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Syllabus

Public Economics

OBJECTIVE: Public economics is a field of economics that focuses on the role of government in the economy. The objectives of public economics are diverse and aim to analyze and understand the impact of government policies on various aspects of economic activity. Here are some key objectives of public economics:

BLOCK-I:

UNIT-1 Public Economics: Origin, Meaning and Subject Matter.

UNIT-2 Role of Government, Functions of Government: Allocation, Distribution and Stabilization.

UNIT-3 Market Failure: Decreasing Costs,

UNIT-4 Public Goods; Externalities; Informational Asymmetry; Theory of Second Best

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Voting systems: Concepts and Types, Majority voting and its instability;

Problem of Preference Revelation: Wicksell, Buchanan and Tullock views;

Political equilibrium. Bowen's Model; Arrow's Impossibility Theorem; Black Theorem; Economic Bureaucracy: Niskanan

Monopoly Government; Rent Seeking and Directly Unproductive Profit Seeking (DUP) Activities.

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Ability to Pay Approach.

Samuelson Theory of Public Goods;

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BLOCK-IV

Theories of Public Expenditure: Wagner's Law of Increasing State Activities, Wiseman- Peacock Hypothesis.

Criteria for Public Investment: Social Cost-Benefit Analysis.

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BLOCK-V

Public Debt: Sources and Principles of Debt Management and Repayment;

Crowding Out of Private Investments

BLOCK-I:

PUBLIC ECONOMICS

Structure

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Introduction
Market Failure
Public Goods
Externalities
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Key Words
Some Useful Books
Hints/Answers to Check Your Progress Exercises

UNIT-1 Public Economics: Origin, Meaning and Subject Matter

Public economics is the study of government policy through the lens of economic efficiency andequity. At its most basic level, public economics provides a framework for thinking about whether or not the government should participate in economics markets and to what extent its role should be. In order to do so, microeconomic theory is utilized to assess whether the private market is likely to provide efficient outcomes in the absence of governmental interference. Inherently, this study involves the analysis of government taxation and expenditures. This subject encompasses a host of topics including market failures, externalities, and the creation andimplementation of government policy. Public economics builds on the theory of welfare economics and is ultimately used as a tool to improve social welfare.

SOCIAL CONTRACT THEORY OF HOBBS AND LOCKE'S

The social contract theory which dominated the European political thought in the eighteenth century has played a very important part in the development of the modern political theory and practice of all the speculative theories, the social contract theory is the most important. It is oneof the oldest theories. This theory came into being as a result of reaction against the theory of Divine origin. Example of this theory is available in many countries both the east and the west.

According to this theory, the state was not created by God on the contrary under the compulsion of circumstances, people contracted with the rulers and as a result the state was organized.

Views of Thomas Hobbs (1588-1679)

Thomas Hobbs, once a tutor to Charles II of England was a great English Philosopher. He was born in 1588 and lived in the stirring times of the great Rebellion and Commonwealth. The witnessed the civil war (1642-49) in England and was deeply affected by its miseries. He has so much shocked by the after effects of the civil war that he concluded that the salvation of the country lay in the absolute system of the Govt. He used the doctrine of social contract for the purpose. This is reason why he sought to justify the absolute power of the sovereign in his book "Leviathan". He never had a mind to propound a theory regarding the origin of the state. His Sole object was to define the deppotion of the staurt and support despotic monarchy.

Hobbe's Description of the State of Nature

According to Hobbs, the state of nature was the state of sovereignty and human as he says, was "Solitary poor, nasty, British and short". To Hobbes the state of nature was a state of war; a war of all against all and state in which nothing can be just and force and fraud were two cardinal virtues. So that in the nature of man, says Hobbs, "We find three principles of quarrel firstly competition secondly difference thirdly glory. The first makes the man invasle for gain, the second for safety and third for Reputation".

Hobbs Contract and its Implication

According to Hobbs, since the ruler is not the part of this contract, he cannot be compelled to act according to the condition of the contract. In this way, this contract of which Hobbs is the exponent enables the ruler to become a despot. In addition to this, the following are other highlights of Hobbes social contract.

1. It is a social contract and so that the sovereign is not a party to it. People authorized and gave up right of governing themselves to the sovereign who came into being as a result of the social contract.
2. People cannot break the ties of the contract according to their will because it is based on the sentiment of fear to their will because it is based on the sentiment of fear people entered into the contract for entering their lives and safeguarding their interests. If people break the ties of the contract and act according to their will, they will degenerate into their primitive stage and their life will be in peril.
3. According to Hobbes if man by nature is not a social animal and so nourishes himself anti-social feeling which he suppressed only by absolute monarchy and so it become essential

for the sovereign to become a despot. Consequently his right would be numerous and supreme.

4. Sovereignty is indivisible, this is to say, it cannot be divided.
5. The sovereign is the main source of law and his commands are law.
6. The sovereign possesses, this is to say, the authority to impart justice and deals with the mutual disputes.

7. This contract is both social and political because it establishes the society and the govt. at the same time.

The condition of contract clearly indicates that Hobbes supported the establishment of despotic monarchy and demanded the unlimited authority of sovereign. “If the sovereign command ofman (though justly condemned) to kill would or main himself; or not to resist those assault him, or to abstain from the use of food, air, medicine or any other thing, without which he cannot live,yet hath that man the liberty to disobey”.

Thus, it is quite clear that Hobbes allows the individual to disobey the commands of the sovereign only when his life is in peril, otherwise he expects the individual to obey the sovereignunder every condition.

Importance Of Hobbes’s View

No doubt Hobbes’s views are severely criticized by some political thinkers, yet their merits cannot be ignored and overlooked. Hobbes was the first Englishman who present a logical system of political philosophy. His theory became, from the moment of its appearance, the centreof controversy and had an enormous influme throughout western Europe.

1. Hobbes tried to prove this fact that lawlessness and monarchy can be put down by despotic monarchy and it is undoubtedly true.
2. It was Hobbes who first of all presented before us the concept of legal sovereign. His concept may be faulty. It may enable a ruler to become a crud monarch or despot, yet still it is realized that legally speaking as a sovereign should rule supreme and path should not be hindered by any one.
3. Hobbes’s by making a clear distinction between natural and civil laws laid the foundation for the system of analytical, jurisprudence that was elaborated by Benham and Austin.

