal physical product × price of product. It's the extra revenue the firm can gain by employing an additional unit of labour. In the short run, as fixed capital is fixed, the MPP is diminishing as more workers are hired. MRP therefore slopes downwards as shown.



As it's a perfect competition, the firms take the industry equilibrium wage rate We, and will produce hire labour at Qe as it's the profit-maximising point were $MC_L = MRP$ |
| | | The MRP differs from industry to industry. But in perfect competition The productivity of labour is the same, price is the same, so MRP will not differ. But in different occupation, MRP differs. For instance, MRP will be higher for a manager than for a cleaner. Thus, the MRP for manager will be far more to the right, the equilibrium |

③ quantity of labour that a firm is willing to hire is greater than that of a cleaner. The demand for managers is much than that for cleaners in the industry.

At the same time, the supply of cleaner will be much greater than for managers. To be a manager, years of study and qe is needed, but to be a cleaner, that's not no strict requirements needed.

④ Therefore, the supply of manager is to the left of supply of cleaner.
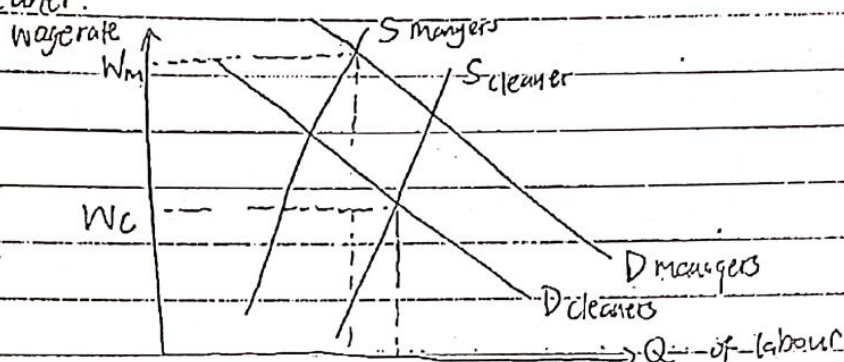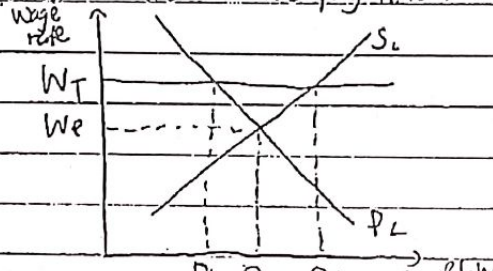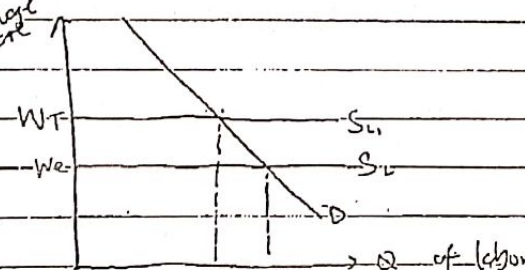


As shown, the wage rate for a manager will be higher than the wage rate of cleaner in the industry. Firms will have to take that wage rate. This difference is caused by different level of skills people acquire. In the short run, cleaner can't study enough to become a managers. In the longer run, it's possible to educate a cleaner to be a qualified manager.

⑤ Also, In the short run, the labour may not notice a better paid job opportunity elsewhere. As MRP is diminishing, the lack of labour will mean higher wage rate. As what they bring to the firm diminishes with quantity of labour increases, their effort is worth less to the firms. But in the long run, workers will finally find it out, as they have perfect information.

Overall, in the long run, the assumption behind a perfect labour market is more complete, so the wage differentiation will be formed.

Marks Awarded = 10/12

**ECR Version [Part b]**

| 4 | b | |
|---|---|---|

⑥ An Imperfect Labour Market means the assumptions = all parties have perfect knowledge, all workers are perfectly mobile, all parties are wage takers, workers are identical and are paid the same, no barrier can stop wage changes, firm aims to maximise profit, do not exist at the same time. A trade union is an organisation that acts on workers' behalf. It can bargain for a higher wage rate or limit the supply of its workers to increase wage rate.

⑦ In a perfect competition, any demand of wage-rise by trade union will create unemployment.



For instance, a claim for a higher wage rate with the threat of strike will create unemployment. Trade union asks for $W_T$ which is above $W_e$, the market equilibrium, will lead to excess of labour, thus $Q_S > Q_D$. There will be $Q_D$ people employed, $Q_e - Q_D$ people lose their job, $Q_s - Q_e$ people willing to take that job but unable to.



⑧ Also, in a closed shops, trade union can reduce supply of labour from $S_L$ to $S_{L_1}$ for a higher wage rate of $W_T$. This will also creates unemployment of $Q_e - Q_T$. The members that are still in employment will be able to enjoy higher wage rate

of $W_T$, whereas those made out of job will receive no income now.

However, this may may not happen in an imperfect market. The existence of trade union will bring the market back to a competitive end in the case of a may monopsony.
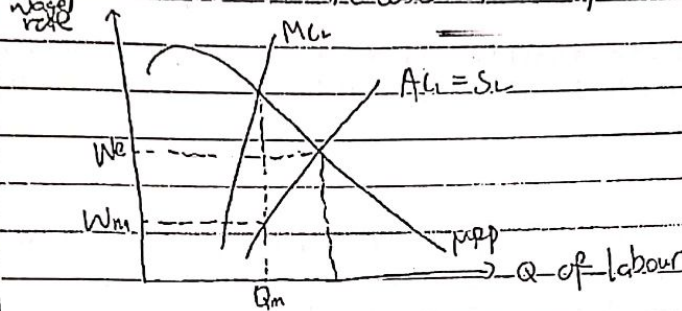


A monopsony is the sole employer in a labour market. As a profit maximiser, it will hire $Q_m$ of labour, paying only $W_m$ of wage rate as this is the profit maximizing point ($MC_L = MRP$). It will be able to exploit workers, not paying them what there they bring to the firm, (marginal revenue product) $W_e$.

A bargain to increase wage rate to $W_e$ will fix this exploitation
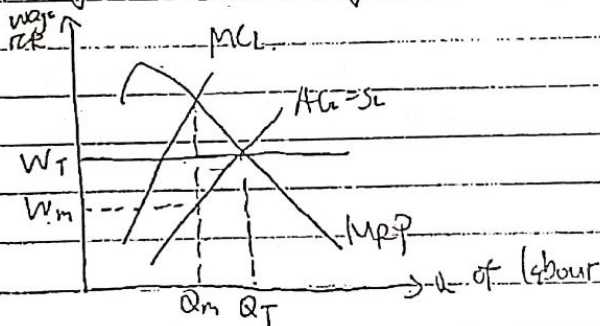


A strong trade union can force the monopsonist the raise the wage rate up to $W_T$, the equilibrium wage rate where workers are pay equal to that they add to the revenue of the firm. Also, more workers will be employed ($Q_T - Q_M$). If In this case, trade union doesn't lead to unemployment but actually help increase the employment.

Overall, I don't agree with the statement. It's in a perfect competition labour market that trade union activity will inevitably lead to a risen unemployment.

