

Public Finance

Introduction to Public Finance:

Before we begin with the public finance, we would like to point out the major functions of a modern government:

- (a) Improving economic efficiency
- (b) Making the distribution of income less unequal
- (c) Stabilising the economy through macro-economic policies
- (d) Representing the country internationally

It is duty of the government to bring economic and social justice in the country. And this can only be done by properly utilising the funds raised through taxes and other sources of public finance.

The famous *American Economist J.M. Keynes* has revolutionised and changed the meaning of public finance. According to Keynes, public finance should be used as an instrument for achievement of certain economic and social objectives. Before Keynes, the concept of public finance was to raise sufficient revenues for meeting public expenditure. In other words, before Keynes, public finance was concerned with the raising of financial resources for the State. But Keynes made a fundamental change in the nature and scope of public finance. Keynes and his followers emphasised that public finance is to help in the achievement of certain social and economic objectives and finance some essential economic activities.

Keynes underlines the fact that the taxation and public expenditure policy of the State vitally affects the level of income and employment in the country. Keynes showed that during depression, how a government could reduce the depression from the economy by increasing its public expenditure and raise the level of employment. When the government increases its investment expenditure on public works, then the level of income and employment in the country increases more than the ratio of increase in initial investment. This is Keynes' Income Multiplier.

Generally, the level of full employment in the economy is impossible. This is so because whenever there is lack of effective demand, the production remains unsold which ultimately leads the entrepreneur to loss. Thus investor will reduce the level of investment resulting more unemployment and a situation of depression in the economy. In depression, the purpose of budgetary policy is to provide investment opportunities and increase employment level in the economy. The government should increase public expenditure during depression more than the public revenue. The deficit can be covered by deficit financing, i.e., by creating money. The result of deficit financing is that the purchasing power with the people increases and aggregate demand for goods and services increases. Owing to increase in aggregate demand and the operation of multiplier, the depression will tend to disappear and the economy will move towards full employment.

On the contrary, whenever, there is a higher effective demand and when the money supply is increased, there will be a generation of inflation in the economy. In such a situation, the purpose of fiscal policy to reduce money supply in the economy so as to reduce the inflationary pressure and so people can save more and consume less. When there is inflation in the economy and the prices are soaring higher and higher, the government should levy heavy taxes and in this way withdraw purchasing power from the people and should also reduce its own expenditure. The demand having been reduced in this way, prices would tend to come down. It is clear that to fight inflation, the government should frame a 'surplus budget'. A surplus budget means that the government should collect more money from the public by imposing more taxes but keep its expenditure less than the revenue raised. The result will be that less purchasing power will be left with the people and the aggregate demand for goods will be reduced. Consequently, the prices will have a tendency to fall.

The above situation is mostly existed in economically advanced and rich countries. The less developed countries, like Pakistan, Bangladesh, India, China, Myanmar, etc. are caught up in the vicious circle of poverty and their main problem is to break this circle and move towards economic development so that poverty is removed and the living standard of the people is raised. The objectives of public finance in less developed countries are to give a fill up to capital formation, encourage industrialisation, encourage productive investment, and foster economic growth. Thus the objectives of public finance in less developed countries are different from those in the developed countries. Whereas in developed countries, the function of public finance is to accelerate economic growth so that the widespread unemployment and poverty prevailing in the country are removed.

Causes of Market Failure / Reasons of Government's Intervention in Market

Economy:

The market economic system operates under Price Mechanism. Consumers show their will or desire to buy a commodity at a given price in order to maximise their utility. On the other hand, the producers are aimed at maximising their profit for what they produce. In market economy, there is no justification for state intervention but there are some reasons that necessitate the government's intervention in the economy as discussed below:

(a) To avoid Monopoly: Monopoly is a situation in which one seller rules over the whole industry. The buyers are compelled to purchase commodity at the price fixed by the monopolist. Therefore, the government interferes for the benefits of the consumers. The government interferes in pricing of the commodity, and/or encourages new firms to enter into the market/industry.