Conclusion: Thus the first modern philosopher to articulate a detailed contract theory was Thomas Hobbes. According to Hobbes, the lives of individuals in the state of nature were “Solitary, Poor, Nasty, Brutish and Short” a state in which self-interest and the absence of rights and contracts prevented the social or society. Life was ‘anarchic’. This state of nature is followedby the social contract.

The social contract was an occurrence during which individuals came together and ceded someof their individual rights so that others would cede theirs. This resulted in the establishment ofthe state, a sovereign entity like the individuals now under its rule used to be, which would createlaws to regulate social interactions. Human life was thus no longer, “A war of all against all”. But, the state system, which grew out of the social contract, was also anarchic with respect to each other. Just as the individuals in the state of nature had been sovereigns and thus guided by self interest in competition with each other. Just like the state of nature, states were thus bound tobe in conflict because there was no sovereign over and above the state capable of imposing some system such as social contract laws on everyone by force.

John Locke’s Contribution In Social Contract Theory

John Locke, another English Political Philosopher, belonged to seventeenth century. He was an ardent advocate of constitutional monarchy in England. He expressed his view in his book “Two Treaties of civil government” published in 1689. In his book, he attempted to justify the glorious revolution (1688) and deposition of James II. As a matter of fact this theory was a justification ofthe glorious Revolution (1688) and the deposition of James II He was very aptly asserted that parliament reserved the right to dethrone the king. If he disobeyed the commands and overlookedor ignored the claims of public will.

In this way, he justified the deposition of James II and supported the co-ordination of king William and Queen Mary. This is the reason why John has called this contract social and political. The historical background of Hobbes and Locke’s theories is very similar. “Hobbes impressed by the series of the Great Rebellion” says professor Gilchrist, “argued on the basis of the social contract for a system of absolute monarchy. Locke on the same basis tried to justify the deposition of James II and establishment of constitutional govt.

Like Hobbes, John Locke also begins his essay with the description of the state of nature. But hisviews are different from those of Hobbes. Locke descriptions of the state nature is different from what of Hobbes.

John Locke’s Social Contract

John Locke’s conception of the social contract differed from Hobbes in several fundamental ways, retaining only the central notion that persons in a state of nature would be bound morally by the law of nature, not to harm each other in their lives or possessions, but without governmentto defend them against those seeking to injure or enslave them, people would have no security in their rights and would live in fear.

John Locke deals with social contracts i.e. social and governmental. Social contract leads to the formation of civil society and the governmental contract puts the primitive state to the end. In theword of John Locke, “The state of nature has a law of nature to govern it which obliges everyone; and reason, which is that law which reaches all mankind that begin all equal and independent, no one ought to harm other in his life, liberty and possessions”. Thus, “Locke’s state of nature with its sequence of recognized rights is already political society”.

Society is organized for protecting human life and safeguarding his property and freedom. Man has authorized and given up not all of his rights to society but only that right of health, liberty or possession. Anybody who disobeys is liable to be punished by society. For this purpose, society transfer some of its powers to a selected few persons who form the govt. Such type of govt. established through a govt. contract. The ruler and the people entered into the contract. Locke argued that individuals would agree to form a state that would provide a “neutral judge” acting toprotect the lives, liberty and property of those who lived within it.

Hobbes argued for near absolute authority. Locke argued for inviolate freedom under law in his second treatise of government. Locke argued that government’s legitimacy comes from the citizens’ delegation to the government of their right of self-defense. Thus the government acts as an impartial, objective agent of that self-defense, rather than each man acting as his own judge, jury and executioner the condition in the state of nature. In this view, government derives its “just powers from the consent of the government”.

UNIT-2 Role of Government, Functions of Government: Allocation, Distribution and Stabilization

ROLE OF GOVERNMENTAS AN AGENT OF PLANNING AND DEVELOPMENT:-

Prof. B.P. Adarkar, in his book on “Principle and Problems of federal finance” Lays down three principles which should govern the working of federal finance system.

Economic development has been closely linked with planning. In a developing country like Indiais rampant and the quality of life is low, the Government undertook the responsibility of the economic development of the country through the medium of five year plans. This involved a larger role of the public sector and a limited place for the market. For this purpose, India adoptedplanning in 1951. The most important reason for the adoption of planning was that it was considered a superior way of developing the economy. It is rightly thought that planning was essential to ensure a quick building of the productive capacity of the country. This was possible because a large and a pre- determined proportion of national resources could be devoted to the construction of infrastructure facilities (like roads, railways, communication, etc.) and of capital goods industries (like machines, tools, etc.) Regarding the problem of inadequate supplies of consumer goods, it could be tackled by an equitable distribution of the same, to protect the interests of the low income groups. Again long term planning could enable the government to plan for a long gestation periods and for a big projects on the basis of large resources over long period time span. Further, it becomes possible to achieve the balanced regional development and sectoral growth of the economy. The government could mobilize the resources for investment, taxation and other non-tax sources of revenue. The government can tap foreign resources. It could fill up the information gap in respect of natural resources and other facets of life. The deficiency in the infrastructural facilities like water supply, drainage, transport, etc. could be fully provided by the government. In brief, a government can do a lot of things in remaining many shortcomings of the economy and facilitate the economic development. The Government can take big tasks through planning, for example, pulling up the very low investment rate to a sizeable figure in a given period of time, the planning can be used to mobilize foreign resources from the government and international financial institutions. It also helps to change a large single- dimensional trade into multi- directional trade.

The role of govt. as an agent of planning and development are discussed as follow:

1. **Interdependence and Responsibility:** In the first place of Prof. B.A. Adarkar said that 'Freedom of financial operation' must be extended to both central as well as state govt. in order that they might not suffer from a feeling of cramp in the discharge of their normal activities and the achievement of their legitimate aspirations for the promotion of social and economic (development) advancement. It means that the central and state govt. must each have under it, its own interdependence central financial resources sufficient to carry out its exclusive functions.