**Marks Awarded = 10/13**

## Similar Questions

**(O/N 2014, V2), Q4**
(a) Use economic analysis to help explain why there can be wide differences in wage rates. [12]

**(M/J 2015, V2), Q4**
Q. 'Wage determination in the factor market is just like price determination in the product market. It is entirely dependent on the forces of supply and demand.' Do you agree with this statement? [25]

**(O/N 2016, V2), Q6**
(a) Some occupations that do not have pleasant working conditions, such as rubbish collection, receive low pay, while those with pleasant conditions, such as senior managers, receive high pay. How far does economic analysis explain this situation? [12]
(b) Discuss what influence a trades union and a government can have in determining wage rates. [13]

**(M/J 2017, V2), Q4**
(b) In 2016 the Trade Unions called a strike of bus and train drivers after a demand for higher wages was rejected. Use the economic theory of wages to discuss whether a demand for higher wages is likely to be successful. [13]

**(O/N 2017, V2), Q5**
Q. The merit of the economic theory of wage determination is that it clearly shows what the best level of wage rates should be and thus is evidence that there is no need for either the government or trades unions to fix wages. Discuss this assertion. [25]

# A2 – ECONOMICS (9708)

# PAST PAPER SESSION

## MACRO

**CHAPTER 1:** Economic Growth, Standard of Living & Economic Development

# TOPIC 1: ECONOMIC GROWTH

**(M/J 2011, V2), Q7 [ECR]**
(b) Discuss whether increases in economic growth are necessarily beneficial to an economy. [13]
[Advantage and Disadvantages of Economics Growth]

Definition | Economic Growth: It is an increase in the real GDP (national output) of a country over a period of time. There TWO types of economic growth:
i) Short Run Economic Growth, which in the increase in the actual GDP in a year.
ii) Long Run Economic Growth This is the potential GDP over many years. Economic growth can be calculated with the following formulae:

$$\text{Rate of Economic Growth} = \frac{GDP\ 2 - GDP\ 1}{GDP\ 1} \times 100$$

| Short-Run Economic Growth | Long-Run Economic Growth |
|---|---|
|  |  |
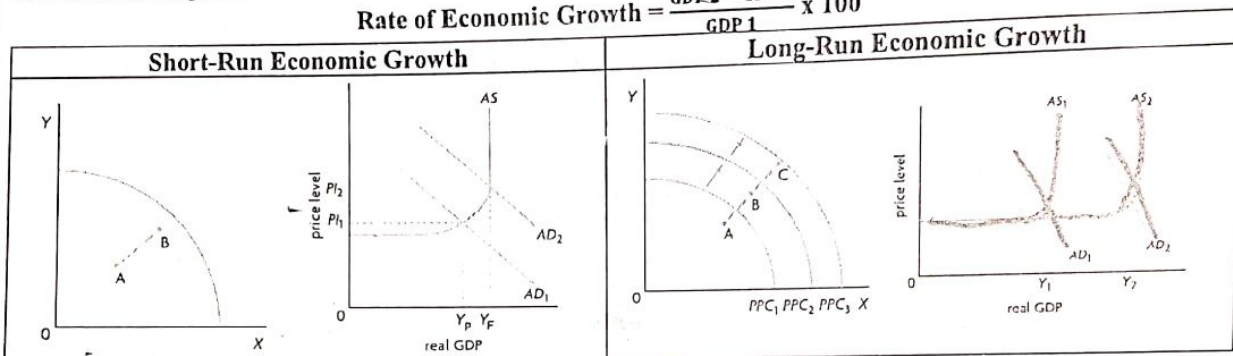
## Advantages

1. Increased Standard of living: This leads to a reducing in absolute poverty and more production of consumer goods which would encourage more consume choice.

2. Improved Health Care and Education: Since the economy is growing the literacy rates increase, while infant mortality and death rates should fall. This increases the quality of labor force and also reduces the burden on the economy for health care in the long-run.

3. Increased Tax Revenue: Since the output would be more the government will gain higher tax revenue from direct taxes and indirect taxes. Direct taxes will increase since firms and consumers profits and incomes increase respectively. Furthermore since more goods would be consumed more revenue would be gained from indirect taxes which can fund hospitals, schools and infrastructure in the economy and leads a more even distribution of income in the economy.

4. Increased Business Confidence: This growth encourages business to take a positive view of the economy and to want to invest, innovate, and use more technology this would increase investment in the economy. Furthermore consumers would spend more increasing the AD.

5. Avoid Macroeconomic Problems: When people want higher standard of living they demand higher wages which can lead to BOP deficits, inflation and industrial disputes. However if long-term policies are implemented then the AS shifts outwards and helps the economy to avoid such problems by increasing employment and output while reducing prices and the same time.

## Disadvantages

1. Environmental Damage: This results from more pollution from factories, cars etc. Damage to the natural landscape by extracting minerals resources and in terms of depletion of non-renewable resources might harm the future growth potential and also put pressure on the government to solve this issue.

2. Opportunity Cost: If a country is on its PPC then reallocation to capital goods will lead to loss of consumer goods today. This would reduce the standard of living today since current consumption will fall.

**3. Unequal Distribution of Rewards:** Growth will likely to result in changes in economic structure and ways of production, leading to some people becoming unemployed while others gain from work. Some workers might be in stress to learn new skills and longer working hours. This can result in rich might start getting richer and poor might start getting poor if reduction in taxes was used to achieve this growth. [Refer to Lorenz Curve]

**4. Lower Quality of Life:** Due to rapid urbanization cities might get over crowded and with greater stress breakdown of family networks and might result in more income but poor quality of life. Furthermore an excess of AD might lead to high level of inflation future adding to the problem.

**5. Imports Increases:** Since people are earning more they might shift their demand from local products to imported ones resulting in a deficit in the BOP.

**6. Low Foreign investment:** Since employment is increasing wages tend to go up. This might result foreign firms from investing the home country fearing high cost of production.

## Evaluation of Economic Growth

So should countries pursue economic growth? The answer depends on the following variables:
1. What Costs and Benefits are involved
2. Can opposing views be reconciled
3. Depends on which method is used to achieve economic growth.
4. Availability of resources
5. Short-run SOL might fall but in the future it will increase using supply side policies.

To conclude the government can view this dilemma as constrained optimization. It can set constraints, level of environmental protection, minimum wages, maximum rates of depletion of non-renewable resources etc. It then seeks policies that will maximize growth while keeping within the constraints.

(b)    Economic growth is a very complex phenomenon which cannot be brought down to a single definition easily by economists. Some economists describe economic growth as an increase in the real per capital income of the citizens of an economy usually accompanied by an improvement in net welfare. According to Angear Nurkse, economic growth has much to do with human endowment, social factors, political factors and history. Additionally, economic growth is shown by an outward shift in the production possibility curve of an economy. Increase in economic growth is not an unmixed blessing and has both the positive and negative aspects of an economy.

    To begin, an increase in economic growth means the population is better off and is enjoying higher income. Thus, they will demand more goods and services to enjoy a higher standard of living. Therefore, the economy has to increase production to satisfy the quests of the consumers. With To cope with the increase in aggregate demand, more workers have to be employed cause a rise in employment which reduces the burden of constantly having to provide for unemployment benefits. However, for example in Mauritius, economic growth has been cause by a rise in the use of technology in textile industries and therefore there is non-pregnant jobs. This as been termed by economists as the "catalytic cyester syndrome".

Furthermore, an increase in economic growth is beneficial as when more people are employed, they are more liable to pay taxes. Thus, the tax revenue of the government increases enabling it to finance more projects and ~~increase~~ to increase economic development in terms of infrastructure. However, if the government increases the tax threshold, less tax revenue will be ~~either~~ obtained.

