ECONOMICS ENVIRONMENT FOR BUSINESS

PGDBA-102



BLOCK 1:
INTRODUCTION TO ECONOMICS

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ECONOMICS ENVIRONMENT FOR BUSINESS

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ROLE OF SELF INSTRUCTIONAL MATERIAL IN DISTANCE LEARNING

The need to plan effective instruction is imperative for a successful distance teaching repertoire. This is due to the fact that the instructional designer, the tutor, the author (s) and the student are often separated by distance and may never meet in person. This is an increasingly common scenario in distance education instruction. As much as possible, teaching by distance should stimulate the student's intellectual involvement and contain all the necessary learning instructional activities that are capable of guiding the student through the course objectives. Therefore, the course / self-instructional material are completely equipped with everything that the syllabus prescribes.

To ensure effective instruction, a number of instructional design ideas are used and these help students to acquire knowledge, intellectual skills, motor skills and necessary attitudinal changes. In this respect, students' assessment and course evaluation are incorporated in the text.

The nature of instructional activities used in distance education self-instructional materials depends on the domain of learning that they reinforce in the text, that is, the cognitive, psychomotor and affective. These are further interpreted in the acquisition of knowledge, intellectual skills and motor skills. Students may be encouraged to gain, apply and communicate (orally or in writing) the knowledge acquired. Intellectual-skills objectives may be met by designing instructions that make use of students' prior knowledge and experiences in the discourse as the foundation on which newly acquired knowledge is built.

The provision of exercises in the form of assignments, projects and tutorial feedback is necessary. Instructional activities that teach motor skills need to be graphically demonstrated and the correct practices provided during tutorials. Instructional activities for inculcating change in attitude and behavior should create interest and demonstrate need and benefits gained by adopting the required change. Information on the adoption and procedures for practice of new attitudes may then be introduced.

Teaching and learning at a distance eliminates interactive communication cues, such as pauses, intonation and gestures, associated with the face-to-face method of teaching. This is particularly so with the exclusive use of print media. Instructional activities built into the instructional repertoire provide this missing interaction between the student and the teacher. Therefore, the use of instructional activities to affect better distance teaching is not optional, but mandatory.

Our team of successful writers and authors has tried to reduce this.

Divide and to bring this Self Instructional Material as the best teaching and communication tool. Instructional activities are varied in order to assess the different facets of the domains of learning.

Distance education teaching repertoire involves extensive use of self-instructional materials, be they print or otherwise. These materials are designed to achieve certain pre-determined learning outcomes, namely goals and objectives that are contained in an instructional plan. Since the teaching process is affected over a distance, there is need to ensure that students actively participate in their learning by performing specific tasks that help them to understand the relevant concepts. Therefore, a set of exercises is built into the teaching repertoire in order to link what students and tutors do in the framework of the course outline. These could be in the form of students' assignments, a research project or a science practical exercise. Examples of instructional activities in distance education are too numerous to list. Instructional activities, when used in this context, help to motivate students, guide and measure students' performance (continuous assessment)

PREFACE

We have put in lots of hard work to make this book as user-friendly as possible, but we have not sacrificed quality. Experts were involved in preparing the materials. However, concepts are explained in easy language for you. We have included many tables and examples for easy understanding.

We sincerely hope this book will help you in every way you expect.

All the best for your studies from our team!

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BLOCK 1: INTRODUCTION TO ECONOMICS

Block Introduction

The importance of the subject Economics can never be underestimated. This subject is considered to be one of the most important and complexed subject ever. Most of the time, it has been found that the subject is not so popular amongst the students due to its complexity. Best efforts have been made keeping in view this factor in mind. The content has been kept short, precise but complete so that more and more information could be given to the students in less content. The content has even been made very interesting so that students do not loose their interest while reading.

This block aims to give an introduction of the subject economics to its readers. The block has been divided into three units. Unit 1 discusses about the nature and scope of Economics. This unit gives an introduction of the subject to its readers where. Definitions of Economics by various renowned writers have been given the other topics mentioned here in this units are the scope of Economics, Micro-economics, Macro-economics, Specialized Branches of Economic Studies, Nature of Economics, Nature of Economic Laws, Problems of Economy. Unit 2 discusses on the Economy and its basic problem. Here a detailed introduction has been given as to what is our economy and what are the various problems associated to it. The other topics covered over here the basic problems of an Economy, How Market Mechanism Solves the Basic Problems, How efficient is the Market System, Reasons for the Failures of the Market System, The Government and the Economy. Lastly, unit 3 discusses on the basic concepts in economics such as distinction between micro and macroeconomics, importance, need and use of macro economics, Importance of microeconomics, Human wants and standard of living, Factors of production, Theories of Population, Law of Returns, National Income, Money, Banking, Household, Plant, Firm and Industries.

So from this block the students of this subject will get to know about the basics of economics, they would get a thorough knowledge about their economy and various problems associated with it not only this the students will also get a thorough knowledge about the basic concepts which are associated with the subject.

Block Objective

After learning this block, you will be able to understand:

- Economics and its importance in economy.
- Differences between micro and macro economics.
- The problems of economy.
- Terms and specialised branches of economics.
- Market mechnanism and its role in solving the problem.
- About Public finance.
- Factors of production.

Block Structure

Unit 1: Nature and Scope of Economics

Unit 2: The Economy and its Basic Problem

Unit 3: Basic Concepts in Economics

UNIT 1: NATURE AND SCOPE OF ECONOMICS

Unit Structure

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1.0 Learning Objectives

After learning this unit, you will be able to understand:

- The meaning and definition of economics.
- Distinction between micro and macro economics.
- Various problems of economy.
- Basic terms of economics.
- Specialised branches of economics studies.

1.1 Introduction

The science of economics is not very old. In fact, its genesis can be traced to 1776 when Adam Smith's book An Enquiry into the Nature and the Causes of Wealth of Nations was published. However, with the extension of horizons of human knowledge and with the increasing areas of human activity, its scope has considerably increased over the years. Economics concerns decisions and since decisions are to be constantly made in all fields of human endeavor, there is no aspect of human life that is not touched by economics. Economics is the social science studying the production, distribution and consumption of goods and services. Economics is a complex social science spans from mathematics to psychology. At its most basic, however, economics considers how a society provides for its needs. Its most basic need is survival; which requires food, clothing and shelter. Once those are covered, it can then focus on sophisticated commodities such as services, personal transport, entertainment, the list goes on. Today, this social science known as 'economics' refers only to the type of economic thought, which political economists refer to as Neoclassical Economics. It developed in the 18th century based on the idea that economics can be analysed mathematically and scientifically. Other schools of thought have included Classical and Modern Political Economy, Marxian Economics, Institutional

Economics and Keynesian Economics. These all have different emphasis on certain aspects of economics

1.2 Definitions of Economics

Most economists agree with the view that defining economics is necessary as it becomes possible to study a subject and know it scientifically and properly. Nobel laureate Prof. Samuelson observes, "Beginners often want a short definition of economics and in response to this demand there is no shortage of supply".

In order to facilitate the study, definitions of economics have been broadly divided into four parts:

- Wealth Definition – Adam Smith
- Welfare Definition – Marshall
- Scarcity Definition – Robbins
- Growth Oriented Definition – Samuelson

1.2.1 Adams Smith-Wealth Definition (1776)

Adam Smith known as the father of economic science wrote his book Wealth of Nations in 1776. According to him, it is "an inquiry into the nature and causes of the wealth of nations".

This definition would treat economics as a science of earning and spending wealth. J.S. Mill, later, defined economics as "the practical science of the production and distribution of wealth". Even though production and distribution form important problems of economics, the major attention is focused on the problem of price determination.

Features:

- Economics is the study of wealth only.
- It is a nature or meaning of wealth.
- It deals with the causes of wealth.

Criticisms:

- More emphasis on wealth
- Narrow meaning of wealth
- Concept concerned only with economic wealth
- Neglect of welfare
- Neglects of the problem of scarcity and choice
- Neglect of means to attain wealth

1.2.2 Marshall-Welfare Definition (1890)

Later, Dr. Alfred Marshall in his Principles of Economics (1890) treated economics as "a study of mankind in the ordinary business of life" and then went on to say "economics examines that part of individual and social action connected with the attainment of the material requisites of well-being". Marshall's definition treats economics as "a study of wealth" on one side and "a part of the study of man" on the other but more important side. Marshall gives more important place to man in economics. Marshall's definition stresses material welfare activities as the subject matter of economics. It is true that material well-being is important for a man in his everyday life - how does he earn and spend his money - how does money affect his way of life and his outlook on life. This definition truly stresses that economics is a social science. It studies behaviour of man as buyer and seller, producer and consumer, employer and employee, saver and investor.

However, with Marshall's definition of economics, the scope of economics becomes limited. Economics is more than what Marshall's definition includes. Economics covers all activities - whether material or otherwise of humanity in earning and spending problems.

Features:

- Importance to the study of man
- Study of social man
- Ordinary business of life
- Study of real man

- Material requisites
- Welfare
- Science and art
- Classificatory
- Money is the measure of material welfare

Criticisms:

- Regarding ordinary business of life
- Limited scope
- Uncertain concept of welfare
- Economics is a human science
- Economics is only a positive science
- Impractical

1.2.3 Robbins-Scarcity Definition (1939)

The famous modern definition of Lionel Robbins throws light on the subject matter of economics. He has widened the scope of economics as a science. Economics is a study of the problem of choice, which arises due to scarcity of resources in relation to unlimited wants. According to Lord Robbins, *"*Economics is the science, which studies human behaviour as a relationship between ends and scarce means which have alternative uses". He has stated this in his book "An essay on the nature and significance of Economic Science (1939)". No doubt, human wants are unlimited, resources or means to satisfy them are scarce, and therefore, the problem of choice arises. It is the problem of making the best use of these scarce.

Features:

- Unlimited wants or ends
- Limited or scarce means
- Alternative uses of means

- Wants differ in urgency
- Economic problem
- Opportunity cost

Criticisms

- Ignores social aspect of economic activities
- Economics is not as neutral with respect to ends
- Concealed concept of welfare
- Very wide scope of economics
- Not only a positive science
- Division of personality
- Impractical
- Scarcity is not the cause of economic problem
- Study of static condition
- Not fully applicable to rich countries
- Not applicable to under – developed countries
- Not applicable to centrally planned economics
- Complex and abstract
- Use of words ‘means’ and ‘ends’

1.2.4 Samuelson-Growth Definition (1970)

Nobel Prize winner Prof. Samuelson defines economics as follows:

“Economics is the study of how people and society end up choosing with or without the use of money, to employ scarce productive resources that could have alternative uses; it produces various commodities over time and distributes them for consumption, now or in the future, among various persons and groups in society. It analyses costs and benefits of improving patterns of resource allocation”.

Features

- Economic resources
- Efficient allocation of resources
- Full utilisation of resources
- Increase in resources

Merits

- Realistic explanation of economic problem
- Science and art
- Not neutral with respect to ends
- Practical
- Dynamic
- Universal
- Analyses of economic quantities

Check your progress 1

1. Wealth definition of economics was given by _____.

   a. Samuelson c. Marshall

   b. Robbins d. Adam Smith

2. Welfare definition of economics was given by _____

   a. Samuelson c. Marshall

   b. Robbins d. Adam Smith

1.3 The Scope of Economics

As noted above, the scope of economics is not marked precisely and as it appears, it cannot be marked as such. However, the scope of economics, as it is known today, has expanded vastly in the post-War II period. Modern economics is now divided into two major branches: microeconomics and macroeconomics.

Microeconomics

Microeconomics is concerned with microscopic study of the various elements of the economic system and not with the system as a whole. As Lerner says, "Microeconomics consists of looking at the economy through a microscope, as it were, to see how the million of cells in body economic the individuals or households as consumers and the individuals or firms as producers play their part in the working of the whole economic organism". Thus, microeconomics is the study of the economic behaviour of individual consumer and producer and of individual economic variables i.e. production and pricing of individual goods and services. Microeconomics studies how consumers and producers make their choices and how their decisions and choices affect the market demand and supply conditions. It takes in to consideration how consumers and producers interact to settle the prices of goods and services in the market and how prices are determined in different market settings. It also analyses how total output is distributed among those who contribute to production, i.e., between landlords, labour, capital supplier and the entrepreneurs. Briefly speaking, theory of consumer behaviour, theories of production and cost of production, theory of commodity and factor pricing, efficient allocation of output and factors of production (called welfare economics) constitute the main themes of microeconomics.

Macroeconomics

Macroeconomics is a relatively new branch of economics. It was only after the publication of Keynes's The General Theory of Employment, Interest and Money in 1936, that macroeconomics crystallised as a separate branch of economics. Macroeconomics studies the working and performance of the economy as a whole. It analyses behaviour of the national aggregates including national income, aggregate consumption, savings, investment, total employment, the general price level and country's balance of payments. According to Bounding, "Macroeconomics is the study of the nature, relationship and behaviour of aggregates and averages of economic quantities". He contrasts macroeconomics with microeconomics in the following words: "Macroeconomics ... deals not with individual quantities, as such, butaggregates of these quantities—not with individual incomes, but with the national income, not with individual prices but with price levels, not with individual output but with the national output". More importantly, macroeconomics analyses the relationship between national aggregate variables. It also studies how aggregate variables interact with one another to determine one another. It studies also the impact of public revenue

and public expenditure, government's economic activities and policies on the economy. An important aspect of macroeconomics studies is the consequences of international trade and other economic relations between the nations. The study of these aspects of economic phenomena constitutes the major themes of macroeconomics.

The scope of economics is very vast. It may be added here that in addition to subject matter mentioned above, economics provides logic and reasoning, tools and technique and analytical framework to analyse economic phenomena and to predict the consequences of change in economic conditions. It may thus be concluded that economics as a science studies economic behaviour of the people and its consequences at both micro and macro levels; it brings out cause-and-effect relationship between economic events; provides the tools and techniques of analysing economic phenomenon and the basis for predicting the consequences economic decisions and economic events. Economics studies economic phenomena systematically and methodically. The scientific method of economic inquiry attributes to the status of the highest branch of understanding the economics.

Check your progress 2

1. _____ is a relatively new branch of economics.

   a. Microeconomics
   c. Minieconomics
   b. Macroeconomics
   d. Large economics

1.4 Microeconomics

1.4.1 Meaning of Microeconomics

The subject matter of economics has been classified into microeconomics and macroeconomics. These terms were first coined and used by Ragnar Frisch and have now been adopted by economists all over the world. The term 'microeconomics' is derived from the Greek word 'mikros', meaning 'small'. Thus, it deals with the analysis of small individual units of the economy such as individual consumer, individual firms and small aggregates or groups of individual units such as various industries and markets. According to Building, "Microeconomics is the study of particular firms, particular households,

individual prices, wages, incomes, individual industries, particular commodities, etc".

Microeconomics deals with a small part of a small component of the national economy of a country. It is concerned with specific economic units and a detailed consideration of the behaviour of these individual units. For example, we may be studying an individual consumer's behaviour or that of an individual firm or what happens in any particular industry. If we are analysing price, in microeconomics what we will study is the price of any particular product or of a particular factor of production and not the general price level in the economy. Similarly, if it is a demand that we are analysing in microeconomics, it is the demand of an individual or of an industry that is under study and not the aggregate demand of the entire community. In respect of employment, it is the employment in a firm or in an industry that is studied in microeconomics and not the aggregate employment in the whole economy.

1.4.2 Merits of Microeconomics

Microeconomics has acquired a lot of importance in economic analysis. It is useful, both practically as well as theoretically. Its merits can be realised from the following:

- **Working of free economy:** It helps in understanding the working of an economy, particularly a free enterprise economy. Various economic decisions such as what to produce, how much to produce, how to produce, how to distribute, etc. are influenced by the behaviour of individuals. In a free enterprise economy, an individual is the centre of all activities. In such an economy, there is an absence of central planning in taking these economic decisions.
- **Formulation or framing of policies:** This approach is also useful in formulating or forming various economic policies. Pricing policies or distribution policies can be appropriately framed with the help of this approach.
- **Allocation and utilisation of resources:** It is further useful in making optimum allocation and utilisation of resources. It is essential that resources, which are scarce and have alternative uses, should be allocated and utilised in an optimum manner. Important objectives such as economic growth with full employment and stability can be better realised by ensuring optimum

allocation and utilisation of productive resources.

- **It guides the business community:** It is useful to a businessman in determining the price policy. It guides him towards attaining maximum productivity through optimum allocation of his resources. Tools of microeconomics are useful in preparing the expansion plan of a business. It is also helpful for investment decisions taken by the firm.
- **It serves as the basis for predictions:** The microeconomic theory is useful in making conditional predictions. Demand forecasting, for instance, rests on microeconomic principles of demand.
- **Public finance:** The microeconomic approach is useful in this field as well. It helps in determining the incidence of indirect taxes such as excise duty, sales tax, etc. Public finance, which includes taxation, public expenditure and public borrowing have become important branches of economics in recent years.
- **International trade:** It is also useful in promoting international trade that involves the determination of exchange rates, tariff-rates etc.
- **It serves as the basis for welfare economics:** Microeconomics suggests how wastage may be eliminated and resources may be optimised in order to obtain maximum social welfare, which is the underlying goal of welfare economics.

1.4.3 Demerits of Microeconomics

Though this approach is very useful in the various aspects mentioned above, it suffers from the following limitations:

- **Unrealistic assumption:** This approach is based on the assumption of full employment in the economy. It is a rare phenomenon.
- **Laissez-faire philosophy as basis:** One of its foundations is the philosophy of laissez-faire (the theory or system of government that upholds the autonomous character of the economic order, believing that government should intervene as little as possible in the direction of economic affairs). However, this philosophy is no longer valid. The Great Depression of the 1930s gave a mortal blow to this philosophy and now it has virtually become a memory of the past. Thus, it is based on a defective or invalid foundation.

- **Marginalism:** One of the principles of this approach is what has come to be called ‘marginalism’. The principles of marginal utility, marginal product, marginal revenue, marginal propensity to consume, etc. constitute what is known as ‘marginalism’. However, all these principles have their own limitations and as such this approach, which is based on the same (marginalism), cannot be accepted as valid.
- **Inadequacy:** Another charge that is levelled against this approach is that it suffers from inadequacy. It is said that it is difficult to derive accurate and reliable conclusions about the whole or entire economy based on conclusions of analysis of an individual phenomenon or unit. Therefore, it is said to be inadequate.
- **Misleading conclusions:** It is further argued that the conclusions derived from this approach cannot only be inadequate but also misleading.

Check your progress 3

1. _____ is the study of particular firms, particular households, individual prices, wages, incomes, individual industries, particular commodities etc.

   a. Macro economics c. Tiny economics

   b. Micro economics d. Medium economics

1.5 Macroeconomics

1.5.1 Meaning of Macroeconomics

The word ‘macro’ is derived from the Greek word ‘makros’ meaning ‘large’. Therefore, macroeconomics is concerned with the economic activity as a whole. It analyses the behaviour of the whole economic system in totality or entirety. In other words, macroeconomics studies the behaviour of the aggregates such as total employment, the national product or income, the general price level of the economy, etc. Hence, it is often called aggregative economics. It is the study of the economic system as a whole. In dealing with aggregates, macroeconomics is concerned with obtaining an overview or general outline of the structure of the economy and the relationship between the major aggregates, which constitute the economy.

In recent years, increasing attention has been paid to the analysis of the economic system as a whole. It concerns aggregates that are related to the whole economy.

1.5.2 Merits of Macroeconomics

The analysis of macroeconomics has a unique theoretical and practical significance. Its merits can be seen from the following:

- **It provides an exploration to the functioning of an economy in general:** By using macroeconomic tools and the technique of economic analysis, one can understand the working of the economic system in abetter way.
- **Empirical evidences:** Macro studies are based on empirical evidence of theoretical issues. Macroeconomics is more realistic.
- **Policy-orientation:** Macroeconomics is a policy-oriented science. It employs policy measures such as fiscal policy, monetary policy, income policy, etc. to deal with complex economic problems like unemployment, poverty, inequality, inflation, etc. faced by the country in modern times.
- **Understanding of national income:** Macroeconomics teaches the computation use and application of national income data. With the help of national income statistics and accounting, one can understand and evaluate the growth performance of an economy over a period.
- **Income and employment theory and monetary theory:** Economics of employment and income and monetary economics are the major fields of macroeconomics, which have utmost practical relevance. Planning and policy-making is not possible without the basic understanding of these two fields.
- **Dynamic Science:** Macroeconomics is a dynamic science. It studies and suggests a solution to the issues and problems from a dynamic viewpoint. It allows for change.

1.5.3 Demerits of Macroeconomics

Although the macroeconomic approach is useful in certain respects, it also suffers from certain limitations. These are discussed below:

- **Disregard for individuals:** This approach is criticised because it ignores the individual altogether and considers the whole economy. It is not proper that the individual should be disregarded. Ultimately, an economy or system is made up by individuals and if they are disregarded in their individual capacity, the society as a whole cannot be developed. If welfare of the individual is not promoted, then general welfare of the society cannot be promoted in reality.
- **Individual differences are ignored:** It is further pointed out by critics that this approach ignores individual differences. For example, the economy as a whole may be doing well but an individual firm may not be faring well. Such differences cannot be properly understood by the macroeconomic approach.
- **Accurate measurement not possible:** It is also pointed out that the macroeconomic approach analyses various phenomena in general. Such an approach does not given an accurate measurement or picture of the situation. Therefore, it is not useful.

In applicability of conclusions to individual units: Lastly, it may be pointed out that the conclusions derived from such an approach may not be applicable to individual units in the economy.

Check your progress 4

1. _____ provides an exploration to the functioning of an economy in general.

   a. Micro economics
   c. Tiny economics
   b. Macro economics
   d. Medium economics

1.6 Specialised Branches of Economic Studies

In addition to microeconomics and macroeconomics, many specialised branches of economics have come up over time because of the growing need for intensive and extensive study of certain aspects of microeconomics or macroeconomics. Some of the major specialised fields of economic studies are listed below with abrief description of their subject matter.

- **Economics of Development:** It deals with the factors that determine economic development and growth of a country, the causes of under-development, unemployment and poverty in less developed countries, problems faced in accelerating the pace of development and suggests policy measures to achieve a sustainable high growth rate of the economy and employment.
- **Public Economics:** It examines economic role of the government, sources of government revenue, government's fiscal policy, effects of taxation and public expenditure, causes and consequences of budgetary and fiscal deficits, if any, rationale for and consequences of public sector economic activities.
- **Monetary Economics:** It studies the monetary affairs of the country including demand for and supply of money, working of the money market, credit and financial system and management of the monetary sector.
- **International Economics:** It studies the causes and consequences of international trade in goods and services, international flow of capital, inter-national monetary and financial institutions, balance of payments and international payment system.
- **Industrial Economics:** It is concerned with the working, growth and structures of the industrial sector (firmsand industries) of the country, management and organisation of the industries and problems and prospects of industrial growth.
- **Labour Economics:** It examines the problems faced by labour as an economic class and problems associated with labour organisations, labour productivity and wages, exploitation of labour, labour welfare schemes and labour laws and their effects.
- **Econometrics:** It is the study of statistical and mathematical techniques applied to economic data with a view to testing a hypothesis, to quantify the relationship, if any, between the dependent and independent economic

variables and to measure the effects of economic policies.

- **Economic History:** It studies past economic record of a country or group of countries and of big historical economic events, e.g. industrial revolution and the Great Depression, often with the objective of bringing out the unknown facts to the light and also to know how past experience can be used to promote economic growth in future.
- **History of Economic Thought:** It is the study of evolution and development of economic thoughts and ideas, their background, their logic and flaws. It contributes to the understanding of economic science.
- **Comparative Economic Systems:** It is a comparative study of economic systems— capitalist or market economy, socialist or centrally planned and mixed economy systems—to understand their advantages and disadvantages and their strong and weak points and their social desirability.
- **Regional Economics:** It studies development of various regions of a country; it looks into the causes of imbalance in regional development, it examines why growth of urban economy is faster that of the rural economy.
- **Industrial Finance:** It is concerned with the development and working of financial sector, especially the financial institutions that cater to the financial requirement of the industries and of the capital market and it studies how fluctuations in the financial sector affects the working and growth of the industrial sector.
- **Environmental Economics:** It examines how industrial growth affects, rather destroys, natural environment of the country, the global environment, causes global warming and affects climatic conditions.
- **Managerial Economics:** It studies how economic theories, concepts and tools of analysis can be applied to business decision-making. It aids the understanding of business environment of the country.

Check your progress 5

1. _____ studies how economic theories, concepts and tools of analysis can be applied to business decision-making.

   a. Managerial economics
   c. Macro economics
   b. Micro economics
   d. None of the above

1.7 Nature of Economics

In order to study the nature of economics, we have to answer certain questions.

- Is Economics a science?
- If it is a science then, what kind of science it is?
- Is economics a science?

It has been accepted that economics is a science. According to Marshall, economics is a social science while according to Robbins economics is a human science. Here, we shall define science. Science is systematic presentation of any subject. With the help of science, certain theories and principles are presented and the problems in the life of man are solved. For example, Marshall formulated the law of demand for the formulation of these laws.Marshall observed the behaviour of people concerning the changes in prices and quantity demand. He tried to collect the statistical information regarding prices of different commodities and quantity demanded. He also tried to identify economic problems through his definition.

What Kind of science is economics?

Economics is a social science. There are different social sciences for e.g. history, politics, psychology, ethics, etc. The subject matter of social science is the study of human behaviour. Different aspects of human behaviour are studied in social science.

Economics is a social science, we have to study the economic behaviour of an individual it is relates to the satisfaction of unlimited wants with the help of scarce resources, which have alternative uses.

Man is the member of society. He has to undertake various economics activities like production, distribution, consumptions, price determination, etc. in all these economic at activities human behaviour is involved it shows the act economic s fulfilled the subject matter of social science therefore economics is social science.

Check your progress 6

1. According to _____ economics is a human science.

   a. Marshal c. Adam

   b. Robbins d. None of the above

1.8 Nature of Economics Laws

1.8.1 Meaning of Economic Laws

Economic laws are like the laws of science both these laws establish the relationship between the 'cause' and the 'effect'.Economic Laws are those laws or statements, which indicate the general tendency of economic behaviour of man.

In order to explain the meaning of economic laws we shall give here two important definitions of economic laws. According to Prof. Marshall, "Economic laws or statements of economic tendencies are those social laws which relate to branches of conduct in which the strength of the motives chiefly concerned can be measured by a money price".

According to Prof. Robbins, "Economic Laws are the statement of uniformities about human behaviour concerning the disposal of scarce means with alternative uses for the achievement of ends that are unlimited".

1.8.2 Nature of Economics Laws

The main characteristics of economic laws are as under:

- **Statements of Economic Tendencies:** Economic laws are only statements of economic tendencies of man. In other words, they deal with what is economic behaviour of man in practical life.
- **Economic Laws are less exact than the Laws of Physical Science:** The laws of economics are less exact than the laws of physical sciences because the subject matter of economics is 'man' while the subject matter of physical sciences is 'matter'.
- **Laws of economics are more exact than the laws of other social sciences:** The laws of economics are more exact than the laws of other social sciences such history, sociology, philosophy, etc. Economics has 'money' for

measuring the behaviour of man while other social sciences do not have any such measuring rod by which we can measure the behaviour of man.

- **Economic laws are hypothetical:** According to Prof. Seligman, "Economic Laws are essentially hypothetical". It means that the laws of economics operate in certain conditions only. If the conditions change, the laws of economics do not operate. Defining any law of economics, we use the words 'other things being equal'.
- **Man is not bound to follow economic laws:** It is not compulsory for man to follow economic laws because there is no punishment for breaking economic laws.

Some economic laws are universal while some economic laws are relative: Some economic laws are universal. It means that they are the same for all persons, at all times and at all places. For example, the law of diminishing utility; on the other hand, there are some economic laws, which differ from person to person, from time to time and from place to place. For example, the laws of banking, the laws of insurance, the laws of trade, etc

Check your progress 7

1. _____are those laws or statements, which indicate the general tendency of economic behaviour of man.

   a. Economic Laws
   c. Human laws
   b. Laws of science
   d. Corporate Laws

1.9 Problems of Economy

What is an economic problem?

In view of the scarcity of means at our disposal and the multiple ends we have to achieve, the economic problem lies in making the best use of our resources. With the limited amount of money that a consumer has, he must try to get the maximum satisfaction. That is his problem. Similarly, a producer must try to maximise his profit from the limited resources at his disposal.

Hence, economic problem lies in making decisions regarding the ends to be pursued or the wants to be satisfied and the goods to be produced and as regards the means to be used for the achievement of those ends.

How an economic problem arises?

Economic problems arise because of multiplicity of the ends to be pursued, the scarcity of means at our disposal and the alternative uses to which these means can be put. It follows from Robbins's definition of economics that wherever the ends are many, the means are scarce and the means are capable of alternative uses, economic problems must arise. Thus, economic problems arise because (a) the ends are many or unlimited, (b) the ends are of varying importance or the wants are of different urgency, (c) the means or resources are scarce or limited in quantity and (d) the scarce means are capable of alternative uses or can be put to any of a number of uses.

These are the four conditions, which must exist, before an economic problem arises. That is, there can be no economic problem if either the wants are limited and/or the resources are unlimited. Similarly, no economic problem can arise if the wants are of uniform intensity, if the means are specific and cannot be put to any other use.

Check your progress 8

1. The _____ problem lies in making the best use of our resources

   a. Money problem
   c. Food problem
   b. Economic problem
   d. Social problem

1.10 Let Us Sum Up

In this unit a detailed discussion was made on introductory potion of economics. The basics and need of economics were also discussed in this unit in detail. The scope of economics was also discussed over here.

The scope of economic is very vast. Modern economics is now divided into two major branches: microeconomics and macroeconomics. It may be added here that in addition to subject matter mentioned above, economics provides logic and reasoning, tools and technique and analytical framework to analyse economic

phenomenaand to predict the consequences of change in economic conditions.Thereafter we discussed the meaning of economics. In which we discussed Microeconomics is concerned with microscopic study of the various elements of the economic system and not with the system as a whole.Its merits and demerits were also discussed here in detail. Macroeconomics studies the working and performance of the economy as a whole. It analyses behaviour of the national aggregates including national income, aggregate consumption, savings, investment, total employment, the general price level and country's balance of payments.Its merits as well as demerits were also discussed over here in detail.Apart from this we even discussed the various definitions of economics laws and even discussed their characterstics.

This block is certainly going to be very use ful for the students as this will help them in understanding the basics of this subject specially those who are coming from the non commerce stream.

1.11 Answers for Check Your Progress

Check your progress 1

Answers: (1-d), (2-c)

Check your progress 2

Answers: (1-b)

Check your progress 3

Answers: (1-a)

Check your progress 4

Answers: (1-b)

Check your progress 5

Answers: (1-a)

Check your progress 6

Answers: (1-b)

Check your progress 7

Answers: (1-a)

Check your progress 8

Answers: (1-b)

1.12 Glossary

1. **Factor Cost -** What producers receive for the sale of their products and services.This is not synonymous with market prices but the net amount after the state has taken indirect taxes or similar charges.
2. **Factor Incomes -** Incomes accruing to the factors of production; wages, salaries, profits, interest and rent. Such incomes consist of both transfer earnings and economic rent; in limiting cases all earnings may be either transfer earnings or economic rent.
3. **Factor -** A financial organisation that takes responsibility for collecting accounts receivable and for the customers' credit, a process called factoring. A factor buys the accounts receivable of manufacturers—that is, money owed them by wholesalers and\or retailers— in the same way as a sales finance company buys the accounts receivable of retailers (money owed them by consumers, chiefly through installment buying.

1.13 Assignment

Give the definition of economics and briefly explain its subject matter.

1.14 Activities

Discuss economics as a social science

1.15 Case Study

1. Do you agree with Robbins' definition of Economics? Justify with your personal experiences.

2. Do you agree that economics is social science? Explain

1.16 Further Readings

1. Business Economic, Micro and Macro, H.L Ahuja, S Chand & Company Ltd, 1999.
2. Development Theories and Growth Model, P. Sen, S Chand & Company Ltd. 1995.
3. Financial Management, M.Y.Khan, P.K. Jain Tata McGraw –Hill Publishing Company Ltd. New Delhi, 1999.
4. Managerial Economics, R. Cauvers, S. Chand, 2009.
5. Principles of Economics, Seth, M.L,LakshmiNarainAgarwal, 2009.

UNIT 2: THE ECONOMY AND ITS BASIC PROBLEM

Unit Structure

2.0 Learning Objectives

2.1 Introduction

2.2 The Basic Problems Of An Economy

2.2.1 Microeconomic Problems

2.2.2 Macroeconomic Problems

2.3 How Market Mechanism Solves The Basic Problems

2.3.1 Market Mechanism?

2.3.2 What to Produce

2.3.3 How to Produce

2.3.4 What Makes a Factor Cheaper or Costlier?

2.3.5 For Whom to Produce?

2.4 How Efficient is the Market System

2.5 Reasons for the Failures of the Market System

2.6 The Government and the Economy

2.6.1 Government Role in the Capitalist Economy

2.6.2 Government Role in the Socialist Economy

2.6.3 Government Role in the Mixed Economy

2.7 Let Us Sum Up

2.8 Answers for Check your Progress

2.9 Glossary

2.10 Assignment

2.11 Activities

2.12 Case Study

2.13 Further Readings

2.0 Learning Objectives

After learning this unit, you will be able to understand:

- The Basic problems of an economy.
- About Microeconomic problems.
- How to Measure microeconomic problems.
- Role of market mechanisms in solving basic economic problem.
- Rule of Government in an economy.

2.1 Introduction

The economic problem, sometimes called the fundamental economic problem, is one of the fundamental economic theories in the operation of any economy. It asserts that there is scarcity or that the finite resources available are insufficient to satisfy all human wants. The problem then becomes how to determine what is to be produced and how the factors of production (such as capital and labour) are to be allocated. Economics revolves around methods and possibilities of solving economic problems.

In short, economic problems comprise the choice one must make, arising out of limited means and unlimited wants.

Economic problems are most simply explained by the question "How do we satisfy unlimited wants with limited resources?" The premise of the economic problem model is that human wants are constant and infinite due to constantly changing demands (often closely related to changing demographics) of the population. However, resources in the world to satisfy human wants are always limited to the amount of natural or human resources available. The economic problem and methods to curb it, revolves around the idea of choice in prioritising, which wants can be fulfilled.

Concepts in the economic problem

- **Wants**

While the basic needs of human survival are important in the function of the economy, human wants are the driving force, which stimulates demand for goods and services. In order to curb the economic problem, economists must classify the

nature and different wants of consumers, as well as prioritise wants and organise production to satisfy as many wants as possible.

One assumption often made in economics (and the methods, which attempt to solve the economic problem) is that humans are greedy and thus the market must produce as much as possible to satisfy them. These wants are often classified into individual wants, which depend on the individual's preferences and purchasing power parity and collective wants, those of entire groups of people. Things such as food and clothing can be classified as either wants or needs, depending on what type and how often a good is asked for. Wants are effective desires for a particular product or something, which can only be obtained by working for it.

- **Choice**

The economic problem fundamentally revolves around the idea of choice, which ultimately must answer the problem. Due to the limited resources available, businesses must determine what to produce first to satisfy demand. Consumersare considered the biggest influences on this choice and the goods, which they want, must also fit within their budgets and purchasing power parity.

Different economic models place choice in different hands. Socialism asserts that at least some economic choices are best made for the greatest good of society if they are made at the societal level for everyone, e.g. via government agency.

- The idea of communism argues that major economic choices should be made through central planning by the government. By constructing a cohesive plan that takes the good of everyone into account can the best allocation of resources be achieved?
- Capitalism argues for a laissez-faire approach, wherein the role of the government is to protect the property rights of individuals and companies so that they can have the confidence to undertake the economic activity (and risks) that will create the most value.
- In a free-market economy, which exists without the constraints of government wage and price controls, proponents of market capitalism argue that resources are automatically allocated toward the things that society collectively values the most.

- If a good or service is overvalued (i.e., the price is too high), the surplus will force providers of the good or service to lower their prices or to re-allocate their capacity to produce something more worthwhile.

If the supply of a good or service is inadequate, rising prices increase the value and so cause more production capacity to be directed toward the item. Adam Smith's The Wealth of Nations has been an extremely influential book for this school of thought.

2.2 The Basic Problems of an Economy

Let us now turn to the basic problems of economic decisions and form the basis of economic studies and generalisation. The major economic problems faced by an economy whether capitalist, socialist or mixed may be classified in two broad groups:

- Microeconomic problems, which are related to the working of the economic system
- Macroeconomic problems related to the growth, employment, stability, external balance and macroeconomic policies for the management of the economy as a whole. We will first discuss microeconomic problems, which are immediately relevant to our simplified economic system. Macroeconomic problems will be taken up in the following sub-section.

2.2.1 Microeconomic Problems

The basic microeconomic problems are:

- What to produce and how much to produce
- How to produce
- For whom to produce or how to distribute the social output

(A) What to produce and how much to produce

These problems assume a macro nature when considered at the economy level. However, we will discuss them first at the micro level because these problems have to be resolved. 'What to produce' is the problem of choice between commodities.

This dilemma arises mainly for two reasons: (i) insufficiency of resources does not allow production of all the goods and services that people would like to consume; and (ii) all the goods and services are not equally esteemed in terms of their usefulness by the consumers. Some supplies yield higher utility than the others. Since all the goods and services cannot be produced for shortage of resources and all that is produced may not be purchased by the consumers, the dilemma of choice between the commodities arises. The problem 'what to produce' is basically the problem of competent allotment of limited resources so that output is maximum and output-mix is optimal. The purpose is to satisfy utmost needs of maximum number of people.