2. **Adequacy and Responsibility:** (It stand for sufficiency of resources for the discharge of functions and duties assigned. By elasticity of govt. – finance, means that resources should be capable of expansion in response to rapidly growing needs and responsibilities of the govt. concerned.

3. **Administrative Economy and Efficiency:** For the success of central – state financial relations. It is very much required that the administrative cost should be minimum and there should be no fraud and tax evasion in matter of finances. It should also be taken intoaccount at the time of allocating resources as to whether a certain source can be better administered by federation or state govt. corruption and inter-regional smuggling are tobe avoided and the sources of revenue are to be fully exploited.

4. **Equity:** As for as equity is concerned, the govt. plays an important role for the development. In the assignment of allocation of function there is.

   For inequality to creep and may spoil the entire structure basically. Different state of federation may have disparity in the level of economic development and therefore, according to it, the burden of taxation will be inequally distributed as the marginal sacrifice will be different in different states. The marginal sacrifice of the tax payers of richer states will be less as compared to those of the poor states.

5. **Accountability:** Federation and democracy are sister institutions in a federal system. Therefore, in federal system such govt. should be accountable to its own legislature for it having and spending decisions and should make those decisions with due regards for their effect on other govt.

6. **Integration and Co-ordination:** The govt. should be well integrated and each layer of financial system of federation should not be taken as completed isolated from the other layers of financial system of federal and state govt. is necessary in contemporary federation. There should be done in all way that promote economic development, co-ordination is also important for smooth and efficient working of federal financial system. The co-ordination of federal state should not be in taxation alone but in every aspect of finance.

Conclusion: Finally, it may be stated that with so many conflicting claims on the limited resources, the government could alone lay priorities for the resource use in social terms. And the way of resolving the conflicts and moving on the long term development path is planning. The government can raise the productivity in the economy in general and can provide growth and equity through public sector programmers by adopting the objectives i.e. targets of planning.

PROBLEM OF ALLOCATION OF RESOURCES

In a market economy, resources are allocated according to price mechanism. The price mechanism is able to allocate resources efficiently. Efficient allocation of resources can be achieved when prices act as a signal to both consumers and producers in resource allocation. Theprices decide what and how much to produce, how to produce and for whom to produce. On the case of what and how much to produce, consumers express their valuation of a good through prices. When there is increase in demand for good there will be increase in the price of the good. Producers then allocate the more resources to the production of the good then to the alternate good with lower price using the same amount of resources. Consumers welfare is maximized as goods that are valued more will be produced in the free market. The price differences across the goods thus signal the quantity that should be produced.

Given the assumption of perfect competition producers would adopt the least-cost technique of production to produce the goods and services, thus ensuring that productive efficiency are achieved.

Goods are produced for those who are able willing to pay. The ability to pay determined the factor price while the willingness to pay determined the product price. Consumers would be willing to pay more for the goods that they value more. This ensure that consumer’s welfare is maximized as they get to enjoy the goods that given them most satisfaction. As resources are allocated to the production of goods and services that society value more, society’s welfare is maximized. Hence, allocation efficiency is achieved. A market determined allocation of resources may be economically efficient is an important one. But unfortunately the condition under which a market allocation is efficient are often not met, and market fails in many to ways to achieve efficient of resources. It has been discussed as below:-

- **1. Allocation of resources and the distribution of Income:-**The efficient allocation of resources depends how the resources and distributed among individuals Suppose that X represents necessities food, housing etc and Y represents luxuries, cosmetics etc. Given a particular distribution of income, efficient output of X and Y are QX & QY. If some income of the rich is transferred to the poor the demand for X increases and the demand for y falls. Resource also shifts from the productions of y good to the production of x good. Since the real world market systems do not correspond with the real distribution of income and therefore, it is said that the market do not achieve an efficient allocation of resources.

- **2. Allocation of Resources in Market and Decreasing Cost:-**Besides a pure public good possesses the characteristics of that it is subject to the law of decreasing cost. Decreasing example is transportation, hospitals, postal services and power generation. There are key sections in any economy. Markets processes are likely to result in production of commodities in these sectors of the economy are subject to decreasing cost conditions and the producers may find it profitable to produce less and charge a higher price. The exception occurs when discriminatory pricing is feasible and at a sufficiently low cost otherwise, market process fail and there is potentially a welfare gain from govt. action that increases output.

- **3. Allocation of resources in Market and Public Wants: -** Allocation of resources may not be efficient in case of certain public wants. In the market place a person will not be able to satisfy his wants unless he offer to purchase at market price. Thus the market iscapable of excluding a person from benefit unless he pays the market price for the product. But in this case of many of the most important social wants, a person cannot be excluded from wants, a person cannot be excluded from benefits e.g.: national defense, a citizen cannot be excluded from the benefits of defense matter what he offers to pay.Prof. Musgrave called such want a social want.

- **4. Profit System Fails to Achieve the Social Goal of Income Stability :-**Profit system fails to achieve the social goal of economic stability even under the best of privateenterprise condition reaction of an individual to prospective decline in demand normally to reduce investment in plant and inventory accentuates to decline.

The theory of the second best is an economic concept that challenges the conventional wisdom that achieving one optimal or ideal condition in an imperfect economic system will necessarily improve overall welfare. The theory suggests that when one element of an economic system is suboptimal or distorted, correcting a second, related element without addressing the primary distortion might not lead to the best overall outcome.

The concept of the theory of the second best originated from a paper by economists R.G. Lipsey and Kelvin Lancaster in 1956. The key insight can be explained as follows:

1. **Optimal Conditions and Distortions:**
    - In a perfectly competitive market with no distortions (such as taxes, subsidies, or market power), the standard economic theory asserts that achieving optimal conditions, such as perfect competition, will result in the best possible outcome for welfare.
2. **Distortions in the Real World:**
    - However, in the real world, various distortions often exist, such as monopolies, externalities, or incomplete information. Correcting these distortions is a primary goal of economic policy.
3. **The Second-Best Scenario:**
    - The theory of the second best challenges the notion that correcting one distortion in the presence of others will improve overall welfare. In some cases, addressing a second-best distortion without dealing with the primary distortion might lead to worse outcomes.
4. **Interconnectedness of Distortions:**
    - The theory highlights the interconnectedness of distortions within an economic system. Correcting one distortion might exacerbate other distortions or lead to unintended consequences.
5. **Policy Implications:**

- The theory of the second best has important policy implications. It suggests that policymakers should carefully consider the broader context and all existing distortions when implementing economic policies. Simply aiming to correct a specific market imperfection without understanding the entire economic environment may not result in optimal outcomes.

