
UNIT 1 CENTRAL PROBLEMS

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1.0 OBJECTIVES

This unit would enable you to understand

- 1 what does constitute an economic problem to an individual and to the society
- 1 what does constitute wants and the means to satisfy them
- 1 what is Production Possibilities Curve (PPC)
- 1 how PPC can be used to illustrate the problem of choice in Economics
- 1 the distinction between Positive Economics and Normative Economics with illustrations.

1.1 INTRODUCTION

The purpose of this unit is to define the subject matter of economics, highlighting what constitute the central (essential) problems of an economy. The normal tendency is to start with a definition. However, in introducing the subject called economics, starting with a definition is an extremely difficult task, if not impossible, since there exists no single accepted definition. You will be surprised if we tell you that there are as many definitions of economics as there are number of economists in this world. Each will claim that his or her definition is superior and more relevant and appropriate than that of others. Hence there is a dilemma as well as an ego problem. However, to do justice to the beginner students who will be reading our unit in economics, we have to start with an analysis of what the subject of economics is all about. It is in this context that we choose Lionel Robbin's definition of economics in preference to Adam Smith's, Alfred Marshall's or J.M. Keynes'.

1.2 DEFINING ECONOMICS.

According to Lionel Robbins, "Economics is a science which studies human behaviour as a relationship between ends and scarce means which have alternative uses" [An Essay On The Nature And Significance Of Economic Science 1933]. What does Robbins stress in his definition of economics? Firstly, that economics as a subject deals with human behaviour. A critic can say that a study of human behaviour is not a prerogative of economics only. There are other social sciences, like sociology, psychology, political science etc., which also deal with human behaviour. Like economics these subjects also deal with the behaviour of people in their individual

as well as. Economics, however, deals with the behaviour of people in the pursuit of economic activities. As one author puts it, “What distinguishes economics from the other social sciences, however, is the manner in which it studies people, and Robbins’ statement makes this clear. Economics interprets human behaviour as the conscious attainment of objectives, of ends”.

1.3 UNLIMITED WANTS AND LIMITED MEANS

The starting point of economics is human wants, needs and desires. Human beings living in any society at any stage of historical development of that society have wants and needs. Some of these needs like the need for food, clothing, shelter are biological in character, needed to sustain life in this universe. The origin of needs is, therefore, biological. However, the majority of human needs arise from the fact that people live together in a society. It is the existence of human society, which accounts for a large chunk of our needs. Such needs are determined by a complex set of factors called the culture of a given society. Even biological needs (like food) are also influenced by the culture of the society at any particular stage of historical development of that society. Hence, we find that the origin of needs is the biological necessity of sustaining life, while the existence of human society would determine its form, nature, and structure. One important characteristic of human wants is that they keep on occurring again and again. For instance, eating some thing may satisfy one’s hunger for the moment but after some time, one has to eat again. Now people would like to see their needs, wants, desires, aspirations to be realised and it is towards this realisation that human activities are directed. Economics is concerned with human (individual, collective) goals, objectives, ends to be achieved and realised through the use of certain means or resources at their disposal. For instance if you want to have a cold drink, you have to have purchasing power to buy it. To produce wheat you must have a piece of land, seeds, fertiliser and irrigation water. To build a house you need bricks, cement and steel, glasses, woods etc. In these examples can you identify the objectives (ends) and the means (resources)? Consider another example: you might drive your car with the objective of getting to work; you might go to work with the objective of earning money (purchasing power); and you might earn money because you have the objective of buying a new car. From these it is clear that to realise goals, objectives, ends, one requires means or resources.

Check Your Progress 1

(1) If you have Rs. 1000 income per month, name some biological needs that you will satisfy first. (In other, words name some commodities which you regard essential for survival)

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(2) If you want to grow sugarcane on a piece of agricultural land that you own, what are the resources that you will employ as means to achieve a certain level of output of sugarcane?