(b) To maintain Price Mechanism: There may be possibilities of prevailing an unjustified price mechanism even in the presence of perfect competition in the market. The government can monitor the prices fixed by the market and protect the consumers from the burden of unjustified prices.

(c) To meet Externalities: Externalities represents those activities that affect others for better or worse, without those others paying or being compensated for the activity. Externalities exist when private costs or benefits do not equal social costs or benefits. There are two major species, i.e., external economy and external diseconomy. In such situation, government intervene the market with its different policies.

(d) Increasing Social Welfare and Benefits: Another strong reason of government's intervention in the market economy is the social welfare and benefit. It is one of the duties of an elected government to work for the common welfare of the nation; to provide social goods and services, like hospitals, education facilities, parks, museums, water and sewerage, electricity, old age benefits, scholarships, etc; and the protect the people from the evils of a laissez faire economy.

(e) To meet Modern Macro-Economic Issues: It is the duty of the government to ensure that the country is in a right direction of economic development. Government must ensure controlled inflation, greater employment opportunities, rapid technological advancement, adequate capital formation, and higher economic growth rate.

Governmental Activities / Actions taken by the Government:

Intervention of government in the economy takes a number of forms. The government may undertake the conduct of production, or may influence private economic activity by subsidies or taxes, or they may exercise direct control over behaviour on the private sector. Finally, governments may transfer purchasing power from some persons to others. The government activities can be broadly classified into four groups:

(a) Allocative Activities: These activities alter the overall mix of gross national product. The allocative activities arise out of the failure of the market mechanism to adjust the outputs of various goods in accordance with the preferences of society. The ultimate goal of the government is to maximise per capita income.

(b) Efficiency in Resource Utilisation: Maximum efficiency in the use of resources requires the attainment of three conditions:

- (i) Attainment of least cost combinations
- (ii) Operation of the firms at the lowest long-run average cost
- (iii) Provision of maximum incentive for developing and introducing new techniques.

While the private sector is presumed to be less deficient, on the whole, in attaining optimal efficiency than in attaining optimal allocation of resources, nevertheless in several situations governments may be more effective.

(c) Stabilisation and Growth Activities: are those activities reducing economic instability and unemployment and increasing the potential and actual rates of economic growth.

(d) Distributional Activities: are those activities altering the pattern of distribution of real income.

Approaches of Government Actions:

Following are the approaches or tools of government action plan against the malfunctions of market economy:

(a) Governmental Conduct of Production: The public goods such as defence, law enforcement, etc are supplied by the government, since their inherent character they cannot be produced and sold on a profit-making basis by private enterprise.

Government may also undertake education. In order to adapt the nature and quality of education to meet community goals, governments produce the services directly, although allowing private enterprise to provide them as well for persons who prefer the private product.

Government conduct of production may also be undertaken for efficiency reasons - to avoid collection costs, to obtain advantages of longer-term investments, or to attain economies of scale.

(b) The Subsidy Approach: An alternative to governmental production is subsidisation of private producers to induce them to increase output or to undertake investments that they would not otherwise make. Thus private schools could be subsidised to provide additional education at prices less than those equal to marginal cost. Subsidies might also be used to increase investment to lessen unemployment or to lower output when carried beyond the optimal figure.

(c) The Control Approach: For some purposes, direct control of private sector activity, with no governmental production except the limited amount involved in administration of the regulatory rules, is a satisfactory solution. Activity that gives rise to significant external costs, such as pollution, may be subjected to controls, such as requirements for adequate waste disposal. Monopoly may be broken up by antitrust laws or monopoly firms may be subjected to detailed regulation of rates and services. This form of regulation creates a continuous clash of interest between government and the firms.

(d) Aggregate Spending: Prevention of unemployment and attainment of the potential rate of economic growth or prevention of inflation may require fiscal and monetary policies that influence aggregate demand in the economy. To eliminate unemployment the government may raise the level of public spending and the scope of its activities beyond the levels as warranted, or may reduce taxes below the optimal levels.