6. **Examples:**

- For example, consider a situation where a market has a monopoly that leads to higher prices. The standard economic prescription might be to introduce competition to achieve lower prices. However, if there are other distortions, such as externalities or imperfect information, addressing only the monopoly issue might not lead to the best overall outcome.

In summary, the theory of the second best emphasizes the need for a holistic approach to economic policy, taking into account the interconnected nature of distortions within a complex economic system. Policymakers should be cautious about assuming that correcting one market imperfection will necessarily improve overall welfare, recognizing the potential for unintended consequences when other distortions are present.

UNIT-3
MARKET FAILURE

Competitive market efficiency is therefore based on a number of restrictive assumptions. When these assumptions are violated, the markets fail to reach an efficient outcome.

Specifically, this would happen in cases of: (i) externalities, (ii)imperfect competition, (iii) public goods and (iv) imperfect information. The present section examines each of these cases pointing out what instruments are implemented to work as solutions in such situations.

Externality

An externality arises when members of the society, other than those directly involved in the market (either as consumers and firms of the industry), are affected by the operation of the market. The effect may be beneficial or harmful.If it is benefit, we term it as ‘positive externality’; if it is harmful, it is termed as ‘negative externality’. If the externality is due to the activities of firms, they are called ‘production externality’. If the externality is arising due to consumer behaviour, it is called ‘consumption externality’. Thus, we have a fourfold division of externalities as depicted, with examples, in Table .

Table : Positive and Negative Externalities

Activity of	Negative	Positive
Production	Pollution, Soil degradation	Bee keeping

Consumption	Smoking (passive)	Vaccination

In the presence of externalities, markets fail to maximise welfare. This can be understood intuitively by noting that those affected by pollution bear a cost which is not accounted for in the costs borne by producers. Similarly, actions by some consumers (e.g. reducing waste and litter) could benefit other consumers who do not express this benefit by their WTP since they do not pay for the cleaner surroundings. Thus, welfare losses and gains to people not participating in a particular market may reduce or increase social welfare.

Negative Production Externality: Among the different types of externalities, the most common is that of negative production externality. This arises when as a direct consequence of production, some losses or damages are incurred by persons other than the producing firms. For instance, the adverse impact of air pollution in Delhi, and many other cities of north India, has been attributed (among other causes) to the burning of crop residues by farmers in the adjoining states/regions. The producers of crops (farmers) find it cheaper to burn crop residues in the fields so that they can make the land ready for the sowing of next crop. But the adverse effects of air pollution affect adjacent cities. The urban population, especially children and elderly, are affected by various respiratory diseases. The enormous costs of treatment, damage to health, premature deaths, etc. impose a heavy economic cost to society that is not borne by the farmers. This example shows that the cost to producers is far less than the cost to society, which includes production costs plus damages. This can be shown by depicting the 'social marginal cost' (SMC) lying above the 'private marginal cost' (PMC) which are production costs borne by the producers .

The result is quite common in real life. The pollution of Ganga and Yamun is partly a result of industrial effluents being dumped into these rivers making the water unhealthy and toxic. Likewise, when a farmer pumps out groundwater, the water table is reduced for all others in the adjacent areas. When a dam is built it has enormous negative externalities in both the catchment and command areas (e.g. submersion, salinity, reduced flow downstream, relocation of people). Hence,big dams have been controversial. On the world scale, depletion of forests, global warming, ozone depletion, etc. have been attributed, in part, to negative production externalities. The total cost of these externalities are significant. For instance, the cost of air pollution globally is placed at $ 5 trillion annually. The amount spent on cleaning Ganga in the last five years has been over rupees 4000 crore and yet it continues to be unclean. For a solution to this problem, we again turn to Fig. 2.2. The Fig. shows that the social welfare maximising output is Q_e and the corresponding price is P_e. What the government can do is to impose a tax on the producers of an amount equal to that of marginal damage. This will shift the MC curve of producers and equate it to the SMC. With the new supply curve equal to SMC, the market will produce the output Q_e removing market failure. Such a tax is known as the Pigouvian tax. As an alternative, the government can resort to regulation and cap the price at P_e or impose a cap on production quantity i.e. not more than Q_e can be produced. Similar results can be obtained by different sets of policy instruments.

Positive Consumption Externality: A polar opposite of negative production externality is the case of positive consumption externality. This arises when others are positively impacted (i.e. benefit) from the consumption activity of some consumers. An example is the efforts by some households in rainwater harvesting. The efforts will make more water available to all the households by recharging groundwater, thereby, benefitting all in the locality. Another example is primary education which brings benefits not only to the family but to the entire neighbourhood (by promoting hygiene, better behaviour, etc.). The central point of these examples is that the marginal benefit to society (MBS) is greater than the 'private marginal benefit' as expressed by their WTP (Fig. 2.3). The market will under produce the commodity at Q* whereas the efficient (i.e. welfare maximising) output is Qe. By producing less, the market causes a welfare loss equal to the area TRS. The solution to this case of market failure could be a subsidy equal to 'marginal benefit' (MB) so as to push the demand curve upwards making it coincide with the MBS curve. Alternatively, regulation or public provisioning could be considered. This is the reason why governments often subsidise primary education, primary health, immunisation, renewable energy use,sanitation, rainwater harvesting, etc. In other words, public provisioning is resorted to by the government as a remedy to market failure by extending the reach of social benefits by positive consumption of such goods.