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1.4 SCARCITIES AND CHOICE

Recall that Robbins’ definition stresses the fact that means which human beings use to satisfy their wants or fulfil their needs are scarce. But then one can ask what is so important about scarcity? In economics scarcity has to be understood in the relative sense, the scarcity of means in relation to ends. It is the imbalance between ends and means (whether to an individual or to a society) that gives rise to scarcity and hence an economic problem. Here we must point out another aspect of Robbins’ definition. The means that one uses to satisfy needs are not specific to any particular end. The means have alternative uses. They may be employed (at least potentially) to attain any one of a number of ends. For instance, while writing this piece, I have so far used up about one hour of my precious time. Time represents a general means and each one of us is allocated only a fixed amount (24 hours a day or 60 years of life on an average). If I was not writing this unit, I might have used my time in some other ways - I might have gone to the library (Ratan Tata at Delhi School of Economics) to read a new book on Micro-Economics, or I might have gone to a book shop to scan the latest arrivals, or I might have just watched television in the hope of being entertained and educated on the latest trend in the movie world. Well, the alternative use of time (means) is endless. One can go on expanding the list. However, the point is clear, any scarce means have more than one-way of using them. Hence, a meaningful choice exists. Once you have committed your resources to one use (towards achieving a particular end) you deny yourself the benefits, which you could have got, if you had used the same resources to achieve some other end. Economics not only deals with scarcity but also helps us to exercise meaningful choices, since scarce means can be put to alternative uses. For instance, if you spend your income on bread and butter, you forfeit the opportunity to spend your income on fruits and ice creams; if the economy uses oil to energise power plants, the same oil cannot be used to run locomotives; if you use your time to study economics, you cannot at the same time doing a job and earning an income.

“Herein lies the essence of economics. Economics exists when the resources of an individual or group are insufficient to meet all the demands, objectives of that individual or group at the same time. Economics is concerned with the choices that people make about how best to employ a scarce resource - if scarcity does not exist than neither does economics. Note too, that it is not necessary, as sometimes thought, to assume that human wants are ‘unlimited’ or ‘infinite’. Possibly they are; the question of whether this is true could make an interesting research topic. All that is required for an economic problem to exist is for scarcity to exist - that is for ends to exceed means”. (David Whynes: Invitation to Economics, page 15).

Check Your Progress 2

- (i) If you can achieve whatever you wanted to achieve, does a meaningful choice exist?

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- (ii) If you are traveling from home to your place of work, what kind of choice exists so far as the mode of transport to be used is concerned?

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1.5 THE PROBLEM OF CHOICE: AN ILLUSTRATION

It is the conflict between means and ends (including conflict between individual's goals) which gives rise to an economic problem. In such a situation the problem arises as to how best to use the resources to achieve the ends. The central problem of an individual as well as for a society is the allocation of scarce means among competing ends. Economic problems for a society do not exist when either human goals are not in conflict or economic resources (means) are so abundant that there is no need to conserve them. However, the real world is not blessed with superabundant resources or harmonious goals. This is true of the most developed countries of the world like U.S.A., Germany, Japan etc., to the most backward countries like Somalia, Ethiopia, Bolivia, Bangladesh, Albania etc. In other words, scarcity is global as well as local, though some societies could be relatively better off than some others giving the impression that for such societies scarcity does not exist. Hence, every society has to develop a set of institutions to direct the way in which scarce resources are to be allocated. These institutions, which form the society's economic system, would determine *what goods are to be produced? how are they to be produced? and who should obtain them?*

A production possibilities curve (PPC) shows the various combinations of two goods (X_1 X_2) which the firm can produce using technically most efficient methods of production and allocating resources in an economically efficient manner, with its resources being always fully utilised. It shows, given scarcity of resources and given technology, the maximum output produced of one good, given the output of the other good. It shows how one good can be transformed into another good not physically but via the transfer or shifting of resources from one line of use to another. It shows how food is transformed into clothing or from clothing to food by diverting resources from one use to another. Hence PPC is also called *the transformation curve* (see Fig.1.1).