(e) Transfer Payments: Transfer payments are made by the government for bringing down the inequality in income distribution more closely in line with the desired one. Transfer payments may be 'specific' or 'non-specific', for example, scholarships in universities are specific, and provision of education and parks free of charge is non-specific. Non-specific transfer payments or general transfer payments are made on the

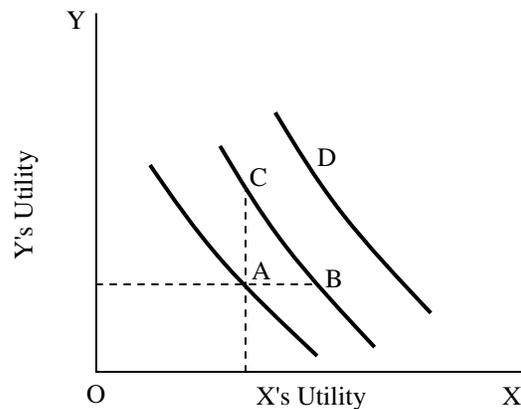
basis of the income status of the recipients in conjunction with various criteria of needs. For example, old age benefits, aid for dependent children, direct relief, or negative income tax.

Pareto Optimality / New Welfare Economics:

The New Welfare Economics represents a break with the utilitarian tradition in Economics. The new welfare economists claim to arrive at optimum conditions of production and exchange without adding the utilities of different persons or comparing the satisfactions of different individuals. The new welfare economics is claimed to be objective and scientific and not ethical. It is said that welfare economics furnishes an analysis of the causes governing the measure of welfare or an increase or decrease thereof. Italian born Vilferdo Pareto is said to be the pioneer of new welfare economics, although there have been introduced some subsequent refinements since then.

The **Italian Economist Vilferdo Pareto** has laid down the conditions for maximising social welfare or for achieving a social optimum. A Paretian optimum refers to a situation in which it is impossible to make any one better off without making some one worse off. For judging such a situation, Pareto has enunciated a very simple and straightforward criterion thus: "Any change which harms no one and which makes some people better off (in their own estimation) must be considered to be an improvement."

In the following diagram, an example of a community is taken, in which there are only two persons X and Y:



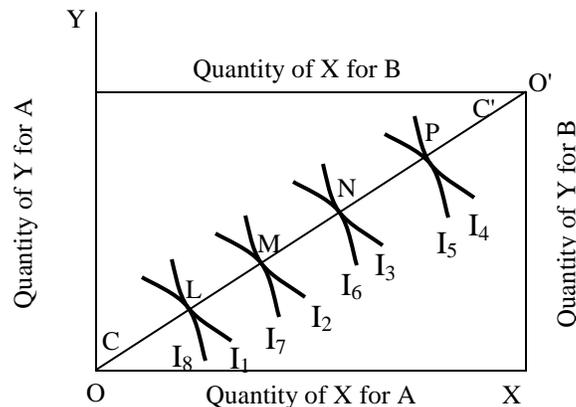
The utility of X is represented along horizontal axis and that of Y along the vertical axis. The Pareto criterion states that if we start off from a situation which is represented by a point like A, then a policy change by the Government is an improvement if it results in a move to any point like B or C which lies to the right of A or above. At B, X is better off than at A with Y as well off as before, whereas the move to C benefits Y without harming X and the move to D, benefits both the persons.

Conditions of Paretian Optimum:

The conditions of Paretian optimum are given below:

(a) Optimum Allocation of Products: Allocation of products to be optimal must be such as to make it impossible for any pair of individuals to exchange any quantity of any pair of consumer goods resulting in increase in one's satisfaction without decreasing that of another. That is, if any alternative allocation can increase some one's satisfaction without decreasing another's, it is not optimal. To put in terms of indifference curve technique, the marginal rate of substitution (MRS) between any two good must be same for any pair of owners of the same two goods. We know that MRS is the rate at which units one good can be exchanged for the units of another without lowering the level of satisfaction.