Increases in economic growth are beneficial as people enjoy a higher standard of living. There is less stressful life as more facilities are available for their leisure time. Also, economic growth entails that the economy is a favourable place for potential investment. Thus, foreign investors will be attracted to bring Foreign Direct Investment because of business optimism ~~pe~~ prevailing in the economy. This further improves national income .
~~Economic~~ ~~for~~ ~~Economic~~ ~~growth~~ ~~most~~ ~~Economic~~ ~~growth~~

Write on both sides of the paper

[However] economic Growth involves some serious drawbacks. Economic growth refers to increased production of goods and services which imply more pollution and external costs. These external costs reduce the economic welfare of the citizens of the economy. Also, economic growth implies higher standard of living which brings along the "rich-man diseases" such as diabetes, hypertension, and cholesterol due to increased consumption. Thus, the extra income from economic growth goes to medical ~~that~~ treatment. ~~Along~~ Also, economic growth can be disastrous when there is inequality of distribution prevailing in an economy. For example, in Saudi Arabia, the 3b rich Sheiks appropriates out the income leaving ~~no~~ others neither better off nor worse-off. This can lead to revolts by the middle-class persons and revolts in the economy will discourage investors to invest. Also, economic growth can be due to the production of more capital goods than consumer goods. In countries like India where more producer goods is produced, the country enjoys economic growth but the ~~poor~~ population does not benefit. A rise in economic growth at the time when t ~~for~~ to makes people better off and they start demanding for imported goods. A rise in imports will definitely worsen the Balance of payment of the economy which may reduce the economy to be indebted. Economic growth may make the citize

4

**(M/J 2012, V2), Q6**

(b) Assess the likely effectiveness of the types of policy the government of a developing country might use if it wished to increase economic growth. [13] [Causes of Economics Growth]

Definition: Economic Growth: It is an increase in the real GDP (national output) of a country over a period of time.

### TYPES OF ECONOMIC GROWTH

There **TWO** types of economic growth:

i) Short Run Economic Growth, which in the increase in the actual GDP in a year.

ii) Long Run Economic Growth This is the potential GDP over many years. Economic growth can be calculated with the following formulae:

$$\text{Rate of Economic Growth} = \frac{GDP\ 2 - GDP\ 1}{GDP\ 1} \times 100$$

### 1. ACTUAL / SHORT-RUN ECONOMIC GROWTH

Definition: This is called the increase in actual real GDP in a year. This can be shown by the following diagrams:

1. PPC
2. AD/AS Model [Keynesian Diagram]
3. AD/AS Model [Monetarists Diagram]
4. Keynesian-Cross Diagram
5. Business Cycle

| 1. PPC | 2. AD/AS Model [Keynesian Diagram] | 3. AD/AS Model [Monetarists Diagram] | 4. Keynesian-Cross Diagram |
|---|---|---|---|
|  |  |  |  |
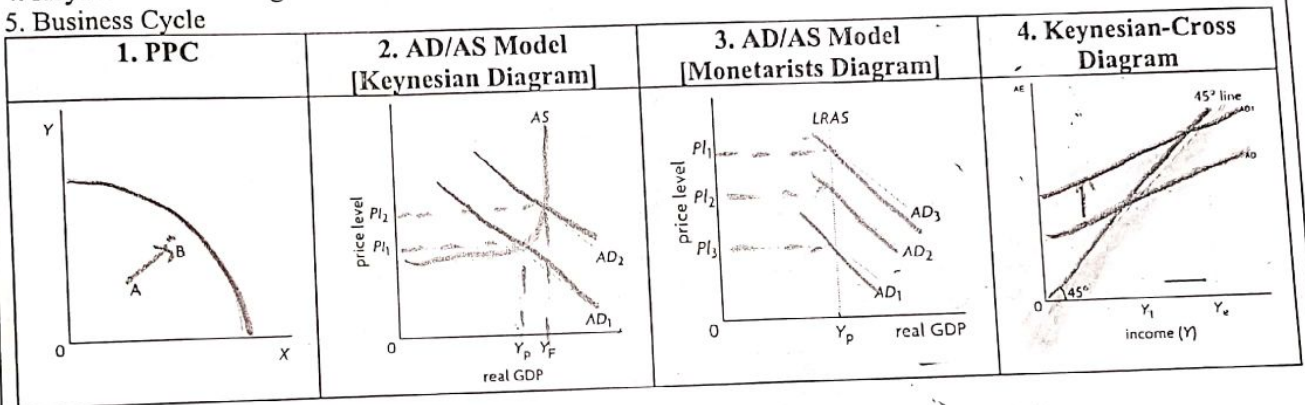
### 1. Short-Run Causes

**1. Expansionary Fiscal Policy**

This involves reducing taxes and increasing govt. spending. These can include:

i) . If direct taxes are lowered it would result in more profits for companies which would increase investments (I) along with more salaries for workers which would increase consumption (C).

ii) Furthermore indirect taxes can also result in cheaper goods leading to greater demand.

iii) Along with that tariffs could be imposed on foreign goods to protect domestic producers and reduce imports. Lower the imports higher would be the local demand and greater would be the economic growth.

**2. Expansionary Monetary Policy**

This involves reducing interest rates, increasing money supply and depreciating exchange rate. These can include:

i) Interest is regarded as price of money. Lower the interest rate greater the demand. As it customers can easily borrow from the banks which would increase consumption (C), firms can also borrow cheaply.

ii) More the money supply customers and companies can spend more e.g. firms can buy expensive machinery, customers can buy luxuries more easily.

iii) Lowering the exchange rate would cause exports (X) to be cheaper and imports (M) to be expensive. The next effect would cause the AD to increase and result in economic growth.

[However] The effectiveness of these policies depends on a number of factors:

1. The more reliable the forecasts of what is likely to happen to aggregate demand, the more able twill be government be to achieve growth.

2. If changes in G or Tare partly offset by changes in other injections and withdrawals fascial policy may not succeed in increasing AD.

3. The extent to which changes in AD will have the desired effects on output, employment inflation and BOP may not be precisely calculated.

4. Monetary policy is especially weak when it is pulling against the expectations of firms and consumers.

5. It might cause demand-pull inflation and current account deficits by making exports expensive and imports cheaper.

## 2. POTENTIAL / LONG RUN ECONOMIC GROWTH

<u>Definition:</u> In the long run when the potential of a country to produce goods increases either by an increase in the quality or the quality of its factors of production which increases is productive capacity. This can be shown by the following diagrams:

1. PPC
2. AD/AS Model [Keynesian Diagram]
3. AD/AS Model [Monetarists Diagram]
4. Keynesian-Cross Diagram
5. Business Cycle

| 1. PPC | 2. AD/AS Model [Keynesian Diagram] | 3. AD/AS Model [Monetarists Diagram] | 4. Keynesian-Cross Diagram |
|---|---|---|---|
|  |  |  |  |
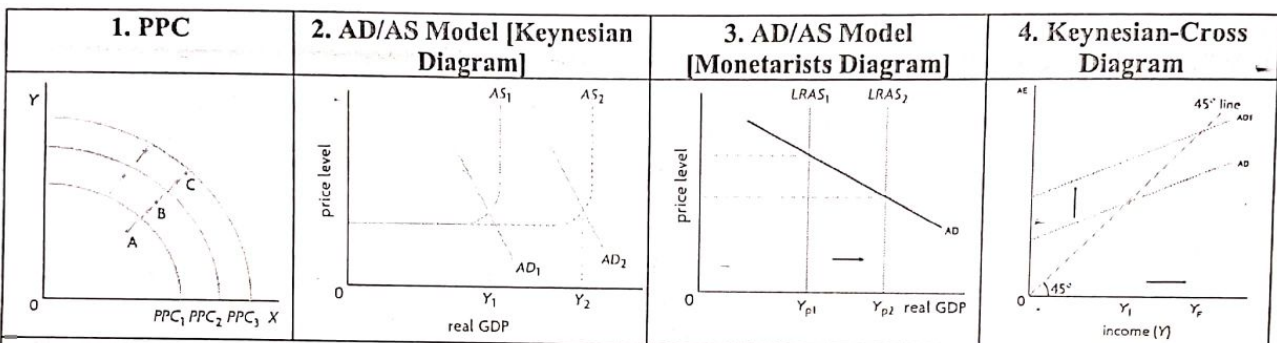
### 5. Business Cycle
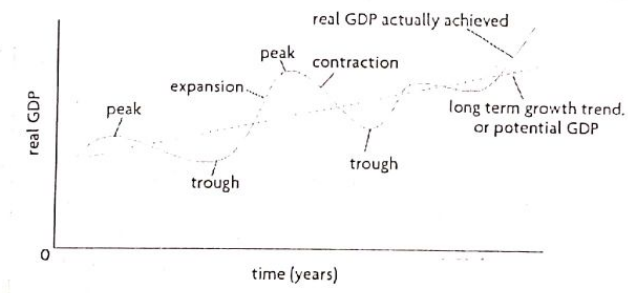


### 1. Increase in the quantity of resources

This happens when all the factors of production, namely Land, Labor, Capital increase, the productive capacity of the country will increase which will be a source of economic growth.

i) When capital increases it results in reduction is average costs due to technical economies. This lower cost increases the production and hence higher AD.

ii) When the working population increase it increase the labor force and hence increase in national output.

iii) When land and raw material increases more goods can be produced, hence increasing the overall output.