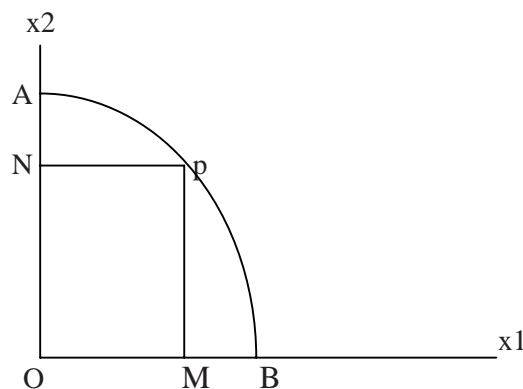


Fig. 1.1: If society devoted all its productive resources in most efficient manner to produce only X_1 commodity it could produce the same in OB amount. If on the other hand, all the resources were devoted to production of X_2 at the most OA amount of the same could be produced. The curve AB shows all the combination of X_1 and X_2 , which can be produced by the society. For example, if society decides to produce at point P then, OM quality of X and ON quantity of X_2 is produced. Alternatively, we may say that if society decides to produce OM of X_2 than, maximum amount of X_1 it can produce will be ON (and vice verse).

The technique of PPC can be used to illustrate the various central problems of an economy. The first central problem is the problem of what goods are to be produced by the economy. Let us suppose the two goods are X_1 (consumer good) and X_2

(capital good). Following Paul Samuelson we can say that the economy's PPC describes the society's "MENU of choice". Since the resources needed to produce X_1 and X_2 are scarce and limited, hence every society has to make a choice (take a hard decision) whether to use current resources to make more consumer goods (X_1) or more capital goods (X_2) or seek a proper balance between the two. It is quite possible that if the economy is a developing economy like India, to build up the capital base of the economy it gives more importance to the production of capital goods (X_2), where an economy like Japan with a strong capital base, might give more weightage to the production of consumer goods (X_1). (see Fig. 1.2)

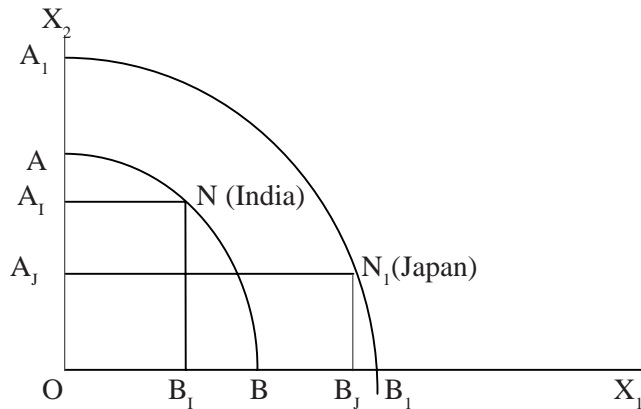


Fig. 1.2: India may produce $A_1 B_1$ combination of capital and consumer goods while prosperous Japan may produce $A_J B_J$ Bundles which has a very large amount of consumer good X_1 and small amount of capital good X_2 .

Similarly, PPC can be used to illustrate the second central problems of an economy - the problem of how to produce. How resources are to be combined to produce the goods that is the choice of methods of production. However, this cannot be discerned directly from the PPC (we have to go back to the efficiency locus from which PPC is derived). If we assume that X_1 is labour intensive and X_2 is capital intensive, then at point N on India's PPC AB relatively more of capital goods are produced and since they require the use of capital intensive techniques, hence at the product mix N there is preponderance of capital intensive methods of production. However, it must be noted that for the Japanese PPC $A_1 B_1$ the choice of N_1 represents the dominance of consumer goods, which need not imply the preponderance of labour intensive methods. Quite the contrary, in a developed economy like Japan consumer goods are normally produced with relatively capital intensive techniques. Hence PPC can be misleading in indicating the choice of methods of production.

The third central problems of an economy is the problem of for whom to produce - the problem of distribution. The PPC can be used to illustrate it but not directly. If we assume that the more unequal the distribution is, the greater will be the share of luxury consumption (like cars, colour TVs, refrigerators etc). Luxury consumer goods are more capital intensive than the basic consumer goods. Hence Indian economy would be operating at point N on its PPC. But remember, we tried to justify production at N is the name of India being a developing economy a short while ago. Thus, unless we also specify which capital intensive goods are shown on vertical axis, we will not be able to see developing or it is a symptom of very high degree of inequalities in distribution of income. But again we have to be cautious in interpreting the choice of N_1 by the Japanese economy.