The problem 'how much to produce' is the dilemma of identifying the quantity of each commodity and service to be produced. This difficulty too arises due to lack of resources. For, excess production would mean wastage of rare resources. This problem also implies the distribution of resources between different goods and services to be produced.

The basic economic problem of unlimited wants and limited resources make it necessary for an economic system to devise some method of determining 'what to produce' and 'how much to produce' and ways and means to allocate the available resources for the production of goods and services. In a free enterprise economy, the solution to the problems 'what to produce' and 'how much to produce' is provided by the price mechanism.

(B) How to Produce

The difficulty as to 'how to produce' is the problem of choice of method. Here the problem is how to decide an optimal blend of inputs, labour and capital, to be used in the production of goods or services. This question arises mostly because of lack of resources. If labour and capital existed in infinite quantities, any amount of labour and capital could be put together to produce goods. But, since availability of resources is restricted, it becomes necessary to choose a technology which uses resources most cost-effectively.

Another very significant cause, which results into this problem, is that a given measure of a commodity can be produced with a number of substitute methods, i.e. alternative input combinations. For example, it is always practically possible to produce a given quantity of wheat with more labour and less of capital (i.e. with a labour-intensive technology) and with more of capital and less labour (i.e. with a capital-intensive technology). The same is true with most commodities. In case of some producer, however, choices are restricted. For

example, production of cane baskets and items of furniture handicrafts are by nature labour-intensive, while production of motorbikes, computers, cars, TV sets, aircraft, etc. are capital-intensive by nature. Again, In case of most commodities, other methods may be accessible. But the alternative methods of production involve unstable costs. Therefore, the problem of selection of technology arises.

In a free market economy, the market system itself provides solution to the problem of choice of technology through price mechanism. The market mechanism yields a pricing system, which determines the prices of both labour and capital. Factor prices and factor-quantities determine the cost of production for the business firms. Profit maximising firms find out an input combination, which minimises their cost of production. This becomes inevitable for the firms because their resources are limited and with given resources, they intend to maximise their profits.

The process through which business firms arrive at the optimum input combination and make choices between the alternative techniques of production are the topics in the 'Theory of Production' or 'Theory of Firms Behaviour' discussed later in the book.

(C) For Whom to Produce: How to Distribute Social Output

In a modern economy, all the goods and services are produced by the business firms. The total output generated by the business firms is known as 'society's total product' or 'national output'. The total output ultimately flows to the households. Here a question arises: How is the national output shared among the households or what determines the share of each household? A possible answer to this question is that in a free enterprise economy, the price-mechanism determines the distribution pattern of the national output. Price-mechanism determines the price of each factor in the factor market. Once factor price is determined, the income of each household is determined by the quantity of the factor(s), which it sells in the factor market. Those who possess a large amount of highly priced resources, are able to earn higher incomes and consume a larger proportion of national output than those who possess a small quantity of low-priced resources.

However, the problem does not end here. For, then other questions arise: why some people have a command over larger proportion of resources than the others do? Why those who have more, get more and more? Why those who have less, get less and less? In other words, why do rich get richer and poor get poorer?

Is this distribution of national production fair? If not, how can disparities in incomes or sources of incomes be removed or at least, reduced?

Price mechanism of free enterprise system has not been able to provide a solution to these questions.These problems have long been debated inconclusively. They remain alive today as they were during the days of Adam Smith and David Ricardo.These questions are the subject of the 'Theory of Distribution'.

When questions related to production and distributions are looked into from the efficiency point of view, the economists address themselves to other questions: How efficient is the society's production and distribution system? How does it affect welfare of the society? How can production and distribution be made more efficient or welfare oriented? Economists' attempt to answer these questions has led to growth of another branch of economics i.e. welfare economics.

2.2.2 Macroeconomic Problems

The economic problems discussed above are of micro nature. These problems taken together make the subject matter of Microeconomic Theory or 'Price Theory'. Apart from micro problems, there are certain macroeconomic problems of prime importance confronted by an economy. Following Lapse, these problems may be specified as follows.

A) How can Production Capacity of the Economy be increased?

This is essentially the problem related to economic growth of the country. The need for increasing production capacity of the economy arises for at least two reasons. First, most economies of the world have realised by experience that their population has grown at a rate much higher than their productive resources. This leads to the poverty especially in the less developed countries. Poverty in itself is a cause of a number of socio-economic problems. Besides, it has frequently jeopardised the sovereignty and integrity of the nations. Colonisation of poor nations by the richer and powerful imperialist nations during pre-twentieth century period is the evidence to this fact. Therefore, growth of economy and sparing resources for defense has become a necessity. Secondly, over time some economies have grown faster than others have while some economies have remained almost stagnant. The poor nations have been subjected to exploitation and economic discrimination. This has impelled upon the poor nations to make

their economies grow, to protect themselves from exploitation and to give their people a respectable status in the international community.

While various economies have been facing the problem of growth, economists have engaged themselves in finding an answer to such questions as: What makes an economy grow? Why do some economies grow faster than the others do? This has led to the growth of 'Theories of Economic Growth'.

B) Stabilising the Economy

An important feature of the free enterprise system has been the economic fluctuation of these economies.Though economic vicissitudes are not unknown in the controlled economies, free enterprise economies have experienced it more frequently and more severely. Economic fluctuations cause wastage of resources, e.g. idleness of work force or involuntary unemployment, idle capital stock, etc., particularly during the periods of depression. Economists have devoted a good deal of attention to explain this phenomenon. This problem is studied under trade cycles or business cycles.

C) Other Problems of Macro Nature

In addition to the macro problems mentioned above, there are many other economic problems of this nature, which economists have studied extensively and intensively. The most important problem of this category is the problem of unemployment and inflation. While widespread unemployment is the biggest problem confronting the developing economies, inflation is a global problem. Another set of macro problems is associated with international trade. The major questions to which economists have devoted a good deal of their attention are: What is the basis of trade between the nations? How are the gains from trade shared between the nations? Why do deficits and surpluses arise in trade balances? How is an economy affected by deficits or surplus in its balance of payment position? New problems continue to emerge as economy passes through different phases of economic growth.

Check your progress 1

1. _____ to produce' is the problem of choice between commodities.

   a. what c. when

   b. how d. where

2.3 How Market Mechanism Solves the Basic Problems

The way basic problems of an economy are solved, it depends on the nature of its economic system. While in a socialist economy they are solved by the government agencies, like central planning authority, in a free enterprise or mixed capitalist economy, the basic economic problems are resolved by price mechanism or market mechanism. We discuss how market mechanism solves the basic economic problems in a free enterprise or a mixed capitalist economy. For other economic systems, a brief answer is provided in the next section.

2.3.1 Market Mechanism

Market Mechanism refers to a process through which market forces of demand and supply interact to determine the price and output of each good and service. A free market economy functions through the market forces of demand and supply. The demand and supply forces interact to determine the price of each good and service. In the process, a price system is generated. Prices perform two functions in the market system. One, price serves as signals for the producers to decide 'what to produce' and for the consumers to decide 'what to consume'. Second, prices force the demand and supply conditions to adjust themselves to the prevailing prices. Let us now see how each of the basic problems is solved by the market mechanism or price mechanism.

2.3.2 What to Produce?

The goods and services that are produced in a market economy are determined by the consumers' demand. Only those goods and services which are demanded by the consumers or users are produced by the producers. Each penny a consumer spends on a commodity is treated as a vote for producing that commodity. Continuing demand is a continuous process of voting. Increasing demand for a good is causes increase in its price. Rise in price makes profits to go up. The profit-seeking producers concentrate on the production of this commodity. If they produce a commodity not in demand, it will go waste and their profit motive will be defeated. The consumer is thus 'sovereign' in a free enterprise market economy and the consumer determines 'what to produce'.

2.3.3 How to Produce?

'How to produce' is the question of choice of technology. The proportion in which labour and capital are combined to produce a commodity is also determined by the market forces, i.e. the supply of and demand for labour and capital. Firms produce for profit and try to maximise it. It requires, among other things, minimising cost of production. Costs can be minimised by using more of a cheap factor and less of a costly factor. If labour is cheaper than capital then more of labour and less of capital is used to produce a commodity. On the contrary, if capital is cheaper, more of capital and less of labour is used.

2.3.4 What Makes a Factor Cheaper or Costlier?

It depends on the supply of and demands for that factor. If supply of a factor exceeds its demand, price of that factor will be lower and the factor will be treated as a cheaper factor. But if demand for a factor exceeds its supply, the price of that factor will be high and the factor will be treated as a costly factor. Given the factor prices, firms combine labour and capital in such proportions that minimise cost of production. This determines the production technology. This is how market forces offer a solution to the problem 'how to produce'.

2.3.5 for Whom to Produce?

The problem 'for whom to produce' is also solved by the market mechanism. The simple market rule is: produce for those who have ability and willingness to pay. Ability to pay depends on incomes and incomes are determined by employment pattern of factors. Market mechanism determines the pattern of demand for factors of production. Given the supply of factors, market mechanism determines the price of each factor—rent, wages, interest and profits, respectively, for land, labour, and capital and organisation. Once factor prices and employment pattern of factors of production (i.e., what factor is employed in what quantity and at what price) are determined, the distribution pattern of national income is simultaneously determined. In simple words, employment pattern determines the share of labour, property owners, investors and entrepreneurs in the national income. Once the pattern of income distribution is determined, it determines the demand pattern for the goods and services, for there is a relationship between income and consumption pattern. Thus, in a free enterprise economy, goods and services are produced for those who possess the ability to

pay. The issue whether production pattern determined by the market mechanism conforms to the rules of social welfare maximisation will be discussed subsequently.

Check your progress 2

1. The problem '_____is also solved by the market mechanism

   b. for whom to produce c. when to produce

   a. what to produce

2.4 How Efficient is the Market System?

In a perfectly competitive market economy—if such an economy exists at all—the whole system functions smoothly, efficiently and in an orderly manner. Despite the fact that millions of people, often with conflicting interests and motivations, participate in the working of the economic system at both individual and group levels, there is no chaos or anarchy. The market forces organise the whole economic system to the benefit of majority of its participants. Consumers get what they want to consume. Producers produce goods and services, which maximise their profits. This social organism functions automatically without being directed or managed consciously by the participants. The market system is governed by what Adam Smith called 'invisible hands'.

It may seem from the above description of market mechanism that all is well with free enterprise economies. However, it is not quite so. A genuinely efficient free enterprise system is supposed to ensure:

- All those who are willing to work at the prevailing wage rate get employment
- Factor payments must be commensurate with their productivity
- All factors of production are optimally allocated
- Slitcher suggests, the goods must go to the consumers who derive the greatest utility from them
- Goods must be produced by the most efficient producers-by those who can produce them at the minimum possible cost

However, the world experience has shown that the free enterprise system wherever it exists or it existed has not worked as efficiently as expected at least during the post-War I period. Goods and jobs are not distributed optimally. Goods go to the persons who can pay the highest prices for them, but may not necessarily derive the highest utility too. It would be 'ridiculous to assert that ability to derive satisfaction from goods is proportionate to ability to pay for them'.

Although it is difficult to quantify the satisfaction derived from a good by rich or poor persons, it cannot be denied that a woolen coat hanging idle in the wardrobe of a rich person would give more satisfaction to a scantly clothed domestic servant shivering with cold. But the domestic servant who needs it more does not get the coat because he does not have the adequate purchasing power.

Similarly, in a free enterprise system jobs too are not distributed among the people on the least-pain basis. People are prepared to work for their living irrespective of pains and sacrifices they have to make for a meagre income. Under the condition of prolonged unemployment, people would be willing to work at an extremely low wage rate whatever their cost in terms of pains. Let us now look into the shortcomings of the free enterprise system in detail.

Check your progress 3

1. The market system is governed by what Adam Smith called _____

   a. invisible hands c. resources

   b. unemployment

2.5 Reasons for the Failures of the Market System

The economists attribute the failures of the free market system to the following reasons:

- The necessary conditions for the efficient working of the market system do not exist in reality. The necessary condition are free competition, increasing cost in all markets, applicability of the exclusion principle in consumption, absence of public goods, perfect knowledge and factor mobility of factors. But the existence of such a perfect market system in the world economy is a very rare possibility. Besides, mere existence of perfect competition is not enough to ensure the efficient working of the system. As Scitovsky remarks

perfect competition would not ensure perfect efficiency, if there were differences between social and private values and social and private marginal products. It may not be possible to quantify the difference between social and private values and social and private costs but the existence of such differences cannot be denied.

- The free enterprise system works on the philosophy that each individual is the best judge of his own interests and therefore, his choices and decisions would best serve his interest. However, most choices and decisions made by individuals, particularly concerning consumer goods, are generally influenced by 'impulses, habits, prejudice, ignorance or clever sales talks and too little by reflection, investigation of facts and comparison of alternative opportunities. If it is not so, a person would not spend more on liquor and smoking and less on milk, education or health care. Similarly, a couple would not produce children whom they cannot bring up properly; people will not throw garbage on roads and factory-owners will not pollute environment. Congruently, Automobile drivers will not violate traffic rules; politicians and bureaucrats will not go corrupt; people will not vote for criminal politicians and people will grow more trees.
- As mentioned above, the motivating force for private enterprises is profit. The private entrepreneurs would therefore not like to invest their capital in the industries or sectors, which have lower profitability, even if the industries are of essential nature and of strategic importance for the national economy. So is the case with regional distribution of industrial undertakings. Under free enterprise system, the industries tend to concentrate in the regions having larger industrial facilities and infrastructure. This results in lopsided development and regional disparity in the national economy.
- Certain services, known as 'public utilities' like medical care, education, water, electricity, sanitation, etc., are equally important for all the individuals—rich and poor. Certain other facilities in the field of transport and communication (including roadways, railways airways, telephones, post and telegraph, etc.) are necessary for the overall growth of the economy. Private capital normally does not flow into these sectors in adequate measures, for at least three reasons: (i) they require huge initial investment; (ii) the return rate in these sectors is very low and remote; and (iii) most public utility services are in the nature of collective consumption to which principle of exclusion cannot be applied. Apart from this fact, the 'public

utilities' and other essential services cannot be left to the private sector. For, the pricing system of free enterprise system is such that only rich can afford these services and hence there will be inequitable distribution of essential services.

- Free enterprise system works through free and perfect competition. Perfect competition requires equality between the competitors. However, two firms are not equal in efficiency. The competition therefore generally becomes imperfect, which leads to the growth of monopolies and unequal distribution of income. This is one of the greatest drawbacks of the free enterprise system.

- Finally, the free-market mechanism does not function efficiently where the exclusion principle is not applicable specially, where externalities are involved. Application of exclusion principle requires that those who do not pay for a good be excluded from the benefit from that good and those who do not derive any benefit from a good are excluded from bearing the cost of that good. In a modern complex society, there are numerous activities, which impose disadvantages on those not benefitting from them and there are those who benefit even if they do not pay for such goods and services. For instance, smoke-emitting factories, automobiles playing in the cities, use of loudspeakers on marriage ceremonies and people playing their radio and music system loudly harm their neighbours by causing atmosphere and noise pollution. Such costs borne by the people are known as 'spill-over costs'. Similarly, planting trees on roadsides, creation of parks and gardens, spread of education etc., benefit the society by providing beautiful landscape, spreading knowledge and so on. Such benefits are known 'spill-over benefits'. The collective term for spillover costs and spilloverbenefits is 'externalities'. The market mechanism does not compensate those who suffer from and charge those who benefit from externalities. This makes market system inefficient and leads to sub-optimal allocation of resources.

Because of these shortcomings, the market mechanism or free enterprise system has failed in achieving optimum distribution of goods and services, optimum allocation of resources, maximum efficiency and maximum social welfare. Free enterprise system not only has failed to achieve the cherished goals of the society but also has caused growth of monopolies, unequal income distribution, unemployment and poverty. Besides, though free enterprise system is capable of bringing economic growth, it does not ensure a stable, sustained and balanced growth. It becomes therefore inevitable for the government to intervene

with the market mechanism through tax and subsidy measures to reduce market distortions, provide conditions for fair competition and help the economy in achieving its goals efficiency, stability, growth and economic justice.

Check your progress 4

1. Planting trees on roadsides, creation of parks and gardens spread of education etc.
   a. spill-over costs
   b. spill-over benefits

2.6 The Government and the Economy

As noted above, interference of the government with the market mechanism becomes inevitable because of failures of the market system. Now, the question arises as to what should be the appropriate role of the government in economic management of the country and what should be the form, nature and extent of government's interference with market mechanism. These questions have been debated for long but no precise answer has been provided by the economists. Nevertheless, the economic role of the government can be broadly categorized based on the three economic systems which presently prevail in the world, viz., capitalist system or free enterprise system, loyalist system and the mixed-economy system.

2.6.1 Government Role in the Capitalist Economy

A capitalist society works on the principles of free enterprise system or a laissez-faire system. In this system, the primary roles of the government are:

- To preserve and promote free market mechanism wherever it is possible to ensure a workable competition
- To remove all unnecessary restrictions on the free operation of competitive market
- To provide playground and rules of the market game through necessary interventions and controls so that free competition can work effectively

Besides, government intervention and its economic activities should deliver what free market mechanism cannot. Meade has recommended eight kinds of activities for the state to perform for this purpose:

- Control of inflation and deflation mainly through indirect measures, like fiscal and monetary regulations
- Control and regulation of monopolistic powers of large corporate concerns with a view to avoiding unemployment and wastage of resources
- Creation and ownership of state monopoly of essential goods and service, e.g., railway transport, generation and distribution of electricity and such like services on the ground of efficiency and economies of large scale
- Promoting equality of opportunity by providing equal access to educational opportunities and restricting the restrictive activities of trade unions
- Administration of justice and maintenance of law and order and ensuring freedom of activities
- Aiding private entrepreneurial planning for the uncertainties of the future by some measure of government indicative planning
- Making central planning for large structural changes in the economy
- Tackling the problems of environmental controls, of the use of exhaustible resources and of population growth

It may be inferred from the above that the government's role in a capitalist society is supposed to be limited to (a) restoration and promotion of necessary conditions for efficient working of free market mechanism and (b) to enter those areas of production and distribution in which private entrepreneurship is lacking or is inefficient. Any planning by the government should be indicative and supplement to the private plans for future uncertainties.

2.6.2 Government Role in the Socialist Economy

In contrast to the capitalist system, the role of government in a socialist economy is much more exhaustive. While in the former, the government is supposed to play a limited role in the economic sphere, in the latter, it exercises comprehensive control on almost all economic activities. In the socialist system, not only there is a complete disregard free enterprise and market mechanism but also these systems are abolished by law. The private ownership of factors of

production is replaced by the state ownership. All economic activities are centrally planned, controlled and regulated by the State.All decisions regarding allocation of productive resources, employment, pricing etc. are centralised in the hands of government or the Central Planning Authority. The individual freedom of choice and decision-making concerning economic activities is drastically curtailed. This, however, should not mean that there is no scope for individual decisions. Individuals are provided freedom to make their own choices but within the policy framework of the socialist economy. The Soviet economic system was until 1990 the most prominent example of socialist system of economic management. Other countries, which had adopted socialist economic system, were China, Poland, Slovakia and Yugoslavia. All these economies are, however, liberalising their economic system and transforming socialist system into free enterprise system.The social aims of the socialist economic system are the same as in free enterprise system, viz., efficiency, growth, social justice and maximisation of social welfare. However, while the motivating force in a capitalist economy is private profit, in the socialist economy, it is maximisation of social welfare. Socialist way of management of the economy eliminates many evils of capitalist system. For example, exploitation of labour by capitalists, elimination of forces generating economic fluctuations, prevention of unemployment providing social, political and economic equality can be achieved in a socialist economy.

2.6.3 Government Role in a Mixed Economy

As mentioned earlier, a mixed economy is an economic system, which combines the features of both the free enterprise and socialist (or centrally planned) economic systems. In this system, a major part of the economy, the private sector, is allowed to function on the principles of free enterprise system or free market mechanism within abroad political and economic policy framework of the country. The other part of the economy, the public sector, is organised, owned and managed along the socialist pattern. The public sector is created by reserving certain industries, trade, services and activities for the government control and management. The government prevents by law the entry of private capital into the industries reserved for the public sector. Another way of creating or expanding the public sector is nationalisation of private industries. The promotion, control and management of the public sector industries are the responsibilities of the State. The Indian economy is a mixed economy.

Apart from controlling and managing public sector industries, the government controls and regulates the private sector through its industrial, monetary and fiscal policies. If necessary, direct controls are also imposed.

Check your progress 5

1. A mixed economy is an economic system, which combines the features of both the free enterprise and socialist economic systems

   a. Mixed economy

   c. Capitalist economy

   b. Socialist economy

2.7 Let Us Sum Up

In this unit we moved a little further more from the basics. Here we discussed that an economy is a system of transactions through which people use their resources and earn their living. Economy works through interaction between households, firms, government and the rest of the world. Interaction takes the form of commodity and financial transaction.

In this unit we have made a very detailed discussion on the various economic problems also. We discussed that microeconomic problems include (a) what to produce, (b) how to produce and (c) for whom to produce. These problems arise because human wants are endless and resources available to satisfy wants are scarce or limited.On the other hand Macro-economic problems include (i) how to achieve a higher growth rate (ii) how to ensure stable growth of the economy (iii) how to ensure full employment.There after we made a discussion on Market mechanism which is supposed to solve both micro and macroeconomic problems. However, market system fails often to solve the problems.Where market system fails; the government has to intervene in the market to solve problems. However, and government measures are not always successful.

This unit is going to be of great help for the readers in understanding the problems of economy.

2.8 Answers for Check Your Progress

Check your progress 1

Answers: (1-a)

Check your progress 2

Answers: (1-b)

Check your progress 3

Answers: (1-a)

Check your progress 4

Answers: (1-b)

Check your progress 5

Answers: (1-a)

2.9 Glossary

1. **Socialist Economy -** A socialist economic system is based on some form of social ownership of the means of production, which may mean autonomous cooperatives or direct public ownership; wherein production is carried out directly for use.
2. **Capitalist Economy -** system of economics based on the private ownership of capital and production inputs, and on the production of goods and services for profit.

2.10 Assignment

What is an economy? What are the basic problems of an economy?

2.11 Activities

1. What is market mechanism? How does it solve the central problems of an economy?

2. What are the basic economic problems? Explain as to how they arise due to the scarcity of resources

2.12 Case Study

What are the basic economic problems in Indian Economy? Give your solution to it.

2.13 Further Readings

1. An Introduction to Positive Economics, R.G. Lipsey, ELBS publishers, 1975.
2. Economics: Principles and Policies, Baumol, William J. and Blinder, Alan S., Harcourt, Jovanovich, London, 1988.
3. Modern Economic Society, Slitcher, Summer M., McGraw Hill Company, New York, 1970.
4. The Intelligent Radical's Guide to Economic Policy, Meade, J.E., George Alien &Unwin Ltd., London, 1795.
5. Welfare and Competition, Scitovsky, Tibor, Unwin University Books, 1968.

UNIT 3: BASIC CONCEPTS IN ECONOMICS

Unit Structure

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3.2 Macroeconomics

3.2.1 Need and Importance of Macroeconomics

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3.14 Let Us Sum Up

3.15 Answers for Check Your Progress

3.16 Glossary

3.17 Assignment

3.18 Activities

3.19 Case Study

3.20 Further Readings

3.0 Learning Objectives

After learning this unit, you will be able to understand:

- Meaning of micro and macro economics.
- The Standard of living and various related aspects.
- About Rent, profit and income.
- Various aspects of public finance.
- Factors of production.
- The theories of population.

3.1 Introduction

Economics is the social science that analyses the production, distribution and consumption of goods and services. The term *economics* comes from the Ancient Greek οἰκονομία (oikonomia, 'management of a household, administration') from οἶκος (oikos, 'house') + νόμος (nomos, 'custom' or 'law'), hence 'rules of the house (hold)'. Current economic models developed out of the

broader field of political economy in the late 19th century, owing to a desire to use an empirical approach more akin to the physical sciences.

Common distinctions are drawn between various dimensions of economics. The primary textbook distinction is between microeconomics, which examines the behaviour of basic elements in the economy, including individual markets and agents (such as consumers and firms, buyers and sellers) and macroeconomics, which addresses issues affecting an entire economy, including unemployment, inflation, economic growth and monetary and fiscal policy. Other distinctions are:

Between positive economics (describing,'what is') and normative economics (advocating 'what ought to be'); between economic theory and applied economics; between mainstream economics (more 'orthodox' dealing with the 'rationality-individualism-equilibrium nexus') and heterodox economics (more 'radical' dealing with the 'institutions-history-social structure nexus') and between rational and behavioural economics.

Microeconomics and macroeconomics are the two major branches of modern economic theory. The terms microeconomics and macroeconomics were coined by Ragnar Firsch in 1933. The prefixes 'micro' and 'macro' have been derived from the Greek words MikrosandMakros, which mean 'large' and 'small', respectively. In other words, 'micro', means individualistic and 'macro' means aggregative.

3.2 Macroeconomics

3.2.1 Need and Importance of Macroeconomics

Macroeconomics has its unique importance:

- It explains the working of the economic system as a whole.
- It examines the aggregate behaviour of the macroeconomic entities like firms, households and the government.
- Its knowledge is indispensable for the policy-makers for formulating macro-economic policies such as monetary policy, fiscal policy, industrial policy, exchange control, income policy, etc.
- It is very useful to the planner for preparing economic plans for the country's development.

- It is helpful in international comparison. For example, microeconomic data like national income, consumption, saving-income ratio, etc. are required for a comparative study of different countries.
- It explains economic dynamism and intricate interrelationships among macroeconomic variables, such as price level, income, output and employment.
- Its study facilitates overall purposes of control and prediction.

3.2.2 Limitations of Macroeconomics

Macroeconomics has certain limitations.

- It ignores, individual behaviour altogether.
- It has a tendency towards excessive generalisation. Thus, analysing in aggregate terms, it pays least attention to the differences involved in the constituents.
- It is not easy to get correct and complete measures of economic aggregates. Thus, macroeconomic analysis lacks of precision in actual practice.
- Macroeconomic predictions are not fully reliable when they are based on incomplete information or inaccurate measures. National income, price index number, etc. are only rough indicators.
- Often macro level policies may not produce the same results at micro levels.

The manager or business person should be aware of the changing economic policies at national, international and global levels. In most countries, a shift is taking place from state intervention to a freer market economy. Macroeconomic policies such as monetary, fiscal, industrial and trade policies are now oriented more to stable and sustainable economic growth and development with human face rather than being just anti-cyclical in nature. Knowledge of macroeconomics in this respect is essential for an effective management.

For macroeconomic, events and policy regimes, have important implications for business. Liberalised economic policies are seeking to inspire market economy by being supportive, pro-business and innovative in many countries today.

Business enterprises should perform and progress in the new environment by grabbing the opportunities at all level through such awareness

Check your progress 1

1. _____ignores, individual behaviour altogether.

   a. Macro economics

   b. Micro economics

3.3 Microeconomics

3.3.1 Need of Microeconomics

Microeconomics is concerned with market behaviour and allocation of resources. It thus seeks to examine the fundamental questions of economic analysis, such as:

- What goods shall be produced out of the given resources and in what quantities?
- Who will produce them and how?
- How these goods shall be valued or priced in the exchange process?
- To whom and how the wealth so produced shall be distributed?
- How efficiently the resources are allocated. Production and consumption in the economic society

The subject matter of microeconomics is confined to the following major fields:

- Pricing
- Distribution
- Welfare

a) Pricing

A major part of microeconomic theory is confined to the price theory. Microeconomics assumes the total quantity of resources available in an economic society as given and seeks to explain how these shall be allocated to the production of particular goods for the satisfaction of chosen wants. In a free market economy, the allocation of resources is based on the relative prices and profitability of different goods. As such, to explain the allocation of resources, microeconomics seeks to explain the pricing phenomenon.

Price theory explains how the price of a particular commodity is determined in the commodity market. For in depth analysis of price determination it contains:

- Theory of demand of the analysis of consumer behaviour
- Theory of production and cost or the analysis of producer behaviour
- Theory of product pricing or price determination under different market structures

b) Distribution

Distribution is an equally important branch of microeconomics. The theory of distribution deals with factor pricing. It seeks to explain how rewards of the individual factors of production such as land, labour, capital and enterprise are determined for their productive contribution. In other words, it is concerned with the phenomena of rent, wages, interest and profits, as the respective rewards of these four categories of factors, viz.: land, labour, capital and enterprise.

Since demand and supply of each of these factors are characteristically different, there are separate theories to explain rent, wages, interest and profits. Thus, distribution field includes general theory of distribution, theories of rent, theories of wages, theories of interest and theories of profits.

c) Welfare

Welfare economics is an important branch of microeconomics as it seeks to explain how efficient the allocation of resources so determined is. It seeks to explain under what conditions the efficiency in production, efficiency in distribution and overall economic efficiency i.e. the efficiency in the direction of production are attainable.

The theory of economic welfare explains how an individual consumer maximises his satisfaction when production efficiency is achieved by allocation of resources or re-allocation of resources in such a way as to maximise output from a limited set of input.

Along with individual economic welfare, welfare economics is also confined to the social welfare. Social welfare is based on overall economic efficiency of the system. When maximum individual wants are satisfied at the best possible or optimum level by a production pattern through efficient allocation of resources, overall economic efficiency or ‘Pareto optimality’ condition is reached. Conditions of overall economic efficiency i.e. Pareto optimality conditions, are of great help in raising the standard of living of the population and maximisation of social welfare.

3.3.2 Importance of Microeconomics

Microeconomics has great theoretical and practical significance.

- **It Explains Price Determination and the Allocation of Resources:** It provides an understanding of the working of market mechanism in a capitalist/free enterprise economy.
- **It has Direct Relevance in Business Decision-making:** The knowledge of price theory has its own significance in practical business decision making. It is useful to a businessperson in determining the price policy. It guides him in attainment of maximum productivity through optimum allocation of his given resources. It teaches him in analysis of the costs of production and estimation of the demand for his product.
- **It serves as a Guide for Business/Production Planning:** Tools of microeconomics are useful in preparing the expansion plan of a business. It is also helpful in investment decision taking by the firm.
- **It serves as a Basis for Prediction:** Microeconomic theory is useful to make conditional predictions. Demand forecasting, for instance, rests on microeconomic principles of demand.
- **It Teaches the Art of Economising:** Microeconomic principles deal with the economising of scarce resources and show how to use them efficiently to gain maximum out of minimum. Microeconomic law, like the law of substitution, shows how a consumer can maximise his satisfaction by equating the ratios of marginal utilities to the prices of different goods, which he buys. Likewise, there is optimum utilisation of the factors of production when their marginal products become unequal.
- **It is useful in Determination of Economic Policies of the Government:** For instance, in determining a tax policy the government can know the effect and incidence of a particular tax through micro-economic tools and then judge its rationality and desirability. It also provides the principle for determining the price policy for the public enterprise. Similarly, the nature of price control administered prices and such other policy issues can be determined based on relevant micro-economic analysis.
- **It Serves as the Basis for Welfare Economics:** Microeconomics examines the subjective satisfaction that individuals derive from consuming goods and services and from enjoying leisure. It also suggests how to eliminate wastages and have optimisation of resources to fetch maximum social

welfare, which is the underlying goal of welfare economics.

- **It Explains the Phenomena of International Trade:** Microeconomic theories explain many aspects of international trade such as the emergence, nature and gains of international trade, determination of exchange rate, impact of tariffs on prices, etc.

3.3.3 Limitations of Microeconomics

Despite being a significant major branch of economic science and its immense usefulness in explaining economic behaviour of the individual economic units, microeconomics has inherent limitations as follows:

- **Concept of Marginalise:** Microeconomic theories are based on the principle of marginalise. Marginal changes are assumed in the relevant phenomena. Marginal change refers to the addition of just a single unit more. Thus, these are concepts like marginal utility, marginal cost, marginal product, marginal revenue, etc. It thus refers to a bit-by-bit change in the total variation. The theories thus imply equilibrium conditions in terms of margin, such as a consumer equating marginal utility with price for the maximisation of total satisfaction, a producer equating marginal cost with marginal revenue for maximisation of profits, etc. In practice, however, it is very difficult to realise this marginal approach.
- **Unrealistic Assumption of Full Employment and Over Simplification:** Microeconomics is based on the assumption of full employment even in a short-term analysis, which is unrealistic. By assuming full employment, microeconomic theories have over simplified the conditions of reality.
- **Pure Capitalist Model:** Microeconomic theories assume laissez faire policy and pure capitalism in their behaviouristic models. Today there is no pure capitalism, so most of the microeconomic theories have no significant relevance to practice.
- **Incomplete Explanation and Misleading Generalisation:** Microeconomics studies specific economic units separately from the rest of the whole economy. It thus explains only a part and not the whole of working of an economic system. Microeconomics thus does not furnish a complete explanation of the whole phenomenon. Again, application of deductive method in generalising from particular behaviour is often misleading. What is true for an individual may not be true for the entire

system.

- In fact, classical economists had made the same mistake in stating that when each individual saves, everyone of them would become wealthy so the society tends to be rich and wealthy. Here they failed to realise the paradox of thrift caused by deficiency of aggregate demand and consequently falling level of income.

To recapitulate, briefly, microeconomics has certain inherent limitations:

- Most of the microeconomic theories are abstract.
- Most of the microeconomic theories are static — based on ceteris paribus, i.e. assuming 'other things being equal'.
- Microeconomics unrealistically assumes 'laissez-faire' policy and pure capitalism.
- Microeconomics studies only parts and not the whole of the economic system. Thus, it cannot explain the functioning of the economy at large.
- By assuming independence of wants and production in the system, microeconomics has failed to consider their 'dependence effect' on economic welfare.
- Microeconomics misleads when one tries to generalise from the individual behaviour. It is improper to portray the character and behaviour of aggregate simply by generalising from character and behaviour of the individual components.

Microeconomics in dealing with macroeconomic system unrealistically assumes full employment.

Check your progress 2

1. _____theories assume laissez faire policy and pure capitalism in their behaviouristic models.

   a. Microeconomic

   b. Macroeconomics

3.4 Distinction between Micro and Macroeconomics

Broadly, speaking, microeconomic analysis is individualistic, whereas macroeconomic analysis is aggregative. In essence, thus, microeconomics deals with the part (individual) units while macroeconomics deals with the whole (all units taken together) of the economy. Since, both approaches tend to provide an insight or understanding into the working of an economic system, both are interrelated. Hence, the differences between microeconomics and macroeconomics are bound to be more or less of a degree rather than of kind.

For analytical reasons, however, microeconomics and macroeconomics may be distinguished on the following counts:

Difference in Nature

Microeconomics is the study of the behaviour of the individual units, in particular, consumers, firms and resource-owners (factors of production), rather than aggregates. Macroeconomics, on the other hand, is the study of the behaviour of the economy as a whole.

Microeconomics deals with individual decision-making and the problem of resource allocation.It examines, in particular, as to how individual consumers and producers behave and how their behaviours interact. This helps us in understanding how an economic process determines which goods should be produced, who will produce them, how they will be produced and how they will be distributed. Microeconomics, as such, examines the allocation of resources in certain situations involving individuals, groupsand society as a whole. However, its approach is always specific or non-aggregate.

On the other hand, macroeconomics concerns itself with aggregates relating to the economy as a whole. In macroeconomics, economic phenomena are studied in their aggregate size, shape and behaviour. Macroeconomics is, in fact, a study of very large, economy-wide aggregate variables like national income, total savings, total consumption, total investment, money supply, price levels, unemployment, economic growth rate, etc.

Difference in Methodology

Individualistic and Aggregative: Microeconomics is individualistic, whereas macroeconomics is aggregative in its methodological approach. Traditional economic analysis, especially the one followed by neoclassical economists, was largely confined to the study of individual aspects of economic behaviour activities, problems, experiences — and the equilibrium process of an economic

activity, isolated from the general set-up. Again, the results of such analysis were averaged out and generalised by traditional economists to explain the aggregative behaviour of the system as a whole. Modern economists, including Keynes, however, realised the inadequacy of such an analysis and argued that such generalisation of individual behaviour cannot just be a summation of individual activities.A community's economic behaviour has its own distinctive modes and courses. It is wrong to extend micro-level study to understand macro-level aggregative working of the economy as a whole.

Obviously, as the overall macroeconomic system is highly synchronised and inter-connected in nature, no one part of the system can be considered in isolation from the others. A separate branch of study was needed to comprehend the aggregative economic relations. Macroeconomics was consequently developed to describe the typical nature of aggregate economic behaviour as distinct from isolated individual activities. Microeconomics, of course, did refer to aggregates like market demand, market supply, industry, etc. but these were not considered in relation to the economy as a whole. On the other hand, macroeconomics concerns itself with aggregates relating to the economy as a whole. In macroeconomics, economic phenomenaare studied in their aggregate size, shape and behaviour.

Difference in Economic Variables

Micro quantities and Macro quantities: Microeconomics is concerned with the behaviour of micro variables or micro quantities such as individual demand, supply, particular commodity prices, wages, and individual industries.

Macroeconomics is concerned with the behaviour of macro variables or macro quantities such as national income, price levels, national output, total investment, total consumption, total savings in the economy, etc. In short, microeconomics deals with the individual incomes and output, whereas macroeconomics deals with the national income and national output.

Difference in the Field of Interest

Microeconomic theories and Macroeconomic theories: Microeconomics primarily deals with the problems of pricing and income distribution. It seeks to explain the determination of relative prices of particular commodities in the product markets. It is also concerned with the determination of factor pricing such as rent, wages, interest and profit and in turn, the theory of income distribution.

Macroeconomics, on the other hand, pertains to the problems of the size of national income, economic growth and the general price level.