### 2. Increase in the productivity of resources

Technological improvements can increase the productivity of capital. Superior machines produce large quantities, bring the overall cost down. Furthermore, with labor training programs, education, better health the productivity of labor will also go up. Increased productivity in return increases the potential GDP.

## 3. Reallocation of resources

A country can raise its GDP by reallocation of resources from less productive to more productive sectors. Example: Shift from producing consumers to capital goods, because capital goods have a higher added value. Furthermore, they can move from low productive sectors like primary to high productive sectors like secondary and tertiary.

## 4. Supply-Side policies

These are the policies that increase the overall supply in the economy. Methods can include:

1. Improvement in education and training: This policy aims to increase the quantity and quality of labor in the economy by launching training and education programs. In order to encourage more workers, the government also lowers taxes to encourage individuals to join the labor force.

2. Reforming trade unions to make labor markets more competitive: Labor market reforms are designed to improve the quality and quantity of the supply of labor avail-able to the economy. They seek to make the labor market more flexible so that it is better able to match the labor force to the demands placed upon it by employers in expanding sectors thereby reducing the risk of structural unemployment.

3. Privatization: It is a government policy in which state-owned businesses are sold to the private sector. The objective is that the firms will be more efficient and can generate more profits since they will profit driven. Furthermore new businesses entering the marketplace increase competitive pressures facilitating the introduction of new ideas and technologies.

4. Cut welfare payments to increase the incentive to work: This will increase the labor force in the country and reduce govt. expenditure on less productive goods.

5. Subsidies: They also include promotion of free international trade and creating incentives for enterprises of all sizes by providing a tax relief on research and development and reductions in the rate of corporation tax. The resulting capital spending by firms adds to aggregate demand $(C + I + G + (X - M))$ but also has an important effect on long run aggregate supply.

[However] There is an opportunity cost and only effective in the long-run.

## 5. Harrod-Domar Model of Economic Growth

This is a model of economic growth that emphases the importance of **savings** and **investment**. This model attempts to develop how equilibrium could be achieved in a growing economy. This model emphasized the importance of savings in the process of economic growth and concluded that a country seeking economic growth must first increase its flow of savings. However this model is less effective in LEDCs because:

1. Generation incomes is difficult and whatever is made is mostly used in consumption.
2. These economies have underdeveloped financial markets making it difficult for funds to be recycled.
3. Some governments keep the interest rates low to increase borrowing this leads to low savings.
4. These economies also lack entrepreneurs who can start businesses with these loans.
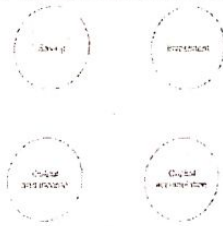
## EVAL

1. Depends on the type of growth required ?
2. Depends on the try of the country. Developed more effective with Fiscal, Monetary and Supply Side. Developing should focus more on utilization of resources and reallocation since they lack system and funds to execute other polices.
3. Govt. objective. Is the government willing to take a tradeoff. If so then Fiscal and Monetary if not then supply side.
4. Monetarists [Supply Side] Keynesians [Demand Side, only if below full employment]
5. To what extent is the economy open or closed. Open economies are more likely to grow.
6. Near full employment or not. It is easier to grow when below full employment

**(O/N 2014, V2), Q7**

(b) Discuss whether economic growth would necessarily lead to a more efficient use of resources in developing countries. [13] [This questions is linked with section 1].

+ First explain economics growth
+ Then efficiency [Productive, Allocative efficiency]
+ Causes of Failure

# TOPIC 2: STANDARD OF LIVING

## (M/J 2016, V2), Q6 [ECR]
Q. Imagine you have been asked to produce a report about the quality of life in your country. Discuss what would be important to include in your report and what economic indicators you would use in order to reach a conclusion. [25]

<u>Definition | Standard of Living:</u> Standard of living is the level of happiness citizens of a nation are enjoying or standard of living is the level of well-being of a nation. The are several methods to measure **standard of living and economic development:**
1. Real GDP per Capita
2. Net Economic Welfare (NEW) or Measurable Economic Welfare (MEW)
3. Human Development Index
4. Number of Consumer Durables per person
5. Human Poverty Index
6. Multidimensional Poverty Index
7. Qualitative Factors

*1. Real GDP per Capita*
<u>Definition:</u> Real GDP per capita is a measurement of the total economic output of a country divided by the number of people and adjusted for inflation. It's used to compare the standard of living between countries and over time. It is better than simple GDP because it takes **inflation** and **population** into consideration. It is widely held that there should be a strong positive correlation between real GDP and levels of development i.e. greater production should move society towards higher level of development and vice versa. It can be calculated with the following formulae:

$$\text{Real GDP per Capita} = \frac{\text{Real GDP (GDP Adjusted for Inflation)}}{\text{Population}}$$

**Problems comparing national income figures between countries**

| Problem | Factors |
|---|---|
| 1. Common Currency | The income figures of each country have to be converted into a common currency. It can be difficult deciding what value to use, because the value of exchange rate is often changing all time. |
| 2. Different accounting techniques | Accounting techniques vary between countries which can alter the way in which income is calculated. |
| 3. Price Levels | It is important to take price level into account as well as nominal income figures. A country may have less average income but also lower prices. |
| 4. Composition of output | The composition of output may vary considerably. One country may be spending on defense, another may be producing consumer goods. The one with consumer goods would have a higher standard of living. |
| 5. Barter | Some economies have much more barter and a greater black economy (illegal) than others. Hence the output in the barter one might be more but it won't be recorded. |

*2. Net Economic Welfare (NEW) or Measurable Economic Welfare (MEW)*
<u>Definition:</u> Net Economic Welfare (NEW) is an adjusted measure of GDP that includes not only consumption and investment items but also all monetary and non-monetary factors that contribute directly to economic well-being. This starts with GNP and NNP.

| Additions (+) | Subtractions (-) |
|---|---|
| 1. Value of Leisure Time: Working fewer hours to get satisfaction from leisure | 1. Congestion |
| | 2. Pollution |
| 2. Unpaid Jobs: These include cooking meals | 3. Depletion of natural resources |
| 3. Income Inequality | 4. Crime |
| 4. Illegal Goods: Activities of the black market | 5. Traffic accidents |
| 5. Legal Goods: These include carpenter doing work without reporting to the government. | 6. Expenditure on defense |

[However] The problem with using NEW is in obtaining reliable estimates of all the additional items it includes. As a result it has to been adopted by government statistical agencies around the world.

