# Public Economics

Kshyama Sagar Meher

This reference book can be useful for

BBA, MBA, B.Com, BMS, M.Com, BCA, MCA

and many more courses for Various Universities

NEERAJ PUBLICATIONS
www.neerajbooks.com

Published by:

NEERAJ
PUBLICATIONS

*(Publishers of Educational Books)*

Sales Office : 1507, 1st Floor,
Nai Sarak, Delhi-110 006
E-mail: info@neerajbooks.com
Website: www.neerajbooks.com

**© Reserved with the Publishers only.**

Typesetting by: Competent Computers

## Terms & Conditions for Buying E-Book

- The User must Read & Accept the Terms and Conditions (T&C) carefully before clicking on the accept option for Buying the Online Soft Copy of E-books. Under this Particular Facility you may buy only the Online Soft Copy of E-books, no Hard Copy or Printed Copy shall be provided under this facility.
- These E-Books are valid for 365 days online reading only (From the Date of Purchase) and no kind of Downloading, Printing, Copying, etc. are allowed in this facility as these products are just for Online Reading in your Mobile / Tablet / Computers.
- All the online soft copy E-books given in this website shall contain a diffused watermark on nearly every page to protect the material from being pirated / copy / misused, etc.
- This is a Chargeable Facility / Provision to Buy the Online Soft Copy of E-books available online through our Website Which a Subscriber / Buyer may Read Online on his or her Mobile / Tablet / Computer. The E-books content and their answer given in these Soft Copy provides you just the approximate pattern of the actual Answer. However, the actual Content / Study Material / Assignments / Question Papers might somewhat vary in its contents, distribution of marks and their level of difficulty.
- These E-Books are prepared by the author for the help, guidance and reference of the student to get an idea of how he/she can study easily in a short time duration. Content matter & Sample answers given in this E-Book may be Seen as the Guide/Reference Material only. Neither the publisher nor the author or seller will be responsible for any damage or loss due to any mistake, error or discrepancy as we do not claim the Accuracy of these solution / Answers. Any Omission or Error is highly regretted though every care has been taken while preparing these E-Books. Any mistake, error or discrepancy noted may be brought to the publishers notice which shall be taken care of in the next edition. Please consult your Teacher/Tutor or refer to the prescribed & recommended study material of the university / board / institute / Govt. of India Publication or notification if you have any doubts or confusions before you appear in the exam or Prepare your Assignments before submitting to the University/Board/Institute.
- Publisher / Study Badshah / shall remain the custodian of the Contents right / Copy Right of the Content of these reference E-books given / being offered at the website www.studybadshah.com.
- The User agrees Not to reproduce, duplicate, copy, sell, resell or exploit for any commercial purposes, any portion of these Services / Facilities, use of the Service / Facility, or access to the Service / Facility.
- The Price of these E-books may be Revised / Changed without any Prior Notice.
- The time duration of providing this online reading facility of 365 days may be alter or change by studybadshah.com without any Prior Notice.
- The Right to accept the order or reject the order of any E-books made by any customer is reserved with www.studybadshah.com only.
- All material prewritten or custom written is intended for the sole purpose of research and exemplary purposes only. We encourage you to use our material as a research and study aid only. Plagiarism is a crime, and we condone such behaviour. Please use our material responsibly.
- In any Dispute What so ever Maximum Anyone can Claim is the Cost of a particular E-book which he had paid to Study Badshah company / website.
- If In case any Reader/Student has paid for any E-Book and is unable to Access the same at our Website for Online Reading Due to any Technical Error/ Web Admin Issue / Server Blockage at our Website www.studybadshah.com then He will be send a New Link for that Particular E-Book to Access the same and if Still the Issue is Not Resolved Because of Technical Error/ Web Admin Issue / Server Blockage at our website then His Amount for that Particular Purchase will be refunded by our website via PayTM.
- All the Terms, Matters & Disputes are Subjected to "Delhi" Jurisdiction Only.