Difference in Outlook and Scope

In fact, both microeconomics and macroeconomics deal with the phenomena of aggregation. However, from the point of view of scope, the concept of aggregation in microeconomics is different from that of aggregation in macroeconomics.

In macroeconomics, usually, behaviour elements of units with homogeneous characteristics are aggregated. For example, the concept of 'industry' in microeconomics is an aggregate concept. Industry refers to a set of all firms producing homogeneous goods taken together. Similarly, market is the aggregate concept. Likewise, market demand is measured as the summation of all individual consumers' demand for a given product in the market. In addition, market supply is the aggregate of the production supplied by individual firms. As such, microeconomics, however, never uses aggregates relating to the economy-wide total. Its scope is limited.

Macroeconomics, on the other hand, uses aggregates which relate to the entire economy or to a large sector of the economy and when it considers industrial output, it refers to the whole of output produced by the industrial sector and similarly, agricultural output for the entire agricultural sector. These are sub-aggregates constituting the economy's total output. Likewise, when macroeconomists talk of aggregate demand; they refer to the demand for all products by all households taken together for the economy as a whole. Thus, aggregate demand covers all market demands. In short, macroeconomics always considers aggregates as economy-wide totals. Its scope is total or much wider than the partial scope of the microeconomics in using the concept of aggregates.

Demarcation in Areas of Study

Theory of value and theory of economic welfare are the major areas covered in microeconomics. The theory of value includes pricing and distribution, i.e. product pricing and factor pricing.

On the other hand, income and employment theory and monetary theory are the core topics of macroeconomics. In a broad sense, public finance; growth and international trade are also included in the fields of macroeconomics.

Check your progress 3

1. _____deals with individual decision-making and the problem of resource allocation.

   a. Microeconomics

   b. Macroeconomics

3.5 Human Wants and Standard of Living

Understanding human wants is important aspect of business economics. As we know that there is difference between wants and demand, human wants are unlimited. Wants can be explained by following points:

- **Wants are Competitive:** Not only are our wants complementary, they are also competitive. One commodity competes with another for our choice. We all have a limited amount of money at our disposal, whereas we want so many things at the same time. We cannot buy them all. We must choose between them by accepting some and rejecting others. Thus, there is competition between the various things that we could buy.
- **Some Wants are Both Complementary and Competitive:** Machinery competes with labour. A manufacturer can, substitute one for the other to some extent. However, they also go together. Both of them are used in factories. Thus, human wants not only compete, they also complement each other.
- **Wants have Alternatives:** There are several ways of satisfying a particular want. If we feel thirsty, we can have soda, 'sherbet' or 'lassie' in summer and tea, coffee or hot milk in winter. There are different alternatives open to us. The final choice depends on their relative prices and the money at our disposal.
- **Wants Vary with Time, Place and Person:** Wants are not always the same, nor the same with everyone. Different people want different things and the same man wants different things at different times and in different places.
- **Wants have Varying Urgency and Intensity:** Not all wants are equally urgent and intense; some wants are more urgent and intense than others. These are generally satisfied first, while others are postponed.

- **Wants Multiply with Civilisation:** As civilisation spreads among people, their wants also go on increasing. That is why people living in urban areas have more wants than people living in villages do. This largely explains why the wants of European and American people are generally more than the wants of the African people. With the advance of civilisation, the demand for radio, cinema, television, motorcars and other modern amenities goes on increasing.
- **Wants are recurring in Nature:** Most human wants are recurring in nature. This applies to most of our routine expenditure, especially on food. From day to day and month to month, these wants arise repeatedly and require satisfaction.
- **Wants Change into Habits:** If a particular want is regularly satisfied, a person becomes used to it and it grows into a habit. He must then use that particular commodity regularly. That is how young lads often become confirmed smokers and a drug addicts.

A. Wants are influenced by income and Salesmanship

- **Advertisement:** It is obvious that if income is higher, more wants can be satisfied and a poor man cannot simply afford to have many wants. Besides, we do not always buy the things we need. We are often induced to buy particular brands by persuasive sales representatives or through clever advertisement even though better alternatives may be available.
- **Wants are the Result of Custom or Convention:** Custom still rules the world. All of us, whether living in villages or towns, are slaves of custom, more or less.Many of our wants is conventional. They are dictated to us by society.Whether we like it or not, we have to spend a lot of money on social ceremonies.
- **Present Wants are more important than Future Wants:** It is a human instinct to regard the present wants as being more important than the future wants. The proverb “a bird in hand is better than two in the bush” is based on this universal phenomenon. Future is uncertain and unpredictable. Man is, therefore, more concerned about the satisfaction of his present wants rather than being worried about his future wants.

B. Importance and Characteristics of Wants in Economic Theory

The characteristics of human wants need a close study, as they give birth to some of the most important laws of the science of economics. For instance, the fact that any single want is stable, leads to the law of diminishing marginal utility, which says that every successive unit of a commodity consumed has less utility. This is one of the fundamental laws of economics. Several other economic laws, e.g., the law of demand, consumers' surplus, elasticity of demand and the principle of progressive taxation are based on the law of marginal utility. Again, the competitive nature of human wants has given us the law of substitution. Some of the other characteristics of wants viz. that the outcome habits and run in groups led Dr.Eneels (a German thinker) to lay down his law of family expenditure, which we shall study later. Two of the other characteristics of human wants that we have considered above are that many wants recur repeatedly and some of them change into habits. In this way, they become an integral part of a man's standard of living. The modern theory of wages is based, on the supply side, on the standard of living prevailing at any time. It states that on the lower side wages must be sufficient to enable a worker to maintain his standard of living. This is so because he is habituated to the consumption of certain commodities. Similarly, the time-preference theory of interest is based on the characteristic that people prefer their present wants to their future wants. Broadly speaking, this theory states that the greater the preference of a lender for present wants to that of future wants the higher will be the rate of interest that he will demand. Likewise, the 'theory of joint demand' is based on the characteristic that some wants are complementary.

C. Classification of Wants

The commodities and services that we want are generally classified as necessities, comforts and luxuries.

Necessaries may be further sub-divided as:

- **Necessaries of Existence:** We cannot exist without these things e.g. a minimum of food, clothing and shelter.
- **Necessaries of Efficiency:** Some goods may not be necessary to enable us to live, but necessary to make us efficient workers. A table and a chair are necessities for efficiency of a student. Having these, he will be able to read and write better.

- **Conventional necessities:** These are the things which we are forced to use either by social custom or because the people around us expect us to do so. It is clear that we cannot dress ourselves in a strange fashion. We must dress according to our station in life and in a manner acceptable to the people. The term conventional necessities are also applied to consumption of things like tobacco and wine to which people sometimes get addicted.

D. Standard of Living

Meaning: 'Standard of living' refers to the necessities, comforts and luxuries, which a person is accustomed to enjoy. In other words, standard of living of the people means the quantity and quality of their consumption. We know that if a person satisfies some wants in a particular manner long enough, they recover and become habits. He must have those commodities and service; repeatedly otherwise he would not feel happy. Such things become his daily requirements and constitute what has been called his standard of living. They include his food, dress, house, entertainments, etc. Standard of living, in short, is mode of living.

The standard of living of a person is not determined only by himself or according to his own whims and desires. He has also to consider what society expects of him. It is thus a compromise between what he himself likes and what the society expects.

E. Standard of Living and Standard of Life

A distinction is sometimes made between standard of living and standard of life. Standard of living, as we have already explained, refers to our usual scale of expenditure, the goods we consume and the services we enjoy, our attitudes and values. Standard of life is a much wider term. It refers to one's ideals in life. It includes a person's expenditure on his non-material requirements. 'Simple living and high thinking' is a common axiom. 'Simple living' hints at a low standard of living, but 'high thinking' refers to a high standard of life. Mahatma Gandhi had a low standard of living but a high standard of life.

F. Determining factors of Standard of Living

A major objective of the government of a country is to provide good living to its people. However, different countries of the world provide different levels of living to their people. In fact, there are marked inequalities in the standards of living to the people in different countries of the world. On the one hand, there are advanced countries like the U.K., the U.S.A., Canada and the countries of Western Europe where standards of living are very high. Therefore, these countries have been called affluent societies.On the other hand, there are under-developed

countries like India, Pakistan, China, Burma, etc., and where standard of living of the people is extremely low. The extent of differences in the levels of living between U.S.A. and India can be known from the comparison of per capita income in both countries, as standard of living of a people primarily depends on the per capita income. According to the latest World Bank Reports, the per capita income of U.S.A. is 46,436 international dollars, while that of India is only 3248 international dollars, i.e. nearly one fourteenth of that of the U.S. A.

The following are the main factors on which the standard of living in a country depends:

- Level of National Income or Output
- Level of Productivity
- Terms of Trade
- Size of Population
- Distribution of National Income
- General Price Level
- Level of Education

Check your progress 4

1. _____is, therefore, more concerned about the satisfaction of his present wants rather than being worried about his future wants.

   a. economy c. animal

   b. human being

3.6 Factors of Production

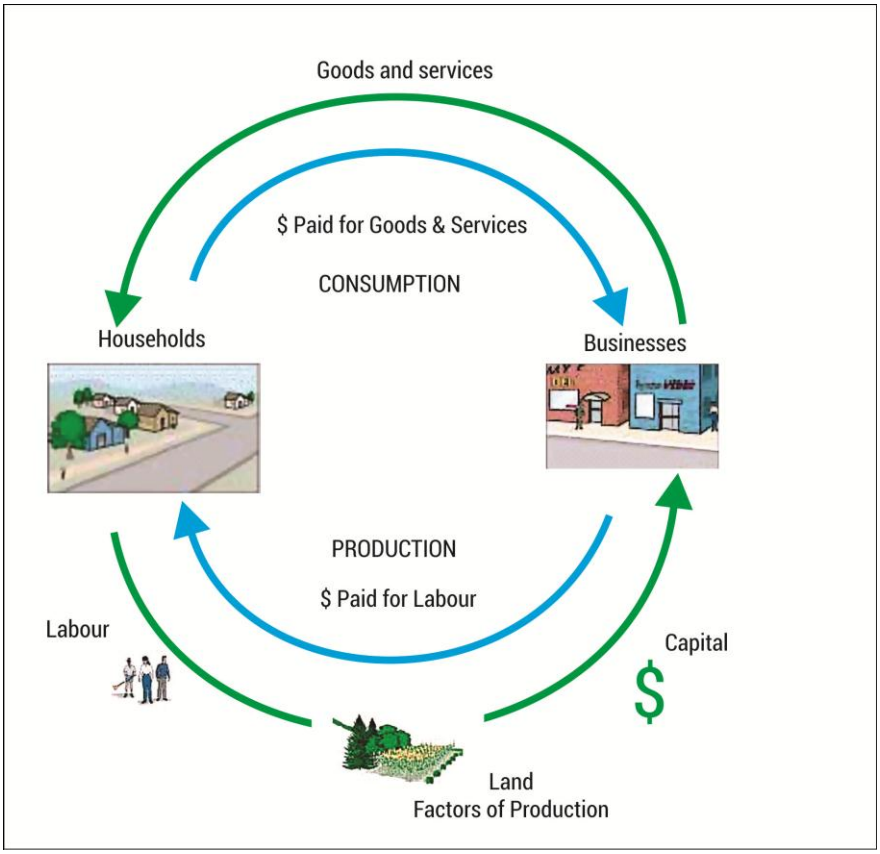


Fig 3.1 Factors of Production

In economics, factors of production (or productive inputs or resources) are any commodities or services used to produce goods and services. 'Factors of production' may also refer specifically to the primary factors, which are stocks including land, labour (the ability to work) and capital goods applied to production. The primary factors facilitate production but do not become a part of the product (as with raw materials). They do not become significantly transformed by the production process (as with fuel used to power machinery). Sometimes the overall state of technology is described as a factor of production. The number and definition of factors varies, depending on theoretical purpose, empirical emphasis or school of economics. The primary factors facilitate production however; they do not become part of the product (as with raw materials) and are not significantly transformed by the production process (as with fuel used to power machinery). There are three factors of production. They are as follows:

3.6.1 Land

a. Meaning

Economics is a science of everyday life. It has to use words of everyday language. However, it gives them a meaning of its own, sometimes narrow and at other times, wide. The term ‘value’, for example, has been given a narrow meaning and ‘lands’ a very wide one.

In economics, the word ‘land’ is used not merely in the sense of the soil or surface of the earth as is ordinarily understood. It stands for all nature, living and lifeless. It includes all natural resources that we can get free air, water and land. It covers the land surface, whether level or mountainous. It includes oceans, lakes and rivers, mineral deposits, rainfall, waterpower, fisheries, forests and numerous other things, which nature provides and humans use. The term ‘land’ thus embraces all that nature has created on the earth, above the earth and below the earth’s surface.

b. Importance of Land

Land as a factor of production is of immense importance. As has already been pointed out, everything that we use can be traced ultimately to land. Land may be rightly called the original source of all material wealth.

The economic prosperity of a country is closely linked with the richness of her natural resources. It is true to say that, a country is what nature has made it. It is possible that acountry, rich in natural resources, will remain poor (e.g., India) owing to some unfavourable factors. However, if nature has been unkind and has not given rich resources to a country, it will not be easy to make it prosperous.

Obviously, the quality and quantity of agricultural wealth in a country depends on the nature of the soil, climate and rainfall. Agricultural products, in their turn, form the very basis of trade and industry. Industrial prosperity depends on the presence of rich coalmines or waterfalls from which electricity can be generated. Localisation of industry depends on the proximal of power and raw materials and they are largely determined by nature. The presence of cheap and efficient means of transport is largely conditioned by the topography of a country.

c. Characteristics of Land

- **Natural Factor:** Land is the natural factor of production. It is a gift of nature to human beings. Therefore, from society’s point of view land has no cost of production. The supply price of land is zero. However, from individual point of view, land has the price.

- **Fix Supply:** The supply of land is fixed. We cannot increase or decrease the supply of land however; efforts were made somewhere to obtain new land through reclamation. However, the amount of land that we acquire through reclamation is so negligible that the supply of land remains more or less fixed.
- **Heterogeneous Factor:** Land is not a homogeneous factor of production because fertility of land may differ from place to place. Some pieces of land are more fertile while some pieces of land are less fertile. Thus, land is a heterogeneous factor of production.
- **Geographically Immobile:** Land is geographically immobile. A piece of land cannot be shifted from one place to other. Occupationally land becomes mobile. A piece of land can be used for various purposes.
- **Permanent Factor:** Land is permanent factor of production. Land cannot be destroyed permanently due to soil erosion. The quality of land may decrease but it can be restored again by investing certain fertilizers in it.
- **Passive Factor:** Land is passive factor of production. Land cannot produce anything by itself. Humans work on land, sow seeds and make it productive.

3.6.2 Labour

If an industrial worker offers his service of labour to a particular firm, he accepts a certain amount of money. Thus, the labour in industrial work is known as labour in economics. On the other hand, the service of a housewife cannot be considered labour in economics, because she doesn't want to earn money.

a) Meaning

"My work begins when others play," says the Drillmaster. What he says is true. What is play for others is a source of income for him. If a man takes exercise for the sake of health; if a mother brings up child, a father teaches his own son or if a man plants flowers for his pleasure—these are not considered 'labour' in economics. This is so because these are not undertaken to earn a monetary reward. Unless work is done for some remuneration, i.e., payment in cash or kind, it cannot be called labour.

In ordinary language, by 'labour' we mean the work done by coolies-hard manual labour, generally unskilled. However, in economics, the term 'labour' has a wider meaning. It does not merely mean manual labour. It includes mental work

too. It thus embraces the work of labourers, engineers, clerks, typists, managers, policemen and other government officials, teachers, lawyers, domestic servants, etc. All type of work comes under 'labour economics' provided it is done for money.

b) Characteristics of labour

- **In separable from the labour:** Labour and the one who is responsible for this labour cannot remain distinct. If a particular worker offers his service to a firm, he has to remain present at the work place because he cannot undertake labour by sitting at home. Thus, both the act of labour and the persons responsible for it. 'Labours' are inseparable from one another.
- **Human element:** Labourers have their own emotions, feelings, thoughts, etc. An entrepreneur should not treat labourers just like a commodity or machine. A labourer sells his labour only and does not sell himself.
- **Heterogeneous Factor:** Labour is not a homogeneous factor of production because the efficiency of labour may differ from person to person.
- **Perishable factor:** If a worker does not work for a day his labour on that day will be lost forever. We cannot store human labour so labour is a perishable factor of production.
- **Less mobile:** Labour is less mobile than capital. A labourer may not easily move from one occupation to other because various restrictions are levied over the occupational and geographically mobility of labour.
- **Perfect inelastic supply of short run:** During short run the supply of labour remains fixed or perfectly inelastic because there are various factors like the size of population, working hours, proportion of working population, etc. that can determine the supply of labour. Thus, factors remain stable during short run.

3.6.3 Capital

a. Meaning

Capital can be defined as produced means of production. Money is the means for purchasing capital good of machineries, tools, factory building raw materials, etc. These can be use for production of consumer goods and services. Money is the mean for purchasing capital goods.

b. Characteristics of capital

- **Man Made Factor:** Capital is the manmade factor of production. With the help of natural resources, human beings produce capital goods. Therefore, capital is also known as stored up land and stored up labour.
- **Derived Demand:** The demand for capital is derived demand. It depends upon demand for consumer goods. If consumers increase their demand for consumer goods then manufacturers will raise demand for capital goods.
- **Durable Factor:** Capital is a durable factor of production because we can store capital and goods for a certain period.
- **Limited Life:** Though a capital is a durable factor but it has limited life also because in the process of production due to their continuous use, the depreciation of capital goods takes place so we have to replace these capital goods by installing new capital goods in their place.
- **Highly Mobile Factor:** Capital is a highly mobile factor of production. We can shift capital from one occupation to another or from one place to another.
- **Elastic Supply:** The supply of capital is elastic if the demand of capital increases supply can be increased. If the demand of capital is decreased, the supply can be decreased.
- **Increases the Productivity:** The use of capital increases the productivity of the firm and industries. Huge increases in production are possible due to use of capital.
- **The Process of Production is Roundabout:** This is so because the production of consumer goods requires the production of capital goods. Then with the help of capital goods, consumer goods can be produced.

c. Capital Formation Stages

Although saving is essential for capital formation, in a modernised economy, saving may not result in the production of capital goods directly or automatically. Investment of savings is imperative to produce capital goods. In a modern economy, where saving and investment are done mainly by two different classes of people, there must be certain means or mechanisms whereby the savings of the people are obtained and mobilised in order to give them to the businessmen or entrepreneurs to invest in capital. Therefore, in a modern free

enterprise economy, the process of capital formation consists of the following three stages:-

- **Creation of Savings:** An increase in the volume of real savings so that resources, that would have been devoted to the production of consumption goods, should be released for purposes of capital formation.
- **Mobilisation of Savings:**A finance and credit mechanism, so that the available resources are obtained by private investors or government for capital formation.
- **Investment of Savings:** The act of investment is undertaken so that resources are used for the production of capital goods.

Check your progress 5

1. _____ may be rightly called the original source of all material wealth.

   a. Land c. Money

   b. Capital

3.7 Theories of Population

An economy supports population, but population too, in a sense, supports the economy. It is the aim of an economy to satisfy people's wants for goods and services, but the people too make an important contribution to the productive capacity of an economy. A study of population trends, therefore, is of great importance in the study of economic theory.

There are two well-known theories of population: The Malthusian Theory and Optimum Theory. We shall now briefly discuss them here. First, the Malthusian Theory:

3.7.1 Malthusian Theory

The most well known theory is the Malthusian theory of population. Thomas Robert Malthus wrote his "Essay on Principle of Population" in 1798 and modified some of his conclusions in the next edition in 1803. The rapidly increasing population of England, encouraged by a misguided poor Law,

distressed him very deeply. He feared that England was heading for a disaster and he considered it his solemn duty to warn his fellow citizens. He deplored "the strange contrast between over-care in breeding animals and carelessness in breeding men".

His theory is very simple. He says, "By nature human food multiplies in a slow arithmetical ratio; man himself multiplies in a quick, geometrical ratio unless want and vice stop him".

"The increase in numbers is necessarily limited by the means of subsistence. Population invariably increases when the means of subsistence increase, unless prevented by powerful and obvious checks".

Malthus based his reasoning on the biological fact that every living organism tends to multiply to an unimaginable extent. A single pair of thrushes would multiply into 19,500,000 within the life of the first pair and 20 years later to 1,200,000,000,000,000,000,000 and if they stood shoulder to shoulder about one in every 150,000 would be able to find a perching space on the overall surface of the globe. According to Huxley's estimate, the descendants of a single greenfly, if all survived and multiplied, would, at the end of one summer, weigh down the population of China. Human beings are supposed to double every 25 years and a couple can increase to the size of the population in 1,750 years.

Such impressive is the prolific nature of every species including man. The power of procreation is inherent and insistent and must find expression. Cantillon says, "Men multiply like mice in a bar". Production of food, on the other hand, is subject to the law of diminishing returns. Based on these two premises, Malthus concluded that population tended to outstrip the food supply. If preventive checks, like avoidance of marriage, are not exercised, then positive checks, like war, famine and disease, will operate.

The Theory propounded by Malthus can be reduced to the following four propositions:

- Food is necessary to the life of man and therefore, exercises a strong check on population. In other words, population is necessarily limited by the means of subsistence (i.e., food).
- Human population increases faster than food production. Whereas population increases in geometric progression, the food production increases in arithmetic progression.
- Population always increases when the means of subsistence increase unless

prevented by some powerful and obvious checks.

- There are two types of checks, which can keep population on a level with the means of subsistence. They are the preventive and positive checks.

The first proposition is that the population of a country is limited by the means of subsistence. In other words, the size of population is determined by the availability of food. The greater the food production is, the greater the size of population, which can be sustained. The check of deaths caused by want of food and poverty would limit the maximum possible population.

The second proposition states that the growth of population will outrun the increase in food production. Malthus thought that man's sexual urge to bear off-spring knows no bounds. He seemed to think that there is no limit to the fertility of man. Man multiplies at an enormous rate. However, the power of land is limited. Malthus thought that the law of diminishing returns operated in the field of agriculture and the operation of this law put a limit on increase in the supply of food.

Malthus asserted that the population of a country tends to double every twenty-five years (as it was actually happening in the American Colonies and the U.K. at that time), but the food supply could be increased much less rapidly. In fact, Malthus observed that the population tended to increase at a geometric rate (2, 4, 8, 16, 32, 64, etc.), but the food supply to increase at an arithmetic rate (2, 4, 6, 8, 10, 12}. Thus, the ratio of population to the means of subsistence would be 259 to 9 in two centuries, 4,096 to 13 in two centuries and in two thousand years the difference would be incalculable. Therefore, Malthus asserted that the population would outstrip the food supply. For this reason, Malthus said that people were doomed forever to live at abare subsistence level. When food supply runs out, people starve and plunge into misery.

According to the third proposition, as the food supply in a country increases, the people will produce more children and would have larger families. This would increase the demand for food and availability of food per person will again diminish.Therefore, according to Malthus, the standard of living of the people cannot rise permanently, unless they exercise restraint and limited the size of the family.

Malthus pointed out that there were two possible checks, which limited the growth of population (1) Preventive Checks and (2) Positive Checks.

1. **Preventive Checks:** Preventive Checks, exercise their influence on the growth of population by bringing down the birth rate. Humans apply these

on their own.These checks arise from human being's wisdom and foresight. Humans see the distress, which frequently visits those who have large families. They may think that with a large number of children the standard of living of the family may be lowered. They may consider that if they have to support a large family, they will have to face greater difficulties and work harder than otherwise would be the case. The parents may not be able to give adequate education to their children if there are many of them. Further, they may expose their children to poverty or charity by their inability to provide for them. These considerations may force parents to limit their family. Late marriage and family planning measures during married life are the examples of preventive checks applied by man to limit the size of his family.

2. **Positive Checks:** Positive checks exercise their influence on the growth of population by increasing the death rate. They are an outcome of the forces of nature as distinguished from preventive checks, which are exercised by man. The positive checks to population are many and include every cause, which in any degree contributes to shorten the natural duration of human life. Unhealthy occupations, hard labour, exposure to the inconvenience of weather, extreme poverty, bad nursing of children, epidemics, wars and famines are some of the examples of positive checks. They all shorten human life and increase the death rate.

Malthus recommended the use of preventive checks if humanity was to escape from the impending misery. If preventive checks were not effectively used, positive checks like diseases, wars and famines would come into operation. As a result, the population would be reduced to the level, which can be sustained, by the available quantity of food supply.

In the first edition of his book, Malthus laid great stress on the role of positive checks in keeping the population under control. The following remarks made by him in the first edition of his book show the way in which his mind was working.

"Famine seems to be the last resort, the most dreadful resource of nature. The power of population is so superior to the power of the earth to provide sub-sistence that premature death must in some shape or the other visits the human race".

Criticism of Malthusian Theory

The Malthusian theory of population was the subject of a keen controversy. The following are some of the grounds on which it has been criticised: -

In the first place, it is pointed out that Malthus pessimistic conclusions have not been drawn out by history of Western European countries. The gloomy forecast made by Malthus about the miserable conditions of future generations has not proven true to the Western world, where as population has failed to grow as rapidly as predicted by Malthus and production has increased tremendously because of the rapid advances in technology. As a result, living standards of the people have risen instead of falling as was predicted by Malthus.

Secondly, the Malthusian theory of population is based on the law of diminishing returns as applied to agriculture. It is based on the law that Malthus asserted that food production could not keep pace with population growth. By making rapid advances in technology and larger application of capital, advanced countries have been able to increase their production greatly.Infact, in most of the advanced countries; the rate of increase of food production has been much greater than the rate of population growth.

Thus, inventions and improvements in the methods of production belied the gloomy forecast of Malthus by holding the law of diminishing returns in check almost indefinitely.

Thirdly, Malthus considered food production alone and not the production of wealth in all its forms. He compared the population growth with the increase in food production alone. Malthus held that since land was limited in quantity, food production could not increase faster than population. However, he should have taken into account all types of production in considering the question of the optimum size of the population. England did feel the shortage of land and food. If England had been forced to support its population entirely from its own soil, there can be little doubt that England would have experienced series of famines by which its growth of population would have been checked.

However, England did not experience any such disaster. It is because England industrialised itself by developing its natural resources other than land like coal and iron and by accumulating man-made capital equipments like factories, tools, machinery, mines, ships and railways. This enabled it to produce plenty of industrial and manufactured goods, which it then exported in exchange for foodstuffs from foreign countries. There is thus no food problem in Great Britain. Thus, Malthus made a mistake in taking agricultural land and food

production alone into account while discussing population. He should have considered all types of production instead.

Fourthly, Malthus held that the increase in the means of subsistence or of food supplies would cause population to grow so fast that ultimately, means of subsistence or food supply will be in level with population and everyone would get only bare minimum subsistence. In other words, according to Malthus, living standards of the people cannot rise in the long run above the level of minimum subsistence. However, as already pointed out, living standards of the people in the Western world have risen greatly and stand much above the minimum subsistence. There is no evidence of birth rate rising with the increases in the standard of living. Instead, there is ample evidence that birth rates fall as prosperity grows.

In the Western countries, the attitude towards children changed as they prospered. Previously, much attention was not paid to children. Now parents feel it a duty to do as much as they can for their child and therefore, they decide not to have more children than they can attend. People now care more for higher standard of living than rearing more children. The extensive use of contraceptives in the Western world has brought down the birth rate there.This change in attitude towards children and the wider use of contraceptives in the Western world, have falsified the Malthusian doctrine.

Fifthly, Malthus gave no proof of his assertion that population increased exactly in an arithmetic progression. It has been rightly pointed out that population and food supply does not change in accordance with these mathematical series. Growth of population and food supply cannot be expected to show the precision or accordance of such series. However, Malthus, in later editions of his book, did not insist on these mathematical terms and only held that there was an inherent tendency in population to outrun the means of subsistence. We have seen above that even this is far from true.

The civilised world has kept the population in check. It is, however, to be regretted that population has been increasing at the wrong end. The poor people, who can ill-afford to bring up and educate children, are multiplying, whereas the rich, who can rear quality, applying breaks on the increase of the size of their families.

3.7.2 Optimum Theory

Modern economists have rejected the Malthusian theory of maximum population, which, if exceeded, will spell misery in the country. Instead of the

maximum population, modern economists have substituted the idea of the optimum population.

By optimum population, they mean the ideal population that a country should have, considering its resources. The optimum means the best and the most desirable size of a country's population. It is the right number. When a country's population is neither too big nor small, but just that much which the country ought to have, it is called the optimum population. At a given a certain amount of resources and capital stock and state of technical knowledge a definite size of the population at which the real income of goods and services per capita will be the highest. This is the optimum size. The optimum number can, therefore, be defined as the one at which per capita income is the highest.

Under-population and its Disadvantages: If the population of a country is below the optimum i.e. below what it ought to be, then the country is said to be under-populated. The numbers of the people are inefficient to take the fullest possible advantage of the natural and capital resources of the country. This is what happens in a new country. The resources are vast. Much can be produced, but there are not men enough to carry on the work of production efficiently.

Apart from the insufficiency of working force, the second disadvantage arises from the difficulty of specialisation owing to fewness of numbers. By specialisation; workers acquire job dexterity and increased efficiency in the use of specialised equipment. The community will not be able to reap the economies of large-scale production. Production would thus suffer.

Under such conditions, an increase in population will be followed by an increase in the per capita income. However, this increase cannot go on indefinitely. When the shortage of work force has been taken covered, the per capita income will reach the maximum and we shall say that the optimum has been reached.

Over-population and its Dangers: If however, the population still goes on increasing and the optimum is exceeded, then we shall have a state of over-population. There will be too many people in the country. The country's resources will not be sufficient to provide gainful employment to all. They will be thinly spread over the teeming millions. The average productivity will diminish. Per capita income will diminish; standard of living will fall; war famine and disease will be constant companions of such people. These are the symptoms of over-population. Capital formation will be hampered and economic development will be slowed down. The dangers of over-population, however, can be avoided by

increasing the supply of capital. There is a race between productivity and population. If productivity wins the race, the danger is averted.

To be Optimum: Let us suppose that natural resources, stock of capital equipment and state of technology remain fixed in a country. Now assume that population which was initially very small compared to these other resources, begins to increase. With the increase in population, labour force of the country will also increase. As more and more labour is combined with, the fixed amounts of these other resources, output per capita or real income per head will rise. This is because the increase in the quantity of labour will make possible greater degree of specialisation. It will also ensure more efficient use of natural and capital resources of the country. With a very small population or labour force, there was a limited scope for specialisation, for each worker was required to do all sorts of jobs.

However, as population and therefore, the quantity of labour increases, specialisation becomes possible. Each man then need not do all the jobs or make all parts of a good. Everybody can concentrate on the job for which he is best suited. Division of labour among the different workers, which is made possible by the increase in population, greatly increases the efficiency and productivity of labour.

An increase in population will also permit a fuller utilisation of the natural resources and capital equipment. If the quantity of labour is small relative to the natural resources, then even the actually available resources remain under-utilised. Many actually available resources, which can be utilised for producing goods, would not be utilised for lack of labour. Moreover, even capital equipment will not be utilised fully and effectively, if there is shortage of labour. Technology requires that capital equipment be of a certain minimum size, whether output is relatively small or large. Capital equipment would not be fully utilised if only a small number of workers are available to work with it. In other words, production willbe relatively inefficient if the capital equipment is grossly undermanned. If the population increases and more labourers become available to be combined with the given stock of the natural resources and capital equipment, output per capita will rise.

Production greatly increases as population expands at initial stages due to another related factor. When population of a country is small, market for the products of industry will also be small. With this limited market for goods, producers will be forced to produce on a small scale and thus would be unable to take advantage of the economies of large-scale production. As population

increases, the market for goods expands and large-scale production becomes possible which adds greatly to the productivity of the economy.

At the optimum for all these reasons, output per capita will rise for a time as population increases. As the population continues to increase, a point will finally be reached when capital and natural resources are fully utilised and therefore, output per capita is the highest. The level of population at which per capita output or real income is the maximum is called the optimum population. If population still goes on increasing, that is, it crosses the optimum point; output per capita will start declining. The country would then become over-populated.

Beyond the Optimum: Why does the output per capita fall when the optimum point is exceeded? This is because there are now more men in the economy than needed by it. A given amount of capital and natural resources have to be shared out among a large number of workers with the result that each of them has a smaller amount of equipment, materials and natural resources to work with. For this reason, the average productivity declines. It is very likely that many people may not get employment and therefore, add nothing to production. Thus, there is likely to be unemployment of labour. It so happens that when people do not get employment outside agriculture, they cling to agriculture. The pressure of population on land increases.However, the additional men, who get employment in agriculture, add nothing to total production. In other words, the marginal productivity of these extra men in agriculture is zero or nearly zero. This is what is commonly known as the phenomenon of disguised unemployment. Disguised unemployment exists in over-populated agriculture from where even if some workers are withdrawn total production does not fall.

When population exceeds the optimum level, it often happens that food problem crops up. An increase in population brings more mouths to eat. However, the quantity of land being limited, it cannot meet the increased demand for food.

Low standards of living, open and disguised unemployment, prevalence of disease and food problems are signs of over-population.

Thus, we see that both under-population and overpopulation have disadvantages. It is optimum population, with the highest per capita output, which is the best for a country to aim at.

Check your progress 6

1. By nature human food multiplies in a slow arithmetical ratio; man himself multiplies in a quick, geometrical ratio unless want and vice stop him" has been said by_____.

   a. Malthusian c. Adam

   b. Robert

3.8 Law of Returns

There are three laws of returns known to economists, the laws of diminishing, increasing and constant return. "There is said to be increasing, decreasing or constant returns accordingly, as the marginal returns rise, fall or remain unchanged" as the quantity of a factor of production is increased. In terms of cost, an industry is a subject to increasing, decreasing or constant returns accordingly as the marginal cost of production falls, rises or remains the same, respectively, with the expansion of an industry.

In economics, diminishing returns (also called diminishing marginal returns) refers to how the marginal production of a factor of production starts to progressively decrease as the factor is increased, in contrast to the increase that would otherwise be normally expected. According to this relationship, in a production system with fixed and variable inputs (say factory size and labour), each additional unit of the variable input (i.e., man-hours) yields smaller and smaller increases in outputs, also reducing each worker's mean productivity. Conversely, producing one more unit of output will cost increasingly more (owing to the major amount of variable inputs being used, to little effect).

This concept is also known as the law of diminishing marginal returns or the law of increasing relative cost.

The law of diminishing returns has been described as one of the most famous laws in all of economics. In fact, the law is central to production theory, one of the two major divisions of neoclassical microeconomic theory. The law states "We will get less and less extra output when we add additional doses of an input while holding other inputs fixed. In other words, the marginal product of each unit of input will decline as the amount of that input increases holding all

other inputs constant". Explaining exactly why this law holds true has sometimes proven problematic.

This can be explained well with the help of an example.

Suppose that one kilogram of seed applied to a plot of land of a fixed size produces one ton of crop. You might expect that an additional kilogram of seed would produce an additional ton of output. However, if there are diminishing marginal returns, that additional kilogram will produce less than one additional ton of crop. For example, the second kilogram of seed may only produce a half ton of extra output. Diminishing marginal returns also implies that a third kilogram of seed will produce an additional crop that is even less than a half ton of additional output, say, one quarter of a ton.

In economics, the term 'marginal' is used to imply 'the edge of productivity in a production system'. The difference in the investment of seed in these three scenarios is one kilogram — 'marginal investment in seed is one kilogram'. In addition, the difference in output, the crops, is one ton for the first kilogram of seeds, a half-ton for the second kilogram and one quarter of a ton for the third kilogram. Thus, the marginal physical product (MPP) of the seed will fall as the total amount of seed planted rises. In this example, the marginal product (or return) equals the extraamount of crop produced divided by the extraamount of seeds planted.

A consequence of diminishing marginal returns is that as total investment increases, the total return on investment as a proportion of the total investment (the average product or return) decreases. The return from investing the first kilogram is 1 t/kg. The total return when 2 kg of seed are invested is 1.5/2 = 0.75 t/kg, while the total return when 3 kg are invested is 1.75/3 = 0.58 t/kg.

Another example is a factory that has a fixed stock of capital or tools and machines and a variable supply of labour. As the firm increases the number of workers, the total output of the firm grows but at an ever-decreasing rate. This is because after a certain point, the factory becomes overcrowded and workers begin to form lines to use the machines. The long-run solution to this problem is to increase the stock of capital, that is, to buy more machines and to build more factories.

Check your progress 7

1. _____refers to how the marginal production of a factor of production starts to progressively decrease as the factor is increased.

   a. Diminishing returns c. Constant returns

   b. Increasing returns

3.9 National Income

National income, in the words of the objective, "It is that output of the income of the community, including of course income derived from abroad, which can be measured in money". Colin Clark, a British authority on the subject, defines national income as follows:

"The national income for any period consists of the money value of the goods and services becoming available for consumption during that period reckoned at their current selling value, plus additions to capital reckoned at the prices actually paid for the new capital goods, minus depreciation and obsolescence of existing capital goods and adding the net accretion of or deducting the net drawings upon stocks, also reckoned at current prices. Services provided at non-profit-making basis by the State and local authorities (e.g., postal services and municipal tramway services) are included based on charges made. Where taxation is levied upon particular commodities and services, such as the customs and excise duties on commodities or the entertainment tax, such taxes are not included in the setting value".