Yet if one shows a commodity such as bread on horizontal axis and air conditioners on the vertical axis, the choice of production point will clearly indicate the distributional objectives of those who make the production decisions.

1.5.1 A Digression: Meaning Of Goods In Economy

The material objects (like bread, butter, shirts, trousers, skirts, pens, pencils, chairs, tables, bicycles, cars, watches, bathing and washing soaps etc.), which are used to satisfy human wants are called goods in economics. Goods are material means of satisfying human wants. These means are drawn from nature, by changing their physical, chemical and biological properties, and by conveying them in space and conserving them overtime. We will use the terms goods, products, commodities interchangeably and as synonymous.

Goods are characterised by three things, (i) their physical attributes, the way they satisfy human wants, (ii) the dates at which they are available (a car available this year is not the same commodity as a car available last year even of the same make); (iii) the location at which they are available (a shirt available in New Delhi is not the same as a shirt available in Paris.)

Check Your Progress 3

- 1. A PPC provides an economy’s ‘Menu of Choice’. If resources are scarce and fully employed, will the economy be operating on PPC or inside it?

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(Hint: If you are unemployed you are not producing any output. If you are under-employed you can produce some output but not your potential output that is maximum output).

- 2. If your resources (means) are expanding (growing) what happens to the PPC? shifts outwardly or inwardly.

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1.5.2 Another Digression

Another aspects of Robins’ definition:

He considers economics to be a science. The question is how is it a science? Is it science in the same way as physics or chemistry? Not really. Economics is not an exact science like physics or chemistry, since it deals with human behaviour and human behaviour cannot traverse a predetermined fixed pattern, unchanging over time and space. There is no unique human response to a given stimuli. Hence, prediction of human behaviour is much more difficult than prediction of some natural phenomenon. The regularities in natural phenomena are more exact, and more easily quantifiable, representable and measurable than regularities in economic phenomena.

Economics is a science as well as an art. Since it deals with real world phenomena of human activities in production, distribution and consumption, economics is a liberal art. However, the methodology used to derive economic propositions is the methods of science. Now what constitutes a scientific method of inquiry? A

scientific method consists of a set of hypotheses or assertions on objects and phenomena as they are found in reality, and a model which establishes a set of relations among variables or objects or phenomena using the method of logical reasoning (deductive logic). By applying the model to the hypothesis, a set of propositions is derived, which are simplifications or conclusions derived from the hypothesis. At the last step the propositions are put to test by confronting them with the observations on the objects as they are found in reality.

Check Your Progress 4

1. If you throw an apple from a tree top it will always fall on the ground. Your prediction will always be 100 percent correct. However, if you reduce the price of an apple, will people always consume more of it? Do you think that your prediction will always be correct in this case?

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2. In what sense is economics a science?

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1.6 POSITIVE VERSUS NORMATIVE ECONOMICS

In economics we often make a distinction between *positive* issues and *normative* issues.

In positive economics we deal with scientific issues and questions. For instance how is price of a commodity determined? What determines the level of employment in a firm, in an economy? How does a firm choose an optimal input combination? They are all value-free questions and issues, and no ethical issues are involved. In contrast in normative economics we deal only with ethical issues. For instance, what is the best way of allocating resources in an economy? How should National Income be distributed in a society? Is inflation good or bad? The economy ought to operate with full employment of labour! The answer to such questions involves value judgments, which would vary from analyst to analyst. On ethical issues, the stand one takes depends on one’s ideology, including one’s class affiliation. Since no scientific issues are involved, the axioms as well as the propositions derived from them are ethical in nature. One is free to accept or reject the conclusions of normative economics by just accepting or rejecting the axiom system.

In normative economics, disagreements among economists can never be resolved, since both the hypothesis (that is the axiom system) as well as the propositions derived from it are ethical in nature, involving value judgments. One can go on arguing without coming to an end when one is dealing with ethical questions. Ethical propositions cannot be empirically tested either.