### *3. Human Development Index*

Definition: The Human Development Index (HDI) is a statistic composite index of
(i) Life expectancy / Health Care
(ii) Education
(iii) GDP per capita income indicators

These variables are used to rank countries into four tiers of human development. A country scores a higher HDI when the lifespan is higher, the education level is higher, and the GDP per capita is higher and is generally classified to have a higher standard of living. [Advantage] The advantage if using HDI is that it highlights the fact that people's welfare is influenced not only by the goods and services available but also their ability to lead a long and healthy life. This combines both qualitative and quantitative factors. [However] The Human Development Index has been criticized on a number of grounds, including alleged lack of consideration of technological development or other qualitative variables like income distribution, human rights, environmental issues and cultural differences.

### 4. Number of Consumer Durables per person

Definition: Consumer durables are a category of consumer products that do not have to be purchased frequently because they are made to last for an extended period of time (typically more than three years). Example: TVs, Cars, Mobiles etc. Since consumer durables usually represent big-ticket items, both consumers and businesses will typically make these purchases only when they are confident they can afford them. During a period of economic growth, when consumers have more confidence in the economy, there's an increased demand for durable goods which will mark a higher standard of living.

### 5. Human Poverty Index

Definition: The Human Poverty Index (HPI) was an indication of the standard of living in a country, developed by the United Nations (UN) to complement the Human Development Index (HDI). The HPI concentrates on the deprivation in the three essential elements of human life already reflected in the HDI: longevity (Probability at birth of not surviving to 40), knowledge (Adult literacy) and health care (improved water and children who are underweight). The HPI is derived separately for developing countries (HPI-1) and a group of select high-income OECD countries (HPI-2) to better reflect socio-economic differences and also the widely different measures of deprivation in the two groups.

### *6. Multidimensional Poverty Index*

Definition: The Multidimensional Poverty Index (MPI) was developed in 2010 by the Oxford Poverty & Human Development Initiative (OPHI) and the United Nations Development Program and uses different factors to determine poverty beyond income-based lists. It replaced the previous Human Poverty Index. It complements traditional income-based poverty measures by capturing the severe deprivations that each person faces at the same time with respect to education, health and living standards. The MPI assesses poverty at the individual level. If someone is deprived in a third or more of ten (weighted) indicators, the global index identifies them as 'MPI poor', and the extent – or intensity – of their poverty is measured by the number of deprivations they are experiencing. The MPI can be used to create a comprehensive picture of people living in poverty, and permits comparisons both across countries, regions and the world and within countries by ethnic group, urban/rural location, as well as other key household and community characteristics. Their indicators include:

| Health |
| --- |
| 1. Child Mortality: Deprived if any child has died in the family |
| 2. Nutrition: Deprived if any adult or child for whom there is nutritional information is malnourished. |

| Education |
| --- |
| 1. Years of Schooling: Deprived if no household member has completed five years of schooling |
| 2. School Attendance: Deprived if any school age child is not attended schooling in years 1 to 8. |

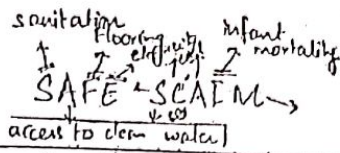| Standard of Living |
| --- |
| 1. Cooking fuel: Deprived if they cook with wood, charcoal or dung. |
| 2. Toilet: Deprived if they do not have an improved toilet or if their toilet is shared |
| 3. Water: Deprived if the household does not have access to clean drinking water or clean water is more than 30 mins walk away from home. |
| 4. Electricity: Deprived if the household has no electricity |
| 5. Floor: Deprived if the household has dirt, sand or dung floor |
| 6. Assets: Deprived if the household does not own more than one of: Ratio, TV, telephone, bike, car or tractor |

## 7. Qualitative Factors of Standard of Living [Any 5 if running out of time]

| Factors | Description |
|---|---|
| 1. Hidden informal or underground economy | These terms refer to economic activity that is not declared and so will not be included in the official GDP data. Hence this should be calculated to get a proper understanding of the economy. |
| 2. The level of Literacy | Total number of literate persons in a given age group, expressed as a percentage of the total population in that age group. Hence higher the literacy greater the SOL. |
| 3. Government Spending | It is difficult to calculate the government spending because it is not always easy to value the output of something that is not sold in the market. Hence higher the govt. spending greater would be the SOL. |
| 4. Sustainability | A country that is experiencing high level of economic growth would be experiencing increased SOL in the short-run but if it is not conserving its resources this would lead to natural resources being depleted in the long-run with higher pollution and lower SOL in the future. |
| 5. Unequal Distribution of Income | The greater the distribution of income in the country higher would be the SOL. [Make the Lorenz Curve] |
| 6. Products Produced | The composition of the GDP will also indicate the SOL. A country producing more military goods would have a lower standard of living as compared to a country that is producing more merit goods. |
| 7. Contrast between consumer and capital goods | A rise in the SOL will come as a result of an increase in consumer goods available. However it should be noted that in the short-run the country must produce capital goods to make this happen. |
| 8. Quantity and Quality of Output | GDP only measures the quantity. The quality of output should always be taken into consideration. |
| 9. Effect of Exchange Rate | It is necessary to take into account the effect of changes in the exchange rates between countries which would otherwise distort any comparison. Economists achieve this through the purchasing power parities. |
| 10. Working hours and working conditions | The way that output is produced should also be taken into considerations. Example: A country's output may have increased substantially but only at a accost of a significant increase in working hours and a deterioration in working conditions. |
| 11. Political Freedom | Political freedoms and civil/human rights also need to be taken into account when assessing the quality of life in different parts of the world. |

## EVAL

1. Several methods can be used but the most significant variable is the MPI because it creates a more vivid picture of people living in poverty within a country as compared to HDI.

2. How reliable is the data for GDP per head? When was this data collected?

3. Can the country afford to collect this data. Activities like censes required for GDP per head might be expensive several developing country conduct them after decades ?

4. Depends which aspect of SOL does the economist want to look at. If for financial then GDP per head, if an overall performance then MPI.

5. Can this data be compared with other countries to form comparisons ? Some countries tend to artificially inflate their GDPs through inflation, hence Real GDP per head is always recommended.

**ECR Version [Marks Awarded = 20/25]**

| | | |
|---|---|---|
| 6 | | Quality of life in ~~your~~ my country means the standard of living and all types of index. For this I would use all the |
| | ① | indicators of HDI (Human development Index), MPI (Multi dimensional Poverty index) and I would also go for characteristics to check out that whether my country is an LEDC (less economically developed country). Moreover, I will also check out the results of inflation, employment and etc. and include all of it in my report. |

Firstly, I would use the HDI indicators to measure the standard of living. It actually have three components; GDP per capita, Average age of schooling and life expectancy at the date of birth. GDP per capita is when the whole yearly output of a country by its own factor of production is divided against the population of the county. e.g. in my country it may be $6000 so through this ~~it~~ it can be judged that the ~~vvvvv~~ quality of life is not

| | | |
|---|---|---|
| | ② | Just good ~~xxxx~~ as a person is ~~not~~ having about 1500 Rs a day. approximately so I would include this point in my report. Average age |
| | ③ | of schooling is how much of school years have each individual attended. e.g. it may be ~~xxx~~ low about 11.4 years in ~~xxx~~ my country which means that ~~the~~ ~~country~~ my state dont have a good quality of life since the & individuals are not well educated. ~~xxx~~ Life expectancy at the date of birth is the time someone is expected to live after he is born. It may |

sanitation ↑ flooring ↑ electricity ↑ infant mortality ↓
SAFE ← SCAIM →
access to clean water]

be low and hence should be included in report. These three features would make clear about the living standards in my country.