Imperfect Competition

Imperfectly competitive markets fail to maximise welfare. The limiting case of the imperfect market is monopoly. We therefore use the case of monopoly to illustrate how markets fail under imperfect competition. Since the monopolist is the only supplier, the demand curve is also the 'average revenue' (AR) of the monopolist. Since the 'marginal revenue' (MR) curve of a monopolist lies below his AR curve, the monopolist produces Q* amount (Fig. 2.4) since it maximises his profit (where MC = MR). But the welfare maximising quantity is Qe where MC = WTP. We assume that there are no externalities. The profit maximising output Q* is sold at price P^* which is higher than what a perfectly competitive market would have reached. The monopolist, therefore, can increase the price and reduce quantity to maximise profits. This leads to welfare loss of area TSR as less than efficient output (Q_e) is produced. Since society's WTP > MC (cost to society) for outputs up to Q_e, welfare is lost and this becomes a case of market failure. Empirical studies have estimated such welfare loss with some estimates for USA placing the loss at 3 to 5 percent of GDP. These studies have accounted for factors like inefficiency, loss of productivity, suppression of competition, etc. Studies for developing countries, by taking just allocative efficiency, have estimated the welfare loss to be substantial. For instance, a study of Mexican Telecom monopolist estimates the loss as nearly 2 percent of the country's GDP for the period 2005-09. Note that this was from only one company. To deal with the negative impact of monopoly, and other imperfectly competitive markets, public policy has favored the following instruments: (i) anti-monopoly laws that seek to promote competition, (ii) regulation of monopolies through price controls and (iii) state owned enterprises in case of natural monopolies.

Check Your Progress [answer within the given space in about 60-90 words]

1) State the factors which contribute to result in 'market failure'.

State the economic consequence of 'negative production externality'.

Give examples of negative production externality experienced globally.

Give examples of positive consumption externality. How does it work?

What are the policy instruments employed to mitigate the negative impact ofimperfectly competitive markets?

UNIT-4 Public Goods; Externalities; Informational Asymmetry; Theory of Second Best

PUBLIC GOODS

Public goods represent an extreme form of externality. Pure public goods are defined by the absence of two qualities possessed by private goods. First, they are non-rival in consumption meaning that the consumption of the good by one consumer does not reduce the amount available for consumption by other consumers. For instance, if street light is used by one pedestrian, it is also available to others. Clean air is another example. Second, public goods are non- excludable. This means that it is available to all. For instance, a good neighbourhood public park provides a pleasing view to all. Similarly, if a country is well defended from external aggression, then all of its citizens enjoy security. The simultaneous existence of these two characteristics define a pure public good. But if only one of these two characteristics hold, we have cases of 'impure public goods' as in Table. As in the case of positive externalities, markets fail to produce the optimum quantity of public goods. In the case of positive externality, we noted that the market under-produces. In the case of a pure public good, the market may not produce anything at all. This can be intuitively understood. For instance, if a private producer produces a pure public good (e.g. fireworks for the city), it is instantly available to all consumers to enjoy (non-excludability) and therefore he cannot parcel it and sell in discrete bundles. If he were to ask the residents of the small town how much they are willing to pay for the fireworks and collect the amount from them for a specified quantity of fireworks, it is unlikely to cover the costs. This is because residents will under-report their WTP. Non-rival consumption means that if anyone pays for fireworks, everyone can enjoy even without paying (i.e. free riding is allowed). Thus, left to private markets, pure public goods will be under-supplied. This is the reason why defence, law and order, fire services, etc. are provided by government. Such public goods are funded by public exchequer. Market failure in case of such public goods can be graphically illustrated (Fig. 2.5). Since a public good is non- rival in consumption, the benefit to society (MSB) is the vertical sum of WTP curves of its members. In other words, if WTP for one member of society is x_1 for,say the city police force (of a given size), and for another member of society it is x_2, then MSB is $x_1 + x_2$ for the force of the given size. The society maximises its welfare if Q_e quantity of the public good is provided. However, consumers may reveal a much lower WTP (shown by the lower MSB curve) due to 'free rider problem'. The actual production is Q_a and therefore the working of the market would cause a welfare loss of area TSR. Public goods therefore cause the markets to fail to produce the optimum output. It is difficult to quantify this loss but it is indicative enough to note that, in general, countries with a low tax-GDP ratio (taken as proxy of country's ability to provide public goods) are also the least developed ones.

Table 2.2: Pure and Impure Public Goods

Characteristic	**Rival**	**Non-rival**
Excludable	Private Goods (e.g.coffee, chocolates, etc.)	Impure Public Good (cable T. V.)
Non-excludable	Impure Public Good (Free Parking)	Pure Public Goods(Defence, Law & Order)

Check Your Progress

1) Why does 'market failure' occur in the case of 'public goods'?

2) How does information asymmetry, cause 'market failure'? By what nameare its two types generally known?

3) How does information asymmetry, cause 'market failure'? By what nameare its two types generally known?

BLOCK-II:

UNIT-5 Voting systems: Concepts and Types, Majority voting and its instability; Problem of Preference Revelation: Wicksell, Buchanan and Tullock views; Political equilibrium. Bowen's Model; Arrow's Impossibility Theorem; Black Theorem; Economic Bureaucracy: Niskanan, Monopoly Government;

Voting and Rent Seeking

Voting is the most commonly employed method of resolving a diversity of views or dictating expression of preference. It is used to determine the outcome of elections from local to super natural level within organizations, voting determines who is elected to committees and it governsthe decision making of those committees. Voting is a universal tool that is encountered in all sphere of life. The prevalence of voting, its use in electing governments and its use by these govt. elected to each decisions, is the basis for the considerable interest in the properties of voting. Thenatural questions to ask of voting is whether it is a good method of mapping decisions. There are two major properties to look for in good method.

First, is the success or failure of the method of achieving a clear-cut decision.

Second, is the issue of whether voting always produce an outcome that is efficient. Voting wouldbe of limited value if it frequently left the choice that was clearly inferior to other alternatives whether voting satisfies these properties is shown to be somewhat dependent on the precise method of voting adopted. Ordinary majority voting is very familiar but it is only one among a number of voting several of these methods of voting will be introduced and analyzed along side the standard form of majority voting.

Stability voting is an example of collective choice the process by which a group reaches a decision. A major issue of collective choice is stability. By stability we mean the tendency of the decision making process to eventually reach settled conclusion and not to keep jumping around between alternatives.