This can be explained with the help of an *Edgeworth Box diagram*. The Edgeworth diagram for consumption shows the indifference curve preference maps of the two individuals and their derived levels of satisfaction from the various combinations of goods. The indifference curve preference maps of both A and B have been combined and shown with the help of an Edgeworth Box in the following figure:



The indifference curve preference map of A starts from origin O, whereas the indifference curve preference map of B starts from origin O'. I₁ to I₈ represents the indifference curves of individuals A and B. I₁, I₂, I₃ and I₄ represent the indifference curves of individual A, and I₅, I₆, I₇ and I₈ represent the indifference curves of individual B. The slope of an indifference curve, as we know, at any point is the marginal rate of substitution between commodities X and Y (MRS_{xy}). The point would be optimal where the MRS_{xy} of both individuals are same. If the MRS_{xy} is not the same, then with the help of exchange, it is possible to increase the level of satisfaction of one without diminishing that of the other. Now if we joint the points L, M, N, P where the different sets of indifference curves of individuals A and B are tangent to each other, we get a curve known as 'Contract Curve', i.e., cc'. The points L, M, N and P lie on the contract curve cc'. At each of these points, the MRS_{xy} for A and B is the same. Therefore, each point along a contract curve cc' represents a point of Pareto-optimality. In other words, any redistribution of the goods X and Y between A and B will yield a lower level of satisfaction.

(b) Optimum Degree of Specialisation: It refers to the condition that the marginal rate of transformation (MRT) between any two goods must be the same for any pair of firms producing both of them. The MRT between two goods is the amount of one good which

would have to be sacrificed to produce one unit of another good. This only means the ratio of marginal opportunity cost of the two goods. Obviously, if MRT is not the same for any pair of producers, it would be possible to increase the combined output of the two goods or increase the output of one without decreasing that of another. This will mean that the present degree of specialisation is not the optimum.

(c) Optimum Factor Utilisation: This represents optimum relationship between the factor and the product. The utilisation of a factor will be optimal if the marginal rate of transformation (MRT) between any factor and any product is the same for any two firms using the factor and producing the product. If MRT is not the same, it will be a departure from the optimum.

(d) Optimum Allocation of Factors: All factors of production must be so allocated among the various uses that the marginal production in each use is that same. If it is not the same, it will pay to shift some units of a factor from one use to another. In terms of new economics, the marginal rate of technical substitution (MRTS) between any pair of factors must be the same for any two firms using both to produce the same product. Only then, the allocation will be optimal. If it is not, it will be possible to increase the total product by shifting a factor from one firm to another.

(e) Optimum Direction of Production: Another condition for maximising welfare is that the marginal rate of substitution between any pair of products for any person consuming both must be the same as the marginal rate of transformation for the community between them. In terms of utility analysis, it means:

(i) That the ratios of marginal utilities of the two goods must be the same for all consumers, i.e.,

$$\frac{\text{MU of A}}{\text{Price of A}} = \frac{\text{MU of B}}{\text{Price of B}} \quad \text{and so on.}$$

This will represent maximum satisfaction of the consumer.

(ii) The ratio of their marginal costs must be the same for all producers producing them, i.e.,

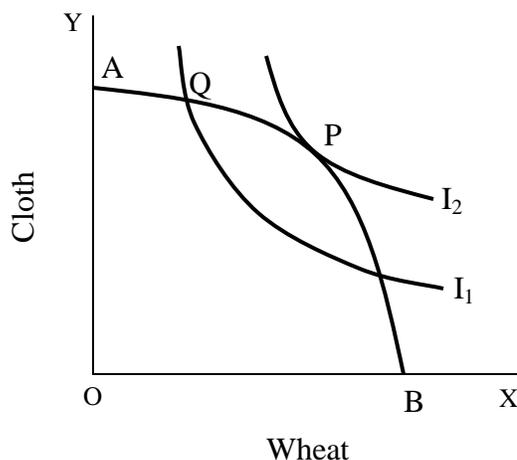
$$\frac{\text{MC of A}}{\text{Price of A}} = \frac{\text{MC of B}}{\text{Price of B}} \quad \text{and so on.}$$

(iii) These ratios must be equal.