④ Secondly I would check out the poverty in my country using MPI. This would include all indicators such as sanitation, flooring, access to clean water, infant mortality, electricity and etc. If the sanitation in my country would be poor, it would be checked by knowing that whether ~~people~~ ~~in many~~ families share washroom with each other. If if the families ~~go to~~ travel for 30 min and more to get clean water, then there is poverty. Moreover, if the floor of a country is made up of cow dung then the family is poor. Also if there is a high infant mortality rate which means that people are dying before the age of 5, then the family is considered poor. If the family does not have an electricity connection then it is considered poor. Moreover, if the family burns cows dung and coal ~~as~~ as a fuel for cooking, then this would ~~or~~ indicate family as in poverty. I would include all these in my reports since this would allow me to check out whether the quality of life is rich or poor.

Thirdly, I would use other indicators such as that the dependence on ~~my~~ primary sector in my country as if more than 50% of the economy is dependent on the primary sector then the quality of life is

poor since the own primary sector products has low money value.

Now the most important economic indicators I will use are inflation, unemployment and .etc. Inflation is the three consistent increase in the general price level of the country. General price level is the average price of goods and services in an economy. If inflation is high in Pakistan (my country) this means that the purchasing power is low and hence quality of life is poor since consumers real income is less to spend a good life. This also indicates a poor value of countries currency making it bad for quality of life. ⑤

Furthermore, I would include unemployment stats in my country report. Unemployment refers to the population willing and able to work but does not find jobs. This is measured by claimant count or international labour organisation. If level of unemployment is high in my countries, this means that there is more dependency and hence quality of life is poor. ⑥

In addition, I would go for the tax rates and government intervention in the economy, e.g. if the government is responsible enough and is in favour of social welfare then it would intervene in the economy by

giving tax relief to some people who are poor and also by charging higher tax to those who are poor indirectly clearing the worst act of income disparity, then this indicates that quality of life is good in the country since government is with the public. ⑦

I would include all these points in the report since HDI and MPI would allow me to measure the living standards and poverty helping to indicate the condition of the country. However other indicators such as unemployment and inflation and government would help me to conclude that whether this is enough for the country or it can be made better. ⑧

## Similar Questions

**(M/J 2014, V2), Q7**
(b) Discuss whether GDP is a reliable measure of the difference in living standards between developing and developed economies. [13]

**(O/N 2015, V2), Q5**
Q. The government of your country wants to know how the economy compares with other countries economies. Discuss which economic indicators it should obtain and how reliable they might be as a basis for such a comparison. [25]

**(O/N 2016, V2), Q7**
(a) Conventional estimates of national income indicated that average income per head between 2009 and 2013 was US$98 780 in Norway and US$36 900 in New Zealand. Consider whether this means that the standard of living in Norway is nearly three times as high as in New Zealand. [12]

## TOPIC 3: ECONOMIC DEVELOPMENT

**(M/J 2011, V2), Q7 [ECR]**
(a) As an economy develops, the relative importance of different sectors of production changes. Explain, with examples, why the pattern of employment might change as an economy develops. [12]

**Introduction:** The usual division of production in an economy is into primary, secondary and tertiary sector. Primary sector includes the extraction of natural resources such as coal mining, iron ore mining, agriculture and fishing. Secondary sector involves manufacturing of finished goods such as textile, steel, cars etc. Tertiary sector provides services which enable the production of goods by primary and secondary producers to take place more efficiently. It consists of two parts, commercial services and direct personal services. Commercial services include banking, insurance advertising etc. while direct personal services refer to the services such as doc-tors teachers lawyers etc.

**Before Development**
At the initial stage of development most developing economies are oriented toward the production primary products (agriculture, fuel, forestry, an p d raw materials) as opposed to secondary (manufacturing) and tertiary (service) activities. These primary commodities contribute more to their GDP than the other sectors. This is because the vast majority of people in developing countries lives and works in rural areas. Therefore a larger proportion of their workforce is engaged in primary sector and only a small portion is employed in secondary and tertiary sector.

**After Development**
As the country develops, modernization of agriculture releases labor for the secondary and tertiary sector. With the introduction of mass education in rural areas people, particularly the young, move into cities for a better life. The great majority of them are employed in the low value labor intensive industries. Also the availability of raw material and cheap labor attracts MNC's to set up production of items such as textiles, shoes, furniture and assembling of electrical items. Local enterprises too set up such industries. Thus the proportion of employment rises in manufacturing sector.

At this stage of development countries experience boom in construction-housing and industrial estate. Governments also focus on developing infrastructure such as roads bridges and means of com-communication. Thus growing employment in manufacturing sector coupled with the rising incomes in general result in growing tertiary sector. New jobs are created in tertiary sector partly because of rising demand for services related to commerce and tourism in particular, and partly because government employs more people for many new industries and public utility providers are usually owned by the government.

As the country becomes highly developed the tertiary sector flourishes. In developed countries it accounts for over 50% of the GDP. Thus the structure of employment changes from large proportion of workforce engaged in manufacturing sector to the tertiary sector. Majority of the labor force is engaged in services like education, tourism, commerce, medical etc. Developed countries have the science and technology, knowhow and highly skilled labor force, therefore they lose their comparative advantage in manufacturing of l goods and ex ow value port high-tech capital intensive goods. Thus proportion of employment is generally the lowest in primary sector because mechanized farming, for instance, makes it possible to run a large farm with just handful of workers. Highly sophisticated technology and the increasing use of automation reduce the proportion of labor in the manufacturing sector. Thus tertiary sector employs the largest proportion of the workforce.

So, as a country develops, the pattern of employment in different sectors of the economy changes, initially from primary to secondary and then to tertiary sector.

## Example candidate response

(a)  As an economy develops, the economy is more prone to encounter economic growth and become an emerging economy. When a developing economy encounters economic development is starts moving towards developed economies by experiencing the same benefits as higher GNP, higher standard of living and better life. When an economy grows, the relative importance of different sectors like the primary, secondary and tertiary sector involvement will change.

An develop economy in the phase of development will start to focus more attention on its tertiary sector, with relatively more ~~focus to~~ focus to manufacturing sector and very less importance to primary sector. This is because the economy feels this better off and people start to consider the primary sector as an inferior one with manual occupations such as fisherman, gardening. ~~Thus~~ The primary sector is more likely to become mechanised with modern equipment like Combi to sugar cane fields and large fishing vessel to reduce labour.

Secondly, in the manufacturing sector, more importance is given to capital intensive production rather than labour intensive. Since capitalisation and automation is likely to benefit all. Also, when the economy develops, more foreign investors like multinational companies come to invest and set up huge

..... manufacturing firms to produce for local market and domestic for exportation. Thus, Coca-Cola setting its plant and machinery in Mauritius has benefitted many locals in terms of job. Also, these foreign firms along with foreign direct investment bring their expertise expertise which makes the host economy more efficient. This is likely to increase the exportation causing a Balance of payment surplus.

Thirdly, employment in the tertiary sector in terms of doctors, accountants and other white collar jobs increase. This is because improvement in an economy in terms of human capital in the field of education and polytechnique polytechnique institutes make the local citizens literate. They prefer to get employed in these service sectors because of higher pay, less manual effort and physical effort and less risk to life. This can be shown as follows:

Employment      Employment Figure 2

Figure 1

Primary           Tertiary

Secondary      Secondary

Tertiary     Primary

Less developed      Developed
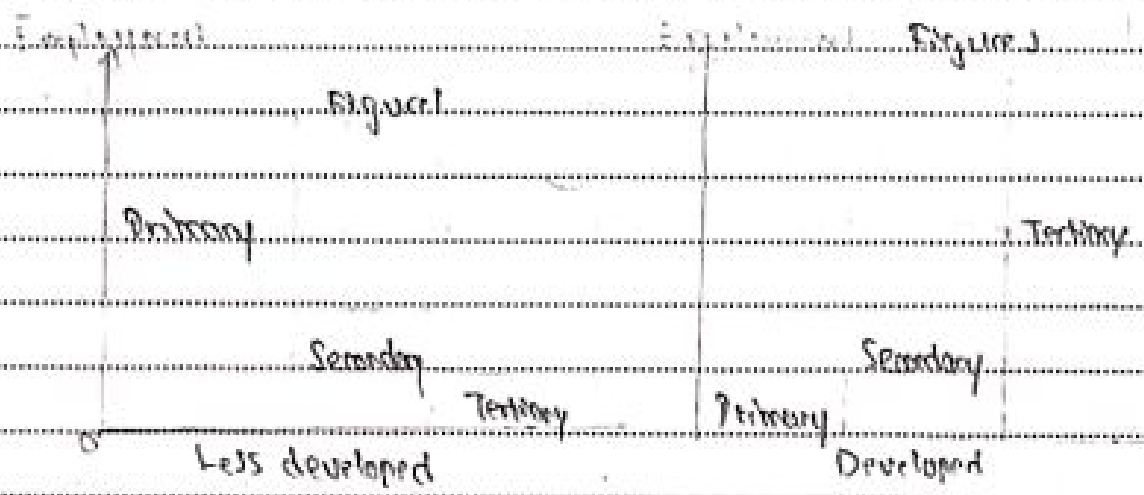
A developing country experiencing development will approach figure 2 in terms of its differentiation

L4

**\*(O/N 2011, V2), Q7\***

Q. Some economies are said to be **developing while others are developed**. Explain the **difference between the two** and discuss whether the problems of a developing economy would be solved if it achieves developed status. [25]

Development economics classifies different economies into developed and developing economies. The latter is further classified into underdeveloped, undeveloped and newly industrialized economy. Although all of the above mentioned economies are broadly classified as developing economies but differentiated development will exist among them. Economically advanced and technologically independent countries are classified as developed nations. While developing countries are mainly characterized by low levels of living, high rate of population growth, low income per head and general economic and technological dependence on developed economies.

**[First Part — Difference between Developing and Developed]**
**[Social Difference]** In developing nations general levels of living tend to be very low for the vast majority of people, This is true not only in relation to their counterparts in rich nations but often also in relation to small elite groups within their own societies. These low levels of living are manifested quantitatively and qualitatively in the form of low incomes(poverty), inadequate housing, poor health, limited education, high infant mortality, low life and work expectancies, and in many cases a general sense of malaise and hopelessness. On the other hand in developed economies high levels of living is reflected by high per capita income, mass education, adequate housing and health facilities for the vast majority of people.

**[Income Difference]** Primarily developing economies differ from developed economies in their size and composition of GDP. In 2000, GDP of all the nations of the world was valued at more than U.S. $31 trillion, of which almost $25 trillion originated in the economically developed regions and less than $7 trillion was generated in the less developed nations. When one takes account of the distribution of world population, this means that over 90% of the world's income is produced in the economically developed regions by 15% of the world's people. Thus the remaining 85% of the world's population is living on only one-fifth of total world income.

**[Economics Sector Composition]** So far as the composition of GDP is concerned, tertiary sector contributes the largest proportion to GDP in the developed economies followed by secondary and then primary sector. Their manufacturing and construction are geared towards high value products and structures. In contrast to this, most developing economies are oriented toward the production of primary products (agriculture, fuel, forestry, and raw materials) as opposed to secondary (manufacturing) and tertiary (service) activities. These primary commodities form their main exports to other nations. Their manufacturing sector comprises of small scale cottage industry.

**[Standard of living]** Furthermore, the technology in developed economies is extremely advanced. They are now venturing into genetic engineering and artificial intelligence. On the contrary, developing economies lack indigenous technology and therefore import capital equipment from the developed countries. Developed economies have extensive infrastructure with highly developed means of transportation and communication. The workers in these countries are better trained and more productive due to the higher health standards and high capital labor-ratio. Whereas, developing countries usually have poor infrastructure, old means of transportation and communication, frequently interrupted supplies of power, water and gas. Productivity of workers in these economies is low mainly due to low-health standards, poor training and low-capital labor ratio.

**[Population]** Population of developed economies is small relative to their GNP. They also have much lower birth rate and a longer life expectancy. Their population composition is made up of a larger middle and old age group relative to the young. The literacy rate. is usually close to 1000/ if not 100%. In contrast to this, size of the population in developing economies is high relative to their GNP Due to the high rate of population growth the proportion of young is relatively high than middle and old people, thus the age structure makes a pyramid. Their general literacy rate is low and the proportion of people with higher education is even lower.

[Income Distribution] Income distribution is the smoothness or equality with which income is dealt out among members of a society. If everyone earns exactly the same amount of money, then the income distribution is perfectly equal. In developing countries there is a wide gap between the richest and the poorest. The rich usually have a large percentage of money income (e.g. 40%) whereas the poor have approx.. (10%).
One way of comparing this is using the **Gini Coefficient and shown by the Lorenz curve**. The developed countries have lower level of income inequality (lower Gini coefficient) where in developing countries there is a high level if income inequality (higher Gini Coefficient). It should be noted that once countries are developing rapidly like BRICS countries initially there is high level of income inequality but in the long run it improves. **(Kuznets curve)**
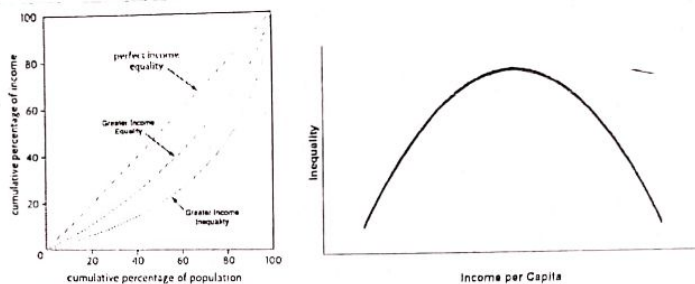


[Dependency] Many developing countries have become dependent on developed countries. This is mainly because of MNCs as although these companies bring embayment however they destroy the local businesses which leads to less production by the local firms. This leads to the country being dependent on these firms and suffer long-run economic drains when these MNCs shift profits back to their home countries.

[External Debt] Developing countries have high level of external debt and debt repayments as a percentage of their GDP. This is because they usually don't produce enough and have to borrow from organizations like World Bank and IMF to fulfil their needs. Whereas developed countries tend to fund their growth options with their resources however if they take a loan it is usually a small percentage of their GDP.

[Second Part — Can the problems be solved if it moves from developing to developed?]
[Similar Problems/Problems that can't be solved] When a country attains the status of being developed some of the problems it encounters are similar in nature, although not to the same extent, from those found in developing economies. The fundamental economic problem of scarcity, for instance, remains regardless of the economic status of the economy. Similarly the problem of unemployment, negative externalities, over-crowding and the issue of exploitation of natural resources are common both in developed and developing economies. These problems cannot be completely solved; however, a developed economy is assumed to be in a stronger position to deal with them than a developing economy thus the severity of these problems can be reduced to a certain extent.

[New problems]
1. In addition to the problems mentioned above, developed economies face economic problems which differ in nature. For instance, being developed means **high cost of living** and loss of competitiveness in many of its traditional industries. It is for these reasons the developed countries often have to deal with the rising structural unemployment. Thus a developed country faces the difficult task of discovering and developing new industrial avenues that involves heavy expenditure on research and development and retraining of its labor force. This may be difficult, particularly, if the labor force is inflexible and immobile.

2. A major problem arises when the economy starts incurring trade deficit. This is partly due to the **higher value of the exchange rate** and partly due to the direct relationship between income and preferences of imported goods. This drains the country's reserves and creates unemployment as demand for the local goods falls within the economy and abroad.

3. Developed countries may also have the problem of changing values of work force who are accustomed to comforts in life. Through the democratic process they vote for welfare. Thus resources and government spending is diverted to current consumption rather than for capital accumulation. This slows down their economic growth.