In short, National Income is the aggregate factor income i.e., earning of labour and property, which arises from the current production of goods and services by the nation's economy. The nation's economy refers to the factors of production, i.e., labour and property, supplied by the residents of the national territory. Determinants of aggregate demand

AD = C+I+G+(x – m)

AD = Aggregate demand (National income)

C = Private consumption expenditure

I = Investment expenditure

G = Govt. expenditure

(x-m) = export – import

Check your progress 8

1. _____ is that output of the income of the community, including of course income derived from abroad, which can be measured in money

   a. National income c. Individual income

   b. Money income

3.10 Money

In ancient times, man's wants were but few. He led a simple life and mainly lived on hunting and fishing and satisfied all his wants himself. As time passed, his wants multiplied and his self-sufficiency disappeared. He began to exchange some of the things he produced for those, which his neighbours possessed. Such direct exchanges, without the use of money, are called 'barter'.It means buying goods with goods. Today barter is carried on only in uncivilised and backward areas. In modern communities, on the other hand, rarely do we come across exchanges of this type. Our needs are far too many and complex to be satisfied through a direct exchange of goods. How shall we pay for the many small things like cakes of soap, vegetables, fruits, pens and paper, etc., which we need every day? What form to pay for abus ride or our college fees? It would be most inconvenient, may even be impossible.

I. Barter System

Prior to the existence and use of money there existed what is familiarly known as the barter system where the exchange mechanism was commodities for commodities i.e. C ———>• C.

In such a system, exchange was restricted and this system was found to be highly inconvenient. It was also found to restrict the growth of trade and commerce. Such a system was characterised by a number of difficulties.

Difficulties of the Barter System

- There existed no common medium of exchange to facilitate exchange transactions.
- There was also no common measure of value. Since there was no standard unit of measurement of value, every time exchange had to take place, the

value of commodities had to be determined in terms of other commodities making exchange highly time-consuming.

- Problem of double coincidence of wants: Every time exchange took place, there was a need to find parties who were willing to enter into specific exchange transactions. For example, if a person A wants to exchange rice for wheat, he had to identify an individual who would be willing and wanting to exchange wheat for rice and so on.
- Indivisibility of commodities: Because of indivisibility of commodities it was difficult to arrive at the precise value of commodities. Whenever some; commodities would be divided to arrive at the accurate exchange value its use value wouldbe destroyed. (E.g. half a table for one chair)
- Difficulty in storing value: Because of low shelf life of commodities like food grains, milk, fruits etc., it was difficult to store value for long durations.
- Bulkiness of commodities and difficulty in transportation of commodities was another problem.
- Problem of maintaining accounts: In absence of a common form of money it was difficult to maintain the accounts. Today, we can express receipts and expenses in one common form, i.e. money and that is the reason why we can maintain proper accounts.
- Difficulties regarding payments in future: In an exchange economy, payments are made over a future period like payment of rent, wages, interest on borrowed capital, etc. This would hardly be possible in a barter economy.

Because of the above difficulties, exchange was restricted mainly to local areas. Trade did not expand, specialisation in production was not evident and in short, this kind of a system seemed to be suitable only to a very backward and primitive society. Therefore, these problems gave rise to the search for an alternative system, which would solve the difficulties of a barter system. This led to the evolution of money creating a monetised system, where the exchange mechanism now became “commodities for money and money for commodities”. C ——M ——> C.

II. Characteristics of Good Money

Thus, we can conclude that for money to be good, it should be

- Stable and not change its value rapidly

- A generally acceptable medium of exchange
- A dependable measure of value
- A suitable store of value
- Capable of transferring value

3.10.1 Definitions of Money

Having discussed the functions of money one can now define money in a systematic manner as given below

A. Traditional approach

The traditional approach emphasises the functions of money or on what money does.

i. The Narrow definition - The traditional definition under the narrow view concentrates on the Medium of Exchange function (MOE). Some narrow definitions are provided below.

- Newlyn- "Anything is money which generally functions as a medium of exchange".
- Robertson- "Money is anything which is widely acceptable in payment for goods or in exchange of other kinds of business transactions".
- "Money is something which is generally acceptable as a means of payment". The two characteristics, which are emphasised in these definitions, are the medium of exchange (MOE) and general acceptability.

ii. The Broad definition

- "Anything that is generally acceptable as a means of exchange and which at the same time acts as a measure and as a store of value". (G. Crowther)
- "Money is something which gives an individual a claim over goods and services for the period during which it is held. It is a claim over purchasing power".
-

B. Empirical Approach

This approach is derived from practical experience and observations. Through such observations, what is actually used as money in the economy is determined. Quite obviously, the characteristics of MOE, general acceptability, store of value and liquidity would automatically get included in this approach.

i. The Narrow Definition

"Only currency, coins and demand deposits are money". (Yeager)

The empirical approach to money constantly changes and newer and newer assets get included because of its liquidity and its role as a medium of exchange.

ii. The Board Definition

There has been a lot of discussion regarding what should and should not be included in money and depending upon the degree of liquidity, assets are included or not included in money.

Raddiffe Committee: Other assets apart from currency and demand deposits also result in increasing expenditures by the individuals and therefore such items should be included in money. Based on this thinking, one has to include F.D.'s, bonds, deposits of NBFI's, (UTI, LIC, Mutual funds).

Another school of thought formulated by Gurley and Shaw emphasised on the degree of liquidity for an asset to get included in the definition of money - from the whole range of financial assets various items will get included in the definition of money and this would change over time.

Based on this approach, countries have formulated various narrow and broad definitions of money.

Milton Friedmen defines money as, "A temporary abode of purchasing power and includes not only the financial assets but all forms of wealth and property in money".

Based on the above views, the central banks of various countries have given various measures of money supply classified into narrow and broad measures. In almost every country today, the accepted narrow definition of money is "Currency + Coins + Demand deposits".

Money and Near Money

Over the years in any monetary discussion, a concept, which is gaining importance, is the concept of near money. This concept or form of money has evolved over the years with the growth of the banks and financial institutions. As an economy progresses, the proportion of near money to the total money supply goes on increasing, hence the need to study this concept.

A. Meaning of Near Money

Before proceeding with the definition of near money, the point to be noted is near money is one form of holding one's wealth i.e. in the form of 'financial assets'. The other forms are monetary and real assets.

In order to clarify the concept of near money, it is necessary to recall the basic and defining function of money i.e. a Medium of Exchange (MOE). Anything, which cannot satisfy this defining function of money, will at the most come close to money but will remain as near money or quasi money. This is how the idea of near money evolved.

B. Definition of Near Money

"Near money are those assets which are good stores of value but are not perfect mediums of exchange".

C. Characteristics of Near Money

Therefore, the distinguishing characteristics of near money as compared to money can be listed as follows:

- Near money is not perfect a perfect medium of exchange.
- Not generally acceptable as a means of payment
- Not 100% liquid
- These assets do not enjoy the legal backing of the type that money has. (I.e. the backing of the Central Bank and Government)

Near money assets are, therefore, very close to money because they are highly liquid, can become acceptable as a means of payment by quickly being converted into money and are good stores of value. However, what prevents them from enjoying the status of money is the inability of near money to be perfect mediums of exchange.

D. Examples of Near Money

Near Money includes a whole range of assets, which can be converted into MOE; however, they by themselves are good stores of value.

Financial Assets

- Bank deposits: demand / savings fixed
- Shares
- Debentures
- Units of UTI
- LIC policies
- Post-office Savings deposits
- NSC

[Note: All the above-mentioned items are financial assets in which value can be stored. It should not be confused with financial instruments, which only facilitate receipts and payments for e.g. cheques, promissory notes, demand drafts, bills of exchange, etc.]

All the above near money assets differ in their degree of liquidity or 'moneyless'. The more liquid an asset is, closer it will be to money. As the economy develops and banking habits develop, some of these assets come very close to money and in fact become a means of payment and a medium of exchange for e.g. demand or current deposits. As a result, these deposits have been included in the narrow most definition of money supply:

Money = Currency + Coins + Demand deposits

E. Importance of the Concept of Near Money

Since the proportion of near money is increasing in almost all economies, it is necessary to understand this concept in detail.

The uses and importance of this concept can be noted as given below.

- **Break-up of Money Supply:** It is necessary to understand the break-up of money supply into monetary and financial assets for understanding the composition of money supply in an economy.
- **Effective Formulation of Monetary Policy:** It is crucial to know the volume of near money and the rate at which it is growing for the effective formulation and implementation of the monetary policy. Near money is

created by the banks and financial systems. Once the volume and trends in the growth of this near money component of money supply is known, it is easier to regulate and control this part of money supply.

- **Useful in Defining Money:** An understanding of near money helps in understanding the 'narrow' and 'broad' approaches to defining money. Near money, assets with high degree of liquidity get included in the narrow definition of money. It is, therefore, extremely crucial for the sake of understanding the various approaches to define money based on the concept of liquidity.
- **Reflects the level of development of Banking and Financial Institutions:** The growth of near money and the variety of near money assets indicate the level of development of the banking and financial institutions in an economy.
- **Necessary for a complete monetary analysis:**Important to understand the break-up of the total money supply into money and near money for any complete monetary analysis

3.10.2 Functions of Money

The best way to define money is:

"Money is what money does" [Prof. Walker].

The point to be emphasised here is that money is not defined by its physical characteristics but is defined by the functions that it performs. It should also be noted that the present form of money i.e. the currency is a highly advanced form of money and over the years a number of commodities have performed the function of money (e.g.) food grains, shells, precious stones, etc. Therefore, money is a unique define money, one has to consider the functions of money and these functions of money itself account for the different approaches to the definition of money.

1. Primary Functions

The primary functions of money include money as a medium of exchange and measure of value. These are called primary because these are performed by money alone.

a) Medium of Exchange (MOE)

The most basic and crucial function of money is the function of a common medium of exchange.

This implies that money facilitates the process of exchange and it is used in any exchange transaction i.e. in buying and selling of goods and services. To be used as a common medium of exchange, money should be generally acceptable as means of payment.

In order to be generally acceptable as a means of payment, money should possess the following characteristics:

- It should have a legal banking (of central Government and the Central bank).
- It should enjoy the faith of the public.
- It should possess 100% liquidity. By liquidity here is meant that there should be no delay, no cost and no inconvenience in using money as a medium of exchange.

The medium of exchange function is therefore the most basic and the defining function of money. It is both a necessary and sufficient condition to define money.

As a medium of exchange, money thus removes the problems of the barter system largely i.e. the problem of a common medium, measure, double coincidence of wants, etc.

In fact, money has been defined as 'Medium of Exchange' and/or "Anything which is generally acceptable as a means of payment".

b) Money as a Standard Measure of Value

While acting as a medium of exchange, money automatically measures the value of the things for which it is exchanged. Money provides a standard unit of measurement through which the value of all goods and services can be expressed-thus simplifying the process of exchange. It overcomes the difficulty of a lack of common measure (denominator) of value in terms of which other values can be expressed, added and accounts kept. Important variables like prices, incomes, costs, etc., can also be predetermined due to the availability of a common measure of value.

2. Secondary or Derivative Functions

The derivative functions include money as a store of value, a standard of 'deferred payments' and a unit of account. These are called 'derivative functions' because they are derived from the primary functions of money.

a) Store of Value (SOV)

With the introduction of money, the problem of perishable goods and thereby storing of value is solved largely. With the use of money, value can be stored for a considerably long period. The need for storing value arises because there is a gap between people receiving their income and spending it and money provides this facility through its store of value function. However, the intrinsic value of this stored money would depend on the General Price Level. Over the years, various forms of storing money have evolved and it has become possible to earn return on stored wealth. Money is only one formof storing value, the others include the wide range of financial assets and other forms of investments like deposits, shares, debentures, bonds, etc. There are 3 major stores of wealth - (i) monetary assets i.e. coins, notes, bank deposits, (ii) real assets-like land, houses, furniture, gold and (iii) financial assets-like shares, securities, etc.

Many of the other forms of storing wealth like financial assets in fact generate returns and are better stores of value as compared to money. However, in spite of this, individuals like to hold money as a store of value because of its 100% liquidity and its function of a perfect medium of exchange. The store of value function is of extreme significance in the analysis of demand for money and further monetary analysis.

b) Standard of Deferred Payments

With the use of money, it is possible to postpone payments, which is possible due to the store of value function. This function has created the entire system of lending and borrowing which is the credit system. Money acts as a standard of payments made at a future date (deferred).

Examples of deferred payments are interest on capital, dividend on preference shares, long-term property deals, etc. This function has come to be of great importance in modern times because of the increasing significance of such deferred payments in many economies.

For money to act as a standard of deferred payments, it is necessary for the value of money to be stable over a period. By acting as a standard measure of payment over time, money makes borrowing and lending less risky. Thus, it helps

in encouraging all kinds of economic activity, which depends on borrowed money or credit. As a result of the standard of deferred payments function it has been possible to have the complex system of credit and financial planning in the economy.

c) Unit of Account

Since, money is a common measure of value in terms of which values of all goods and services are expresses, it is possible to use money as "a unit of accounting". Construction of balance sheets, income expenditure accounts, budgets of government, balance of payments statements, etc. and other accounting financial statements have become possible due to the use of money. When values are expressed in prices (i.e. in money terms), it is also possible to have an idea of the wealth of a person or community.

3. Contingent Functions of Money

Contingency / incidental functions of money are as follows:

a) Distribution of National Income

People earn their incomes (rent, wages, interest and profit) in the form of money. Money has also made it possible to express the shares of various factors of production i.e. land, labour, capital and entrepreneur in terms of wage, rent, interest and profit shares which has lead to the development of macro theory of distribution.

b) Allocation of Scarce Resources

Since all prices are expressed in money terms, money helps the process of allocation of scarce resources as allocation depends on prices (price mechanism).

This process is made easier when prices are expressed in terms of money.

c) Equalisation of marginal utilities and marginal productivities

When prices of goods and of factors of production (labour, capital etc.) are expressed in money-terms, it is easier for consumers to compare marginal utilities of goods with their prices and easier for producers to compare factor-prices with their marginal productivities. Thus, money helps consumers and producers to achieve their equilibrium positions regarding purchases of goods and factors.

d) Basis of credit

Money is the basis of the credit system. This has assisted in the development of the whole range of banking and financial institutions in the

economy. Money also forms the 'cash basis' from which commercial banks create credit.

e) Facilitates Governments Income and Expenditure transactions

Money facilitates the entire government's budgetary process, the process of tax collection, government expenditures, investments, etc. The financial activity of the government is made easy with money.

f) Money acts as a means of Transferring value

Money is used as a medium through which property could be transferred, liquidated or transported with ease.

4. Static and Dynamic Functions of Money

Paul Einzig classifies the functions of money as (a) static and (b) dynamic.

a) Static functions:

Static functions include money as a medium of exchange, measure of value, a standard of deferred payments, store of value and transfer of value.

b) Dynamic functions:

Dynamic functions include the functions of money by which money influences the working of the economy by influencing price-level, level of consumption, volume of production and distribution of wealth in the economy. The dynamic functions, therefore, determine the economic trends.

Dynamic functions have become important in modern times as is seen by the monetary policy followed by modern governments.

5. Other Functions of Money

a) Estimation of Macro Variables

With the use of money it has become possible to estimate and express number of macro variables in value terms e.g. Gross National Product (GNP), money supply, total savings investments etc. It is also possible to calculate important rates of growth in GNP, per capita income, inflation, interest, etc.

b) Development of Business / Trade

Use of money has also led to the development of business, industry, trade, commerce on a large scale. This has facilitated expansion of exchange, specialisation in production, etc.

c) Liquidity

It provides a means of holding wealth in its liquid form ready for any exchange transaction.

The use of money thus has in fact supported the entire process of economic development.

3.10.3 Advantages of Money

- **Money removes the inconvenience of Barter and facilitates Exchange:** Money came into existence because of the difficulties of barter; thus with the introduction of money, all the difficulties and inconveniences of barter were removed. No double coincidence of wants was necessary to effect exchange. A commodity could be easily divided and exchanged as desired and a generally acceptable medium of exchange was available with society.
- **Money performs important functions:** The functions performed by money explain the importance of money. Money acts as a medium of exchange; it is a measure of value; it is a standard for deferred payments; and it facilitates credit transactions without which modern trade and industry cannot proceed. The development of banking and insurance and other financial institutions, which are important in a modern economy, would be impossible without money.
- **Money facilitates savings:** Savings would have been negligible without money; because savings take place in terms of money (store of value function of money). Savings result in capital formation, which increases production and promotes economic development.
- **Money benefits the consumer:** Introduction of money has benefited the consumer, producer and the community in general. To the consumer, the possession of money gives claim on the goods and services owned by others. Money has generalised the purchasing power of the consumer and has helped the consumer to maximise his satisfaction.
- **Benefit to the producer:** The producer can now organise production more efficiently and more economically. By comparing money costs and money incomes at various levels of output, he can produce, optimum output (output at which long run average cost is minimum) and thus maximise profit.

- **Money benefits the community:** It is based on money that a large credit-structure has been built-up. It has helped trade and industry to flourish. The best use of resources and the efficient functioning of the economy would be impossible without money. Money also helps the government of any country to carry out its functions.

As Robertson points out, the existence of monetary economy helps society to discover what people want and how much they want it and so to decide what shall be produced and in what quantities and to make best use of its limited productive power. In addition, it helps each member of society to ensure that the means of enjoyment to which he has access yield him the greatest amount of actual enjoyment, which is within his reach. Lord Keynes, an eminent economist, gave great importance to money. According to him, money performs an important function of increasing output or real income. An increase in the supply of money in depression and unemployment can create larger output and fuller employment. So also, increase in money supply results in the reduction of rate of interest, which may encourage businesspersons to borrow and invest more capital; resulting in larger output and greater employment.

3.10.4 Dangers of Money

Money has however, proved dangerous at times, money is said to be a good servant but a bad master.

a) **Economic instability:** The economic instability seen in a capitalist economy is a result of the use of money.

When money was not there, those who saved also invested. In a monetised economy, however, saving is done by one group of people and investment by another group of people. Hence, in a monetised economy, it does not follow that savings and investment should be equal, when savings in an economy is more than investment, national income, output and employment decrease and the economy facesadepressionary state. On the other hand, when investment exceeds savings (when investment is partly through deficit financing) then national income, output and employment increase and the economy prospers. However, if the process of money creation and investment continues beyond the point of full-employment, inflationary conditions will be seen. Hence, the main cause of economic fluctuations is the disparity between savings and investments because of creation of money.

In the case of inconvertible paper money, the main danger is that of over issue. The over-issue of money may lead to hyperinflation. Excessive price-rise affects the fixed income groups, the consumers; it adversely affects speculation and restricts productive capacity. This also widens the gap between the rich and the poor.

b) **Economic Inequalities:** Since it is possible to store money, it is possible for the rich to exploit the poor and thus it creates class-conflict.

c) **Decrease in Morals:** The moral fiber of man has reduced because of money. According to Van Miseloney, money is regarded as the cause of theft and murder, of deception, of betrayal.

Thus, money by itself is not bad but its possession could facilitate corruption and crime.

Conditions under which money cannot perform its functions: We have seen that the basic function of money is to act as a stable medium of exchange, so that it can act as a standard of deferred payments based on which debts can be contracted and paid back. However, during highly inflationary conditions (hyperinflation), it is difficult for money to perform its function properly. Money during hyperinflation loses its value. Money cannot act as a standard of deferred payment. In addition, since all the functions are closely connected it cannot perform the other functions either. Thus, it cannot act as a store of value or a medium of exchange or for that matter as a measure of value or unit of account. Hyperinflation causes a complete breakdown of the monetary system. Under such circumstances, old money must be demonetised and some new money must be created to take its place.

Check your progress 9

1. "Money is what money does"hasbeen said by_____ .

   a. Prof. Walker

   b. adam smith

3.11 Banking

The proverb goes "Money begets money." However, this is true only when you put money in some business or deposit it in a bank. That is when it will multiply; not otherwise.

Now it is understandable why money invested in a business or a factory should 'breed', but it is not so easy to see how it breeds in a bankand why the bank pays interest to its depositors. Apparently, abank neither makes nor sells any goods. It may not seem to. All the same, it does sell a very important commodity. It manufactures credit and sells it. That is why we call abank "a factory of credit".

Banks are like reservoirs. They collect the savings of some people and give them to others who can use them productively. In the process, they earn a commission, out of which they pay interest to those who save and deposit funds with them. A bank is an institution in which those people who have spare cash deposit it and those who need funds borrow from it.

Types of Bank

During the last three centuries different types of banks have developed. Each type usually specialises in a particular kind of business. We can distinguish between the different banks, according to the functions they perform. Banks' activities can be divided into retail banking, dealing directly with individuals and small businesses; business banking, providing services to mid-market business; corporate banking, directed at large business entities; private banking, providing wealth management services to high net worth individuals and families and investment banking, relating to activities on the financial markets. Most banks are profit-making, private enterprises. However, some are owned by government or are non-profit organisations.

- **Commercial Banks:** These banks play the most important role in modern economic organisation. Their business mainly consists of receiving deposits, giving loans and financing the trade of a country. They provide short-term credit, i.e., lend money for short periods. This is their special feature.
- **Exchange Banks:** Exchange banks finance mostly the foreign trade of a country. Their main function is to discount, accept and collect foreign bills of exchange. They also buy and sell foreign currencies and help business persons to convert their money into any foreign money they need. Their share in the internal trade of a country is usually small. In addition, they

carry on ordinary banking business too.

- **Industrial Banks:** There are a few industrial banks in India. However, in some other countries, notably Germany and Japan, these banks perform the function of advancing loans to industrial undertakings. Industries require capital for a long period for buying machinery and equipment. Industrial banks provide this type of 'mock' capital. Industrial banks have a large capital of their own. They also receive deposits for longer periods. They are thus in a position to advance long-term loans.

In India, the Central Government set up an Industrial Finance Corporation of India (IFCI) in 1948. Its activities have since then been greatly enlarged. Further, the States have also set up State Financial Corporations. The Central Government has also established the Industrial Credit and Investment Corporation of Indiaand the National Industrial Development Corporation for the financing and promotion of industrial enterprises. In 1964, the Industrial Development Bank of India was established as the apex or top term-lending institution. These new institutions fill important gaps in our system of industrial finance.

- **Agricultural or Cooperative Banks:** The main business of agricultural banks is to provide funds to farmers. They are worked on the co-operative, principle. Hind mortgage banks, nowadays called land development banks, while short-term loans are given by co-operative societies and co-operative banks provide long-term capital. Long-term loans are needed by the farmers for purchasing land or for permanent improvements on land, while short-period loans help them in purchasing implements, fertilizers and seeds. Such banks and societies are doing useful work in India.

- **Savings Banks:** These banks perform the useful service of collecting small savings. Commercial banks has to run 'savings departments' to mobilise the savings of men of small means. The idea is to encourage thrift and discourage hoarding. Post Office Saving Banks in India are doing this useful work.

- **Central Banks:** Over and above the various types of banks mentioned above, there exists in almost all countries today a Central Bank. It is usually controlled and quite often owned by the government of the country. The 'central bank' performs very important services. Reserve bank of India is India's central bank.

Check your progress 10

1. The main business of _____is to provide funds to farmers

   a. agriculture bank c. commercial bank

   b. reserve bank

3.12 Household

The household refers to basic consuming unit. In the words of Prof. Lipsey "By a household, we mean all the people who live under one roof & who make or are subject to joint financial decision".

In macroeconomics, thus a household is a consumer. It seeks to describe consumer behaviour of household is in demand of theory. The behaviour of household is important because it constituted demand for a commodity. The market demand is composed by the aggregate of individual demand.

The consumer arranges his wants according to the scale of perforation i.e. the urgent wants is satisfied first, less urgent later and least urgent may be post pond. Every consumer has his unique scale of preference. Human beings may be conscious or unconscious rational or irrational, consistent or non-consistent in preparing a scale of preference. Thus, it is important to remember that when an economist speaks or an individual speak they are in fact referring the group of individual composing the household.

Check your progress 11

1. In the words of _____"By a household we mean all the people who live under one roof & who make or are subject to others making to them joint financial decision".

   a. Prof. Lipsey

   b. Adam smith

3.13 Plant, Firm and Industries

3.13.1 Plant

Meaning and Definition of Plant

According to Sergeant Florence, "A body of persons engaged in production or distribution at a given time & place, in contagious building & controlled by a single firm".It is the physical capital (building and equipment) at a particular location used for the production of goods and services. While the term plant is occasional used synonymously with the terms firm or business, when economists get down to specifics, which they are prone to do, the term plant is used only for a specific production facility. As such, it is best used synonymously with the term factory.

Characteristics of a plant

- A plant is technical unit: A plant is body or group of persons who are actually engaged in production of goods. It may also carry on different activities.
- Within the technical sphere, a plant enjoys considerable autonomy: The broad policy network is down by the firm but within the broad firm work but a plant can take imp decision in the technical field.
- A plant is a B.O.P. that works at a given time and place: A plant consists of persons who assemble at a certain time and place. They work during some hour and assemble within factory premises.
- A plant controlled by single firm: Only the plant within the firm, then plant is identical in a firm.
- Technical similarity: There has to be technical similarity in production process of goods produced form the plant.

3.13.2 Firm

Meaning of a Firm

A firm (also known as acompany, enterpriseandbusiness) is a legally recognised organisation designed to provide goods or services or both, to consumers, businesses and governmental entities. Firms are predominant in

capitalist economies. Most firms are privately owned. A firm is typically formed to earn profit that will increase the wealth of its owners and grow the firm itself. One of the main objectives of owners and operators of a firm is the receipt or generation of financial returns in exchange for work and acceptance of risk. Notable exceptions include cooperative enterprises and state-owned enterprises. Businesses can also be formed not-for-profit or be state-owned. The standard economic assumption underlying the analysis of firms is profit maximisation. Firms are assumed to make decisions that will increase profit.

Characteristics of a Firm

- A firm may own one or more than one plant.
- A firm exercises unified control over its plants.
- A firm organises resources & plans their use.
- A firm may be unitary or federal.
- A firm is a separate legal entity.
- In theoretical sense, a firm organises factor of production to maximise profit.

Objectives of Firms

- Profit
- Sales maximisation over
- Increasing market share
- Building a good business reputation or goodwill
- Financial stability and liquidity
- Maintenance of good labour relations
- Job satisfaction

3.13.3 Industries

Meaning of Industries

An industry is a group of firms but it is not easy to decide what type of firms together to make a particular industry. The term industry is sometimes used to describe a very precise business activity (e.g. semiconductors) or a more generic business activity (e.g. consumer durables). If a company participates in multiple

business activities, it is usually considered to be in the industry in which most of its revenues are derived.

Characteristics of Industries

- **Homogeneous:** All those firms producing almost identical goods will constitute a particular industry. For example, agriculture industry, mining industry, etc.
- **Same Type of Products:** All those firms, which produce substitutes for each other, will be classified into a particular industry. For example, different kinds of textile cloth-producing firms constitute the textile industry.
- **Common Raw Material:** All those firms, which use same raw material in the using out or finished good, also go to form industry. E.g. Pottery industry
- **Similar Process:** Firms, which are engaged in carrying out process, may roughly be bonded into a industry. Eg. Engineering, transport and so on
- **Similar Trade and Services:** All firms engaged in providing same kind of services or doing a common trade or business will constitute a particular industry. E.g. Banking industry

Check your progress 12

1. According to_____, "A body of persons engaged in production or distribution at a given time & place, in contagious building & controlled by a single firm"

   a. Sergeant Florence c. Robert

   b. Adam smith

3.14 Let Us Sum Up

In this block a detailed discussion was made on the difference between Microeconomics and Macroeconomics. Here we even made a discussion on the various terms that we use in economics, they are wants, Wants can be explained by following points: 1) Wants are Competitive 2) Some wants are both complementary and competitive 3) Wants are alternative 4) Wants vary with time,

place and person 5) Wants vary in urgency and intensity 6) Wants multiply with civilization 7) Wants recur 8) Wants change into habits. Our next topic of discussion was based on standard of living which refers to the necessities, comforts and luxuries, which a person is accustomed to enjoy. In other words, standard of living of the people means the quantity and quality of their consumption.

We even made a discussion on the various factors of production i.e. land , labour ,capital. There after we discussed the theories of population , national income and money.

So in this unit we discussed a little complicated topics of economics but these were explained in a very easy language and in a very interesting manner.

3.15 Answers for Check Your Progress

Check your progress 1

Answers: (1-a)

Check your progress 2

Answers: (1-b)

Check your progress 3

Answers: (1-a)

Check your progress 4

Answers: (1-b)

Check your progress 5

Answers: (1-a)

Check your progress 6

Answers: (1-b)

Check your progress 7

Answers: (1-a)

Check your progress 8

Answers: (1-b)

Check your progress 9

Answers: (1-a)

Check your progress 10

Answers: (1-b)

Check your progress 11

Answers: (1-a)

Check your progress 12

Answers: (1-b)

3.16 Glossary

1. **Necessaries -** Those wants which are most essential for the survival of human beings are called necessaries.
2. **Comforts -** In comforts are included those goods which make our lives comfortable "or easy or their use provides facilities in life
3. **Luxuries -** Luxuries are those things the satisfaction of which, do not increase our efficiency, but simply gives us pleasure.

3.17 Assignment

Define Micro and Macro Economics and state the difference between these two.

3.18 Activities

Explain criteria upon which standard of living depends.

3.19 Case Study

1. Conduct a survey of a society near you and collect information about their standard of living.
2. Visit website of IDBI, ICICI and prepare a report on financial assistance provided lay these institutions to the industrial sectors.

3.20 Further Readings

1. Business Economic, Micro and Macro, H.L Ahuja, S Chand & Company Ltd, 1999.
2. Development Theories and Growth Model, P. Sen, S Chand & Company Ltd. 1995.
3. Financial Management, M.Y.Khan, P.K. Jain, Tata McGraw Hill Publishing Company Ltd, New Delhi, 1999.
4. Managerial Economics, R. Cauvers, S. Chand, 2009.

Block Summary

The given block has discussed the topics very important relating to our economy. Best efforts have been made by the writer to explain the topics,keeping the content not too lengthy and used easy language for better understanding.

The block included the topics such as nature and scope of Economics, the Economy and its basic problem and the basic concepts in economics.

So from this block the students of this subject will get to know about the basics of economics, they would get a thorough knowledge about their economy and various problems associated with it not only this the students will also get a thorough knowledge about the basic concepts which are associated with the subject.

Block Assignment

Short Answer Questions

1. Growth oriented definition of economics.
2. Marshall's definition of economics.
3. Is economics a science?
4. Economic laws.
5. Problems of economy.
6. Market Mechanism.
7. Failure of marketing system.
8. Government role in a capitalist society.
9. Government role in a socialist economy.
10. Government role in a mixed economy.
11. Importance of macroeconomics.
12. Human wants ad standard of living.
13. Factor of production.
14. Malthus theory of population.
15. Law of returns.

Long Answer Questions

1. Explain clearly nature and limitations of economics.
2. Discuss the meaning and scope of business economics.
3. "Mixed economy is essentially a variant of capitalism". Discuss.
4. Explain the working of price mechanism in a free market economy. Does price mechanism always solve the problem of what, how and for whom to produce problems in the most efficient way?
5. Give the theory of population.
6. What is National Income? Explain its role in economy.
7. Give the importance of banking & public finance in economy

Enrolment No. ☐

1. How many hours did you need for studying the units?

Unit No	1	2	3	4
Nos of Hrs				

2. Please give your reactions to the following items based on your reading of the block:

Items	Excellent	Very Good	Good	Poor	Give specific example if any
Presentation Quality	☐	☐	☐	☐	_____
Language and Style	☐	☐	☐	☐	_____
Illustration used (Diagram, tables etc)	☐	☐	☐	☐	_____
Conceptual Clarity	☐	☐	☐	☐	_____
Check your progress Quest	☐	☐	☐	☐	_____
Feed back to CYP Question	☐	☐	☐	☐	_____

3. Any Other Comments

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Education is something which ought to be brought within the reach of every one.

- Dr. B. R. Ambedkar

Dr. Babasaheb Ambedkar Open University
'Jyotirmay Parisar', Opp. Shri Balaji Temple, Sarkhej-Gandhinagar Highway, Chharodi,
Ahmedabad-382 481.

ECONOMICS ENVIRONMENT FOR BUSINESS

PGDBA-102



BLOCK 2:
DEMAND AND SUPPLY ANALYSIS, TECHNIQUE OF INDIFFERENCE CURVES

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ECONOMICS ENVIRONMENT FOR BUSINESS

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ROLE OF SELF INSTRUCTIONAL MATERIAL IN DISTANCE LEARNING

The need to plan effective instruction is imperative for a successful distance teaching repertoire. This is due to the fact that the instructional designer, the tutor, the author (s) and the student are often separated by distance and may never meet in person. This is an increasingly common scenario in distance education instruction. As much as possible, teaching by distance should stimulate the student's intellectual involvement and contain all the necessary learning instructional activities that are capable of guiding the student through the course objectives. Therefore, the course / self-instructional material are completely equipped with everything that the syllabus prescribes.

To ensure effective instruction, a number of instructional design ideas are used and these help students to acquire knowledge, intellectual skills, motor skills and necessary attitudinal changes. In this respect, students' assessment and course evaluation are incorporated in the text.

The nature of instructional activities used in distance education self-instructional materials depends on the domain of learning that they reinforce in the text, that is, the cognitive, psychomotor and affective. These are further interpreted in the acquisition of knowledge, intellectual skills and motor skills. Students may be encouraged to gain, apply and communicate (orally or in writing) the knowledge acquired. Intellectual-skills objectives may be met by designing instructions that make use of students' prior knowledge and experiences in the discourse as the foundation on which newly acquired knowledge is built.

The provision of exercises in the form of assignments, projects and tutorial feedback is necessary. Instructional activities that teach motor skills need to be graphically demonstrated and the correct practices provided during tutorials. Instructional activities for inculcating change in attitude and behavior should create interest and demonstrate need and benefits gained by adopting the required change. Information on the adoption and procedures for practice of new attitudes may then be introduced.

Teaching and learning at a distance eliminates interactive communication cues, such as pauses, intonation and gestures, associated with the face-to-face method of teaching. This is particularly so with the exclusive use of print media. Instructional activities built into the instructional repertoire provide this missing interaction between the student and the teacher. Therefore, the use of instructional activities to affect better distance teaching is not optional, but mandatory.

Our team of successful writers and authors has tried to reduce this.

Divide and to bring this Self Instructional Material as the best teaching and communication tool. Instructional activities are varied in order to assess the different facets of the domains of learning.

Distance education teaching repertoire involves extensive use of self-instructional materials, be they print or otherwise. These materials are designed to achieve certain pre-determined learning outcomes, namely goals and objectives that are contained in an instructional plan. Since the teaching process is affected over a distance, there is need to ensure that students actively participate in their learning by performing specific tasks that help them to understand the relevant concepts. Therefore, a set of exercises is built into the teaching repertoire in order to link what students and tutors do in the framework of the course outline. These could be in the form of students' assignments, a research project or a science practical exercise. Examples of instructional activities in distance education are too numerous to list. Instructional activities, when used in this context, help to motivate students, guide and measure students' performance (continuous assessment)

PREFACE

We have put in lots of hard work to make this book as user-friendly as possible, but we have not sacrificed quality. Experts were involved in preparing the materials. However, concepts are explained in easy language for you. We have included many tables and examples for easy understanding.

We sincerely hope this book will help you in every way you expect.

All the best for your studies from our team!

ECONOMICS ENVIRONMENT FOR BUSINESS

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BLOCK 2: DEMAND AND SUPPLY ANALYSIS, TECHNIQUE OF INDIFFERENCE CURVES

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BLOCK 2: DEMAND AND SUPPLY ANALYSIS, TECHNIQUE OF INDIFFERENCE CURVES

Block Introduction

As already discussed the importance of economics. We have known till now the importance of this subject and how much important role does this subject plays in the proper functioning of the economy. It is only because of this factor why this subject is introduced in all commerce, management and finance curriculum.

This block aims to give an introduction of the topics demand and supply analysis and indifference cures analysis to its readers. The block has been divided into two units.Unit one covers the topic of Demand and Supply Analysis in very detail. This unit consists of the topics such as Demand Analysis, Law of Demand, Elasticity of demand, Methods of calculating elasticity of demand, Importance of elasticity of demand, some analytical cost concepts, Law of Supply and supply curve. On the other hand the second unit covers the topic oftechnique of Indifference Curves in veryd etail. The unit covers Consumer's Equilibrium, Theory of Consumer Behaviour, Indifference Curve Technique, MarginalRate of Substitution and Budget Constraints: The Price-Income Line, Consumer Equilibrium.

Every effort has been made to keep the content of the block simple, concise and easily understandable. The block will help the students in understanding the basics of demand and supply and how they operate in the market. They will also understand the topic indifference curve which is very interesting.

Block Objective

After learning this block, you will be able to understand:

- Demand and supply and its law.
- The factors affecting of demand.
- About Demand types.
- Law of demand.

Demand and Supply Analysis, Technique of Indifference Curves

- Elasticity of demand and its importance.
- Indifference curve analysis.
- The Marginal rate of substitution.
- About Price-income line.
- Concept of consumer equilibrium point.

Block Structure

Unit 1: Demand and Supply Analysis

Unit 2: Technique of Indifference Curves - Consumer's Equilibrium

UNIT 1: DEMAND AND SUPPLY ANALYSIS

Unit Structure

1.0 Learning Objectives

1.1 Introduction

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1.2.2 Essentials of Demand

1.2.3 Determinants of Demand

1.2.4 Classifications of Demand

1.2.5 Consumer Goods and Capital Goods

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1.6 Importance of Elasticity of Demand

1.7 Some Analytical Cost Concepts

1.8 Law of Supply and Supply Curve

1.8.1 Law of Supply

1.8.2 Supply Curve

1.9 Let Us Sum Up

1.10 Answers for Check Your Progress

1.11 Glossary

1.12 Assignment

1.13 Activities

1.14 Case Study

1.15 Further Readings

1.0 Learning Objectives

After learning this unit, you will be able to understand:

- Law of demand and supply.
- Determining factors of demand.
- Various types of demand concept.
- About Elasticity of demand.
- Importance of elasticity of demand.
- About elasticity of demand and supply.