This condition relates to the maximum efficiency of the economic system. The goods must be produced in such combinations that they not only conform to consumers' preferences but are also produced at the minimum average cost. If it is technically possible to substitute one good for another and make one better off without making another worse off, the production is not optimal.

Let us take a community producing two goods. The quantity of each good it produces will depend on its factor endowments and on its existing technical knowledge. By factor endowments we mean the amounts of factors of production the community possesses. Let us assume that the community can produce either 100 bushels of wheat or 100 yards of cloth when all its factors are fully and most efficiently employed in the production of either wheat or cloth respectively. The various combinations of wheat and cloth that it can produce are shown by the 'production possibility curve' or the 'transformation curve'. If the community chooses to produce wheat only, it can produce 100 bushels. If it would also like to produce cloth, it must forgo the production of some of its wheat. The amount of wheat, which the community foregoes in order to have an extra unit of cloth, is known as the 'opportunity cost' of wheat in terms of cloth.

In the following diagram, the community's production possibility curve drawn on the assumption of increasing opportunity cost. The meaning of increasing opportunity cost is that the amount of extra wheat the community produces by decreasing production of cloth with given factors is steadily increasing.



Let us superimpose the indifference curve preference map, i.e., I_1 and I_2 of an individual A on AB production possibility curve. Now the Pareto-Optimal point would be where the slope of production possibility curve AB and of the indifference curve (A) is the same or tangent. In this diagram, point P is the optimal point, as the slope of the indifference curve I_2 and PB on curve AB is the same. The point Q is not the point of optimum.

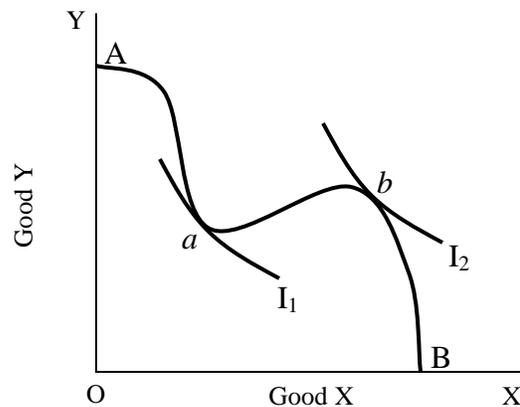
(f) Optimum Allocation of a Factor-Unit's Time: The owner of a factor unit has the option of using the factor to render him a direct service or hiring it out to others for aiding in production. Hence, the problem for the owner of a factor is to allocate the time of factor rendering direct services or working for a money reward in an optimal manner.

(g) Inter-Temporal Allocation of Assets: Every individual firm has to bring about an optimal allocation of factor inputs and product output over time. A firm may produce a given output stream with various time patterns of factor inputs and conversely, it may have various time patterns of outputs with a given input stream of factor services. It

refers to the allocation of products or factors that may relate to different moments of time. In this case, the allocation will bring maximum welfare when the marginal rate of substitution between any pair of moments is the same for every pair of individuals or firms.

The above-discussed conditions are also known as '*First-Order Conditions*'. From the above first-order conditions, the Pareto-Optimality can be attained. But the fulfilment of these first-order conditions may not be enough to lead to welfare optimality. To achieve an optimum welfare position, it is very necessary that the '*Second-Order Conditions*' along with the first order conditions should also be satisfied to achieve the maximum welfare. These second order conditions are no other than the stability conditions for equilibrium position. The fulfilment of second order conditions means that all the indifference curves and the production possibility curves should have the right curvature in the neighbourhood of any position where marginal conditions are satisfied. In the neighbourhood of maximum welfare, all indifference curves must be convex to the origin and all transformation curves must be concave to it.