# CONTENTS


| S.No. | | Page |
|---|---|---|
| 1. | Welfare Foundations of Economic Policies | 1 |
| 2. | Market Failure and Government Failure | 9 |
| 3. | Equity and Justice | 18 |
| 4. | Theory of Public Goods | 26 |
| 5. | Externalities and Solutions | 34 |
| 6. | Local and Global Public Goods | 42 |
| 7. | Theory of Social Choice | 50 |
| 8. | Public Choice Theory | 57 |
| 9. | Mechanism Design | 64 |
| 10. | Direct and Indirect Taxation | 70 |
| 11. | Optimal Taxation | 79 |
| 12. | Non-tax Revenues | 86 |
| 13. | Theory of Public Expenditure | 93 |
| 14. | Patterns of Public Expenditure in India | 101 |
| 15. | Deficit and Debt | 107 |
| 16. | Theory of Public Sector Pricing | 114 |
| 17. | Theory of Regulation | 120 |
| 18. | Theory of Multi-level Government | 128 |
| 19. | Fiscal Federalism in India | 135 |
| 20. | Design of Fiscal Transfers | 142 |
| 21. | Fiscal and Monetary Policies: Growth and Stabilisation | 149 |
| 22. | Public Policy For Distributive Justice | 158 |
| 23. | International Policy Coordination | 165 |

# Sample Preview of The Chapter

*Published by:*

NEERAJ PUBLICATIONS

www.neerajbooks.com

# PUBLIC ECONOMICS

## BLOCK-I : BASIC CONCEPTS OF PUBLIC ECONOMICS

## Welfare Foundations of Economic Policies

1

### INTRODUCTION

Policy interventions by the government is needed for welfare of individuals in both competitive market economy as well as command economy. In this chapter, we will study about the welfare foundations of economic policies in a competitive market economy.

### CHAPTER AT A GLANCE

**PUBLIC ECONOMICS AND WELFARE ECONOMICS: INTERFACE**

Public economics provide understandings for policy interventions by the government to rectify any distortion in the decision-making of various agents. The distortions may be in monopoly or monopsony power for sellers or buyers, taxes on or subsidies, existence of public goods and external economies or diseconomies. In such cases, the individual agents fail to achieve optimal welfare levels. Thus, the aggregate welfare of the economy also fails to attain its optimum.

In such cases, the government devises suitable policy interventions to correct the outcome leading the economy to achieve its maximum. Thus, welfare considerations become the backbone of all economic policies. Public economics which focuses on representative individual buyer or seller overlaps with welfare economics. In public economics, welfare is measured as the sum of consumer's surplus in terms of utility, producer's surplus in terms of profit and government's surplus in terms of net tax revenue. In public economics, any kind of surplus is welfare enhancing.

**CONCEPT OF WELFARE**

The economic policies in a competitive market economy start with an assumption that individuals derive utility from their own consumption of goods and services. The social welfare function is thus individual centric.

**Social Welfare Function (SWF)**

In welfare economics, a social welfare function is a function that ranks social states as less desirable, more desirable, or indifferent for every possible pair of social states. Inputs of the function include any variables considered to affect the economic welfare of a society. In using welfare measures of persons in the society as inputs, the social welfare function is individualistic in form. One use of a social welfare function is to represent prospective patterns of collective choice as to alternative social states. The social welfare function provides the government with a simple guideline for achieving the optimal distribution of income. It is explained diagrammatically in Q&A section.

**Utilitarian SWF**

According to Jeremy Bentham, social welfare would be viewed as the simple addition of individual valuations of utility. However, individual utilities are not readily comparable or additive.

**Scitovsky-Bergson's SWF**

It shows that if a poor individual loses utility, the rich gains more utility in order that the society can be indifferent for the re-distribution. A transfer of income from the rich to the poor increases the utility values more for the poor. It is explained diagrammatically in Q&A section.