1.1 Introduction

In economics, demand has a particular meaning distinct from its ordinary usage. In common language; we treat ‘demand’ and ‘desire’ as synonyms. In economics, demand refers to effective demandthat implies three things:

- Desire for a commodity.
- Sufficient money to purchase the commodity.
- Willingness to spend money to acquire that commodity.

This makes it clear that a want or a desire does not become a demand unless it is backed by the ability and the willingness to satisfy it. For instance, a person may desire to have a scooter, but unless he has the required amount of money with him and the willingness to spend that amount on the purchase of a scooter, his desire shall not become a demand. Two more things must be noted about demand:

- Demand always refers to demand at price. The term ‘demand’ has no meaning unless it is related to price. For instance, the statement, 'the weekly demand for potatoes in city X is 10,000 kilograms' has no meaning unless

we specify the price at which this quantity is demanded.

- Demand always means demand per unit of time. Therefore, we must always specify the period for which the commodity is demanded. For instance, the statement that the demands for potatoes in city X at Rs. 8 per kilogram is 10,000 kilograms again has no meaning, unless we state the period for which the quantity is being demanded. A complete statement would therefore be as follows: 'the weekly demand for potatoes in city X at Rs. 8 per kilogram is 10,000 kilograms'. It is necessary to specify the period and the price because demand for a commodity will be different at different prices of that commodity and for different periods. Thus, we can define demand as follows:

"The demand for a commodity at a given price is the amount of it which will be bought per unit of time at that price".

1.2 Demand Analysis

1.2.1 Definitions of Demand

Following are the few definitions of demand, which would make the concept clearer:

a) Prof. Benham - "The demand for anything, at a given price is the amount of it which will be bought per unit of time at the price".

b) Prof. Hemson - "By demand is meant, demand at a price, for it is impossible to conceive of demand not related to price".

c) Prof. Moyers - "The demand for goods is schedule of the amounts that buyers would be willing to purchase at all possible prices at any one instant of time".

d) Prof. Hibdon - "Demand means the various quantities of goods that would be purchased per time period at different prices in a given market".

1.2.2 Essentials of Demand

- **An Effective Desire:** Effective desire means that there must be a desire backed by the ability and willingness to pay. Thus, there are three essentials of an effective desire:

- The person must have a desire to have a particular commodity.
- He must have adequate resources to purchase that commodity.
- He must be ready to spare these resources for that commodity.

- **A Particular Price:** A statement regarding the demand of a commodity without reference to its price is of no use. For example, to say that the demand of television sets is 10,000 is useless, unless it is said that the demand of TV sets is 10,000 at a price of Rs. 4,000 each.
- **A Particular Time:** Demand should refer to a particular time. For example, it is an incomplete statement to say that the demand of coolers is 4,000 at the price of Rs. 1,800 each. The statement should be altered to say that the demand of coolers during summer is 4,000 at the price of Rs. 1,800 each.
- **A Definite Place:** The demand should refer to a particular market. For example, Annual demand of coolers in Delhi is 4,000 at a price of Rs.1800.

Thus, the demand of a commodity is an effective desire that explains the quantity of a commodity that will be purchased at a particular price in a particular market during a particular period.

Demand of Maruti Car

If everybody wants to own a Maruti car, it does not mean that the demand of Maruti car in the market is very high because the desire to own a particular commodity cannot be its demand. It can become a demand only when desire is backed by the ability and willingness to pay. The desire of Maruti car is not sufficient to increase its demand. The persons desire to own a Maruti car should be backed by adequate resources to purchase it and he/she must be ready to spare these resources on its purchase. If such ability and willingness is there for a Maruti car, its demand in the market will be high; otherwise, the desire of owning aMaruti car will remain a desire and cannot become its demand.

1.2.3 Determinants of Demand

1. **Price of the Commodity:** The most important factor affecting demand is the price of the commodity. The amount of a commodity demanded at a particular price is precisely called price demand. The relation between price and demand is called the Law of Demand. It is not only the existing price

but also the expected changes in price, which affects demand

2. **Income of the Consumer:** The second most important factor influencing demand is consumer's income. In fact, we can establish arelation between the consumer income and the demand at different levels of income, commodity demand goes up when income rises and down when income falls. However, in case of Giffen goods the relationship is the opposite.

3. **Price of Related Goods:** The demand for a commodity is affected by the changes in prices of the related goods also. Related goods can be of two types:

    a. **Substitutes:** These can replace each other in use; for example, tea and coffee is substitutes. The change in price of a substitute has effect on a commodity's demand in the same direction in which price changes. The rise in price of coffee shall raise the demand for tea.

    b. **Complementary Goods:** These are those, which are jointly demanded, such as, pen and ink. In such cases, complementary goods have opposite relationship. If price of pens goes up, their demand is less because of which the demand for ink is also less. The price and the demand go in opposite direction. The effect of changes in prices of a commodity on amount demanded of related commodities is called cross demand.

4. **Change in Tastes of the Consumers:** The amount demanded also depends on consumer's taste. Taste includes fashion, habit, customs, etc. A consumer's taste is also affected by advertisement. If the taste for a commodity goes up, its amount demanded is more even at the same price. This is called increase in demand. The opposite is called decrease in demand.

5. **Amount of Wealth:** The amount of a commodity is also affected by the amount of wealth as well as its distribution. The wealthier are the people, higher is the demand for normal commodities. If wealth is more equally distributed, the demand for necessities and comforts is more. On the other hand, if some people are rich, while the majority is poor, the demand for luxuries is generally higher.

6. **Increase in Population:** Increase in population increases demand for necessities of life. The composition of population also affects demand. Composition of population means the proportion of young and old and

children as well as the ratio of men to women. A change in composition of population has an effect on the nature of demand for different commodities.

7. **Government Policy:** Government policy affects the demand for commodities through taxation. Taxing a commodity increases its price and the demand goes down. Similarly, financial help from the government increases the demand for a commodity while lowering its price.

8. **Consumers Expectations Regarding the Future:** If consumers expect changes in price of a commodity in future, they will change the demand at present even when the present price remains the same. Similarly, if consumers expect their incomes to rise in the near future they may increase the demand for a commodity just now.

9. **Climate and Weather of Area:** The climate of an area and the weather prevailing there has a decisive effect on consumer's demand. In cold areas, woolen cloth is demanded. During hot summer days, ice is very much in demand. On a rainy day, ice cream does not have a great demand.

10. **Business Conditions:** The level of demand for different commodities also depends upon the business conditions in the country. If the country is passing through boom conditions, there will be a marked increase in demand. On the other hand, the level of demand goes down during depression.

1.2.4 Classifications of Demand

Important bases of classification, of demand are nature of goods, duration of consumption of a commodity, period of demand, nature of use of the commodity, number of consumers of a commodity, supplies of commodity, etc. Important classifications of demand are as under:

- Derived demand and autonomous demand.
- Industry demand and company demand.
- Individual demand and market demand.
- Total market demand and market segment demand.
- Short-term demand and long-term demand.
- Producers' goods demand and consumers' goods demand.

A. Derived Demand and Autonomous Demand

Derived Demand: When a product is demanded due to the demand of any parent product, it is called derived demand. It is the demand for a product associated with the demand of some other product. For example, the demand of bricks, cement, and iron and so on is a derived demand because it is directly related with the construction of buildings. Similarly, the demand for petrol, diesel, brake-oil and mobile oil etc., is a derived demand because it is associated with the demand of auto-vehicles. Demand for all the raw materials is also derived demand, because it is associated with the production of some other products.

Derived demand facilitates forecasting when proportion of two products is fairly fixed. For example, if the demand of auto-vehicles decreases, the demand of tyre, tube, petrol, diesel, etc., is bound to decrease. However, in some cases, derived demand does not provide a very reliable basis. For example, demand of looms in cotton textiles industry is determined by the demand of cotton textiles. However, it may not be a correct indicator of the demand of looms, because the looms may be used in double or triple shifts. Thus, if the proportion between parent and dependent goods is not fixed, it is difficult to forecast the demand for dependent goods based on demand of parent goods.

Autonomous Demand: When demand of a product is independent and not associated with the demand of any other product, it is called autonomous demand. For example, the demand of house, clothes, cycle, scooter, car, food grains, fruits, vegetables, etc., is autonomous and quite independent as these goods are meant for direct consumption by consumers.

Thus, derived demand depends upon autonomous demand, which has its own independent existence. The distinction between derived demand and autonomous demand is only a matter of degree and not of quantity. In real life, no product has a completely independent demand. For example, the demand of clothes is independent but if the prices of raw material being used in the manufacture of cloth decrease, it will cause a decline in the price of cloth and due to the decline in prices of raw materials, demand of cloth will increase. Thus, the demand of cloth is influenced by the prices of raw material being used in its production. Therefore, while a derived demand is determined by autonomous demand the latter is also influenced by derived demand to some extent.

B. Industry Demand and Company Demand

Industry Demand: Industry Demand means the total demand for the products of all the units of a particular industry. It is the total demand for the products of a particular industry. In industry, it means a group of firms producing same products or the products that are close substitute for each other. Thus, industry demand includes the demand for a particular product and demand for the products that are close substitute for each other. For example, the demand of motor bikes in the country will be called industry demand.

Company Demand: Company demand means the demand for the products of a particular firm. For example, the demand of Bajaj Pulsar motorbike is a company demand. Similarly, the demand of Birla White cement is a company demand.

This relationship can be illustrated with the help of an example. While demand of motorbikes in the country during a particular time will be called industry demand, the demand of Bajaj Pulsar motorbikes is the example of company demand. Similarly, while total demand of ceiling fans in the country during a particular time will be called industry demand and the demand of Usha fans, Khaitan fans, Polar fans, etc., are the examples of company demand.

C. Individual Demand and Market Demand

Market share of demand is the part of the total demand of a product or service product by an industry that has been captured by a particular company or enterprise of that industry. It establishes the relationship of demand of the goods produced by an individual company with the total demand of that industry. While company demand expresses the quantity of demand in absolute terms, market share of demand expresses the demand of a company in relative terms. For example, total demand of scooters in India is four lakhs per year and the demand of LML Vespa Scooters is 1 lakh per year, it means that the demand of LML Vespa is 25% of the total demand. Similarly, if total demand of cars is two lakhs per year in India and demand of Maruti Car is 40,000 per year, it can be said that the demand of Maruti Car is 20% of the total demand of market.

D. Total Market Demand and Market Segment Demand

Total market demand means the total demand of a particular product in the whole market. It includes the demand of a product by all the consumers of all the areas. When the market of a product is divided into different segments based on geographical area or consumers, the demand of each such segment is called market segment demand. For example, total demand of Onida TV Sets is four lakhs in a year. Onida Company has divided its market based on geographical area into five segments — eastern, western, northern, southern and central. Demand of these segments in 1996 is as follows: 60,000 sets in eastern region, 70,000 sets in western region, 1,20,000 sets in northern region, 50,000 sets in southern region and 1 lakh sets in central region. In this case, total demand of four lakhs TV Sets of Onida will be called total market demand and individual demand of all five regions will be called market segment demand.

The concept of total market demand plays an important role in forecasting the total demand for a product during a particular period. The concept of market demand is important for determining the pricing policy, sales promotion policy, distribution policy, etc., for the individual segments. The concept of market segment demand is helpful to the entrepreneur to employ his resources in most profitable areas.

E. Short-Term Demand and Long-Term Demand

Analysis of demand based on time is useful from the managerial point of view. Based on time, analysis of demand can be of two types — short-term demand and long-term demand. Short-term demand is immediately affected by a change in the price of product or service and in the income of many consumers. On the other hand, long-term demand of a product or service is the expected demand of that product or service in future. For example, if the price of cooking gas falls, its demand will increase in short-term because the consumers will prefer to use cooking gas in place of other sources of fuel. Long-term demand will increase as those who were using any other source of energy, will start using cooking gas.

While projection of short-term demand helps in preparing the plans of production, purchases, work force, inventory, etc., forecasting of long-term demand is helpful in planning of investments and long-term actions such as the expansion or contraction of production capacity.

F. Producers' Goods Demand and Consumers' Goods Demand

The nature of demand of producers' goods and consumers' goods is fundamentally different. While the demand of consumers' goods is influenced by the needs, tastes, fashion, income and preferences of consumers, the demand of producers' goods is influenced by the demand of consumers' goods, possibilities of industrial development, profitability of industries, level of activity of industries and government policy etc. Sometimes, it is difficult to differentiate between consumers' products and producers' products because some products may be called both consumers' products as well as producers' products, such as — sugar, coal, cotton, etc. These products are consumers' products when used in a family. These are called producers' goods when used in an industry to produce other goods and services.

1.2.5 Consumer Goods and Capital Goods

Meaning of Consumer Goods:

Consumer goods are those that are purchased for the purpose of consumption or use, such as bread, butter, pulses, wheat, ghee, salt, clothes, books, stationery, cycle, scooter, car, etc.

Classification of Consumer Goods: Consumer goods can be classified as follows:

- **Durable Consumer Goods:** These goods are used for a long-time and repeatedly. These goods provide repeated services to the consumers. Clothes, cycle, scooter, car, house, gas-stove, fan, furniture, tube-light, etc., are the examples of durable consumers' goods.
- **Non-durable Consumer Goods:** Non-durable consumer goods are those that are used only for a single time. These cannot be used again for the same purpose. Examples: bread, butter, ghee, salt, sugar, milk, tea, kerosene oil, cooking gas, flour, etc. which end with their consumption.

Meaning of Capital Goods:

Capital goods or products are those that are used in the production of other goods. These are meant for production and not for consumption, such as — raw materials, coal, cement, iron, fertilizer, chemicals, etc.

Types of Capital Goods

- **Durable Capital Goods:** Durable capital goods are the capital goods that can be used for production purposes for more than the one time. For example, machines, equipmentsand tools are durable capital goods because they can be used repeatedly for producing other goods.
- **Perishable Capital Goods:** Perishable capital goods are of non-durable nature. These can be used for production purposes only for one time and cannot be used again. For example, coal, cement, cotton, gas, fertilizers, seeds and other raw materials are perishable capital goods because these can be used only once.

Nature of Demand of Capital and Consumer Goods

- The demand of these goods is derived demand because it depends upon the demand of the goods and services for the production of which they are demanded.
- Some capital goods may be consumer's goods also. For example, sugar is a capital good when it is used for preparing sweets but when it is used in a family for consumption it is a consumer good. Similarly, coal is capital good when used in factories but it becomes a consumer good when used in a family.

Check your progress 1

1. Bread, butter, pulses, wheat, ghee, saltare examples of_____

   a. Capital goods

   b. Consumer goods

1.3 Law of Demand

A. The Law of Demand

In economics, the law of demand is an economic law that states that consumers buy more of a good when its price decreases and less when its price increases. The greater the amount to be sold, the smaller the price at which it is offered must be in order for it to find purchasers.

Dr. Alfred Marshall in his book "The Principle of Political Economy" has stated the law of demand, which explains the day-to-day experience in a common person's life.

According to this law, if other conditions remain constant, with increase in price, demand for the commodity will diminish. This is because at higher price the consumer gets less utility. While, with decrease in price, the consumer will derive more utility and therefore, demand for a commodity will have rising tendency.

"If the price of the good increases, the quantity demanded decreases, while if price of the good decreases, its quantity demanded increases".

This law can also be explained with the help of demand schedule and demand curve.

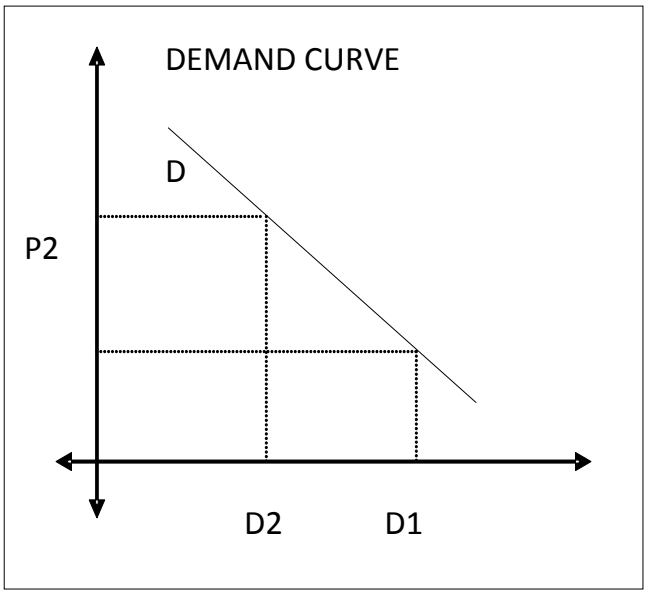
B. Demand Schedule

It is the table showing how much will be demand at different price levels.

Price Rs.	**1**	**2**	**3**	**4**	**5**
Units Demanded	**50**	**40**	**30**	**20**	**10**

C. Demand Curve

When we represent the demand schedule geometrically i.e. in the form of a diagram, we get demand curve which has negative slope because of inverse relationship.



PRICE	DEMAND
OP	OM
OQ	OK
PQ	MK
QP	KM

Fig 1.1 Demand Curve

In the diagram, 'X' axis represents demand for the commodity, while 'Y' axis represents price of the commodity. D is the demand curve. When price of the commodity is P1, demand for the commodity is D1. When price rises by P2 amount (to OQ), demand for the commodity falls by D2 amount (to OK). On the other hand, when price of the commodity falls by P1 amount (i.e. to OP) the demand for the commodity rises by D1 amount (i.e. to OM). Thus, there is 'inverse relation' between price and demand.

Form the above discussion, we can mention the following important points:-

- There is inverse relationship between price and demand.
- The demand curve has negative slope.
- Demand curve slopes downward, from left to right.

D. Assumptions

This law will be applicable only when certain conditions are constant. These are:

- The level of income of a person must remain constant.
- Tastes and habits of the people do not change.
- Prices of substitute and complementary goods and services remain constant.

- Quality of the product remains constant.
- Population remains constant.
- People do not expect changes in future prices.
- Supply of money remains constant.
- There is stability in the economic growth rate.

E. Exceptions to the Law of Demand

- Giffen's Paradox: It was for the first time, the British economist Prof. Giffen showed the direct relationship between price and demand for inferior goods.

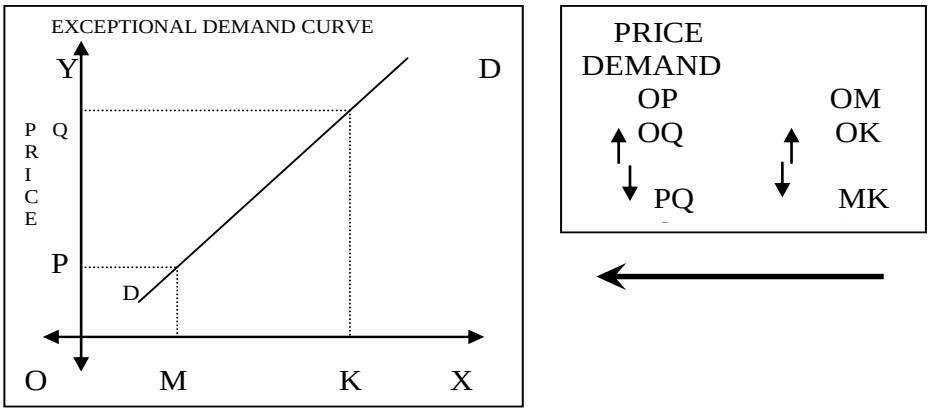


Fig 1.2 Exceptional demand curve

In case of inferior goods, if price decreases the demand for those goods decrease and with increase in price demand for inferior goods increase.

- **Luxurious commodities:** It is general experience that although prices of luxurious commodities are increasing, their demand is also increasing. Example: Gold
- **Necessities:** In case of necessary commodities, law of demand is not applicable. Some commodities like salt are so much necessary that with change in price of these commodities, their demand does not change.
- **Fashionable goods:** In case of fashionable goods, law of demand is not applicable. During the period of fashion even though price of the commodities increases, its demand is also increasing. On the other hand,

when the fashion becomes out date even though its price decreases, demand is also decreases.

F. Extension and Contraction in Demand/Variation in Demand

According to law of demand, there is inverse relationship between price and demand. When there is change in demand due to change in price, other factors being constant, there is extension or contraction in demand.

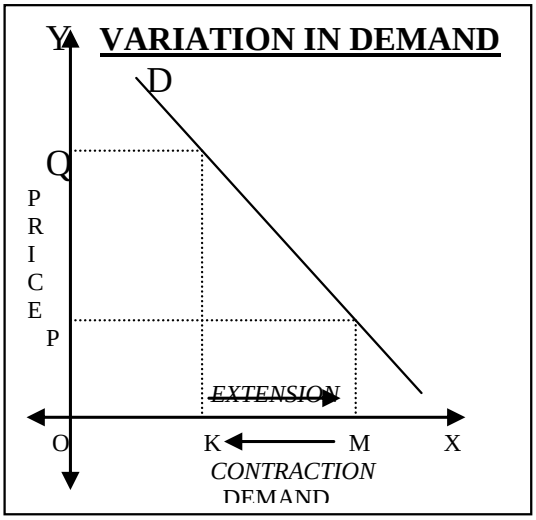


Fig 1.3 Variation in demand

In the above diagram, 'X' axis represents demand, while 'Y' axis represents, price. When price increases from OP to OQ, demand for the commodity contracts From OM to OK.If price decreases from OQ to OP; demand for the commodity extends from OK to OM.

Thus other factors being constant, if price increases, demand for the commodity contracts and if price decreases demand for the commodity extends.

G. Increase and Decrease in Demand/Changes in Demand

At constant price if other factors changed, it results into increase or decrease in demand.

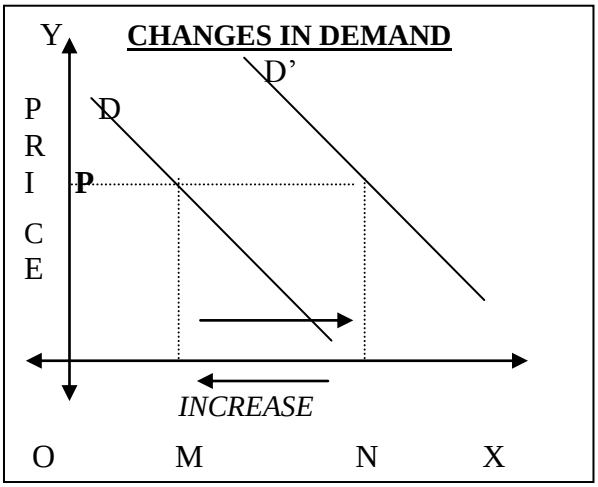


Fig 1.4 Changes in demand

In the above diagram price of the commodity is constant at OP. However, if other factors like, income, demand for the commodity will also increase from OM to ON. On the other hand, if income decreases demand for the commodity will also decrease from ON to OM. Thus, when price is constant, if other factors change, it results into increase or decrease in demand.

Thus, price being constant, with change in other factors, if demand falls, it is called decreases in demand; and if demand rises, it is called increase in demand.

Check your progress 2

1. Law of demand was given by _____.

   a. Dr. Alfred Marshall c. Adolf diesel

   b. Alfred Nobeld. Rudolf hitler

1.4 Elasticity of Demand

1.4.1 Concept of Demand

Alfred Marshall's law of demand explains the inverse relationship between price and demand. The theory of utility explains why the relationship is inverse. However, with increase in price, by how much, amount demanded will change is explained with the help of elasticity of demand.

Meaning of Elasticity of Demand

Elasticity of demand is a demand relationship in which any given percentage change in price will result in a larger percentage change in the quantity demanded. The more demand expands or contracts after a price change the greater the elasticity. For example, if a 'good' has a close substitute such as chicken substituted for steak the steak is 'elastic'. If the price for steak increases, consumers can choose something else to satisfy their dinner meal. However to fully understand elasticity of demand an example of inelasticity of demand is needed. Milk is usually said to be inelastic because there is no close substitute. (It is true there is powdered and condensed milk but these 'goods' are not powerful enough to affect demand for milk). Even if the price of a gallon of milk goes up consumers will still purchase the milk. Usually consumer decides between luxuries and necessities.

Definition of Elasticity of Demand

The concept of elasticity of demand can be defined as "the degree of responsiveness of demand to given change in price of the commodity demand". This means amount through which demand will change with given change in price, is explained with the help of elasticity of demand.

Formula for Calculation of Elasticity of Demand

Elasticity of demand can be calculated with the help of following formula: Elasticity of Demand = Percentage change in demand/Percentage change in price

$$= \frac{\frac{\Delta D}{D} \times 100}{\frac{\Delta P}{P} \times 100}$$

$$= \frac{\frac{\Delta D}{D}}{\frac{\Delta P}{P}}$$

$$= \frac{\Delta D \times P}{D \times \Delta P}$$

$$= \frac{\Delta D \times P}{\Delta P \times D}$$

Thus, elasticity of demand is the ratio of percentage change in demand to percentage change in price.

The degree of elasticity of demand depends upon the nature of commodity. Demand for necessary commodity is less elastic while demand for luxurious commodities is more elastic.

1.4.2 Types of Elasticity of Demand

Accordingly, we can mention five types of elasticity of demand.

1) Inelastic demand 2) Less elastic demand 3) Unitary elastic demand 4) More elastic demand 5) Perfectly elastic demand

1) Inelastic demand: Demand for the commodity is said to be inelastic when even though price of the commodity changes, demand for the commodity does not change. This means that in spite of change in price, demand for the commodity is constant. This can be explained with the help of following diagram.

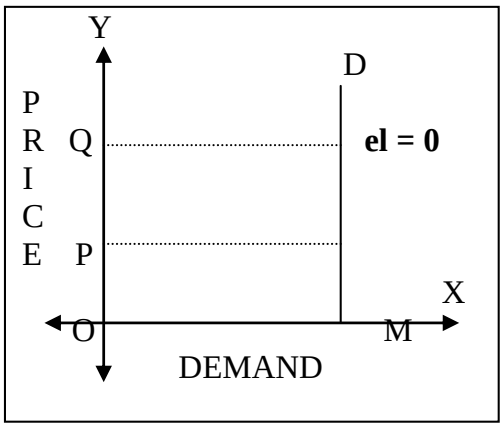


Fig 1.5 Inelastic demand

In the above diagram, 'D' is the demand curve, which represents inelastic demand. Even though price changes from OP to OQ or from OQ to OP, demand for the commodity is same i.e. OM. Thus in this case demand is not at all responding to change in price and i.e. why elasticity of demand is equal to zero (el = 0)

2) Less elastic demand: Demand for the commodity is said to be less elastic when the degree of change in demand is less than the degree of change in price i.e. amount of change in price is more while amount of change in demand is less as compared to change in price. This is called as 'less elastic demand', which can be explained with the help of following diagram.

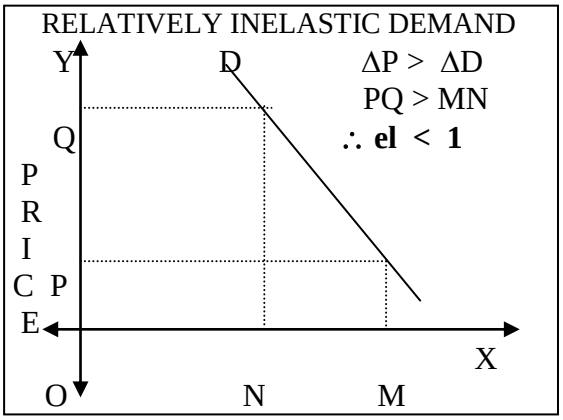


Fig 1.6 Less Elastic Demand

In the diagram, D is the Demand curve that shows less elastic demand. The change in price i.e. PQ is greater than the change in demand i.e. MN. This means that the response of demand to change in price is less that is why it is considered as less elastic demand, which is always less, then one, as in the case of necessary commodities.

3) Unitary elastic demand: When responsiveness of demand to change in price is exactly equal to given change in price, it is called as 'unitary' elastic demand. This means that change in demand is exactly equal to change in price. This is can be explained with the help of following diagram.

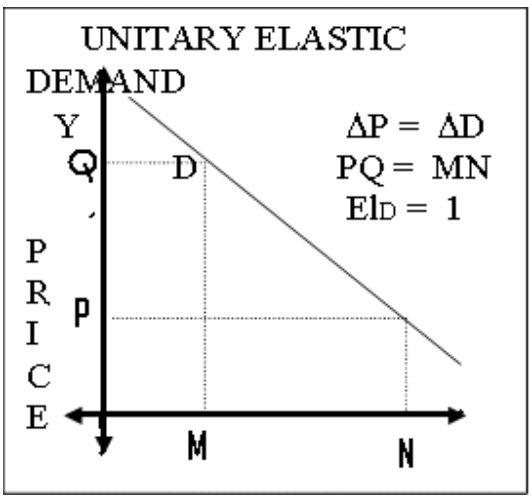


Fig 1.7 Unitary elastic demand

In the diagram, D is the demand curve representing unitary elastic demand. Demand for the commodity changes by MN amount, which is exactly equal to change in, price i.e. PQ. Thus, the response of demand is equal to change in price i.e. PQ. Thus, in this case elasticity in demand is equal to one.

4) More elastic demand: When responsiveness of demand is more in relation to change in price it is considered demand that is more elastic. In this case, change in demand is more related to change in price. This can be explained with the help of a diagram.

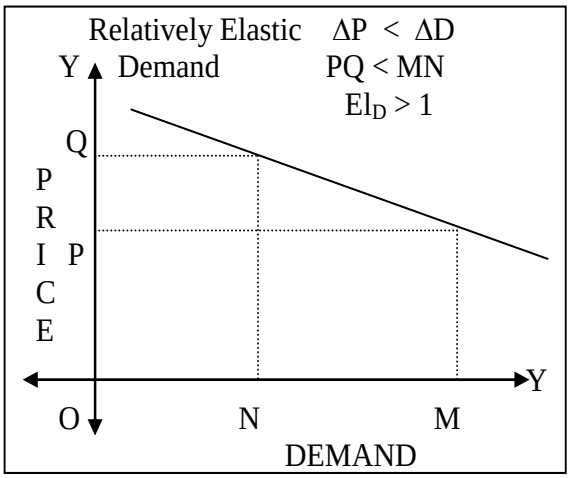


Fig 1.8 More elastic demands

In the above diagram, demand curve is more flat representing more elastic demand. Change in price from P to Q results in change in demand from M to N but change in price is less than change in demand that is why it is considered more elastic demand. It is always greater than one (El > 1). E.g. luxurious commodities.

5) Perfectly elastic demand: When very minute change in price results into drastic change in demand, it is considered as perfectly elastic demand curve. This can be explained with the help of the diagram:

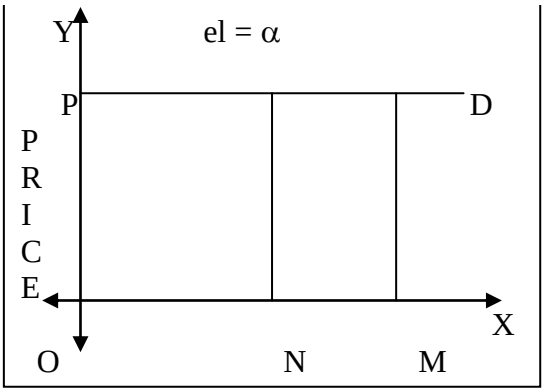


Fig 1.9 Perfectly elastic demand

In the above diagram, D curve represent perfectly elastic demand. Little change in price will result into change in demand, which cannot be represented with the help of some demand curve. Here, elasticity of demand is infinite.

1.4.3 Determinant Factors of Elasticity of Demand

The following are the determining factors:

a) Urgency of wants:

- If the desire for a commodity were very strong, then the demand would be inelastic e.g. habituated goods like cigarettes.
- Less urgent the want, greater the elasticity of demand e.g. eating in a posh restaurant occasionally.

b) Nature of commodity:

- Necessities (e.g. basic food, salt, etc.) have a relatively inelastic demand.
- Luxurious goods (like diamonds, jewels, VCRs, etc.) have a relatively elastic demand.

c) Availability of substitutes:

- If no substitutes were available then the demand would be inelastic, e.g. chalk for blackboards have no substitutes.
- If substitutes were available, then the demand would be elastic, e.g. tea and coffee.

e) **Number of uses:**

- More restrictive the use of a commodity, lesser the degree of elasticity
- Commodities with multiple purposes will have a greater elasticity e.g. coal or electricity or wood because consumers would prioritise their uses and satisfy only the most important ones first and forego the less important ones.

e) Proportion of income spent:

- Lesser the proportion of the income spent, lesser the degree of elasticity e.g. the purchase of cereals by the middle-income group.
- Greater the proportion of the income spent, greater the degree of elasticity, e.g. the purchase of luxuries by the middle-income group.

f) Price level of the commodity:

- If the price of the commodity were reasonably low, then the degree of elasticity would be less e.g. the demand for bread.
- If the price of the commodity is high, then the degree of elasticity would be high e.g. luxuries.

g) Durability of the commodity:

- Greater the durability of the commodity, lesser would be the elasticity of demand e.g. TVs, fridges, stereos.
- Lesser the durability of the commodity, greater would be the elasticity of demand e.g. vegetables, chalks.

h) Element of time:

- In the short run the demand for a commodity will be relatively inelastic, e.g. demand for perishable goods.
- In the long run, the demand for a commodity will be relatively elastic because consumers will be able to shift from the use of one commodity to a substitute commodity; since with the passage of time, substitutes will be discovered or invented e.g. people could shift from the use of the expensive china-ware to the cheaper plastic-ware.

1.4.4 Price Elasticity of Demand

Price elasticity of demand measures the percentage change in quantity demanded caused by a percent change in price.As such, it measures the extent of movement along the demand curve. This elasticity is usually negative and is usually expressed in terms of absolute value. If the elasticity is greater than one, demand is said to be elastic; between zero and one demand is inelastic, and if it equals one, demand is unit-elastic.

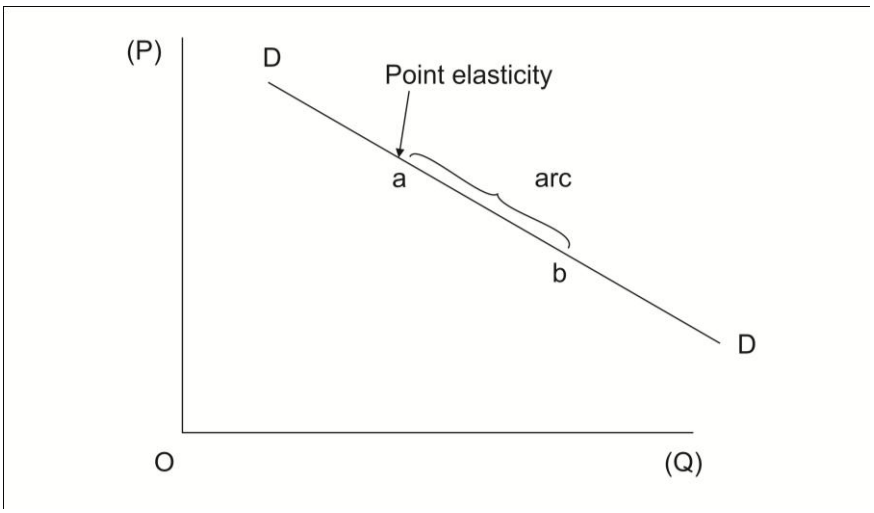


Fig 1.10 Price Elasticity of Demand

Price Elasticity is measured as:

$$e_{arc} = \frac{\Delta Q}{\Delta P} \times \frac{P_1 + P_2}{Q_1 + Q_2}$$

Where, P1 is initial price, P2 is new price. Q1 is initial demand. Q2 represents new demand.

$$\Delta P = P_1 - P_2$$
$$\Delta Q = Q_1 - Q_2$$

Illustration: When the market price changes from Rs.15 to Rs.25 the demand contracts from 100 units to 80 units

Arc/Price elasticity in this case is measured as under

$$P_1 = 15 \qquad Q_1 = 100$$
$$P_2 = 25 \qquad Q_2 = 80$$
$$\Delta P = 10 \qquad \Delta Q = -20$$
$$e_{arc} = \frac{-20}{10} \times \frac{15 + 25}{100 + 80}$$
$$= -0.44$$

Relatively Inelastic demand

Although the point method of measuring price Ed in quite simple, it is not very realistic as the demand schedules with infinite changes in price and quantity demanded are rarely available. Generally, in real life we come across demand schedules, which have gaps in price as well as in the quantity demanded. To get the closest value of Ed within this range, the arc method comes handy.

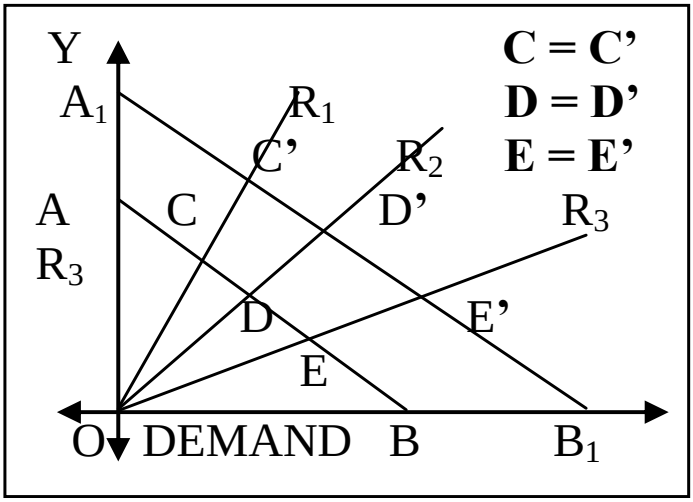


Fig 1.11 Relatively Inelastic demand

It should be noted that the arc elasticity of demand is an average elasticity, as it takes into consideration prices and quantities before as well as after the price change.