In the following figure, AB is the production possibility curve of the community, I_1 and I_2 are the indifference curves of an individual. The point b is a point of optimum welfare as the indifference curve I_2 , is a tangent to the production possibility curve AB. At point a , the indifference curve I_1 is also a tangent to the production possibility curve AB but it is not a point of optimum welfare, as by moving from a to b , the community reaches on a higher indifference curve I_2 .



Relation between Pareto Optima and Perfect Competition:

(a) Equality of Marginal Rate of Substitution: Under conditions of perfect competition, the consumer in order to maximise satisfaction makes the marginal rate of substitution between any two goods equal to the ratio of their prices. At equilibrium, the MRS between two goods is equal to the ratio of their prices for any consumer. Therefore, the first condition of optimum allocation of goods of Pareto-optimality is satisfied under perfect competition.

(b) Equality of Marginal Rate of Transformation b/w Two Factors: Under conditions of perfect competition, in order to have minimum cost combination of the factors to

produce a given output tries to equate the marginal rate of transformation (MRT) between two factors to the ratio of their prices. At equilibrium, this condition of equating MRT between two factors to the ratio of their prices is satisfied. Hence, the condition about the optimum allocation of factors is also satisfied.

(c) Equality of Marginal Rate of Transformation b/w Two Commodities: The producer under perfect competition, in order to maximise the profits, tries to equate the marginal rate of transformation (MRT) between two commodities to the ratio of their prices. At equilibrium, this condition of equating MRT between two commodities to the ratio of their prices is satisfied. Hence, the condition about the optimum utilisation of a factor is satisfied.

(d) Equality of Marginal Product of Each Factor: The producer in order to maximise his profits tries to equate the marginal product of each factor to its price and, at equilibrium, this condition is satisfied. Therefore, the condition of optimum factor-product relationship is satisfied.

(e) Equality of MRS to MRT b/w Two Commodities: Under perfect competition, at equilibrium, the marginal rate of substitution (MRS) between the two commodities is equal to the marginal rate of transformation (MRT) between the two commodities and both are equal to the ratio of their prices. Therefore, the condition about the optimum direction of production is also satisfied.

(f) Equality of MRS & MRT: Under perfect competition, a factor will be utilised to the point where the marginal rate of substitution (MRS) between employment of the factor and its leisure equals the rate of payment made to it. Similarly, with a view to maximising his profit, a producer equates the MRT between the factor and its product. Since the price of the product is the same for all the producers and rate of payment is the same for all the factor units, the condition of optimum allocation of a factor unit's time is also satisfied.

(g) Equality of Marginal Productivity of Asset: An owner of an asset makes the MRS between present income and future income equal to his rate of time preference. In the same way, a borrower of the asset equates the cost of borrowing with the MRS between the present asset and future asset. Since under perfect competition, the rate of payment for all similar assets is the same, as also the cost to the borrowers, it is equal to the marginal productivity of the asset. In this way, the condition of inter-temporal optimum allocation of assets is also fulfilled under perfect competition.

From the above it is clear that under perfect competition all the marginal conditions of Paretian-optimum are satisfied.

Obstacles to Welfare Maximisation:

If maximum welfare is to be attained, optimum allocation of factors of production is essential. This allocation must be in keeping with the consumer's preferences. For this purpose, there must prevail perfect competition. But, in the real world, there is no perfect

competition, instead there is imperfect competition. This constitutes a big obstacle in the way of the attainment of maximum welfare. We shall see how different forms of imperfect competition stand in the way of welfare maximisation:

(a) Monopoly: By pursuing restrictive price and output policies, the monopolists exploit the consumers' weakness by charging exorbitant prices and by restricting output. They reduce the national income. In all these ways, they reduce social welfare, especially because they cause misallocation of productive resources.

Under monopoly, the monopolist faces a downward sloping demand curve (instead of horizontal straight line as under perfect competition). Hence, the marginal revenue is less than average revenue / price. In order to maximise profit, the producer will equate marginal cost and marginal revenue. His marginal cost is less than the price or price is kept higher than the marginal costs. Thus, the monopolist does not operate at the optimum output level. This means higher prices for the consumers and lower remuneration for the factors of production. By creating a divergence between factor price and the value of its marginal product, a monopoly distorts factor allocation. Too little resources are used in monopolised industries, which is not in conformity with consumer's preferences.