**Rawlsian SWF**

The Rawlsian approach to social welfare measures the welfare of a society by the well-being of the worst-off individual (the maximin criterion). A utilitarian measures the welfare of a society by the sum of the individuals' utilities. Rawls accepts that utilitarianism is the single most important ethical theory with which he has to contend. It is further explained diagrammatically in Q&A section.

**EFFICIENCY AND PARETO OPTIMALITY**

Pareto efficiency or Pareto optimality is a situation where no individual or preference criterion can be better

Neeraj Publications www.neerajbooks.com

www.neerajbooks.com



off without making at least one individual or preference criterion worse off or without any loss thereof. The concept is named after Vilfredo Pareto (1848-1923), Italian civil engineer and economist, who used the concept in his studies of economic efficiency and income distribution. Edgeworth's original two-axis depiction was developed into the now familiar box diagram by Pareto in his 1906 *Manual of Political Economy* and was popularized in a later exposition by Bowley. The modern version of the diagram is commonly called the Edgeworth-Bowley box. Edgeworth-Bowley box is a graphical representation of a market with just two commodities and two consumers. The main use of the Edgeworth box is to introduce topics in general equilibrium theory in a form in which properties can be visualised graphically. It is further explained with diagram in Q&A section.

**UTILITY POSSIBILITY FRONTIER**

A utility possibility frontier shows the maximum amount of one person's utility given each level of utility attained by all others in society. The frontier can also be explained as the utility maximisation by consumers given an economies' endowment and technology. Points on the curve are, by definition, Pareto efficient, while points that do not lie on this curve are not Pareto efficient. The curve also represents a social optimum, as any point on the curve is a maximisation of the given social welfare function. However, based on the extent of society's preferences for an equal distribution of real income, a point off the curve may be preferred. All points on or below the Utility-Possibility Frontier are attainable by society; all points above it are not attainable. The utility-possibility frontier is derived from the contract curve. The Utility-Possibility Frontier (UPF) is the upper frontier of the utility possibilities set, which is the set of utility levels of agents possible for a given amount of output, and thus the utility levels possible in a given consumer Edgeworth box. The slope of the UPF is the trade-off of utilities between two individuals. The absolute value of the slope of the utility-possibility frontier showcases the utility gain of one individual at the expense of utility loss of another individual, through a reallocation of outputs. It is further explained with diagram in Q&A section.

**Compensation Principles**

Compensation principles are used when some individuals lose out due to re-distribution. Under the compensation principles, the gainers compensate the losers and still have a net gain.

The three most well-known compensation principles are:

**The Kaldor Criterion:** Allocation $\alpha$ is preferred to allocation $\beta$ if the gainers from a re-distribution from $\alpha$ to $\beta$ can compensate the losers but still stay gainers.

**The Hicks Criterion:** Allocation $\alpha$ is preferred to allocation $\beta$ if the losers cannot profitably bribe the gainers in not making such a re-distribution.

**The Scitovsky Criterion:** Allocation $\alpha$ is preferred to allocation $\beta$ if the gainers could compensate the losers to make the change while the losers cannot profitably bribe the gainers in not making the change. It is also called as Scitovsky's double criteria because it combines both the principles of Kaldor and Hicks.

**APPLICATION OF WELFARE CRITERIA IN PUBLIC ECONOMICS**

The most efficient solution to distribution of goods depends on meeting *Pareto Optimality* condition. If some Pareto optimal situation is preferred among the many possible ones, we need to apply some compensation principle. Some application of these principles in specific economic contexts are discussed below:

**Monopoly Power**

In case of monopoly by a seller, there will be inefficient outcome and the consumers will lose some utility. Policy intervention by the government can solve this. In case the monopoly is a 'natural monopoly', the government can control the utilities. If the monopoly is for other reasons like patents, government can constitute price regulatory bodies to oversee the pricing. This ensures monopolist cannot earn too high profits by taking away some utility from the consumers. A cartel may be formed by some producers. The government can subsidise the consumers.

If such a situation arises on the buyers side as well. For example, if the price of labour becomes much lower than competitive wages and cause the workers to lose utility to the buyers of their labour services, government may intervene to legally enforce minimum wage. Such cases also occur when the labour market becomes unorganised so that buyers wield considerable bargaining power.