Certain characteristics of Price Elasticity of Demand

- If two demand curves are parallel to each other and a line is drawn through the origin, intersecting the two demand curves, then that line will cut the two demand curves at points of equal Ed.

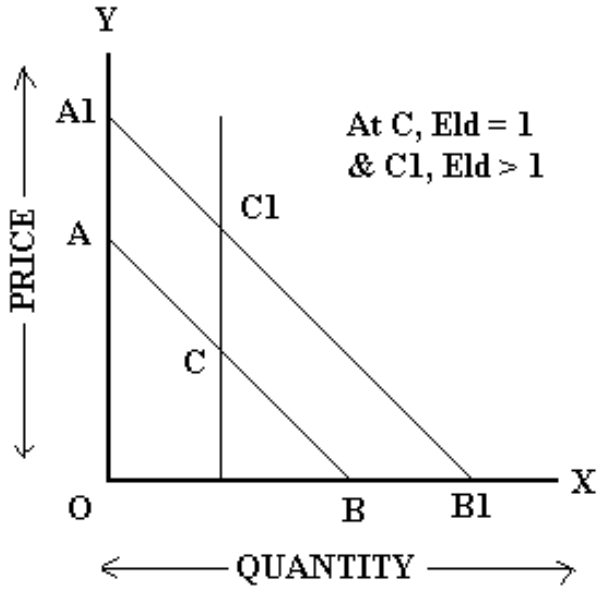


Fig 1.12 Price Elasticity of Demand

In the diagram above, it can be shown that on the two demand curves A and A1, the Eldat points: C = C1; A = A1; as well as at B = B1.

- If two demand curves are parallel to each other and a line parallel to the X-axis is drawn intersecting the two curves, then that line will cut the two demand curves at point of differing Ed.

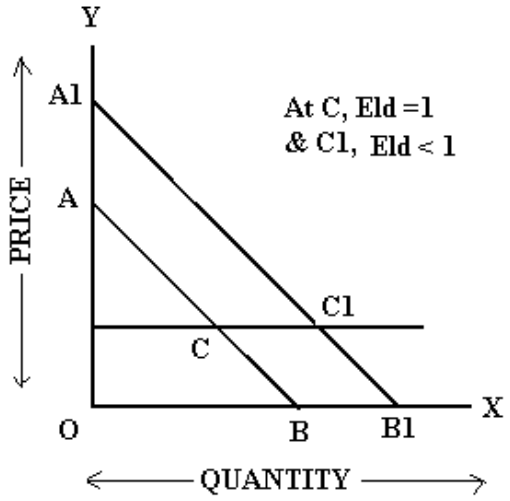


Fig 1.13 Price Elasticity of Demand

The Eldat points C and C1 are not the same; since Eldat C is less than that at C1.

- If two demand curves are parallel to each other and a line parallel to the x-axis is drawn intersecting the two demand curves, then that line will cut the two demand curves at points of different elastic ties of demand.

The Ed at points C and c1 are not the same; since that at C is more than that at C1.Factors determining price elasticity of demand

1.4.5 Income Elasticity of Demand

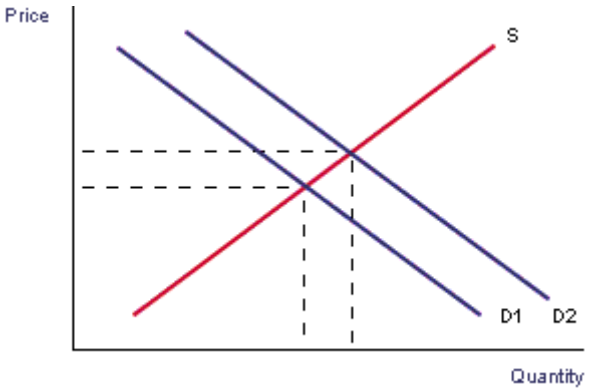


Fig 1.14 Income Elasticity of Demand

The income elasticity of demand for a commodity shows the extent to which a consumer's demand for that commodity changes because of the changes in his income. It is defined as "The ratio of proportionate change in the quantity demanded of the commodity to a given proportionate change in the income of the consumer".

Like Price Elasticity of Demand, we can classify Income Elasticity of Demand as follows:

- **Negative Income Elasticity of Demand:** This refers to the situation where a given increase in the consumer's income actually results in a fall in the quantity demanded. This is shown graphically in the figure above as (A).
- **Zero Income Elasticity of Demand (perfectly income elastic Demand):** This refers to the situation where a given increase in the consumer's income does not result in any increase in the quantity demanded. This is shown graphically in the figure above as (B).
- **Relatively Income Inelastic Demand:** This refers to the situation where a given increase in the consumer's income brings about a less than proportionate increase in the quantity demanded. This is shown graphically in the figure above as (C).
- **Unitary Income Elasticity of Demand:** This refers to the situation where given increase in the consumer's income brings about a proportionate increase in the quantity demanded. This is shown in graphically in the figure above as (D).
- **Relatively Income Elastic Demand:** This refers to the situation where a given increase in the consumer's income brings about a more than proportionate increase in the quantity demanded. This is shown graphically in the figure above as (E).

1.4.6 Cross Elasticity of Demand

The relationship between two commodities can be substitutive, complementary or even neutral. In the context of the first two relationships, the term cross elasticity could be defined as:

"The ratio of the proportionate change in the quantity demanded of commodity X to a given proportionate change in the price of the related commodity Y".

a) Substitutes

If the two commodities are substitutes of each other, then a rise in the price of Y (assuming that the price of X is constant), will bring about an increase in the demand for X, because the consumers will now substitute the dearer good Y with the now cheaper good X.

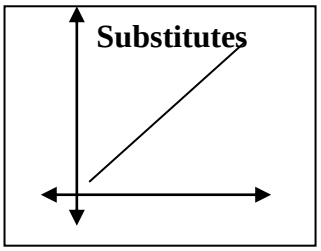


Fig 1.15 Cross Elasticity of Demand forsubstitute

Hence, the cross demand curve will have a positive slope as shown above. The cross elasticity is high in the case of close substitutes and is low in the case of poor substitutes.

b) Complements

If the two commodities are complements of each other, then a rise in the price of Y (assuming that the price of X is constant), will bring about a decrease in the demand for X. This happens because the consumer will drop his demand of the dearer good Y and so consequently also drop his demand for goods Y's supporting commodity viz., good X.

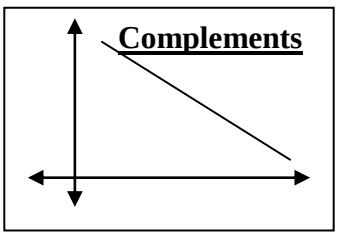


Fig 1.16 Cross Elasticity of Demand for complements

Hence, the cross demand curve will have a negative slope as shown above. The cross elasticity is high in the case of close complements and is low in the case

of poor complements. Thus, the cross elasticity in the case of jointly demanded commodities is negative.

c) Neutral Goods

If the two commodities are not related to each other at all, then cross elasticity of demand will be zero. A change in the price of commodity will not affect the quantity demanded of the other.

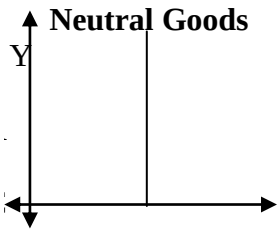


Fig 1.17 Cross Elasticity of Demand for neutral

Hence, demand curve will be parallel to the y-axis as shownabove.

Check your progress 3

1. The degree of responsiveness of demand to given change in price of the commodity demand is called _____.

   a. Law of demand c. Inelasticity ofdemand

   b. Elasticity of demandd. demand

1.5 Methods of Calculating Elasticity of Demand

Elasticity of demand means the degree of responsiveness of demand to a given change in price. Elasticity of demand helps to decide production policies. Therefore, by using three different methods elasticity of demand is measured.

a) Ratio Method: While calculating elasticity of demand through this method we make use of demand schedule where we considered two factors - price and demand.

According to this method, elasticity of demand is the ratio of percentage change into demand and price. Thus, with the help of formula we can derive elasticity of demand as follows:

$$\text{Elasticity of Demand} = \frac{\text{Proportionate change in quantity demanded}}{\text{Proportionate change in price}}$$

If the value of this formula is equal to one, it will be considered unitary elastic demand.

If the value of this formula is more than one, it will be considered 'more elastic demand'. If the value is less than one, it is considered 'less elastic demand'. With the help of this method, we can measure the exact value of elasticity of demand.

b) Expenditure Method: While calculating elasticity of demand through this method we do not consider demand for the commodity. In this method, we consider two factors those are price of the commodity and expenditure incurred on the commodity. Thus, even though we do not know demand schedule, we can also calculate elasticity of demand by considering price and expenditure on the commodity. According to this method:

- If in spite of change in price expenditure on the commodity remains constant, it represents unitary elastic demand.
- If there exists a direct relationship between price and expenditure, it will be considered 'less' elastic demand.
- If there exists an inverse relationship between price and expenditure, it represents 'more elastic demand'. This can be explained with the help of the following diagram:

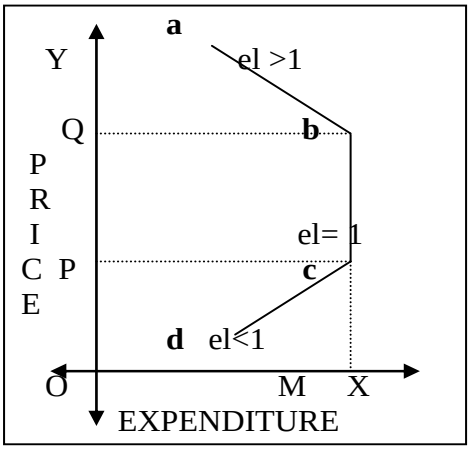


Fig 1.18 Price expenditure

In the diagram, ‘X’ axis represents expenditure on the commodity and ‘Y’ axis represents price of the commodity. 'AB', part of the expenditure curve represents inverse relation between price and expenditure. This shows 'more elastic demand'.

BC part of the expenditure curve indicates that in spite of change in price by PQ, expenditure on the commodity remains constant at OM. It represents unitary elastic demand. CD part of the expenditure curve indicates direct relation between price and expenditure, which shows less elastic demand.

c) Point Method: We must know the demand schedule if we want to calculate elasticity of demand through ratio or expenditure method. However, if only demand curve is given, we make use of point method for calculating elasticity of demand.

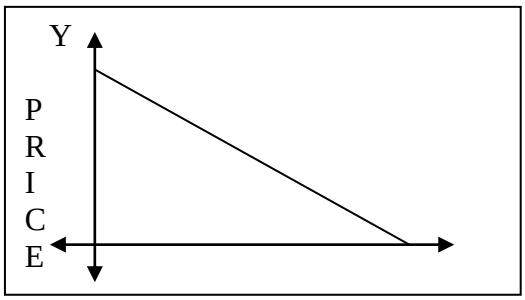


Fig 1.19 Point method for calculating elasticity of demand

In this method, we use following formula:

$$\text{Elasticity of Demand} = \frac{\text{Distance of given point from X axis}}{\text{Distance of given point from Y axis}}$$

In the above diagram on MP, demand curve ‘A’ is the midpoint representing same distance from both axes. At point ‘A’, elasticity of demand is equal to one, which means it is unitary elastic demand. Every point on ‘AM’ part of the demand curve represents 'less elastic demand' while every point on ‘AP’ part of the demand curve represents 'more elastic demand'.

Check your progress 4

1. If the value of elasticity of demand is equal to one, it will be considered_____elastic demand

   a. Unitary c. Direct

   b. Cross d. Indirect

1.6 Importance of Elasticity of Demand

The importance of the study of elasticity of demand can be discussed in two parts.

1. **Theoretical importance**
2. **Practical importance**

1. Theoretical importance :

From the theoretical point of view, by studying the elasticity of demand, we know that price variations in commodities at different occasions or time, affect the demand of persons of different classes of society.

2. Practical Importance

From practical point of view, the study of elasticity of demand is important for monopolists, traders, industrialists and finance minister of a country.

a) Importance to Monopolist: By studying the elasticity of demand, a monopolist can decide the price at which the demand for his commodity will be maximum and the price at which by selling his commodity he will get maximum profit. The general rule is that:

- If the demand for commodity is inelastic or less elastic, the monopolist can increase its price and earn more profit because as the demand is inelastic the demand will not decrease though the price has increased.
- On the other hand, if the demand is highly elastic the monopolist will have to keep low price and he will have to increase production because in such conditions, more units of the commodity would be sold at low price and his total profit is maximum. It is not advantageous for the monopolist to keep high price of that commodity whose demand is elastic or highly elastic.

b) Importance to Traders and Industrialists: The study of elasticity of demand is also important for traders and industrialists. The general rule is that:

- If the demand for the commodity is inelastic or less elastic, the traders and industrialists can keep high price because though the price is high the demand will not be less because the demand is inelastic.

- On the other hand, if the demand is elastic or highly elastic the traders and industrialists will have to keep low price and sell more or produce more.

c) Importance to Finance Minister: The finance minister imposes tax on different commodities. While imposing tax on a commodity the finance minister has to take into consideration the nature of the elasticity of demand for a commodity. When the tax is imposed on it, the general rule is that:

- If the demand for a commodity is inelastic or less elastic, the finance minister can impose tax on that commodity because though its price increases due to the imposition of tax its demand will not decrease because its demand is inelastic. The government will not lose the revenue from tax.

On the other hand, if demand of a commodity is elastic or highly elastic the finance minister will not be able to impose too much tax on that commodity because as demand is elastic the demand will fall because its price increases due to the imposition of tax. In such condition, the government will lose the revenue from tax.

Check your progress 5

1. If demand of a commodity is elastic or highly elastic the finance minister will _____able to impose too much tax on that commodity.

   a. not be

   b. be

1.7 Some Analytical Cost Concepts

1) Fixed and Variable costs

Fixed Cost: Fixed costs are those, which are fixed in volume for a certain given output. Fixed cost does not vary with variation in the output between zero and a certain given level of output. In other words, costs that do not vary for a certain level of output are known as fixed cost. Fixed costs include:

i. Cost of managerial and administrative staff

ii. Depreciation of machinery, building and other fixed assets

iii. Maintenance of land, etc.

The concept of fixed cost is associated with the short run.

Variable Cost: Variable costs are those, which vary with the variation in total output. Variable costs include cost of raw material, running cost of fixed capital, such as fuel, repairs, routine maintenance expenditure, direct labour charges associated with the level of the output and the cost of other inputs that vary with output.

2) Total, Average and Marginal cost

Total Cost: Total cost (TC) is the total expenditure incurred on the production of goods and service. It refers to the total outlays of money expenditure, both explicit and implicit, on the resources used to produce a given level of output. It includes both fixed and variables cost. The total cost for a given output is given by the cost function.

Average Cost: Average cost (AC) is of statistical ratio it is not actual cost. It is obtained by dividing the total cost (TC) by the total output.

$$AC = \frac{TC}{Q}$$

Marginal Cost: Marginal Cost (MC) is the addition to the total cost because of producing one additional unit of the product. Alternatively, marginal cost is the cost of the marginal unit produced. Marginal cost is calculated as TCn – TCn—1, where n is the number of units produced.

Total, average and marginal cost concepts are used in the economic analysis of firm's production activities.

3) Short-Run and Long-Run Costs

Short-run and long-run cost concepts are related to variable and fixed costs, respectively and often figure in economic analysis interchangeably.

Short Run Cost: Short–run costs are the costs, which vary with the variation in output, the size of the firm remaining the same. In other words, short run costs are the same as variable costs.

Long Run Cost: Long–run costs, on the other hand, are the cost, which are incurred on the fixed assets like plant, building, machinery, etc. It is important to

note that the running cost and depreciation of capital assets are included in the short– run or variable costs.

Long–run costs are by implication the same as fixed costs. However, in the long run, the fixed costs become variable costs as the size of the firm or scale of production increases. Broadly speaking, the short run costs are those associated with variables in the utilisation of fixed plant or other facilities whereas long-run costs are associated with the changes in the size and kind of plant.

Check your progress 6

1. _____costsare the costs, which vary with the variation in output, the size of the firm remaining the same.

   a. Short–run

   b. Long run

1.8 Law of Supply and Supply Curve

Supply of the commodity is another important factor-influencing price of the commodity.

Supply can be defined as "that much quantity of commodity which a producer or seller is willing and able to sell at given price level".

This definition implies that supply is not the total production but it represents only that much quantity, which is the seller is willing to sell as well able to sell at given price level. The concept of supply is different from that of stock.

1.8.1 Law of Supply

With law of demand, Marshall also stated the law of supply as follows: According to the law, if price of the commodity rises, supply of the commodity also rises because with rising price the seller enjoys more and more profits. On the other hand, with decline in price, profits of the seller also decrease because of which he is ready to sell less and less quantities.

1.8.2 Supply Curve

The relationship between supply and price can be explained with the help of supply schedule and supply curve.

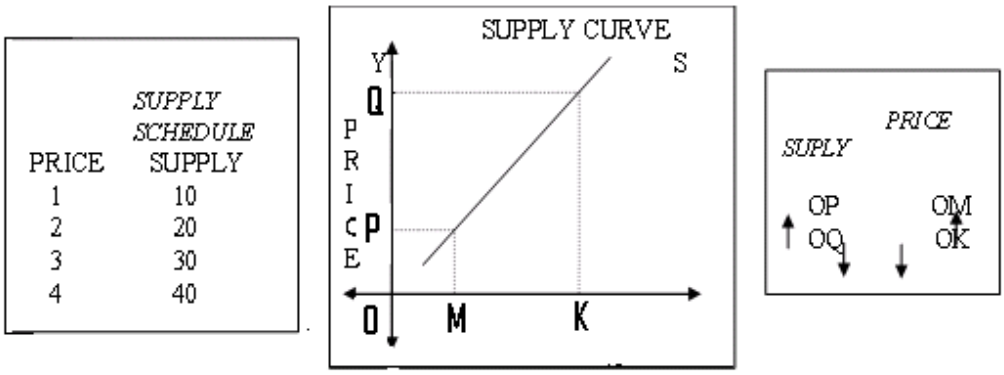


Fig 1.20 Supply curve

In the above diagram 'X' axis represents supply while 'Y' axis represents price of the commodity. 'S' is the supply curve representing different levels of supply at different prices. When price of the commodity is OP, supply is OM. As the price increases from OP to OQ, supply of the commodity increases from OM to OK.If the price of the commodity decreases by QP, supply of the commodity also decreases by KM.

Importance of Law of Supply

With the help of above explanations three importance are cleared:

- There exists direct relationship between price and supply.
- Supply curves slopes upwards from left to right.
- The slope of the supply curve is positive.

Assumptions of the Law of Supply

The law of supply is based on following assumptions:

- The cost of production remains constant.
- The technology remains constant.
- Government policies do not change.
- The prices of substitutes and complementary good and services are constant.
- Geographical conditions remain constant.

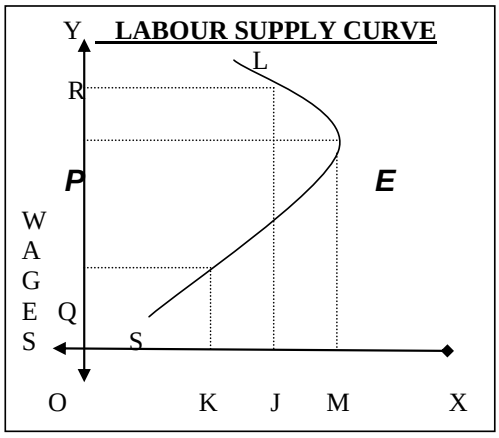
- Tastes and habits of the people do not change.

Exceptions to Law of Supply

Backward sloping supply curve: Law of Supply states that there exists direct relationship between price and supply. However, supply of labour is considered an exception to this law. This is because although up to certain limit labour supply is directly related to wages, after that limit it becomes inversely related to wages.

Labour is such a factor of production, which involves human element. The supply of labour not only depends on wages but also on willingness of the labour to work. The relationship of labour supply to price i.e. wages can be explained with the help of following diagram:

In this diagram, X-axis represents supply of labour and Y-axis represents price paid to labour i.e. wages. LS is the labour supply curve. On the LS curve, SE part of the curve represents direct relationship between labour supply andwages. OP is the level of wages up to which if wages increase supply of labour will also increase and with decrease in wages labour supply also decreases.



On the other hand LE part of the LS curve represents inverse relationship between labour supply and wages i.e. level of wages increases from OP to OQ the labour is ready to work for less hour from OM to OJ. Thus, beyond certain limit of wage level i.e. OP as wages increases, supply of labour decreases and vice-versa.

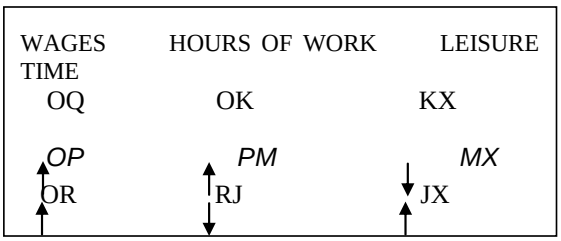


Fig 1.21 Labour supply curve

Causes of Changes in Supply

We cannot attribute changes in supply to changes in price, because when supply changes, in consequence to a change in price, it is called extension and contraction and not increase or decrease. In order to keep an account of increase or decrease in supply, we have to discover the factors, which brings about a change in the very conditions of supply. In other words, we must ascertain why supply expands or shrinks irrespective of the changes in price. The answer lies in the changes in the system of production. The following are some of the factors, which affect supply:

- **Natural Conditions:** If rainfall is plentiful, timely and well distributed, there will be bumper crops. On the contrary, floods, droughts or earthquakes and other natural calamities are bound to affect production adversely. This is one set of conditions, which brings about a change in the supply.
- **Technical Progress:** The volume of production or supply is also influenced by progress in the technique of production. In manufacturing industries, this is a very important factor. A new machine may have been invented, a new process discovered, a new material found, or perhaps a new use may have been found for a by-product. The discoveries of synthetic dyes, artificial rubber and wool are some such discoveries or improvements in technique.
- **Change in Factor Prices:** A change in the prices of the factors of production also brings about a change in the supply of the commodity. If the factors of production become cheap, the supply will increase and vice versa.
- **Transport Improvements:** Improvement in the means of transport reduces the cost and increases the supply of the product. Thus, conditions of supply change.
- **Calamities:** Calamities like war or famine must also affect the supply of goods. We are very familiar with the shortage of commodities caused by war and the dislocation of production by famine. Even at higher prices, adequate supplies are not forthcoming.
- **Monopolies:** Monopolists may deliberately increase or decrease the supply as it suits them. Thus, exercise of monopolistic power brings about a change in supply.
- **Fiscal Policy**: The fiscal policy of the government also may affect the supply. For instance, a higher import duty will restrict the supply and a lower duty will stimulate it.

Check your progress 7

1. That much quantity of commodity which a producer or seller is willing and able to sell at given price level is called _____

   a. Supply c. Law of supply

   b. Demand d. Law of demand

1.9 Let Us Sum Up

In this unit we have discussed the law of demand and indifference curve analysis in detail. Law of demand is considererd to be one of the most important laws of economis. This is one of the most basic laws of economics. In this block we have explained the concept of demand in very detail. The various factors that effect demand hae even been discussed in detail.In economics, demand has a particular meaning distinct from its ordinary usage.

In common language, we treat ‘demand’ and ‘desire’ as synonyms.

In Economics, demand refers to effective demand, which implies three things: 1) Desire for a commodity, 2) Sufficient money to purchase the commodity 3) Willingness to spend money to acquire that commodity.

Not only this this we discussed the various kinds of demand. We even discussed the differences between demand and law of demand and when a desire or want becomes a demand.

After going through this unit the students would have got a detailed insight of what are demand and various other things associated with demand.

1.10 Answers for Check Your Progress

Check your progress 1

Answers: (1-b)

Check your progress 2

Answers: (1-a)

Check your progress 3

Answers: (1-b)

Check your progress 4

Answers: (1-a)

Check your progress 5

Answers: (1-a)

Check your progress 6

Answers: (1-a)

Check your progress 7

Answers: (1-a)

1.11 Glossary

1. **Utility Goods -** Goods produced cheaply for the home market in a limited range of patterns or designs during the Second World War and the years immediately following.
2. **Utility Optimum -** A position in which the satisfaction of a community cannot be increased and the satisfaction of one member of the community cannot be increased without reducing the satisfaction of another.

1.12 Assignment

Define demand and differentiate demand from want and desire.

1.13 Activities

What is elasticity of demand explain it with suitable example.

1.14 Case Study

1. Conduct a survey at your local market and find out commodities that have huge supply in the market.
2. List out commodities in your city market that have greater demand despite high prices.

1.15 Further Readings

1. Business Economic, Micro and Macro, H.L Ahuja, S Chand & Company Ltd, 1999.
2. Development Theories and Growth Model, P. Sen, S Chand & Company Ltd. 1995.
3. Financial Management, M.Y.Khan, P.K. Jain, Tata McGraw –Hill Publishing Company Ltd. New Delhi, 1999.
4. Managerial Economics, R. Cauvers, S. Chand, 2009.
5. Principles of Economics, Seth, M.L,LakshmiNarainAgarwal, 2009.

UNIT 2: TECHNIQUE OF INDIFFERENCE CURVES - CONSUMER'S EQUILIBRIUM

Unit Structure

2.0 Learning Objectives

2.1 Introduction

2.2 Introduction: Theory of Consumer Behaviour

2.3 Indifference Curve Technique

2.3.1 The Concept of Scale of Preferences: Ordinal Utility

2.3.2 Characteristics of Scale of Preference

2.3.3 Indifference Schedule

2.3.4 Indifference Curve

2.3.5 Properties of Indifference Curve

2.3.6 Assumptions

2.4 Marginal Rate of Substitution

2.5 Budget Constraint: The Price-Income Line

2.5.1 Slope of Price line

2.5.2 Changes in Money Income and the Budget Lines

2.5.3 Changes in Prices and the Budget Lines

2.6 Consumer Equilibrium

2.7 Let Us Sum Up

2.8 Answers for Check Your Progress

2.9 Glossary

2.10 Assignment

2.11 Activities

2.12 Case Study

2.13 Further Readings

2.0 Learning Objectives

After learning this unit, you will be able to understand:

- The Indifference curve techniques.
- About Indifference map.
- Property of indifference map.
- Marginal rate of substitution.
- Price-income line.
- Concept of consumer equilibrium point.

2.1 Introduction

In microeconomic theory, an indifference curve is a graph showing different bundles of goods between which a consumer is indifferent. That is, at each point on the curve, the consumer has no preference for one bundle over another. One can equivalently refer to each point on the indifference curve as rendering the same level of utility (satisfaction) for the consumer. In other words an indifference curve is the locus of various points showing different combinations of two goods providing equal utility to the consumer. Utility is then a device to represent preferences rather than something from which preferences come. The main use of indifference curves is in the representation of potentially observable demand patterns for individual consumers over commodity bundles.

2.2 Introduction: Theory of Consumer Behaviour

Theory of Consumer Behaviour

The theory of consumer behaviour or the demand theory discusses the decision-making behaviour of the consumer in demanding a particular commodity.

Economists have offered their theories of consumer behaviour on the use of the measurement of utility. There are two major approaches regarding the measurement of utility, viz. cardinal measurement and ordinal measurement of utility. Accordingly, we have: (i) cardinal utility theory of consumer behaviour

and (ii) ordinal utility theory of consumer behaviour, popularly known as the indifference curve analysis.

In the present course, we shall discuss consumer demand behaviour using difference curve technique

Check your progress 1

1. There are two major approaches regarding the measurement of utility ____.

a. Cardinal measurement c. only a

b. ordinal measurement d. both a & b

2.3 The Indifference Curve Technique

The technique of indifference curves was created by Edgeworth in 1881 and its refinement was effected by Pareto, an Italian economist, in 1906. This technique, however, attained perfection and systematic application in the demand analysis at the hands of J.R. Hicks and R.G.D. Alien, in 1934. Professor Hicks, in fact, expounded and popularised the innovation of the indifference curve approach to the theory of demand in his value and published, in 1939.

2.3.1 The Concept of Scale of Preferences: Ordinal Utility

Indifference curves have been devised to represent the ordinal measurement of utility.

Professor Hicks introduced the concept of 'scale of preferences' of a consumer as the base of indifference curve technique. Hicks discarded the Marshallian assumption of cardinal measurement of utility and suggested ordinal measurement.

Ordinal measurement implies comparison and ranking without quantification of the magnitude or differences of satisfaction enjoyed by the consumer.

In the ordinal sense, utility is viewed as the level of satisfaction rather than an amount of satisfaction. The level of satisfaction is comparable but not quantifiable. Hicks say that it is possible to observe from experience and by

experiment the preferences which consumer displays when choosing between different goods. He however, asserted that people are not interested in any one commodity at a time as assumed by marginal utility approach. Generally, consumers at a time are interested in a number of commodities and they receive satisfaction from the combination of these commodities. Besides, they can always compare the level of satisfaction yielded by one particular combination of goods with that of another. In fact, the level of satisfaction is a function of increasing stock of goods. A larger stock of goods, apparently, yields a higher satisfaction than a smaller stock of goods would yield. Different levels of satisfaction yielded by different stock of goods is visualised and compared but their differences cannot be measured in a quantity. A rational consumer, obviously, prefers that stock or combination of goods, which yields a higher level of satisfaction than the one, which yields a lower one. Thus, the consumer can conceptually arrange goods and combinations in the order of their significance or the level of satisfaction. This conceptual (mental) arrangement of combination of goods and service set in the order of the level of significance is called scale of preferences.

A rational consumer seeks to maximise his level of satisfaction from goods he buys. Usually, he is confronted with combinations of many and may have several alternatives. He would certainly arrange them as per the different levels of satisfaction in order to decide priorities. Such conceptual ordering of different goods and their combinations in an order of preference is termed as scale of preferences. To illustrate point, let us refer to Table 5.1.

Order of preferences

Combinations between Apples and Bananas	**Level of Satisfaction Derived**	**Ranking-Order of Preference**
a) 12 Apples + 12 Bananas	Highest	1
b) 10 Apples + 10 Bananas	Lesser than (a)	2
c) 5 Apples + 5 Bananas	Lesser than (b)	3

The table shows that the consumer derives more satisfaction from consuming a larger stock of given goods. He/she accordingly assigns higher priority of choice to this stock. Thus, the first order of preference is assigned to

the stock (12 apples + 12 bananas) which yield the highest satisfaction and the second order of preference is given to the second combination and that which gives still lesser satisfaction is assigned the third order of preference and so on.

2.3.2 Characteristics of Scale of Preference

The scale of preferences has the following characteristics

- It is always drawn by a consumer in his mind, consciously or unconsciously.
- It is based on the subjective valuation of goods made by the consumer based on his likings, habits, taste, desires, intensity of wants and such other psychological factors.
- It is independent of the prices of goods and the consumer's income.
- It represents ordinal comparison of the level of satisfaction derived by the consumer from different combination of goods.
- Being a psychological concept, the scale of preference differs from person to person.
- The scale of preference considers the significance of commodities in the context of their stocks.

Hicks prefers to use the word 'significance' rather than 'utility' to show that his analysis is distinct from and superior to that of Marshall's.

2.3.3 Indifference Schedule

An indifference curve is based on an indifference schedule.

Definition: An indifference schedule is a list of alternative combinations in the stocks of two goods, which yield equal satisfaction to the consumer.

When a consumer lays down his scale of preference for different combinations of certain goods under consideration, he will rank them as per the higher and the lower level of satisfaction visualised in them. A combination, which is estimated to give the highest level of satisfaction, is assigned the first order preference. The combination yielding comparatively a lower degree of satisfaction is assigned the second order preference. The one yielding a still lower degree of satisfaction is assigned the third order of preference and so on.

However, the consumer may come across some combinations which yield the same level of satisfaction to him, such that he prefers them equally from a given order of preference. In such a case, he is said to be indifferent to such combinations of goods.

Indeed, a consumer is said to be indifferent between the various sets of combination of given goods when he experiences the same level of satisfaction or he finds the same position in his scale of preference for those set of goods. An indifference schedule constitutes a list of such combinations of given goods, which yields equal satisfaction to a consumer at a given level.

Illustration: To illustrate the point, for the sake of simplicity and geometrical convenience, we may consider groups of only two commodities. Say apples and bananas, in the case of our hypothetical consumer. We assume that the combinations of these goods yield equal level of satisfaction to him; hence, an indifference schedule is composed accordingly

Indifference table

Combination	Apples (X)	Bananas (Y)	Marginal Rate of Substitution(▲X/▲Y)
(a)	1	12	-------
(b)	2	8	-4/1=-4
(c)	3	5	-3/1=-3
(d)	4	3	-2/1=-2
(e)	5	2	-1/1=-1

Since, by definition, all these combinations given him the same level of satisfaction, the consumer is indifferent to any of these combinations whether he gets, a, b, c, dor e. He will be neither better off nor worse off whichever combination he has.

It must be remembered that an indifference schedule represents a part of consumer's 'scale of preferences'. The scale of preferences for a combination of goods will constitute different ranks of preference of given combinations, whereas at a given rank there may be certain combinations that may yield equal satisfaction. An indifference schedule represents only equal satisfaction

combinations at a particular order of preference while a scale preference represents all combinations yielding different as well as equal levels of satisfaction.

2.3.4 Indifference Curve

An indifference curve may be defined in the following words.

"It is a curve showing various combinations of two commodities, which gives equal satisfaction to consumer".

The consumer will give equal importance to all the combinations lying on the same indifference curve because by definition they show the same level of satisfaction for the consumer. If one combination gives him more satisfaction than the other does, he would surely prefer the former and these combinations cannot be on the same indifference curve. Thus, indifference curve shows those combinations of goods which give the consumer equal amount of satisfaction. Let us suppose that the following combinations of two commodities X and Y give the consumer same amount of satisfaction.

Combinations of two commodities X and Y

Combination	Good X	Good Y	Utility level
A	1	10	K
B	2	6	K
C	3	3	K
D	4	1	K

In the table combination A, B, C and D show the pairs of X & Y. All these pairs offer equal satisfaction for the consumer, which is equal to constant utility level K. Consumer will not prefer any combination over the other, therefore if he is to select any one combination he may take anyone of them happily.

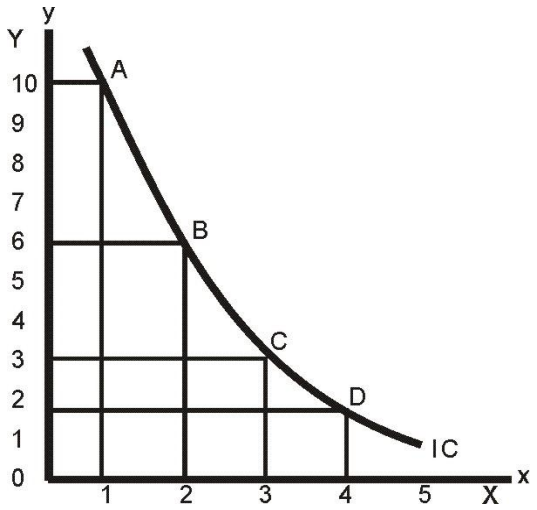


Fig 2.1 Indifference curve

If all the combinations having equal utility for consumer are plotted on a curve, that curve will be called an indifference curve.

In the diagram, we measure units of X along the x-axis and Y along y-axis and plot the points of A, B, C and D combinations. By joining these various points, we get the indifference curve IC.

2.3.5 Properties of indifference curve

Following are the important properties of indifference curve.

1. **Higher Indifference Curves show Higher Utility:** This property can be proved with the help of a diagram.

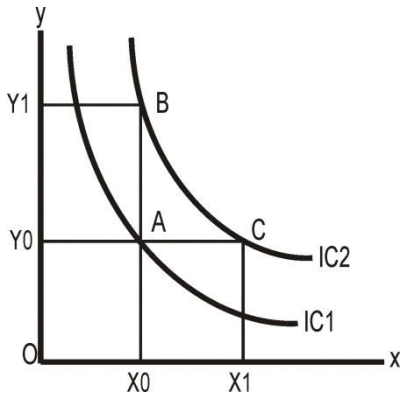


Fig 2.2 Indifference curves

In the diagram, two indifference curves IC1 and IC2 are plotted. The indifference curve IC2 is a higher curve than the indifference curve IC1. It can be seen that pairs B and C on IC2 show more utility level than point A on IC1.

If we compare pair B with A, it shows more units of Y with same units of X. Similarly, at point C more units of X are combined with same units of Y. Thus, a higher IC shows more quantity of goods and therefore shows higher satisfaction.

2. **Indifference Curves Do Not Intersect Each Other:** Each indifference curve represents a different level of satisfaction. Therefore, indifference curves cannot intersect each other.

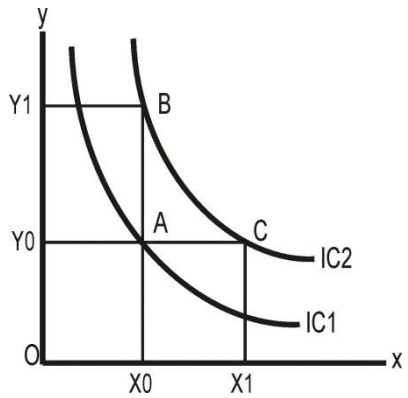


Fig 2.3 Indifference curves

In diagram there are two indifference curves IC1 and IC2 which intersect each other at point A and therefore at point A both the indifference curves show the same level of utility while on right side of point A, indifference curve IC2 shows more utility than IC1 because IC2 is higher than IC1.