(b) Monopsony: It is a buyer's monopoly. Firstly, take the case of monopsony in factor market, where a firm is compelled to pay higher prices for factors in use. Hence, the marginal cost of the factor will exceed its price per unit. For profit maximisation, the factor will tend to be used up to a point where its marginal cost is equal to its marginal revenue product. But as said above, marginal cost exceeds price. Hence, the price paid to the factor is less than marginal product. Thus, the factor is not being paid its worth, which shows a faulty allocation of factors which in turn militates against welfare maximisation.

Take the case of monopsony in product market. In this case, the marginal cost of the product will be higher than the price paid by the monopsonist. The quantity purchased will be smaller and the price paid lower than under competition. This represents misallocation of resources in the economy.

(c) Monopolistic Competition: In this case, there are too many firms in the industry operating at less than optimum scales of output having excess capacity which is socially wasteful. Product differentiation compels waste. Hence there is a reduction in social welfare.

(d) Oligopoly: In pure oligopoly (without product differentiation), there is a misallocation of resources and hence a reduction of social welfare. In this case, a dominant firm determines the price and output policy. In order to maximise profit, the firm equates marginal cost with the marginal revenue. But the price will exceed marginal cost and distort resource allocation.

Market Structure and Social Welfare:

In the Paretian sense, if a policy change makes at least one individual better off without making any one worse off it is said to maximise social welfare. Let us see how this social optimum can be attained under different market structures:

(a) Social Welfare under Perfect Competition: To achieve maximum social welfare under perfect competition, the allocation of resources needs to be efficient. For allocation of resources to be efficient, it is necessary that the MRS between any two commodities for a consumer is equal to the MRT between these two commodities is equal from producer's point of view. This would lead to:

- The equality of the ratio of marginal utilities and the ratio of commodity prices for the consumers, which would result in maximum satisfaction; and
- The equality of the ratio of marginal costs and the ratio of commodity prices for the producers, which would result in maximum profit.

This situation is possible only in perfectly competitive market.

The conditions of perfect competition also bring about the equality between the private marginal product and social marginal product. The basic condition for maximum welfare is that social marginal utility be equal to social marginal cost:

Maximum Social Welfare = Social Marginal Utility = Social Marginal Cost

The equality between private marginal utility and social marginal utility will depend upon the distribution of money income in the community. The distribution must be such as would equalise its marginal utilities for all the consumers. The marginal cost of producing any alternative commodity would be the same as for the one that is being produced. This will lead to equality between private marginal cost with private marginal utility and hence the social marginal utility and social marginal cost. This is how conditions of perfect competition result in the attainment of maximum social welfare.

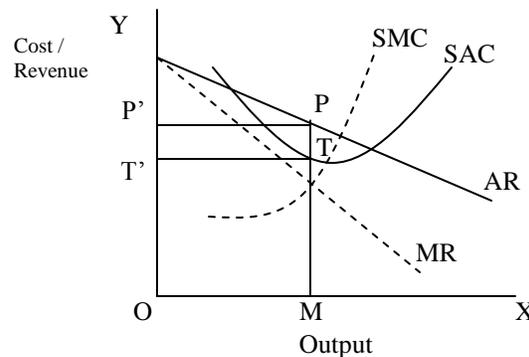
(b) Monopoly: The conditions of efficient allocation of resources do not exist in a condition of monopoly, therefore, the maximum social welfare cannot be attained under monopoly. The monopoly equilibrium is based on the equality of marginal revenue and marginal cost. Under conditions of monopoly, price is greater than marginal revenue of output and also the marginal cost. The inequality of price and marginal cost represents the violation of basic condition of efficient allocation of resources and hence maximisation of social welfare. Following things are happened under monopoly:

- Under monopoly, the entrepreneur neither achieves optimum levels of production nor does he like to achieve it.
- A productive factor is not paid according to its marginal productivity because, simply under monopoly, the price exceeds the marginal cost of a commodity.
- Since productive factors do not get paid according to their marginal productivity under monopoly, they are not attracted to this form of business enterprise / industry to the fullest extent; whereas in the interest of maximum social welfare, it

is necessary that the factors must be employed where their marginal productivities are at their highest points.