**Public Goods**

In case of public goods, competitive market mechanism does not work and the Edgeworth-Bowley diagram does not provide a correct solution. Defence force of the country service is enjoyed equally by all citizens of a nation can be an example. In the absence of a market determined price, the optimal point on the

Neeraj Publications www.neerajbooks.com

www.neerajbooks.com

www.neerajbooks.com



contract curve or utility possibility frontier cannot be determined rendering welfare based Pareto optimal criterion redundant. In such cases, government has to devise a tax system that shows true preferences of the individuals towards the public good. The taxes will act similar to price but determination of correct tax rate is difficult.

**Externalities**

Externalities affects an individual's utility but utility of many others. Externalities may be positive and negative. Positive externalities increase the utility of all others in that neighbourhood. Negative externalities adversely affect others. Thus, the indifference curves of one individual are not independent of movement in such curves of another individual. As a result, the whole mechanism by which optimal welfare is determined becomes questionable. Since the individuals (or firms) who create such externalities in many cases think about their private costs and benefits, there would be significant difference between private and social benefits. In such cases, the government can intervene through tax and subsidies.

**Imperfect Information**

The consumers get utility from consumption of goods with perfect information of the product so that the pricing of the goods does not deviate from its competitive optimum nor the quality of the product causes lower than the desired utility from the consumption of the goods. In such cases, government needs to intervene for course correction. Drug control by government agencies is an example. The US Food and Drug Administration oversees the introduction and the efficacy of all drugs in United States and sets a benchmark for the world. Another example is information provided by the weather bureau of a country which helps sellers and buyers in various ways.

## CHECK YOUR PROGRESS

**Q. 1. What is the basic tenet of Public Economics?**

**Ans.** Public economics provides a framework for thinking about whether the government should take part in economic markets and to what extent it should do so. The welfare in an economy is measured as the sum of consumers surplus, producers surplus and the government's surplus. Any kind of surplus is welfare enhancing. Keeping this in view, the government make policies in an economy. The government also intervene when there is a failure in market because of various factors like monopoly, externalities and public goods.

**Q. 2. Why is Social Welfare Function said to be 'individualistic'?**

**Ans.** Social Welfare Function is individualistic because the welfare of the society depends on the individual utility levels. In a competitive market economy, it is assumed that individuals derive utility from their own consumption and are not affected by consumption of others. Thus, in social welfare function other aspects such as social networks prevalent in many developing economies are ignored. In social networks, the actions of groups affect individual's utility. Thus, the predominant ideas in public economics are governed by welfare concepts rooted in individualistic utility levels.

**Q. 3. How does the Utilitarian Social Welfare Function deviates from its individual centric character?**

**Ans.** In utilitarian Social Welfare Function as suggested by Jeremy Bentham, the gain and loss of the individuals are independent of their wealth positions. On the other hand, in individualistic SWF, the welfare of the society depends on the individual utility levels. It is assumed that in a competitive market economy, individuals derive utility from their own consumption and are not affected by consumption of others.

**Q. 4. Why is the Rawlsian Welfare Function L-shaped?**

**Ans.** Rawlsian Welfare Function is L-shaped because the fixing the utility of the poor will cause no rise in social welfare no matter how much utility is increased for the rich. It shows the welfare of the society depends on the welfare of the worst-off individual. Even if the rich gains, the welfare of the society will not increase if the poor remains the same.

**Q. 5. Define a contract curve.**

**Ans.** The contract curve is the set of points representing final allocations of two goods between two people that could occur as a result of mutually beneficial trading between those people given their initial allocations of the goods. All the points on this locus are Pareto efficient allocations, meaning that from any one of these points there is no reallocation that could make one of the people more satisfied with his or her allocation without making the other person less satisfied. The contract curve is the subset of the Pareto efficient points that could be reached by trading from the people's initial holdings of the two goods.