On the left side of point A, the IC1 shows higher satisfaction than IC2. The three situations are not true at the same time therefore; two indifference curves cannot intersect each other.

3. **Indifference Curves have negative slope:** A curve may be parallel to Y-axis, parallel to X-axis, positively sloped or negatively sloped but an IC always has negative slope. This is shown in the diagram below.

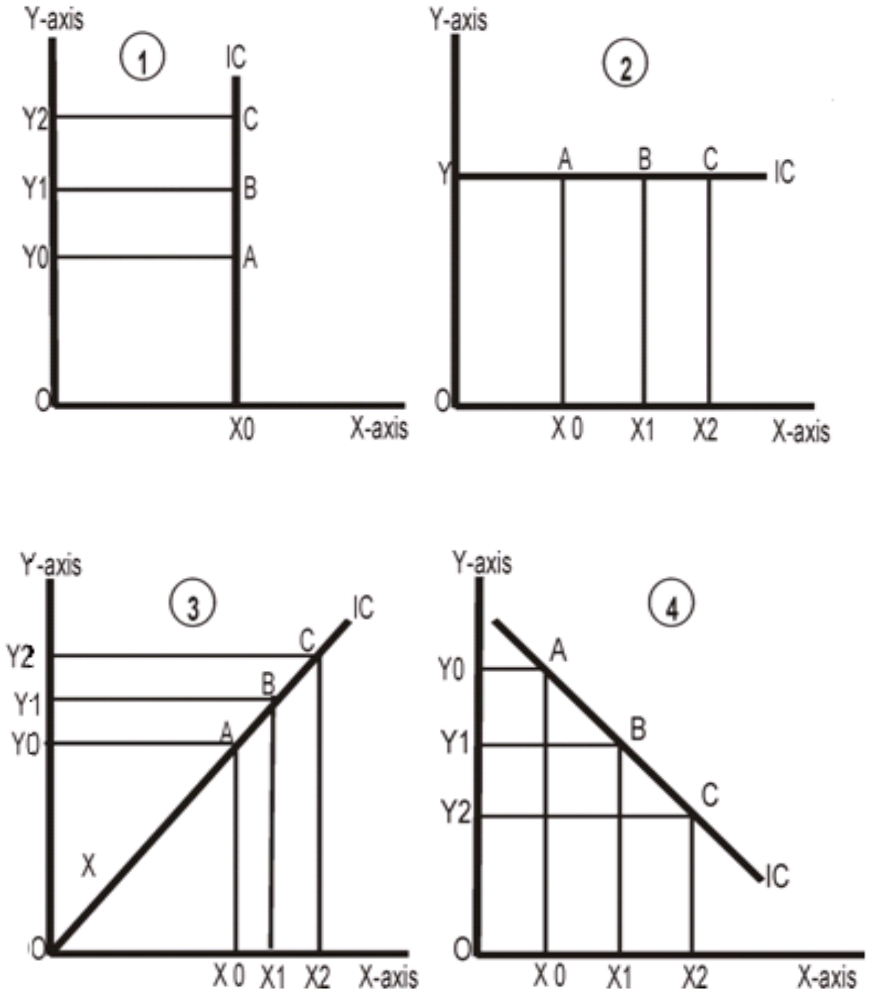


Fig 2.4 Indifference Curves

In the diagram, four different slopes of IC are plotted. The diagram shows that an IC cannot be parallel to Y-axis, parallel to X-axis and positively sloped because in all these conditions pairs B and C show more quantity of goods than pair A and therefore more satisfaction for consumer.

Indifference can only be negatively sloped as in figure 4 because on point 'B' and 'C' when units of X increase, units of Y good decrease, therefore it is possible that utility of these points will remain same.

4. Indifference Curves Are Convex To The Origin: The most important geometric property of indifference curves is that they are convex to the origin. To prove this property we use the concept of marginal rate of substitution (MRS).

MRS xy, is defined as number of units of Y commodity which must be given up to get one more unit of X commodity, provided total utility remains constant.

The MRS of one commodity in terms of other is always diminishing, this is known as principle off diminishing marginal rate of substitution. We can use following diagrams to prove this property.

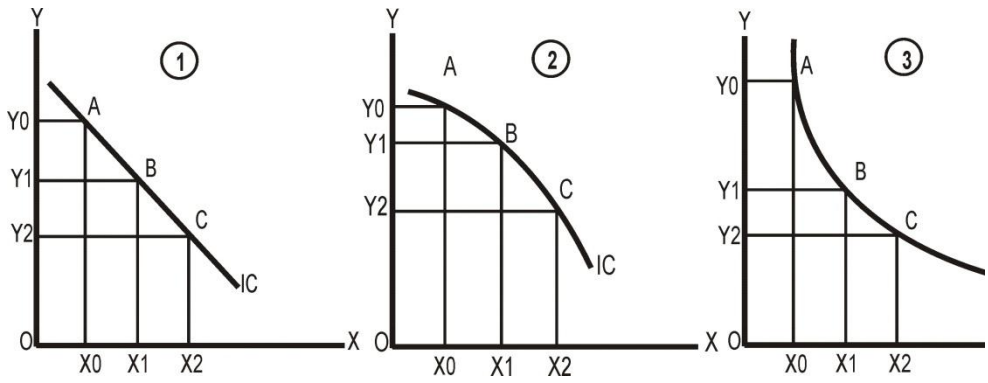


Fig 2.5 Indifference Curves

If an IC is straight line as in diagram 1, it shows constant MRSxy which is not true. If an IC is concave then MRSxy must be increasing which is also against the principle of diminishing marginal rate of substitution. From this we can conclude that indifference curve is always convex to origin because only in this case MRS is diminishing.

5. Additional Properties: In addition to the three basic properties, some written have mentioned two more characteristics of an indifference maps as follows:

Though indifference curves cannot intersect each other, they need not be parallel. This is because there is no proportionality in the differences among the different levels of satisfaction indicated by each particular indifference curve.

The difference map represents an ordinal measurement of utility. Thus, a higher indifference curve represents a higher level of satisfaction of comparison with a lower indifference curves. But, there is no quantification. Again, a rational

consumer prefers a point on a higher indifference curve to a lower indifference curve. The distance between two indifference curve is the higher one or the lower one. The higher difference curve is preferred against the lower one, because the higher indifferent curve indicates a higher level of satisfaction.

2.3.6 Assumptions

Indifference curves are based on the following assumptions:

- A consumer is interested in buying two goods in combination.
- He is able to rank his preferences and give a complete ordering of the scale of preferences.
- Non-satiation, i.e. the consumer always prefers more quantities of goods to a lesser quantities.
- He is rational and his choices are transitive. That is to say, he is always consistent in his choice. That means, when he prefers combination a in the indifference map to combination band bto c, then he must also prefer 'a' to 'c'.
- There is ordinal measurement of utility. Therefore, the height of the indifference curve indicates the level of satisfaction without quantification.

Indifference curves are drawn as continuous curves by assuming infinitesimal amount of changes in the combination of two goods. This implies that there is perfect divisibility of the goods under consideration.

Check your progress 2

1. _____introduced the concept of 'scale of preferences' of a consumer as the base of indifference curve technique.

   a. Professor Hicks

   b. Dr.Marshall

2.4 Marginal Rate of Substitution

The concept of marginal rate of substitution (MRS) or the law of diminishing marginal rate of substitution forms the core of the indifference curve analysis.

As has been seen earlier, the concept of MRS is associated with the convexity of indifference curves.

The marginal rate of substitution refers to the rate of substituting one commodity (on marginal basis) for the other along the indifference curve.

Definition: The marginal rate of substitution of X for Y (MRSxy) refers to the amount of Y must be given up per unit of X gained by the consumer to keep the level of satisfaction unchanged.

"The marginal rate of substitution is the rate at which a consumer is ready to give up one good in exchange for another good while maintaining the same level of satisfaction".

For an indifference curve, we can find out the marginal rate of substitution between two goods. Thus, the amount of Y the consumer is willing to forego in order to obtain an extra unit (the marginal unit) of X, with a view to remain on the same indifference curve, is technically called the marginal are of substitution of X for Y-(MRSxy). In fact, the negative slope of an indifference curve implies that in order to maintain the same level of satisfaction, the consumer gets an increase in the stock of another commodity (say Y). This rate of relative change between these two goods is the marginal rate of substitution. Apparently, the MRSxy measures the trade-off between two goods x and y along the indifference curve measures the marginal rate of substitution.

Thus, $MRSxy = \Delta y/\Delta x$, where MRSxy = the marginal rate of substitution of X and Y, y = a small change in the quantity of Y, x = a small change in the quantity of X, $\Delta y/\Delta x$ measures the slope of the difference curve which is negative, suggesting that if X increase, Y decreases and vice versa.

Marginal rate of substitution

Commodity X	Commodity Y	MRS=▲X/▲Y
10	25	------
11	20	-5/1=-5
12	16	-4/1=-4
13	13	-3/1=-3
14	11	-2/1=-2

The downward slope of the indifference curve measures MRS. However, the indifference curve is convex, which implies that the slope is not constant and it diminishes as we move downwards on the difference curve. This suggests that the marginal rate of substitution of X and Y is diminishing progressively. In the indifference curve concept, thus, Hicks replaces the law of diminishing marginal utility by introducing the principle of diminishing marginal rate of substitution. The reason behind diminishing MRSxy is apparent.

As the consumer has an increase in the stock of commodity X, its marginal significance in terms of commodity Y tends to diminish. That is, X tends to become relatively less attractive than before. While the marginal significance of Y in terms of X tends to improve with a decrease in its stock, it becomes relatively beneficial. As such, the consumer in order to remain on the same level of satisfaction is required to sacrifice or part with a lesser amount of Y for each additional unit of X acquired successively.

The principle of diminishing marginal rate of substitution is a definite improvement upon the Marshallian law of diminishing marginal utility. Unlike Marshall, Hicks does not assume the cardinal measurement of utility, which is unrealistic and impracticable. The marginal rate of substitution is a measurable concept, as it is defined as the ratio of a small change in the quantity of a commodity (Y) to a small change in the quantity of another one (X).

$(MRSxy = \Delta X / \Delta Y)$

Thus, MRSxy is measured in terms of physical units of the goods

Check your progress 3

1. The principle of _____is a definite improvement upon the Marshallian law of diminishing marginal utility.

   a. diminishing marginal rate of substitutionc. indifferencecurve

   b. increasing rate of substitution

2.5 Budget Constraint: The Price-Income Line

What a consumer can actually buy depends on the income at his disposal and the prices of goods he wants to buy. Thus, income and prices are the two objective factors, which form the budgetary constraint of the consumer. The consumption or purchase possibility of the consumer is restricted to the budget constraint. To illustrate the point, let us assume that a consumer has an income of Rs. 50 to be spent on two goods X and Y. The price of X is Rs. 5 per unit and the price of Y is Rs. 10 per unit. Then, his alternative spending possibilities can be assumed as under.

Spending possibilities

	Units of Commodity Y	Units of Commodity X
A	5	0
	4	2
	3	4
	2	6
	1	8
B	0	10

It is clear that the consumer could spend his given income on any one of the alternative combinations of two goods X and Y. If he spends all his amount of Rs. 50 on Y, he will have 5 units of Y and none of X. Alternatively, he can have 10 units of X and none of Y. Alternatively and he can allocate his entire income on two goods in different proportions and can have a combination. Now, assuming that X and Y are perfectly divisible, we can have an infinite number of possible

purchase combinations of X and Y as represented diagrammatically. That is to say, the budget constraint may be illustrated by constructing abudget line.

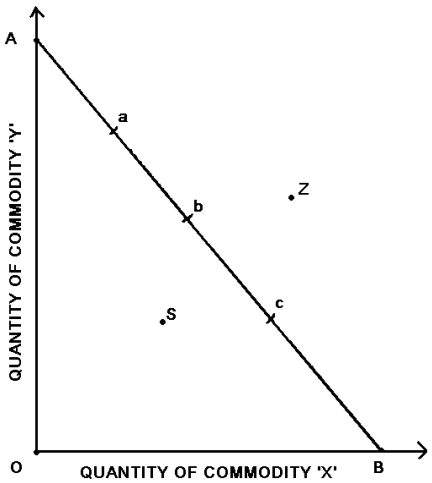


Fig 2.6 Purchase combinations

In Fig 2.6, point A denotes that if a consumer spends all his income on Y, he can buy OA of Y (in our numerical illustration, 5 units of Y). Similarly, point B denotes that OB of X can be bought by spending the entire given income on it. By joining Aand B, we derive the line AB, which is described as the price line or the budget line, representing various alternative purchase combination. It exhausts all the opportunities of purchase in relation to a given income and prices of good. Therefore, it is called budget constraint. The consumer cannot have any point of combinations (like say, point z), which is beyond the region of the budget line. This is because his income can buy only limited quantities of the goods. He can only select any point (like a, b, c etc.) and the relevant combination on the budget line, if he spends his entire income on these goods, X and Y. The budget line is also referred to as income line, because it represents the real income of the consumer. Any point (like point S) which is below the income line AB indicates that the consumer does not spend his entire income on X and Y.

Definition: The budget line is the locus of points representing all the different combinations of the two goods that can be purchased by the consumer, given h is money income and the prices of the two goods.

The budget line, in short, indicates all combination of two goods (X and Y) for which total given money income is spent by the consumer.

2.5.1 Slope of Price line

In a generalised form, in algebraic terms, the consumer's budget constraint can be expressed as under:

$M = Px .Qx + Py .Qy$

Where,

M = Consumer's given money income;

Px = Price of X;

Py = Price of Y;

Qx = Quantity of X;

Qy = Quantity of Y.

Assuming,

Qx = 0, as at point A of the price line in Fig 5.6, we have;

$M = Py .Qy$

$Qy = M/Py$

Similarly,

$$Qy = 0,$$

$$\text{Hence, } M = Px \,.\, Qx$$

$$Qx = \frac{M}{Px}$$

Graphically, $Qy = OA$ and $QX = OB$. Now, the slope of price line is measured as: $\frac{OA}{OB}$

$$\frac{OA}{OB} = \frac{M/Py}{M/Px} = \frac{M}{Py} \times \frac{Px}{M} = \frac{Px}{Py}$$

$$\text{Thus, slope of Price line} = \frac{Px}{Py}$$

Slope of budget line $\frac{OA}{OB}$ represents the ratio of prices of two goods under consideration. Therefore, it is also referred to as the price line. Thus, in our illustration, the slope of price-line AB represents $\frac{\text{Price of X}}{\text{Price of Y}}$ (i.e. $\frac{Px}{Py}$ if we write P for the price).

Evidently, the slope and position of the budget-line or price line depends on two factors:

- The money income of the consumer
- Prices of the two goods he wants to buy

2.5.2 Changes in Money Income and the Budget Lines

If the prices of the goods (X and Y) are unchanged, so that is constant, when the money income of the consumer changes (increases or decreases), the budget line or the income line will shift accordingly.

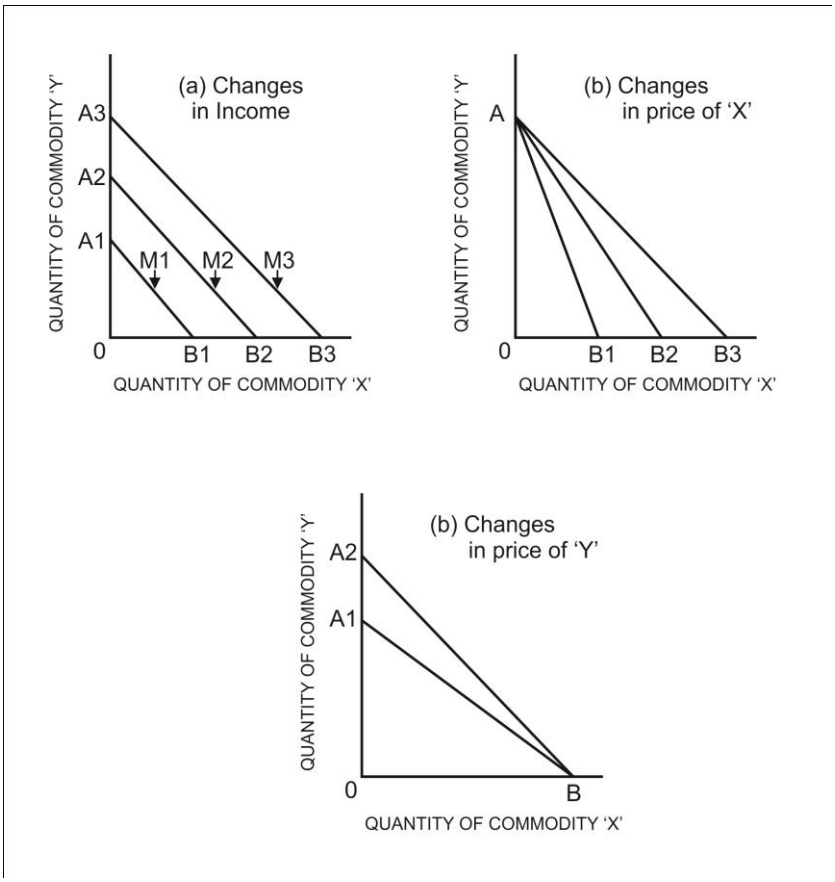


Fig 2.7 Income line

In Fig.5.7 (a), the income line shifts upwards as A1B1, A2B2, A3B3 etc. as money income increases from M1 to M2, M3 etc. Since $\frac{Px}{Py}$ is constant the slope of income line does not change. There is thus, a parallel shift away from the origin. Similarly, when money income decreases, income line will tend to shift towards the origin.

2.5.3 Changes in Prices and the Budget Lines

If, however price of the goods changes, but the money income remains unchanged, then the real income of the consumer as well as the budget line will change. However, in this case, the slope of the budget line or the price line will also change. In this case, the slope of the budget line or the price line will also change.

As in Fig., when the price of X falls, the price ratio $\frac{(Px)}{(Py)}$ will tend to diminish. Therefore, the slope of the price line will tend to be more flat. Thus, the price lines changes as AB1 to AB2, AB3, etc., with the fall in price of X. Conversely, when the price of X tends to rise, $\frac{(Px)}{(Py)}$ rises; so the slope of the price will become steeper and steeper, as the line moves from AB3 to AB2, AB1, etc.

Likewise, Fig depicts the movement of the price line when price of Y changes (Price of X remaining unchanged). With the fall in price of Y, the price line tends to move OA1 to OA2 etc. We can find out the rise in price of Y, by viewing the movement of the price- line OA1 to OA2, etc.

Check your progress 4

1. What a consumer can actually buy depends on the _____and the prices of goods he wants to buy.

   a. income at his disposal c. Total income

   b. Family income

2.6 Consumer Equilibrium

When consumers make choices about the quantity of goods and services to consume, it is presumed that their objective is to maximise total utility. In maximising total utility, the consumer faces a number of barriers called constraints, the most important of which are the consumer's income and the prices of the goods and services that the consumer wishes to consume. The consumer's effort to maximise total utility, subject to these constraints, is referred to as the consumer's problem.

The solution to the consumer's problem, which explains how much the consumer will consume a number of goods and services, is referred to as consumer equilibrium.

A rational consumer attains an equilibrium position when his motive of maximising satisfaction is realised. Marshall has given the 'proportionality rule' $\frac{MUx}{Px} = \frac{MUy}{Py} \ldots$ and so on, in his marginal utility analysis of the consumer's equilibrium. However, based on the cardinal measurement of utility, his approach was criticised. Hence, Hicks came forward with an alternative approach, the assumption that the consumer tries to maximise satisfaction but maximising satisfaction no longer means achieving the maximum total utility but rather reaching the highest level of satisfaction.

In the indifference curve approach, the equilibrium position of a consumer can be traced under the following assumptions:

- The consumer has a fixed amount of money income to spend.
- He intends to buy a combination of two goods X and Y.
- The prices X an Y are given and are constant. Thus, $\frac{Px}{Py}$ ratio is fixed. Therefore, the budget line or the price line has constant slope.
- The prices X and Y is homogenous (i.e. its units have identical characteristics) and divisible, so that various combinations of these goods can be had.
- The consumer has definite tastes and preferences. Therefore, he has a given scale of preference expressed through an indifference map. This scale of preference remains the same throughout the analysis.
- The consumer is rational. This rationality assumption implies that the consumer seeks maximisation of his satisfaction.

Thus, in terms of indifference curve, the consumer acts to reach the highest possible point on the indifference curve i.e. the highest level of satisfaction.

In order to find out the equilibrium purchases of the consumer, we should consider the scale of preference i.e. indifference map and the budget line simultaneously. The price line or the budget line represents the budgetary constraint relating to the opportunities of combining two goods,based on the objective consideration of market prices of these goods and the consumer's

income. The indifference map represents the subjective scale of preference of the consumer based on his taste, habit and liking. Hence, it should be noted that the indifference map and the price line are quite independent of one another. That is to say, the consumer has a scale of preference, which does not depend on prices or income. However, it is also a fact that the consumer cannot purchase beyond the budget line (or the price line).

Determination of Consumer Equilibrium

Consider the simple case of a consumer who cares about consuming only two goods: good 1 and good 2. This consumer knows the prices of goods 1 and 2 and has a fixed income or budget that can be used to purchase quantities of goods 1 and 2. The consumer will purchase quantities of goods 1 and 2 to exhaust the budget for such purchases completely. The actual quantities purchased of each good are determined by the condition for consumer equilibrium, which is

$$\frac{\text{marginal utility of good 1}}{\text{price of good 1}} = \frac{\text{marginal utility of good 2}}{\text{price of good 2}}$$

This condition states that the marginal utility per rupee spent on good 1 must equal the marginal utility per rupee spent on good 2. If, for example, the marginal utility per rupee spent on good 1 were higher than the marginal utility per rupee spent on good 2, then it would make sense for the consumer to purchase more of good 1 rather than purchasing any more of good 2. After purchasing more and more of good 1, the marginal utility of good 1 will eventually fall due to the law of diminishing marginal utility, so that the marginal utility per rupee spent on good 1 will eventually equal that of good 2. Of course, the amount purchased of goods 1 and 2 cannot be limitless and will depend not only on the marginal utilities per rupee spent, but also on the budget of the consumer.

Example: To illustrate how the consumer equilibrium condition determines the quantity of goods 1 and 2 that the consumer demands, suppose that the price of good 1 is Rs.2 per unit and the price of good 2 is Re.1 per unit. Suppose also that the consumer has abudget of Rs.5. The marginal utility (MU) that the consumer receives from consuming 1 to 4 units of goods 1 and 2 is reported in Table 5.8. Here, marginal utility is measured in fictional units called utile, which serve to quantify the consumer's additional utility or satisfaction from consuming

different quantities of goods 1 and 2. The larger the number of utils, the greater is the consumer's marginal utility from consuming that unit of the good. Table 5.6 also reports the ratio of the consumer's marginal utility to the price of each good. For example, the consumer receives 24 utils from consuming the first unit of good 1 and the price of good 1 is Rs.2. Hence, the ratio of the marginal utility of the first unit of good 1 to the price of good 1 is 12.

Illustration of Consumer Equilibrium. Price of good 1 = Rs.2, Price of good 2 = Rs.1, Budget = Rs.5

Units of good 1	*MU* of good 1	*MU*/price of good 1	Units of good 2	*MU* of good 2	*MU*/price of good 2
1	24	12	1	9	9
2	18	9	2	8	8
3	12	6	3	5	5
4	6	3	4	1	1

The consumer equilibrium is found by comparing the marginal utility per rupee spent (the ratio of the marginal utility to the price of a good) for goods 1 and 2, subject to the constraint that the consumer does not exceed his budget of Rs.5. The marginal utility per rupee spent on the first unit of good 1 is greater than the marginal utility per rupee spent on the first unit of good 2(12 utils> 9 utils). Because the price of good 1 is Rs.2 per unit, the consumer can afford to purchase this first unit of good 1 and so he does. He now has Rs.5 − Rs.2 = Rs.3 remaining in his budget. The consumer's next step is to compare the marginal utility per rupee spent on the second unit of good 1 with marginal utility per rupee spent on the first unit of good 2. Since, these ratios are both equal to 9 utils, the consumer is indifferent between purchasing the second unit of good 1 and first unit of good 2, so he purchases both. He can afford to do so because the second unit of good 1 costs Rs.2 and the first unit of good 2 costs Rs.1, for a total of Rs.3. At this point, the consumer has exhausted his budget of Rs.5 and has arrived at the consumer equilibrium, where the marginal utilities per rupee spent are equal. The

consumer's equilibrium choice is to purchase 2 units of good 1 and 1 unit of good 2.

The condition for consumer equilibrium can be extended to the more realistic case where the consumer must choose how much to consume of many different goods. When there are N > 2 goods to choose from, the consumer equilibrium condition is to equate all of the marginal utilities per rupee spent, subject to the constraint that the consumer's purchases do not exceed his budget.

$$\frac{\text{marginal utility of good 1}}{\text{price of good 1}} = \frac{\text{marginal utility of good 2}}{\text{price of good 2}} = \bullet\bullet\bullet = \frac{\text{marginal utility of good N}}{\text{price of good N}}$$

Check your progress 5

1. The solution to the consumer's problem, which explains how much the consumer will consume a number of goods and services, is referred to as _____

   a. consumer equilibrium

   b. Indifference curve

   c. Law of demand

2.7 Let Us Sum Up

In this unit we have discussed the indifference curve in very detail. Indifference curve is a schedule is an list of alternative combinations in the stocks of two goods, which yield equal satisfaction to the consumer.

The indifference curve states that when a consumer lays down his scale of preference for different combinations of certain goods under consideration, he will rank them as per the highest level of satisfaction he visualises in them.The marginal rate of substitution of X for Y (MRSxy) refers to the amount of Y must be given up per unit of X gained by the consumer to keep the level of satisfaction unchanged.The budget line is the locus of points representing all the different combinations of the two goods that can be purchased by the consumer, given his money income and the prices of the two goods. The solution to the consumer's

problem, which explains how much the consumer will consume of a number of goods and services, is referred to as consumer equilibrium.

Therefore this unit has explained the concept of indifference curve and consumer equilibrium in very detail and this is going to be of great help for them in understanding the basics of this concept.

2.8 Answers for Check Your Progress

Check your progress 1

Answers: (1-d)

Check your progress 2

Answers: (1-a)

Check your progress 3

Answers: (1-a)

Check your progress 4

Answers: (1-a)

Check your progress 5

Answers: (1-a)

2.9 Glossary

1. **Volume of Money -** Same as money supply.
2. **Volume of Trade -** In the securities market, the total number of shares that change hands in a day's trading on an organised exchange. The term is also sometimes used for trade in a single stock.
3. **Voluntary Unemployment** - A description given by Keynes to unemployment directly due to the 'withdrawal of their labourby abody of workers because they do not choose to work for less than a certain real reward'.

2.10 Assignment

Distinguish between indifference curve and budget line.

2.11 Activities

What are the properties of indifference curve? Explain.

2.12 Case Study

"Tangency between the price line and an indifference curve is the necessary conditions of the consumer's equilibrium, but not the sufficient condition". Discuss.

2.13 Further Readings

1. Development Theories and Growth model, P. Sen., S Chand & Company Ltd. 1995.
2. Economics: Principles and Policies, Baumol, William J. and Blinder, Alan S., Harcourt, Jovanovich, London, 1988.
3. Managerial Economics, R. Cauvers, S. Chand Group, 2009.

Block Summary

In this block we have discussed the law of demand and supply as well as indifference curve analysis. This block is one of the most interesting block as both the topics demand and indifference curve are one of the most basic ,important and interesting topics of the subject. The law of demand explains the relationship between the price and quantity demand. On the other hand indifference curve explains the when a consumer lays down his scale of preference for different combinations of certain goods under consideration, he will rank them as per the highest level of satisfaction he visualises in them. A combination, which is estimated to give the highest level of satisfaction, is assigned the first order preference. The combination yielding comparatively a lower degree of satisfaction is assigned the second order preference. The one yielding a still lower degree of satisfaction is assigned the third order of preference and so on. If all the combinations having equal utility for consumer are plotted on a curve, that curve will be called a indifference curve.

The block will be of great help to the students in understanding the basics of demand and supply and how they operate in the market. They will also find the topic indifference curve very interesting.

Block Assignment

Short Answer Questions

1. Supply curve.
2. Variation and changes in demand.
3. Factors influencing elasticity of demand.
4. Importance of elasticity of demand.
5. There is exactly opposite relationship between demand and price, discuss.
6. Limitations of Marshallian Approach to Demand Theory.
7. Properties of Indifference Curves.
8. Consumer Equilibrium.
9. Substitution effect.
10. Utility is interdependent.

Long Answer Questions

1. Explain the law of demand with its exceptions.
2. Explain the meaning and types of elasticity of demand.
3. Show how a consumer reaches equilibrium on his indifference map, his income and prices of commodities being given.

Enrolment No. ☐

1. How many hours did you need for studying the units?

Unit No	**1**	**2**	**3**	**4**
Nos of Hrs				

2. Please give your reactions to the following items based on your reading of the block:

Items	Excellent	Very Good	Good	Poor	Give specific example if any
Presentation Quality	☐	☐	☐	☐	_____
Language and Style	☐	☐	☐	☐	_____
Illustration used (Diagram, tables etc)	☐	☐	☐	☐	_____
Conceptual Clarity	☐	☐	☐	☐	_____
Check your progress Quest	☐	☐	☐	☐	_____
Feed back to CYP Question	☐	☐	☐	☐	_____

3. Any Other Comments

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Education is something which ought to be brought within the reach of every one.

- Dr. B. R. Ambedkar

Dr. Babasaheb Ambedkar Open University
'Jyotirmay Parisar', Opp. Shri Balaji Temple, Sarkhej-Gandhinagar Highway, Chharodi,
Ahmedabad-382 481.

ECONOMICS ENVIRONMENT FOR BUSINESS

PGDBA-102



BLOCK 3:

PRODUCTION, PRICE, INCOME AND SUBSTITUTION EFFECTS AND DEMAND FORECASTING

स्वाध्यायः परमंतपः

Dr. Babasaheb Ambedkar Open University
Ahmedabad

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ROLE OF SELF INSTRUCTIONAL MATERIAL IN DISTANCE LEARNING

The need to plan effective instruction is imperative for a successful distance teaching repertoire. This is due to the fact that the instructional designer, the tutor, the author (s) and the student are often separated by distance and may never meet in person. This is an increasingly common scenario in distance education instruction. As much as possible, teaching by distance should stimulate the student's intellectual involvement and contain all the necessary learning instructional activities that are capable of guiding the student through the course objectives. Therefore, the course / self-instructional material are completely equipped with everything that the syllabus prescribes.

To ensure effective instruction, a number of instructional design ideas are used and these help students to acquire knowledge, intellectual skills, motor skills and necessary attitudinal changes. In this respect, students' assessment and course evaluation are incorporated in the text.

The nature of instructional activities used in distance education self-instructional materials depends on the domain of learning that they reinforce in the text, that is, the cognitive, psychomotor and affective. These are further interpreted in the acquisition of knowledge, intellectual skills and motor skills. Students may be encouraged to gain, apply and communicate (orally or in writing) the knowledge acquired. Intellectual-skills objectives may be met by designing instructions that make use of students' prior knowledge and experiences in the discourse as the foundation on which newly acquired knowledge is built.

The provision of exercises in the form of assignments, projects and tutorial feedback is necessary. Instructional activities that teach motor skills need to be graphically demonstrated and the correct practices provided during tutorials. Instructional activities for inculcating change in attitude and behavior should create interest and demonstrate need and benefits gained by adopting the required change. Information on the adoption and procedures for practice of new attitudes may then be introduced.

Teaching and learning at a distance eliminates interactive communication cues, such as pauses, intonation and gestures, associated with the face-to-face method of teaching. This is particularly so with the exclusive use of print media. Instructional activities built into the instructional repertoire provide this missing interaction between the student and the teacher. Therefore, the use of instructional activities to affect better distance teaching is not optional, but mandatory.

Our team of successful writers and authors has tried to reduce this.

Divide and to bring this Self Instructional Material as the best teaching and communication tool. Instructional activities are varied in order to assess the different facets of the domains of learning.

Distance education teaching repertoire involves extensive use of self-instructional materials, be they print or otherwise. These materials are designed to achieve certain pre-determined learning outcomes, namely goals and objectives that are contained in an instructional plan. Since the teaching process is affected over a distance, there is need to ensure that students actively participate in their learning by performing specific tasks that help them to understand the relevant concepts. Therefore, a set of exercises is built into the teaching repertoire in order to link what students and tutors do in the framework of the course outline. These could be in the form of students' assignments, a research project or a science practical exercise. Examples of instructional activities in distance education are too numerous to list. Instructional activities, when used in this context, help to motivate students, guide and measure students' performance (continuous assessment)

PREFACE

We have put in lots of hard work to make this book as user-friendly as possible, but we have not sacrificed quality. Experts were involved in preparing the materials. However, concepts are explained in easy language for you. We have included many tables and examples for easy understanding.

We sincerely hope this book will help you in every way you expect.

All the best for your studies from our team!

ECONOMICS ENVIRONMENT FOR BUSINESS

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ECONOMICS ENVIRONMENT FOR BUSINESS

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BLOCK 3: PRODUCTION, PRICE, INCOME AND SUBSTITUTION EFFECTS AND DEMAND FORECASTING

Block Introduction

As already discussed the importance of economics in commerce and management curriculum. We take a step further in discussing the new topics in this block.

This block aims to give an introduction on the topics Production, Price, Income and Substitution Effects and Demand Forecasting to its readers. The block has been divided into four units.The first unit covers the topic theory of Production. It covers the topics such as Concepts in the Production Theory, Meaning of Production, Input and Output, Fixed and Variable Inputs, Short Run and Long Run, Production Function. On the other hand the in the second unit we have covered the topics such as Price, Income and Substitution Effects on Consumer's Equilibrium and the third unit covers the topics such as Demand Forecasting and lastly the fourth unit covers the topic Pricing Strategies .

This unit is going to be of great for the students who are pursuing any management or commerce course as these are the very important topics in economics.

Block Objective

After learning this Block, you will be able to understand:

- Different ownership of firm
- Production function (short and long)
- Income consumption curve
- Price , Income and substitution effect
- Demand Forecasting
- Comprehend the logic of various pricing methods

Block Structure

Unit 1: Theory of Production

Unit 2: Price, Income and Substitution Effects on Consumer's Equilibrium

Unit 3: Demand Forecasting

Unit 4: Pricing Strategies and Practices

UNIT 1: THEORY OF PRODUCTION

Unit Structure

1.0 Learning Objectives

1.1 Introduction

1.2 Concepts in the Production Theory

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1.3.1 Input and Output

1.4 Types of Production function

1.4.1 Fixed and Variable Inputs

1.4.2 Short Run and Long run

1.5 Production function

1.6 Let Us Sum Up

1.7 Answers for Check Your Progress

1.8 Glossary

1.9 Assignment

1.10 Activities

1.11 Case Study

1.12 Further Readings

1.0 Learning Objectives

After learning this unit, you will be able to understand:

- Different types of ownership of a firm
- Define short-run and long-run production function
- The relationship between inputs and output in the short run with the help of law of variable proportions
- The relationship between inputs and output in the long run with the help of law of returns to scale
- Define Cobb-Douglas production function

- Concepts with the help of a case study

1.1 Introduction

Theory of production or production analysis deals with the general relationship of output of goods or services with factor inputs. Normally, a physical output is related to physical inputs, that is, only operating efficiency is the subject matter of production function. Although the cost of production is not taken into account is not taken into account for a pure production analysis. Although the cost of production is not taken into account for a pure production analysis it is a very vital matter for any business decision making. Likewise revenue productivity which is related with economic environment and the general equilibrium of demand and supply is left out in a pure production analysis. But it is necessary to remember that a production decision cannot depend merely on physical productivity based on operating efficiency alone. The profitability of a productive activity would depend upon the revenue realised from the output and the cost incurred in raising that output. Nevertheless, in the theory of production we would confine ourselves to laws of production, production function and methods of production optimisation. Aspects of cost and revenue will be discussed in next units.

1.2 Concept in the Production Theory

Production is basically an activity of transformation, which converts factor inputs into outputs. The process of transforming inputs into outputs can be any of the following kinds change in the form i.e. raw material transformed to finished goodsand Change in Place i.e. Supply chain, Factory to Retailer.

Production theory is the study of production, or the economic process of converting inputs into outputs. Production uses resources to create a good or service in a market economy. This includes manufacturing, storing, shipping, and packaging. Some economists define production broadly as all economic activity other than consumption. They see every commercial activity other than the final purchase as some form of production.

Production is a process, and as such it occurs through time and space. Because it is a flow concept, production is measured as a "rate of output per period of time". There are three aspects to production processes:

1. The quantity of the good or service produced,
2. The form of the good or service created,
3. The temporal and spatial distribution of the good or service produced.

A production process can be defined as any activity that increases the similarity between the pattern of demand for goods and services, and the quantity, form, shape, size, length and distribution of these goods and services available to the market place.

Production is a process of combining various material inputs and immaterial inputs (plans, know-how) in order to make something for consumption (the output). It is the act of creating output, a good or service which has value and contributes to the utility of individuals.