On the other hand though positive economics deals with scientific questions, and hence one can use a scientific method of inquiry to develop a theory, disagreements can still arise among economists. Economists can disagree on the model or the theory to be used to analyse a particular problem. In positive economics since an

economist's perception of a phenomenon or process might differ from other economist's perception, hence disagreements can arise. However, in positive economics such disagreements can be resolved by an appeal to facts, that is, by empirically testing the theory.

Differences can also arise in the nature of the data, which would form the basis of empirical testing of any theory, be in economics or physics. In natural sciences one can make use of controlled experiments in laboratory conditions to generate the database. This is not possible in economics where the analyst will have to rely on using imperfect statistical tools to generate the data required. Hence, the final outcomes of two positive economics theorists handling the same problem may differ.

Check Your Progress 5

- (i) For the following statements, indicate which are positive and which are normative.
- (a) Unemployment ought to be reduced in the economy.
 - (b) India's balance of payments is not in equilibrium.
 - (c) Investment is determined by income.
 - (d) Inflation ought to be controlled.
 - (e) It is not desirable to have public sector in Indian economy.
 - (f) Prices must not be controlled.
 - (g) Rationing reduces efficiency.
 - (h) India imports as well as exports petrol.
 - (i) India is a poor country.
 - (j) Inequality should be reduced.

1.7 LET US SUM UP

We have discussed in this unit what constitute the central problems of an economy. All of us living in any society at any stage of its historical development, society always face an economising problem. Our desires and wants are unlimited in the sense that even if certain desires are fulfilled some new desire keeps arising with the progress of our society through time. Creation of desires and wants are endless continuous process. However, even if some desires are fulfilled, because of limitations of means we cannot satisfy all our desires at the same time. This is true for any individual in isolation as well as for the society of individuals living in a (given) milieu. Hence Lord Robbins' definition of economics not only attains significance but also is also very appropriate. Economics deals with the act of economising. It is the conflict between limited means and unlimited wants that give rise to scarcity, and hence the economic problem of making a meaningful choice from among the alternative uses of means to satisfy a part of the unlimited human desires. Scarcity is a relative concept and is faced not only by poor country but even the most developed countries of the world. There is scarcity of means in relation to wants in India as well as in U.S.A. But the nature of wants as well as the means could be different. The exercise of a meaningful choice could be illustrated by using the technique of a production possibility curve. The conflict between means and ends (i.e., the wants) gives rise to the following central problems: -

- (i) *What goods are to be produced with the limited means?*

Should the economy produce more of food or more of luxury motorcars? Should the economy produce more for exports or more for domestic consumption?

- (ii) *How the goods are to be produced?*

In other words how the scarce resources are to be combined to produce goods required to satisfy human wants?

This is something to do with the choice of production methods. For instance between labour intensive methods and capital intensive methods.

(iii) *For whom the goods are to be produced?* In other words once the goods are produced for final consumption the problem remains as to how to distribute them to the consumers. Should the goods produced be distributed more to the poorer consumers or more to richer consumers?

We have concluded our discussion of Unit 1 with the distinction between positive economics and normative economics. Just to recollect, positive issues deals with scientific issues, like how price of a commodity is determined? While normative economics deals with ethical issues, like how should a fair wage be determined in the economy? In positive economics no value judgments are involved. In normative economics we essentially deal with the value judgments, which are subjective in nature. Value judgments are ultimately derived from one's ideological position in the society.