Impossibility: Determining the preference of an individual is just a matter of accepting that an individual's judgment cannot be open to dispute. In contrast, determining the preference of a group of people is not a sample method and that is social choice theory is all about social choicestake a given set of individual preferences and tries to aggregate them into a social preference.

The central result of the theory of the social choice, Arrow's Impossibility theorem, says that there is no way to devise a collective decision-making process that satisfies common sense requirements and works in all circumstances. If there are only two options, majority votingworks just fine, but with more than two we can get into trouble. Despite of all the talk about the will of the people it is not easy. In fact, the theorem proves it impossible to always determine what that will is. This is the remarkable fact of Arrow's Impossibility theorem.

Now suppose we use majority rule to select one of these options. We see that two out of three voters prefer 'a' to 'b', while two out of three prefers 'b' to 'c' and two out of three prefers 'c' to 'a'. At the collective level there is cycle in preference and no decision is possible. We say that such collective preferences are intransitive, meaning that preference for 'a' over 'b' and for 'b' over 'c' does not imply 'a' is preferred to 'c'. As the example shows intransitivity of group preferences can arise even when individual preferences are transitive. This generation of social intransitivity from individual transitivity is called the Condorcet paradox.

Condorcet paradox

Voter-1	Voter-2	Voter-3
a	c	b
b	a	c
c	b	a

The general problem addressed by Arrow in 1951 was to seek a way of aggregating individual rankings over options into a collective ranking. In doing so, difficulties such as the Condorcet paradox had to be avoided. Arrow's approach was to start from a set of requirements that a collective ranking must satisfy and then consider if any ranking could be found that met them all.These conditions are now listed and explained.

Condition-I (Independence of irrelevant alternatives): Adding new options should notaffect the initial ranking of the old options, so the collective ranking over the old options should be unchanged.

Condition-N (Non-dictatorship): The collective preference should not be determined bythe preferences of one individual. This is the weakest equity requirement.

Condition-P (Pareto criterion): If everybody agrees on the ranking of all the possible options, so should the group, the collective ranking should coincide with the common individual ranking.

Condition-U (Unrestricted domain): The collective choice method should accommodate any possible individual ranking of options/upholding of liberty.

Condition-T (Transitivity): If the group prefers ‘a’ to ‘b’ and ‘b’ to ‘c’ then the group cannot prefers ‘c’ to ‘a’.

Arrow’s impossibility theorem states choosing among more than two options there exists no collective decision making process that satisfy the conditions I, N, P, U, T.

Majority rule (May’s theorem): It says when choosing among only two options there is only one collective decision making process that satisfies the requirements of anonymity, neutrality, decisiveness and positive responsiveness. This process is called majority rule.

Median voter theorem: When the policy space is one dimensional, sufficient conditionsfor the existence of a Condorcet winner are given by the median voter theorems. One version of these theorems refers to single peaked preference while the other version refers to single crossingpreferences. The two conditions of single peaked and single crossing preference are logically independent; but both conditions give the same conclusion that the median position is a Condorcet winner.

Some other techniques were:

Under majority rule:

a) Multidimensional voting.
b) Agenda manipulating.

Alternative majority rule:

a) Boarda voting.
b) Plural voting.
c) Approval voting.
d) Run-off voting.

UNIT-6 Rent Seeking and Directly Unproductive Profit Seeking (DUP) Activities

Rent Seeking :-Rent seeking received a number of different definition in the literature. Whether the resources used in rent seeking are directly wasted and in whether the term can be appliedonly to rents created by govt. It is not the purpose here to catalog this definition. It instead to motivate the concept of rent seeking by govt. and draw out the common standard of the definition. The idea that behind the rent seeking can be seen by considering following two situations.

Firm is engaged in research intended to develop a new product. The research is successful, the product will be unique and the firm will have a monopoly position, and extract some rent from the firm, until rival products are introduced.

A firm has introduced a new product to the home market. A similar product is manufactured oversea the firm hires employees to lobby the govt. to prevent imports of oversea products. If itis successful it will enjoy a monopoly position from which it will earn rent.

These comments now allow us to distinguish between two companies. Profit seeking is the expenditure of resources to create a profitable position that is ultimately beneficial to society. Profit seeking is exemplified by the example to research is what diverse progress in the economyand is the motivating force behind competition. Rent seeking is the expenditure of resources to create a profitable opportunity that is, ultimately damaging to society. Rent seeking as exemplified by the use of layers hinder the economy and limit competition.

Forms of Rent seeking:

It can be inferred from the above discussion that rent seeking can take many forms. All lobbyingof government for beneficial treatment, be it protection from competition, or the payment of subsidies is rent seeking. Expenditure on advertising is rent seeking and so is the argument for tariffs to protect infant industries. These activities are widespread and thus rent seeking becomes an important issue.

Government policies for Rent seeking: There are two channels through which the government is connected with rent seeking. Thus, channels are:

- **Lobbying:** It is well known that the developed countries like USA have a large number of professional lobbyists. These lobbyists try to change government policies in favor of the interests that employ them. If the lobbyists are successful, rents are created.
- **Bureaucrats and Politicians:** Bureaucrats and politicians in government are able to create

rents through their policy choices. These rents can be sold to the parties that benefit. Selling rents generates income for the sellers and gives an incentive for earners to be made in politics and bureaucracy.

Distinction Between Profit Seeking And Rent Seeking: From the above mentioned two situations we can now distinguish between two concepts of profit seeking and rent seeking.

Profit seeking is the expenditure of the resources to create a profitable position that is ultimately beneficial to the society. Profit seeking can be explained through the example of research which drives progress in the economy and is the motivating force behind the competition.

Rent seeking is the expenditure of the resources to create a profitable opportunity that is ultimately damaging the society. Rent seeking is exemplified by using the services of lawyers which hinders the economy and limits competition.