**Q. 6. How are Utility Possibility Frontier and Contract Curve related?**

**Ans.** The utility possibilities frontier represents all allocations that are efficient and shows the level of

Neeraj Publications www.neerajbooks.com

www.neerajbooks.com

www.neerajbooks.com



satisfaction that each person achieves when he has traded to an efficient outcome, on the contract curve. In an Edgeworth box the contract curve is the set of tangency points between the indifference curves of the two consumers. It is termed the contract curve because the outcome of negotiation about trade between two consumers should lead to an agreement that has an outcome on the contract curve. The competitive equilibrium of an economy is always located on the contract curve.

**Q. 7. How does the second welfare theorem envisage scope for policy intervention by the government?**

**Ans.** The second welfare theorem says in a competitive market economy, given that the indifference curves of individuals satisfy the standard properties, for any initial distribution of goods among the individuals, any point on the utility possibility frontier is a point of equilibrium. This implies that if the existing equilibrium point is not the one which is desirable from society's point of view, then a re-distribution of income can lead to a more desirable outcome at some other Pareto optimal point.

**Q. 8. State the limitation of compensation principles.**

**Ans.** The limitation of the compensation principles is that they are all potential and not actual. It is possible that the gainers do not compensate the losers in reality or the losers do not try to thwart the move of re-distribution though they could.

**Q. 9. Why does the government need to intervene in case of a patented product?**

**Ans.** The government needs to intervene in case of a patented product because there may be monopoly by a seller and there will be inefficient outcome and the consumers will lose some utility. Policy intervention by the government can maximize the utilities for the consumers.

**Q. 10. What problem does a public good pose for welfare maximisation?**

**Ans.** For public goods, competitive market mechanism does not work and the Edgeworth-Bowley diagram does not offer a correct solution. Take Defence force as an example. The service is enjoyed equally by all citizens of a nation can be an example. In the absence of a market determined price, the optimal point on the contract curve or utility possibility frontier cannot be determined rendering welfare based Pareto optimal criterion redundant. In such cases, government has to devise a tax system that shows true preferences of the individuals towards the public good.

**Q. 11. In case of household enterprises being set up in densely populated area, what is expected in terms of policy intervention?**

**Ans.** In case of household enterprises being set up in densely populated area, the government can intervene through tax. The reason: Such an enterprise is an externality which adversely affects others. Thus, the indifference curves of one individual are not independent of movement in such curves of another individual. As a result, the whole mechanism by which optimal welfare is determined becomes questionable. Since the individuals (or firms) who create such externalities in many cases think about their private costs and benefits, there would be significant difference between private and social benefits.

**Q. 12. For what reason do drugs need regulation?**

**Ans.** Drugs need regulation because of imperfect information. The consumers get utility from consumption of goods with perfect information of the product. Government needs to intervene for course correction.

## OTHER IMPORTANT QUESTIONS

**Q. 1. What is the essence of Rawlsian approach to social welfare?**

**Ans.** The Rawlsian approach to social welfare, built on the foundation of the "Veil of Ignorance", measures the welfare of a society by the well-being of the worst-off individual (the maximin criterion). A utilitarian measures the welfare of a society by the sum of the individuals' utilities. Starting from such different perspectives, the optimal income distribution chosen by a Rawlsian social planner usually differs from the optimal income distribution chosen by a utilitarian social planner. Rawls accepts that utilitarianism is the single most important ethical theory with which he has to contend. In utilitarian ethics, the maximization of general welfare may require that one person's good is sacrificed to serve the greater good of the group of people. Rawlsian ethics, however, would never allow this. As Rawls' *Difference Principle* states, social and economic inequalities should be tolerated only when they are expected to benefit the disadvantaged. Rawls argues that his principles are more morally justified than the utilitarian principles because his will never condone institutions such as slavery, whereas this need not be the case with utilitarian ethics. In such a situation, a utilitarian would simply weigh all the benefits and all the losses, so a *priori* we cannot exclude a configuration

www.neerajbooks.com