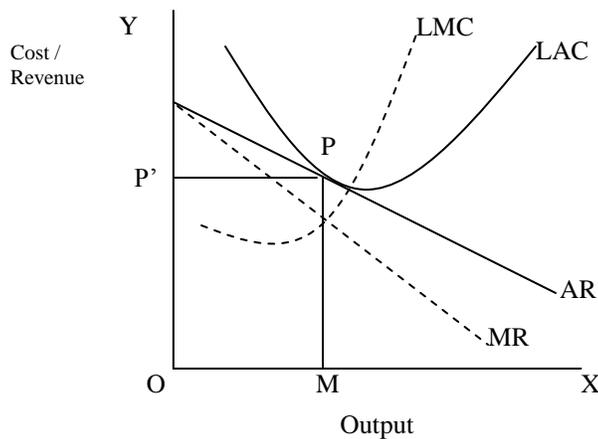
It is thus clear that monopoly form of business is not consistent with the maximum social welfare. Whatever the form of monopoly, whether in the commodity market or in the factor market (monopsony), it works as a hindrance to the achievement of maximum social benefits.

(c) Monopolistic Competition: Under monopolistic competition, efficient allocation of resources is not as possible as compared to perfect competition. Under monopolistic competition, in the short run, the demand curve is not tangential to the average cost curve at its lowest or optimum point. On the other hand, the demand curve is tangential to the average cost curve at a point higher than the optimum scale point. It is shown in the following diagram:



Short Run Equilibrium under Monopolistic Competition

Since the levels of output are not optimum, the allocation of productive resources under monopolistic competition cannot be termed as efficient as in the case of perfect competition. If social welfare is to be maximised there must be fullest use of installed capacity. However, in the long run, the total efficiency achieved can be summed up to the level of maximum social welfare. Because in the long run, the long run average revenue curve or the demand curve is tangential to the long run average cost curve at its lowest point or the optimum point. Which is because of greater divisibility of the factors of production in the long run. In the long run, the indivisible factors of production can be used more economically because, in the long run, they are, in fact, to extent, divisible. In the long run, the cost curves depend on 'returns to scale'. In the long run, the amount of capital can be altered and the management can be arranged differently. If all the factors of production can be used in varying proportions, it means that the scale of operations of the firm can be changed. Consider the following diagram:



Long Run Equilibrium under Monopolistic Competition

In the above diagram the industry is said to be producing at its technically optimum output level, i.e., OM . Output is optimum in the sense that average cost is at a minimum.

In short, under monopolistic competition, the maximum social welfare can be sufficiently attained, but not as much as compared to the perfect competition. So far as there is product differentiation, monopolistic competition offers greater product variety as compared to perfect competition. Under perfect competition, the products are homogenous, where the distinctive characteristic of monopolistic competition is product differentiation on bases of design, style, quality, income, age, sex, etc. Each product variety represents different taste and temperament of consumers, and gives better satisfaction to different classes of consumers.

(d) Oligopoly: Under oligopoly, there is misallocation of resources. Under oligopoly, few producers/sellers often form a cartel to have a tight grip on the market and a super-normal profit. Consumers and labourers are the worse victims of this form of market structure. The sellers may almost destroy the social interest and may work for their own interests. There are various global examples of oligopoly including OPEC (Organisation of Petroleum Exporting Countries). That is why oligopoly is not considered as the best companion of the governments around the world to achieve social welfare. Misallocation of resources is due to the fact that the market leader determines the price of the commodity for the entire industry. This price is calculated to yield maximum profit, i.e., where firm's marginal cost is equal to marginal revenue. Since price is higher than marginal cost, it results in misallocation of productive resources.