BLOCK-III

Allocation of Resources: Benefit Approach: Lindahl Voluntary Exchange Model; Ability to Pay Approach. Samuelson Theory of Public Goods; Tiebout Model; Buchanan Theory of Club Goods

Activities to Secure A Reallocation Of Resources

If there are imperfections in the market economies and the government has to intervene to eliminate the imperfections such economies by means of spread of knowledge and employment exchange etc. The Government has to encountered expansion of output of such industries by means of subsides to the producer with the view to making it available large amount of the masses. Thus government has to encourage an expansion of such output

The production and use of certain goods like liquor create additional cost to the society in the form of traffic accidents and more govt. has to take measures to restrict the investment in such industries regulating output or by imposing high taxes on the production of such goods. Thus the value of public expenditure has increased.

Certain goods or services like health facilities, education, transportation and defense must be provided to the govt. because they cannot provide by private producers.

2) Redistributive Activities: -Inequalities in the distribution of income are an important feature of a modern economy. Such inequalities are sought to be reduced by means of taxes and transfers of expenditures as also by means of legislations so as to raise the economic welfare of masses. This objective can also be achieved by means of public works, minimum wage legislation, price, support, tariffs, such activities provides minimum standard of living – desirablethereby reducing the adverse effects of income-inequalities.

3) Stabilizing Activities: -As modern govt. is supposed to avoid business fluctuation and maintain economic stability i.emaintain a high level of employment and price stability. During the period of depression, govt. expenditure must be increased. This can be done by reducing the taxes and maintaining the existing expenditure and by increasing its expenditure while keeping the taxation constant. It is inverse in the case of boom or an inflation.

When there is full employment and the stability the govt. expenditure should be maintained so asto prevent unemployment in the inflation.

4) Commercial Activities: -Certain services like transport services which are natural monopolize they are most efficiently provided by the govt. than by private enterprise. The case of rendering such services should be covered by taxes like vehicle taxes. Besides, the govt. may also invest in certain projects which are highly beneficial from point of view but because of the poor returns on such projects the private enterprise may not come forward to invest in such projects. It may also provide loans to farmers and small scale producers at low rate of interest.

Finally, it may be stated up that the aim of public expenditure is to control the depressionary tendency in the market economy, on the one side and maximization of welfare on the other side. It is designed to optimize the level of investment and maintain full employment with growth. It also tends to accelerate the rate of economic growth by making available the infrastructure and increasing capital formation.

BLOCK IV

Theories of Public Expenditure: Wagner’s Law of Increasing State Activities, Wiseman- Peacock Hypothesis.

PUBLIC EXPENDITURE

The Government has to undertake certain expenditures both for its own maintenance and the maintenance of society. All these expenditures are together called public expenditure. In almost all societies, public expenditure has shown a tendency to rise over time. While many economists have advocated a policy of laissez faire, in reality governments have had to incur certain necessary expenditures. In addition, over time ideas of social welfare have gained currency and almost all governments undertake social welfare measures. There are also necessary administrative costs and expenditure on defense.

Theories about the Rise in Public Expenditure

There are two broad theories about public expenditure. The first is by the German economist Adolph Wagner (1875-1917). He did a study of historical facts about theGerman economy and propounded what is called, ***The Law of Increasing State Activities.*** He suggested that activities of various levels of government have an inherent tendency to increase over time. The government sector in the economy rises faster than the economy as a whole. There is consequently a rise in governmentexpenditure. Now, this rise in government expenditure can be expressed in many ways: (a) a rise in absolute levels of government expenditure, (b) a rise in the ratio of government expenditure to GNP, (c) a rise in the proportion of the public sector in the economy. Even in the case of (a), the absolute rise may be in nominal or real terms.

One should also adjust for a secular increase in population and see the risein per capita terms. It is not clear in which of the above senses Wagner was talking about the rise in government expenditure, though Musgrave suggests that the correctmeasure should be (c). Also, for (b) above one should as well look at the GNP *elasticity* of government expenditure.

Wagner’s law is mainly applicable to modern progressive governments. According to Wagner, it is applicable mainly in the initial stages of modern government activities.He felt that as modern industrial society develops, there would be increasing pressurefor social progress and there would be attempts to make business and industry more socially conscious. The public sector and government activities would therefore rise.

The second main theory about rise in government expenditure is by **Jack Wiseman and Alan Peacock** and is called the Wiseman-Peacock hypothesis. They studied public expenditure in Britain for the period 1890-1955 and on this basis suggested that public expenditure does not increase in a smooth and continuous manner but in discrete jumps or in a step like manner. This is mainly because unexpected social disturbances and events take place and government expenditure has to rise to meet the requirements. Of course, they suggested that the existing revenue is in most cases not adequate to meet the expenditure requirements, and revenues, particularly taxes, rise to a new level. This hypothesis is about occurrence of unusual and abnormal events, but it is largely true that government expenditures rise over time in almost all modern societies. Buchanan and Tullock based on U.S. experience, have argued that there is an increasing discrepancy between government expenditure and government output, with the former tending to run ahead of the latter. They give two reasons for this. First, unlike the private sector, the expenditure on government officials increases faster than the corresponding rise in their output. Secondly, with the growth of welfare activities and social security, the proportion of people receiving transfer payments from the government increases.

What are the main reasons for the secular rise in government activities and expenditures over time? First, the traditional functions of the State were expanding. Defence was receiving greater emphasis and expenditure on it was increasing. Wages of government officials was going up. Second, state activities around welfare measures were increasing in their coverage. Third, investment activities of the State have been expanding. Fourth, population itself has been going up necessitating a hire level of committed expenditure on the part of the State. Fifth, related to the previous point on population is increasing urbanisation, which requires a much larger per capita expenditure on civic amenities. Sixth, modern governments need to borrow and thus public expenditure in the form of repayment of loans and increasing costs of debt servicing go up. Finally, increasing use of planning and consequently capital accumulation by the government tends to increase public expenditure.

Kinds of Public Expenditure

Not only are there several types of government expenditure but there are also a number of ways in which public expenditure can be classified. But before discussing the different types of public expenditure, let us bring out the essential difference between private and public expenditure. Are there any similarity between the two? The basic similarity is that given the objectives both would like to see a good return on the expenditure. This is particularly true for investment expenditure. Both private units as well as government would like to maximise some objective function.