4. Finally developed countries face the **problem of aging population**. The higher standard of health care increases the average life expectancy. Also the change in life style and social values lower the birth rate. Thus the ratio of dependent population rises i.e. a smaller proportion of population works to support a growing aging population. Often the government has little choice but to raise taxes to finance welfare programs for the rising aging population. At times the government has to borrow for the same reasons. Rising internal and external borrowing has economic bearing be-cause it increases country's debt and tends to slow down the growth rate.

## EVAL

1. Depends on how effective is the government in solving those problems. Depends on the political system in the country

2. Depends on the type of the problem. Most of the problems like external debt income distribution are long-run policies and can't be solved in the short-run

3. Which policy is the government using? Supply side polices and foreign aid more beneficial for development. Demand side polices [Fiscal and Monetary will just create a tradeoff.

4. What stage of economics development is the country currently? Underdeveloped economies find it hard to solve problems but BRICS and developing economies might find it easy to do.

**Final Statement:** Thus a developed country has as many economic problems as a developing country. However the developed economies face economic problems which differ in extent and in nature from those found in developing economies.

(a) Explain how the age and employment structures of the population of a developing country are likely to differ from those of a developed country. [12]

Development economics classifies different economies into developed and developing economies. The former refers to economically advanced and technologically independent countries are classified as developed nations while latter is further classified into underdeveloped, undeveloped and newly industrialized economy. Although all of the above mentioned economies are broadly classified as developing economies but differentiated development will exist among them. All in all these countries are mainly characterized by low levels of living, high rate of population growth, low income per head and general economic and technological dependence on developed economies.



[First Part — Age] The population structure of a country is how it is made up of people of different ages, and of males and females. Developing countries differ greatly in age structure of their population from developed countries. Al-most all the developing countries possess high population growth potential characterized by high birth rate and high but declining death rate. On the Contrary low or no population growth in developed countries is attributed to the low birth rate and death rate low. An important consequence of high birth-rate in developing countries is that a larger proportion is in younger age group. The percent-age of population under 15 years of age is about 40 in developing countries compared with only 25% in developing countries. Moreover 90% of the dependents are children in developed countries whereas their percentage is 66 in developed countries.

Developing countries have also a shorter life expectancy which means a smaller fraction of their population available as an effective labor force. Average life expectancy at birth is roughly 51 years whereas it is over 75% in developed countries. Thus developed countries face the problem of aging population. The higher standard of health care increases the average life expectancy.

Also the change in life style and social values lower the birth rate. Thus the ratio of dependent population rises i.e. a smaller proportion of population works to support a growing aging population.

Thus the typical population pyramid of a developing country is wide at the base, which means there are a large proportion of young people in the country. It tapers very quickly as we go up into the older age groups, and is narrow at the top. This shows that a very small proportion of people are elderly. While the population pyramid showing age structure of a developed country is narrow at the base, wider in the middle, and stays quite wide until the very top, as there is a sizable percentage of older people.

[Second Part — Employment Structure] Employment structure means how the workforce is divided up between the three main employment sectors - primary, secondary and tertiary. Primary jobs involve getting raw materials from the natural environment e.g. mining, farming and fishing. Secondary jobs involve manufacturing e.g. making cars and steel. Tertiary jobs involve providing a service e.g. teaching and nursing.

So far as the employment structure is concerned, tertiary sector employs the largest proportion of labor force in the developed economies followed by secondary and then primary sector. Their manufacturing and construction are geared towards high value products and structures. In contrast to this, most developing economies are oriented toward the production of primary products (agriculture, fuel, forestry, and raw materials) as opposed to secondary (manufacturing) and tertiary (service) activities. Vast majority of people in developing countries lives and works in rural areas. Over 65% are rurally based, compared to less than 27% in economically developed countries. Similarly, on average, 58% of the labor force is engaged in agriculture, compared to only 5% in developed nations. Agriculture contributes about 14% of the total output of developing nations but only 3% of the GNP of developed nations Thus primary sector employs a relatively higher proportion of the labor force in developing countries. Their manufacturing sector comprises of small scale cottage industry providing limited employment opportunities and the tertiary sector employs the least of the total labor force.

From the above explanation it can be concluded that the age and employment structure vary to a large extent between developed and developing countries.

**(M/J 2017, V2), Q6, a**

(a) Developed countries sometimes prevent investment in rural areas while developing countries often encourage rural development. Consider why this might be so. [12]

Development economics classifies different economies into developed and developing economies. The former refers to economically advanced and technologically independent countries while latter are characterized by low levels of living, high rate of population growth, low income per head and general economic and technological dependence on developed economies.

In almost all developing countries, the conditions in terms of personal consumption and access to education, health care, water and sanitation, houseing, transport, and communications face by the rural poor are .far worse than those faced by the urban poor. This urban rural disparity results from private investment or public works programs focusing only in the urban areas and neglecting the rural areas. As a-result a persistently high levels of rural poverty have contributed to rapid population growth and migration to urban areas. In fact, rapid urbanization and urban poverty is created by the rural poor's efforts to get out of poverty by moving to cities.

The rural poor in developing countries cannot make the best use of their resources, including human capital. This is because either the quantity or the quality of some of the key parts of the country's physical infrastructure such as irrigation, transport, and communications and support services such as research are inadequate. The rural poor need to build and strengthen their human capital so they can get out of poverty and contribute more to the economy and society. Investment in the infrastructure such as transport, communications, irrigation, education, health care, water, and sanitation, therefore, would directly affect the rural sector's productivity and the rural poor's 0 quality of life. Farmer literacy and good health, for instance, have great influence on farm productivity.

Experience has shown that if countries put in place incentive structures and complementary investments in infrastructure, health and education the poor will benefit doubly through increased current consumption and higher future incomes. Developing economies therefore encourage investment in rural areas in order to reduce overall income dis-parity and eradicate absolute poverty. As an added advantage it can bring food security and accelerate much needed growth rate in these countries.

Developed countries, on the other hand, sometimes prevent investment in rural areas and encourage people to invest in urban areas. This is because majority of their population lives in urban areas and is engaged in high-tech industries and services. A large proportion of unemployed in developed countries therefore consists of educated and skilled workers looking for industrial jobs. While proportion of their population engaged in agro based activities is relatively small and therefore rural unemployment makes a relatively small pro-Portion of their total unemployment rate. Investment in rural areas thus involves a higher opportunity cost.

Secondly, land, water and forests are the primary resources essential to maintain human life and wellbeing. The use of these resources must be balanced with conservation to support sustained national development, and to avoid environmental degradation and losses in agricultural productivity. Since environmental protection provides many benefits to different groups of people in both urban and rural areas therefore developed countries are more conscious of the potential environmental damages that might result from investment going into their rural areas and hence they sometime prevent investment in their rural areas.

**(M/J 2017, V2), Q6, b**
Q. Why is it important to use qualitative data as well as quantitative GDP data when considering whether a country is developed of developing?
Note: This essay is the same as methods of measuring the Standard of living on Page 10.
Note: There are **TWO** types of Questions and **NEVER** confuse them:
1. One is features of developed and developing. That answer is on 18.
2. This questions talks about the measuring. In this all the methods to measure. Page 10.

## Similar Questions

**(M/J 2015, V2), Q6**

(b) Explain what is meant by a developing country and a developed country and consider whether the table supports the idea that GDP growth rates are a good indicator of development. [13]

**(O/N 2016, V2), Q7**

(b) Norway and New Zealand are classified as developed countries. Make a judgement on what are the important distinguishing differences between a developed country and a developing country. [13]

**(O/N 2017, V2), Q6**

Q. Whether a country can be classified as developed depends on the value of its GDP and the higher the GDP the better it is for the country. Consider this opinion. [25]