1.8 SOME KEY WORDS

- Capital** : All man made non-labour resources (reproducible) are included in the factor capital. It represents part of society's output, which is not consumed currently but set aside to be used in the productive process sometimes in the future. It includes the stock of man made real physical goods, like machines, plants, equipments, buildings etc.
- Economics** : The word economics has Greek origin. Oikos Plus Nomos meaning Home and Law. The principle of household management. The word economics has something to do with economising on the use of means to attain ends, since means are scarce and limited.
- Ends** : The objective pursued by human beings while being engaged in economic activities.
- Enterprise (or a firm)** : A firm is an organisation formed for the purpose of producing goods and services to be sold in a market. Firms purchase resources (inputs), organise their use in production and market the goods produced. In the process firms take risks. Activities within a firm are based on the principle of co-operation and division of labour.
- Goods** : Material means of satisfying human wants, desires and needs. The terms goods, products and commodities are used interchangeably and as synonymous in economics.
- Labour** : Labour as a factor of production includes the mental and physical powers (abilities) of human beings.
- Land** : All free gifts of nature and natural resources are included in the factor of production land.
- Means** : The instruments or resources used in attaining the perceived objectives.
- Normative Economics** : Deals with ethical issues, questions and problems. For instance should unemployed people be given doles? Should government control prices?

Positive Economics : Deals with scientific issues and questions. For instance, what goods are to be produced and how they are to be produced. It analyses and solves economic problems without bringing in value judgments.

Production Possibilities Curve (PPC) : The locus of output combinations which a firm or an economy can produce using technically most efficient methods of production and allocating resources in an economically efficient manner, given production functions, input prices and endowment of resources.

Scarcity : Human needs outstripping availability gives rise to scarcity i.e., the imbalance between ends and means. Scarcity is a relative concept and not an absolute concept.

Wants : Desire for goods, material objects and services. Wants become demand when they are expressed in the market backed by willingness and ability to purchase.

1.9 SOME USEFUL BOOKS

Begg, D.R. Dornbusch, S. Fischer (1991), *Macroeconomics* (4th Edition), McGraw-Hill Book Co. New York

Lipsey, Richard (1997), *Introduction to Positive Economics* (8th Edition), Oxford University Press (ELBS Edition), London

Nicholson, W. (1995), *Intermediate Micro Economics* (VIth Edition), Dryden Press, New York.)

Roychoudhry, Kalyanjit (1999), *Modern Microeconomics* (II Edition), Book Land, Delhi

Salvatore D. (1996), *Micro Economic Theory* (Schaum series 3rd Edition), McGraw-Hill Book Co., New York.

Salvatore D. (1995), *Micro Economics* (2nd Edition), Harper Collins Publishers, New York

Treatment, Timothy (1996), *Micro Economics*, (Its Edition, 1996) McMillan, New York

1.10 ANSWERS OR HINTS TO CHECK YOUR PROGRESS EXERCISES

Check Your Progress 1

- 1 Some essential food items milk, cereals, oil, pulses, vegetables, clothes and a small room for living. Since Rs.1000 is a very small income you can afford only small quantities of the above goods. Your consumption habits will determine the weights to be given to the various food items in your budget.
- 2 Some seeds, some fertilizer, certain amount of water, some labourers, may be some agricultural tools.

Check Your Progress 2

- 1 Since wants are unlimited and means are limited, all our wants cannot be satisfied simultaneously at any time. Hence you are required to establish

priorities as to which wants are to be satisfied with your limited means, given that means have alternative uses. For instance, on a given piece of land you can grow Rice or Vegetables or grow some cash crops. If means are specific to a particular use then no meaningful choice exists

- 2 You can either use public transport, you can cycle your way, you can use two wheelers and if you can afford, your motorcars. In some cities people even use local trains, trams, even waterways.

Check Your Progress 3

1. Hint already provided
- 2 With more resources the economy can produce more of both the goods (in a two goods situation). The PPC will shift outwardly. Of course it would ultimately depend on the technology used, the relative change in factor endowments and the efficiency with which resources are used in the production of the two goods.

Check Your Progress

- 1 Economics is not an exact science unlike physics and other natural sciences. Human behaviour cannot reveal any regularity unlike natural phenomenon. To the same stimuli the reactions of human beings can be different in different situations and varies from individual to individual. Hence one cannot say with 100% certainty that the quantity demanded of apples would increase when price of apples falls.
- 2 In the sense of using scientific methods of enquiry. Refer to the diagrams in section 1.5(b)

Check Your Progress 5

- 1 (a) Normative; (b) Positive; (c) Positive; (d) Normative; (e) Normative; (f) Normative; (g) Positive; (h) Positive; (i) Positive; (j) Normative