The primary difference stems from the different objective functions that private and public units have. Private units and the government raise resources for expenditure. Following contrasting methods. While the government decides the amount of expenditure to be made and proceeds to raise the resources thereafter, private individuals keep the income at their disposal as a constraint before deciding the amount of expenditure. Public expenditure also has a greater degree of flexibility. Moreover, the state has a much longer time horizon to plan the expenditure.

Let us now discuss the various types of public expenditure. There have even been different ways of classifying public expenditure. The traditional way, existing for several centuries, is to use an accounting classification. This has been useful for the state in keeping track of expenditure and it affords some control and checks over public expenditure. It provided information about leakage, misappropriation and wastage of resources. This way of classifying public expenditure way was useful for auditing purposes and to control misappropriation but it was not useful in providing information about the effects of expenditure. Therefore, for policy making, a better way to classify expenditure was sought. An economic basis of classification was brought in, which could provide better information about the economic effects of expenditure.

KEY WORDS

Externality: A situation where members of the society, other than those directly involved, are affected either positively or negatively.

Pure Public Goods: Goods which simultaneously satisfies the twin conditions of non-rivalry and non- exclusion.

Market Failure: A situation where optimal level of production is not produced due to violation of one or the other factors of perfect competitive market.

Theories Of Public Expenditure:

Classical theorist did not play much attention to frame any theory regarding the increase of public expenditure. They simply regarded it as an administrative institution which only concerns with performing certain protective functions. The state has to do very little with the provision of public services, the modern state is termed as welfare state in which the Govt.-has enormous functions to perform. For the first time Adloph Wagner, a fiscal theorist propounded an empiricaltheory to effect the govt. inequality grows larger.

Samuelson Theory

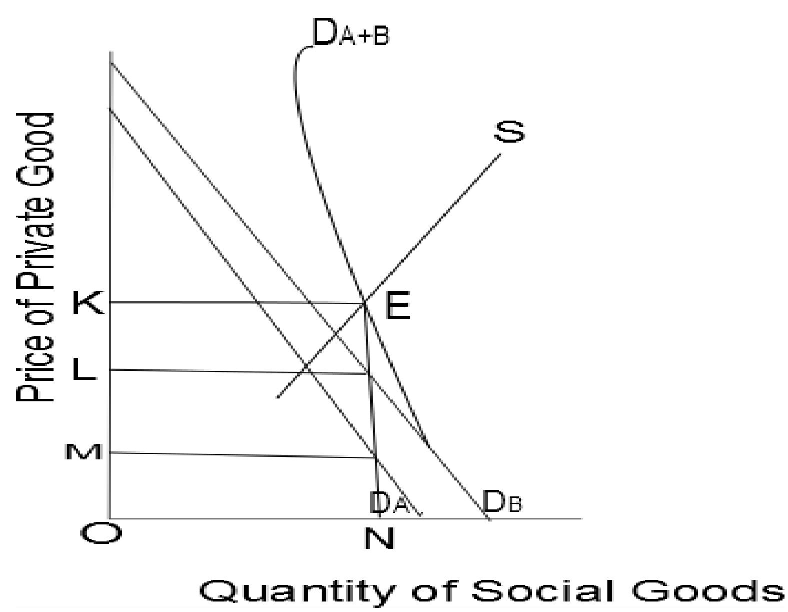
Samuelson's pure theory of public expenditure goes back to Italian and Australian writers who are responsible for the renaissance of the benefit approach.

Samuelson’s theory of public expenditure takes into account both allocation and distribution facets of the problem and thus provide a unified system of general equilibrium analysis of the theory of public expenditure.

According to Samuelson, public goods are provided collectively. They cannot be provided by private enterprise. Private goods are provided on the basis of preferences revealed freely by individuals in the market. Individual preferences are not known in the case of public goods. So, how can a market principle be applicable to the provision of public goods? The answer to this problem is that in a ‘democratic society’ ultimate justification of government provision of publicgoods or other activities is the desire of the members of the society for such goods and activities, rather than an authoritarian determination that such action is desirable. Though government may largely influence the preferences of the individuals for the public goods, yet it may be assumed that such preferences are the ultimate source of justification for the governmental activities.

Diagrammatic explanation:

Figure



In this figure D_A and D_B are demand curves for private good X for A and B. D_{A+B} is the market demand for X which is obtained by the horizontal addition of D_A and D_B . S is the supply curve of X. Price of X is OC for both A and B which is determined by the intersection of market demand D_{A+B} with market supply S at the point E. Quantity purchased by A and B together is OH. A will purchase OF while B buys OG so that OF+OG=OH.

In fig D_A and D_B again are the demand schedules for A and B and D_{A+B} which is obtained by the vertical addition of D_A and D_B is the market demand for the social good (G). Since G consumed in the same quantity by all tax payer consumers, market demand for social goods require vertical addition of individual demand curves. S is the supply of G. Equilibrium between demand for and supply of G is given at E. So, consumption of G by both A and B are/is ON and the combined price is OK of which OM is paid by A and OK by B. So that OK= OM+OL.

Musgrave's View On Pure Theory Of Public Expenditure:

Samuelson's pure theory of public expenditure solves two problems under the assumption of given preferences and distribution of income. They are:

i. The division of total output between the public good and private good.
ii. Division of the total supply of private goods between two consumers 'a' and 'b'.

All his solutions are Pareto optimal because any departure from them involves a loss to either 'a' or 'b'. The optimum of all such optima is then decided on the basis of a social utility function as part of the general problem of welfare maximization.

According to Musgrave, "This formulation meets the test of theoretical rigour and sweeping elegance and ranks among the great contributions to the theory of welfare economics, as applied to public finance". Yes, Samuelson's does not satisfy those who intend to apply fiscal theory to partial problems and specific issues. From the implementation point of view it is far from satisfactory. Johnson has tried to remove some of these difficulties as was done earlier byLindahl and Musgrave. Musgrave is of the view that Johnson's formulation may be consideredas a special case of Samuelson's broader framework. But this formulation is more attractivesince it directly deals with the question of tax shares. "At the same time, it leaves open the question of why the initial state of resource endowment was considered proper we are still left with an inconsistency which is successfully removed in Samuelson's general formulation".