Economic well-being is created in a production process, meaning all economic activities that aim directly or indirectly to satisfy human needs. The degree to which the needs are satisfied is often accepted as a measure of economic well-being.In production there are two features which explain increasing economic well-being.They are improving quality-price-ratio of commodities and increasing incomes from growing and more efficient market production.

Check your progress 1

1. _____is basically an activity of transformation, which converts factor inputs into outputs.

   a. Production c. Outputs

   b. Inputs

1.3 Meaning of Production

Production is a very important economic activity.The Standard of living of people in the ultimate analysis, depends on the volume and variety of production. It is a process of combining various material inputs and immaterial inputs (plans, know-how) in order to make something for consumption (the output). It is the act of creating output, a good or service which has value and contributes to the utility of individuals

Economic well-being is created in a production process, meaning all economic activities that aim directly or indirectly to satisfy human needs. The degree to which the needs are satisfied is often accepted as a measure of economic well-being.In production there are two features which explain increasing economic well-being. They are improving quality-price-ratio of goods and services and increasing incomes from growing and more efficient market production.

1.3.1 Input and output

As already studied that Production is basically an activity of transformation, which converts factor inputs into outputs. The process of transforming inputs into outputs can be any of the following kinds

1. Change in the Form i.e. Raw material transformed to finished goods
2. Change in Place i.e. Supply chain, Factory to Retailer

So in the short production is process by which the inputs or factors of production are transformed into output. If we take an example of a cement factory, inputs include labour of its workers, raw materials such as limestone, sand, clay, and capital invested in equipment required to produce cement. Output of cement industry would be different varieties of cement.

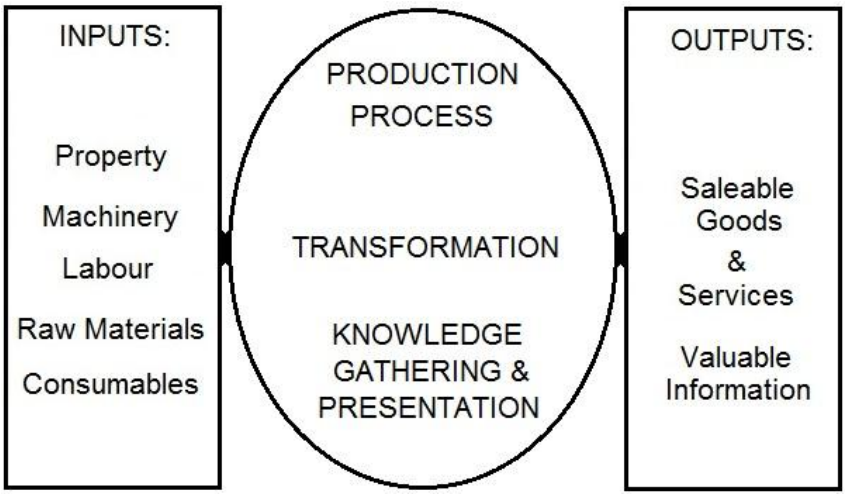


Fig 1.1 The production process

Check your progress 2

1. The process of transforming inputs into outputs can be any of_____.

   a. Kind

   b. Change in Place

1.4 Types of Production function

Before analyzing the types of production-function it will be useful to understand the meaning of following important terms:

1.5.1 Fixed and Variable Inputs

The analysis of short-run production assumes that at least one input in the production process is fixed and at least one is variable. As already noted, the fixed and variable inputs are intertwined with the notion of short run and long run.

- **Fixed Input:** A fixed input is an input used in production and under the control of the producer that does not change during the time period of analysis (the short run).
- **Variable Input:** A variable input is an input used in production and under the control of the producer that does change during the time period of analysis (the short run).

The variable input used by most producers is more often than not labor. The fixed input for most production operations is usually capital. The presumption is that the size of a firm's workforce can be adjusted more quickly that the size of the factory or building, the amount of equipment, and other capital.

1.5.2 Short Run and Long run

The time-period during which a firm in order to make changes in its production can change only in its variable factors but not in its fixed factors, is termed as short-period. In the short-period, a firm cannot change its scale of plant. The time period in which a firm can change all the factors of production and its scale of plant, is termed as long-period. In economics, we study two types of production-functions. In other words, there are two kinds of input output relations in production-functions. These are:

(A) Short-run Production-functions or the Law of Variable Proportions - In the short period, some factors are fixed and some of them are variable. What happens when additional units of one variable factor of production are combined with a fixed stock of some factors of production is discussed under short-run production-functions. The law which tells about this relation is called the law of variable proportions or returns to a factor. Since it is related to a short-period, it is called short-run production-function.

(B) Long-run Production-function or Returns to Scale – In the long run, all factor-inputs can be varied. It means that in the long-run, we can expand or reduce the scale of production as well. The way in which the output varies with the changes in the scale of production is discussed in the long-run production-functions. The law which states this relationship is also called returns to scale.

Since it is related to the long-period, it is called long-run production-function.

In this context we have to define three key terms:-

(1) **Total Product -** It refers to the total output of the firm per period of time

(2) **Avrage Product -** Average Product is total output per unit of the variable input. Thus Average Product is total product divided by the number of units of the variable factor.

AP =Q/L where Q is Total Product, L is the quantity of labour.

(3) **Marginal Product -** Marginal Product is the change in total product resulting from using anadditional unit of the variable factor.MP = dQ/dL, where d is the rate of change

Now we shall study the laws of production relating to both types of production-functions.

(A) The Law of Variable Proportions or Returns to a Factor

Meaning and Definition

The law of variable proportions has an important place in economic theory. This law exhibits the shortrun production-functions in which one factor is variable and others are fixed. The extra output obtained by applying extra unit of a variable factor can be greater than, equal to or less than the output obtained by its previous unit. It is this phenomenon which is expressed in the form of law of variable proportions. If the number of units of a variable factor is increased, the way wherein the output changes is the concern of this law. Thus the law of variable proportions refers to the effect of changing factor-ratio on the output. In short, the

law which exhibits the relationship between the units of a variable factor (keeping all other factors as constant) and the amount of output in the short-run is known as returns to a variable factor. Thus the law of variable proportions is also named as (or returns to a factor) returns to a variable factor. The law of variable proportions (or returns to a variable factor) states that with the increase in a variable factor, keeping other factors constant, total product increases at an increasing rate, then increases at diminishing rate and finally starts declining.

Why is it called the Law of Variable Proportions?

The factor- proportion (or factor-ratio) varies as one input varies and all others are constant. This can be understood with the help of an example. Suppose in the beginning 10 acres of land and 1 unit of labour are taken for production, hence land-labour are taken for production, hence land-labour ratio was 10: 1. Now if the land remains the same but the units of labour increases to 2, now the land-labour ratio would become 5: 1. Thus, this law analyses the effects of change in factor-proportions on the amount of output and is, therefore, called the law of variable proportions.

Explanation of the Law

The law of variable proportions can be illustrated with the help of the following example and diagram.

Example

Fixed Factor Land (Acres)	Variable Factor : Land (Units)	TPP (Quantity)	MPP (Quantity)	
1	0	0	-	
1	1	2	2	Stage I
1	2	6	4	
1	3	12	6	
1	4	16	4	
1	5	18	2	Stage II
1	6	18	0	
1	7	14	-4	Stage III
1	8	8	-6	

Fig 1.2 Explanation of the Law

In this example, we assume that land is the fixed factor and labour is a variable factor. The table shows the different amounts of output obtained by applying different units of labour to one acre of land which continues to be fixed.

Diagram

The law of variable proportions can be explained with the help of diagram below. In order to make simple presentation we have drawn a TPP curve and a MPPT curve as smooth curves in the diagram, againt the variable input, labour.

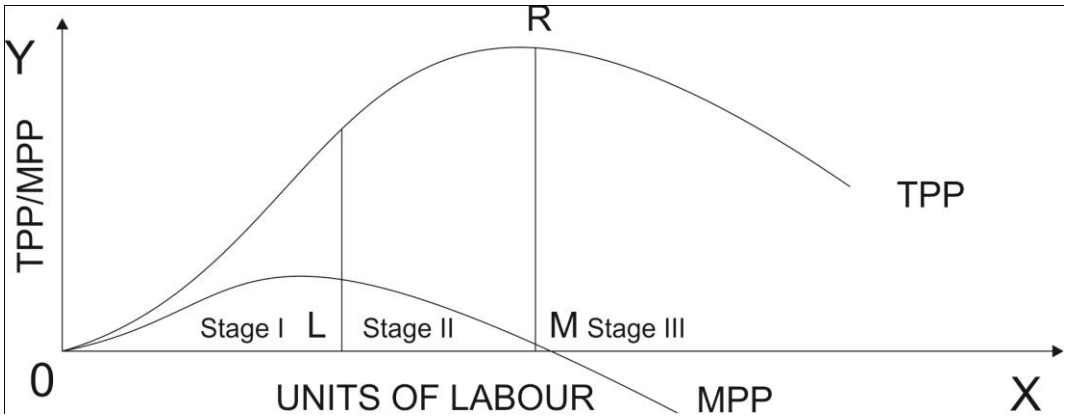


Fig 1.3 Three Stages of the Law

The relation between variable factor and physical output has three stages which are shown in the example and the diagram. We take a very simple explanation of these three stages in terms of TPP and MPP only. These three stages of the law are as under:

Stage I – In this stage total physical product (TPP) increases at an increasing rate and marginal physical product (MPP) also increases. Since in this stage MPP increases with the increase in the units of avariable factor, it is called the stage of increasing returns. In the example, the stage I of the law runsupto 3 units of labour and in the diagram it is between 0 to L.

Stage II – In this stage total physical product (TPP) continues to increase but at a diminishing rate and marginal physical product (MPP) diminishes but remains positive. In this stage MPP decreases with theincrease in the units of a variable factor, it is termed as the stage of diminishing returns. In the example, stage II runs between 4 to 6 units of labourand in the diagram it is between L to M. This stage goes tothe point when TPP reaches the maximum (18 in the example and point R in the diagram) and MPP becomes zero.

Stage III – In this stage total physical product (TPP) starts declining and marginal physical product(MPP) decreases and becomes negative. Since in this stage MPP becomes negative, it is called thestage of negative returns. In the example, stage

III runs between 7 to 8 units of labourand in the diagram it starts from the point 'M' onwards.

Two ways to explain the Law of Variable Proportions

The law of variable proportions can be explained in two separate ways:

(i) In terms of total physical product and

(ii) In terms of marginal physical product. It is explained as under:

(i) Law of Variable Proportions - in terms of TPP

The law of variable proportions shows the relationship between units of a variable factor and total physical product. According to this law, keeping other factors constant, when we increase the units of avariable factor, the TPP first increases at an increasing rate, then at a diminishing rate, and in the last, it declines.Thus the law has following three stages :

Stage I: TPP increases at an increasing rate

Stage II: TPP increases at a diminishing rate

Stage III: TPP declines.

This is shown with the help of following example and diagram.

Example

Unit of Labour (Units)	TPP (Quantity)	
0	0	
1	2	Stage I
2	6	
3	12	
4	16	
5	18	Stage II
6	18	
7	14	Stage III
8	8	

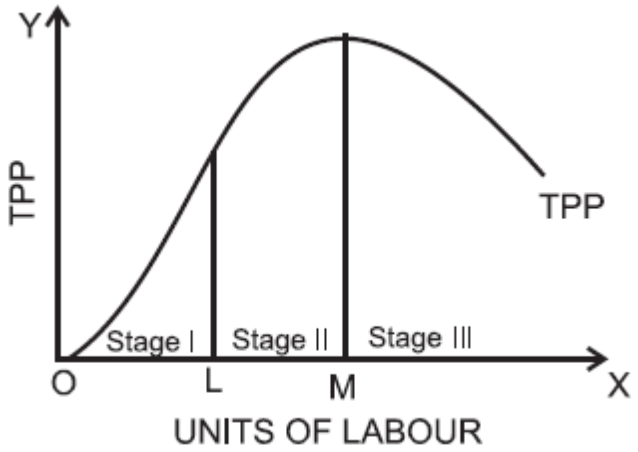


Fig 1.4 Law of Variable Proportions - in terms of TPP

The law of variable proportions states that with the increase in the units of a variable factor, keeping allother factors constant, the marginal physical product increases, then decreases and finally becomes negative.Thus this law has three following stages :

Stage I: MPP incre ases

Stage II: MPP decreases but remains positive

Stage III: MPP continues to decrease and becomes negative.

The law is shown with the help of following example and diagram below :

Example

Unit of Labour (Units)	MPP (Quantity)	
1	2	Stage I
2	4	
3	6	
4	4	Stage II
5	2	
6	0	
7	-4	Stage III
8	-6	

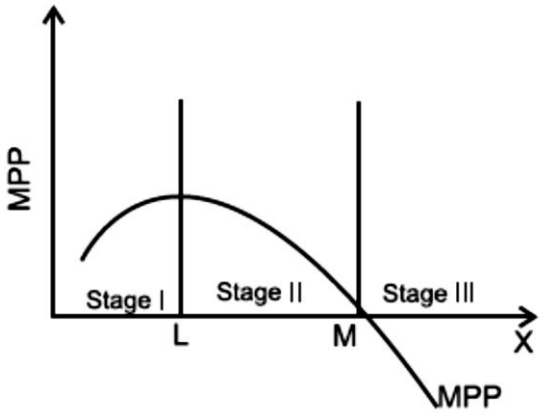


Fig 1.5 Law of Variable Proportions in terms of MPP

Significance of the Three Stages of the Law

What should be the stage of operation for a rational producer? With the knowledge of the three stages ofthe law, a producer can choose the appropriate stage of its operation. A rational producer would not like to operate in Stage III. It is because in this stage total product declines and marginal product becomes negative. Hence, a producer can always increase his output by reducing the amount of variable factor. If he operates in stage III; he incurs higher costs on the one hand, and gets less revenue on the other. Thus, it reduces his profits. Similarly a producer does not operate in stage I. In this stage marginal product increase with the increase in a variable factor. It indicates that there is a scope for more efficient utilization of fixed factors by employing more units of a variable factor. A rational producer would not therefore, like to stop in stage I but will expand further. It is by now very clear that a rational producer never chooses first and third stages for production. He, therefore, likes to operate in the stage II, i.e. the stage of operate in the stage II, i.e. the stage of diminishing returns. In this way stage II of the law of variable proportions is the most relevant stage of operation for aproducer.

Reason for operation of the Law

Why does the law of variable proportions (or the law of diminishing marginal returns) operate? We know that in the short-period all factors of production cannot be varied. Here one is variable factor and othersare fixed factors. By now it is clear that there is an optimum combination of different factors that gives the maximum output. When there is increase in the units of avariable factor before the point of optimum combination, the factor proportion becomes more suitable and fixed factors are more efficiently utilized, hence it increases the marginal physical product. Thus, in the initial stages the total product may rise at an increasing rate when we employ more units of a variable factor to the fixed factors. But later, when we employ more units of a variable

factor beyond this optimum combination, the factor proportion becomes unsuitable and inefficient, hence the marginal product of that variable factor declines.The quantity of the fixed factor-input per unit of the variable input falls as more and more of the latter is putto use. Successive units of the variable input, therefore, must add decreasing amounts to the total outputas they have less of the fixed input to work with. Thus, eventually the law of diminishing marginal returns (or the stage of diminishing returns of the law of variable proportions) operates.

(B) Returns to Scale

Meaning

In the long run, all factors are variable; hence the expansion of output may be achieved by varying all factor-inputs. When there are changes in all factor-inputs in the same proportion, the scale of production (or the scale of operation) also gets changed. Thus, the change in scale means that all factor inputs arechanged in the same proportion.Thus, the term returns to scale refers to the changes in output as all factor-inputs change in the same proportion in the long run. Or, in other words, the law expressing the relationship between varying scales of production (i.e. change of all factor-inputs in the same proportion) and quantities of outputis called returns to scale refer to the effects of scale relationships.Now, the question is at what rate the output increases when all factor-inputs are varied in the same proportion. There can be three possibilities in this regard. The increase in output may be more than,equal to, or less than proportional to the increase in factor-inputs. Accordingly, returns to scale are also of three types – increasing returns to scale, constant returns to scale and diminishing returns toscale. The law of returns to scale with its all the three stages (or types) is shown in the following example and diagram below:

Example

Combination	Scale of operation Machine + Labour	Total Product : Returns to scale (Units)
A	1 Machine + 2 Labour	100
B	2 Machine + 4` Labour	250 Increasing
C	4 Machine + 8 Labour	600
D	8 Machine + 16 Labour	1200 Constant
E	16 Machine + 32 Labour	2400
F	32 Machine + 64 Labour	4000 Diminishing
G	64 Machine + 128 Labour	7000

From this table, we learn that from A to C is the increasing returns to scale. The combination of A with 1Machine + 2 Labour produces 100 units of output. When we double the factors-inputs in combination of Bwith 2 machines + 4 Labour, it produces 250 units of output which is more than double of the output of combination A. Again from B to C, the factor-inputs are doubled and the output is more than doubled (from 250 to 600 units). Similarly the table reveals that from C to E are the constant returns to scale. When we move from combination C to D and D to E, each time the factor-inputs are doubled and the resultant outputs are also doubled (from 600 to 1200 units in the case of C to D; and from 1200 to 2400 units in the case of D to E). Likewise the combinations from E to G in the table indicate diminishing return to scale. The movement from the combination E to F indicates that the factor-inputs are doubled but the output is less than doubled (from 2400 to 4000 Units). Similar is the case when we move from F to G.The law of returns to scale can also be shown with the help of a very simple diagram which is given below.

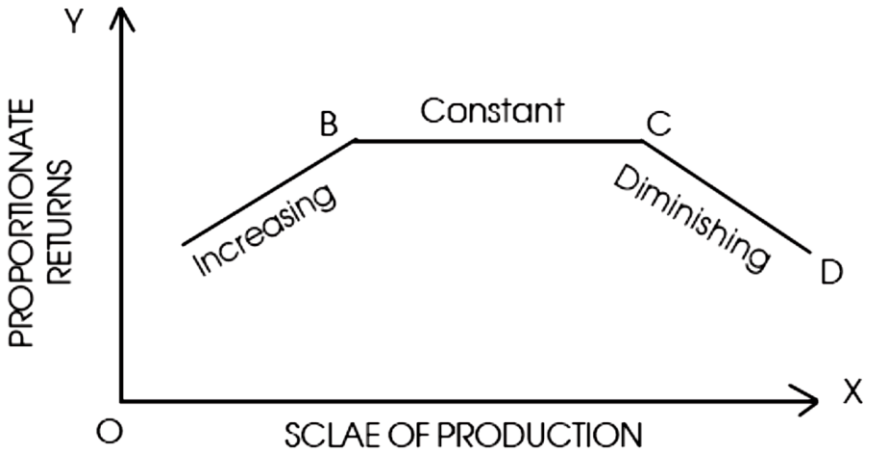


Fig 1.6 Returns to Scale

From A to B in the diagram is the stage of increasing returns; from b to C constant returns, and from C to Dis the diminishing returns to scale.

Cause for the operation of Returns to Scale

Returns to scale occur mainly because of two reasons

(i) **Division of Labour –** When tasks are allocated according to the specialization of workers, it is termed division of labour. Thus, division of labour and specialization are identical concepts. Division of labour and specialization are possible in large-scale operations. Different types of

workers can specialize and do the job for which they are more suited. This results in a sharp increase in output per man withthe increase in scale in the initial stages. This brings increasing returns to scale. But after a certain levelof output, top management becomes eventually overburdened and, hence, less efficient. It brings diminishing returns to scale. In short, with the increase in scale economies of specialization and division of labour brings increasing returns to scale and diseconomies of specialization bring ultimately diminishing returns to scale.

(ii) **Volume Discounts –** With the increase in the scale of operation certain advantages or economies of large volume or large size may occur. This results in increasing returns to scale. For instance when the scale of operation is increased a firm has to procure raw materials in a larger quantity. In this situation the firm may bargain for more discounts on purchase of the large volume of raw materials. Similarly, the per unit selling cost may also fall with the increase in output. In short, in the initial stages a firm may receive technical economies, marketing economies and economies related to transport and storage costs etc. All these result into increasing returns to scale. But after a certain limit, diseconomies of volume crop up with the increase in output. This brings diminishing returns to scale.

Thus, the main reason for the operation of the different forms of returns to scale is found in economies and diseconomies. When economies exceed the diseconomies, the stage of increasing returns operates; when economies and diseconomies equal each other, it becomes the stage of constant returns to scale; and when diseconomies exceed the economies, then comes the stage of diminishing returns to scale.

Distinction between Returns to a Variable Factor (or Law of Variable Proportions) and Returns to Scale

The main differences between returns to a variable factor and returns to scale are as indicated below:

Returns to a Variable Factor	**Returns to Scale**
1. Operates in the short run or it is related to short-run production-function.	1. Operates in the long-run or it is related to long-run production-function.

2. Only the quantities of a variable varied.	2. All factor-inputs are varied in the same factor are proportion.
3. There is change in the factor-proportion. Suppose on 1 acre land 1 labour is employed, then the land labour ratio is 1: 1. Now if we add one more unit of labour on the 1 acre land, then land-labour ratio would become 1: 2.	3. There is no change in factor-ratio. For instance, if a firm is employing 1 unit of labour and 2 units of capital, then the labour-capital ratio is 1: 2. Now if the firm increases its scale of operation and employed 2 units of labour and 4 units of capital, the labour-capital ratio still remains the same as 1: 2.
4. No change in the scale of production. Because here all the factor-inputs are not changed.	4. There is change in the scale of production

Check your progress 3

1. Return to a variable factor operates in _____run

   a. Long c. Medium

   b. Short

1.5 Production function

The technical law, relating inputs to outputs, has been given the name of production-function, in economics.

According to Prof. Lipsey, "This (Production-function) is a technological relation showing for a given state of technological knowledge how much can be produced with given amount of input". In simple words, production – function expresses the relationship between the physical inputs and physical output of a firm for a given state of technology. Thus, the production-function is a purely technical relation that connects factor-inputs and outputs.

The production-function can be written mathematically as follows:

$qx = f(F1, F2, F3 \ldots\ldots Fn)$

Here, qx = the quantity of x commodity

F1, F2, F3 ….. Fn = Different factor-inputs

This equation tells that the output of x depends on the factors F1, F2, F3 ….. Fn, etc. It also suggests that there is functional relationship between factor-inputs and the amount of goods x. For example, the output of cloth depends on cotton, thread, machine, labour, chemicals, etc. Hence the relationship between factor inputs (e.g. thread, machine, labour, chemicals, etc.) and the output of cloth can be shown with the help of production-function.

Check your progress 4

1. The _____expresses the relationship between the physical inputs and physical output of a firm for a given state of technology.

   a. resources c. labour

   b. production function

1.6 Let Us Sum Up

In this unit a detailed discussion has been made on production function. A production function means the physical output of goods during a production process to physical inputs or factors of production. This function is considered to be one of the key concepts of main stream neoclassical theories, used to define marginal product and to distinguish allocative efficiency, the defining focus of economics. The main purpose of the production function is to show the allocative efficiency in the utilisation of factor inputs in production and the resulting distribution of income to those factors, while abstracting away from the technological problems of achieving technical efficiency, as an engineer or professional manager might understand it.

This unit will certainly be very helpful for the students in learning and understanding the concepts discussed.

1.7 Answers for Check Your Progress

Check your progress 1

Answers: (1-a)

Check your progress 2

Answers: (1-b)

Check your progress 3

Answers: (1-a)

Check your progress 4

Answers: (1-b)

1.8 Glossary

1. **Price Discrimination**-The charging of different prices of different groups of individuals for the same goods or services for reasons not associated with differences in costs.

1.9 Assignment

Explain the production function.

1.10 Activities

Discuss the concept of Production theory.

1.11 Case Study

Discuss the concept of returns to scale.

1.12 Further Readings

1. Development Theories and Growth model, P. Sen.,S Chand & Company Ltd. 1995.
2. Economics: Principles and Policies, Baumol, William J. and Blinder, Alan S., Harcourt, Jovanovich, London, 1988.
3. Managerial Economics, R. Cauvers, S. Chand Group, 2009.

UNIT 2: PRICE, INCOME AND SUBSTITUTION EFFECTS ON CONSUMER'S EQUILIBRIUM

Unit Structure

2.0 Learning Objectives

2.1 Introduction

2.2 The Income Effect: Income Consumption Curve

2.3 The Substitution Effect

2.4 The Price Effect: Price-Consumption Curve

2.5 Separation of Price Effect into Income Effect and Substitution Effect

2.6 Price Effect in Case of 'Inferior' Goods

2.7 Giffen's Paradox

2.8 The Derivation of Demand Curve from PCC

2.9 Superiority of Indifference Curve Approach

2.10 Shortcomings of the Indifference Curve Approach

2.11 Let Us Sum Up

2.12 Answers for Check Your Progress

2.13 Glossary

2.14 Assignment

2.15 Activities

2.16 Case Study

2.17 Further Readings

2.0 Learning Objectives

After learning this unit, you will be able to understand:

- The Income consumption curve
- About Price effect
- The Income effect

- About Substitute effect
- How various factors affect consumer's equilibrium

2.1 Introduction

As discussed earlier, when consumers' make choices about the quantity of goods and services to consume, it is presumed that their objective is to maximise total utility. In maximising total utility, the consumer faces a number of constraints, the most important of which are the consumer's income, price of the good and substitutes available in the market. The solution to the consumer's problem, which entails decisions about how much the consumer will consume of a number of goods and services, is referred to as consumer equilibrium.

Income effect is the effect on consumer equilibrium exclusively because of change in money income, all prices remaining constant. If the prices of goods, tastes and preferences of the consumer remain constant and there is a change in income, it will directly affect consumer's equilibrium. A rise in income makes it possible for a consumer to get higher units of both commodities resulting in higher level of satisfaction.

Price effect is the effect on the consumer equilibrium exclusively because of change in the price of one commodity while price of other goods and income of the consumer remaining constant. The change in demand due to a change in price of a commodity, other things remaining the same, is called 'price effect'.

Substitution effect means the change in the quantity of a good purchased due to the change in relative prices while the real incomes remain constant. Although when the price of a good falls the real income increases but it is held constant by reducing the monetary income to that extent where the consumer should be neither better off nor worse off than before.

Let us study about all the above mentioned constrains, further, in detail…

2.2 The Income Effect: Income Consumption Curve

A consumer's demand for goods changes when his income changes. Thus, in his demand behaviour, his reaction to changes in his income, in relation to the fixed prices of goods and his given scale of preference, is called the income effect.

In a formal sense, however, the income effect may be defined as the effect of changes in the money income on a consumer's equilibrium position in the purchase of a single good or a combination of goods, assuming that prices of goods and his tastes remain constant.

Definition: The income effect refers to the change in demand for a commodity resulting from a change in the income of the consumer, prices of goods being constant.

In terms of indifference curve techniques, changes in income can be interpreted through shift towards its right, away from the origin. Similarly, when the income falls, the budget line shifts to its left, towards the origin. As the prices of goods X and Y are constant, the shift remains parallel (see fig 6.1).

Income-consumption curve shows how equilibrium positions and combinations of two goods (X and Y) change as income changes under conditions of a given scale of preference and fixed relative prices of goods.

In fig 2.1, the budget lines are A1B1 // A2B2 // A3B3

Their slopes are identical:

$$\frac{OA_1}{OB_1} = \frac{OA_2}{OB_2} = \frac{OA_3}{OB_3}$$

Indeed, for each level of income, the consumer will have an equilibrium position. Thus, when these income lines are superimposed on the customer's scale of preferences, for each level of income there will be an indifference curve, which is tangent to the relevant price line or budget line. Thus, we have tangency to the relevant price line or budget line. We have tangency point a, b, c as the equilibrium points-assuming an indefinitely large number of possible equilibrium positions like a, b, c etc., from which we may derive a curve called 'income-consumption curve' (ICC).

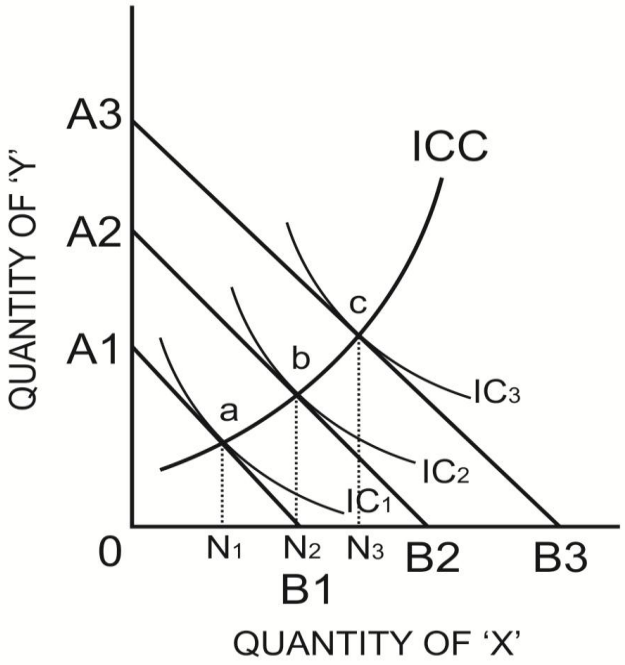


Fig 2.1 Income Consumption Curve

Definition: The income-consumption curve (ICC) is the curve drawn through the equilibrium points corresponding to the shifting budget lines when a consumer's money income is altered, when the prices of goods are held constant. It is curve measuring the income effect.

Geometrically, an upward movement on the income consumption curve places the consumer on a higher and higher indifference curve and a downward movement places him on a lower and lower indifference curve. Thus, through income effect, the consumer moves from one level of satisfaction to the other.

Normally, the income consumption curve has an upward slope. This implies a positive income effect for both the commodities, X and Y, i.e. the positive income effect induces the consumer to buy more from one level of satisfaction to the other.

Negative Income Effect: In certain cases, however, there may be a negative income effect. A negative income effect implies that the consumer will tend to buy less of a commodity when his income increases above a certain level. This happens in the case of inferior goods. Inferior good refers to goods of relatively cheap quality. In the Indian economy, inferior goods are numerous. For instance, plantains, guavas, vegetable ghee, pucca rice, total pairi mangoes, maize, coarse cloth, etc., are inferior goods. These goods are common consumption items of the poor. As income rises, it may be reasonably assumed that people can afford to buy

a greater and better variety of consumption goods and less and less of these types of inferior goods will be demanded.

In the case of a negative income effect, the income-consumption curve will have either a backward slope or a downward one.

Of the two goods X and Y, if X is inferior and Y is relatively superior, then the income effect after a point will be negative in the case of X, so that less of X will be demanded with the rise in income. In this case, the income-consumption curve has a backward slope.

If, however, the ICC is a horizontal straight line, then X will be superior and Y neutral having zero income effect. Likewise, vertical slope of ICC suggests that X is a neutral commodity having a zero income effect and Y is a superior one with a positive income effect.

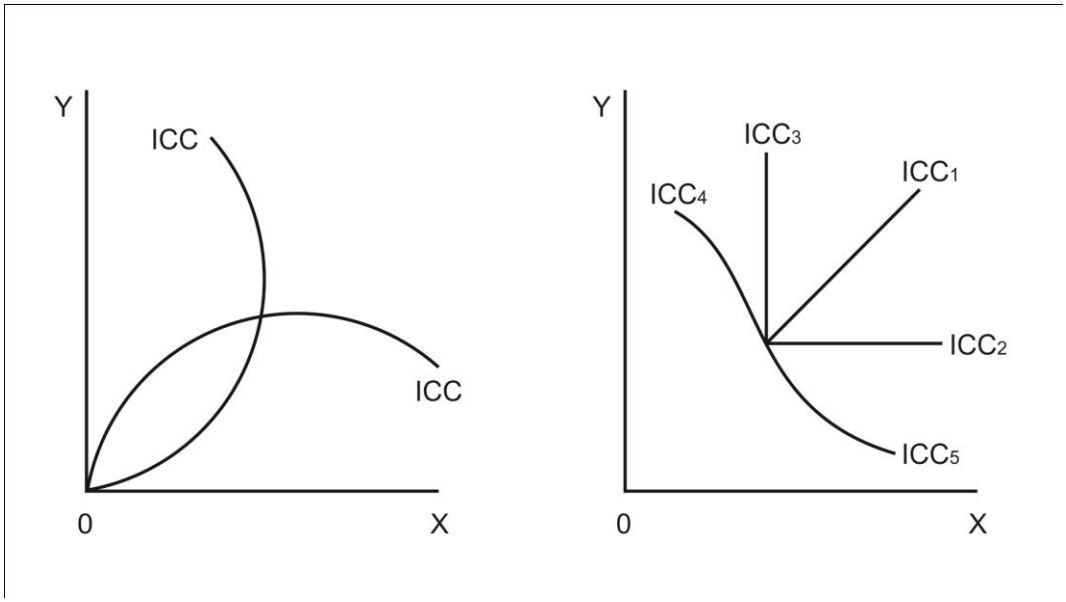


Fig 2.2 Income-consumption curve

Check your progress 1

1. Normally, the income consumption curve has an _____slope

   a. upward

   b. downward

2.3 The Substitution Effect

Whenever there is a change in the relative prices of goods, a rational consumer will be induced to substitute a relatively cheaper commodity for the dearer one. Such effect of the change in relative prices of goods is described as the substitution effect. Under the substitution effect, the consumer will tend to buy more of a good the price of which has fallen. He/she will buy less of the good the price of which has fallen and less of the good the price of which has remained unchanged or has increased, as he would relocate his expenditure in favour of the relatively cheaper good and substitute it for the dearer one.

Definition: The substitution effect is the change in the quantity demanded of a commodity resulting from a change in its price relative to the prices of other commodities, the consumer's real income or satisfaction level being held constant.

The pure substitution effect is measured by rearranging the purchases made by the consumer as a result of change in the relative prices of goods, his real income remaining constant, in such a way that his level of satisfaction will remain as before. Hence, to measure pure substitution effect, we choose a model of a consumer with given money income and two goods X and Y, in which the price of X falls but that of Y remains unchanged.

To measure pure substitution effect in this case, first, we will have to eliminate the change in his real income. It is obvious that as a result of a fall in price of X, there is a rise in the real income to the consumer, as his given money income can now buy more than before. To eliminate the effect of a rise in income, an appropriate change in the consumer's money income must be effected so that his real income (purchasing power in terms of X) remains the original level. We have, thus, to take away his surplus money income resulting from a fall in the price of X. When this is done, he will be neither better nor worse off than he was before. This is called the compensating variation in income.

Compensating Variation in Income: The compensating variation in income may be defined as an appropriate change in the consumer's income, which would just compensate for a change in the relative prices of goods so that the consumer is neither better nor worse off than he was before. In the indifference curve analysis, the compensating variation in income implies such adjustment in the income line which keeps the consumer on the same original indifference curve despite a change in the relative prices of two goods X and Y. Thus, the substitution effect can be defined as the change in the combination of the goods bought due to the change in their relative prices, despite the compensating variation in income. This

means that in spite of the compensating variation in income, if the consumer increases his purchase of commodity X when its price falls, he can reallocate his income spending to produce a pure substitution effect. This is diagrammatically illustrated in fig. 2.3

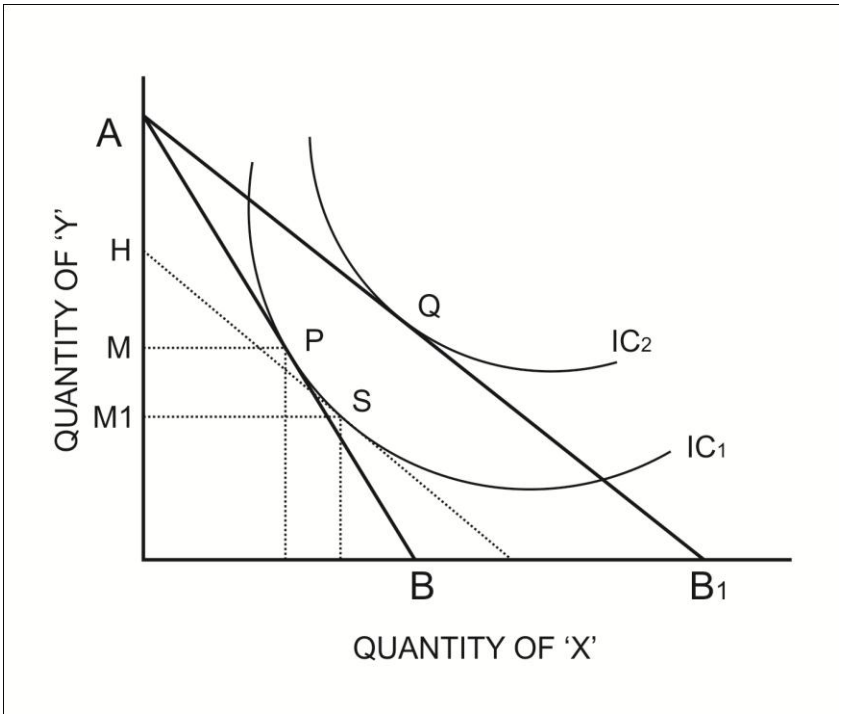


Fig 2.3 Substitution effect curve

This means that now the consumer has rearranged his purchases due to the change in the relative prices of goods, after allowing for the compensating variation in income. The point S denotes that the consumer buys ON1 of X and OM1 of Y. He has substituted NN1 of X for MM1 of Y. This is pure substitution effect.

In the initial equilibrium position, the consumer is at a point X, where the price line AB is tangent to IC1. He buys OM of Y and ON of X. When the price of X falls, while that of Y remains unchanged, the price line will shift to AB1. Because of the change in his real income, the consumer would then attain an equilibrium point on IC2. To measure pure substitution effect, however, we have to resort to compensating variation in income. For this, a hypothetical income line HL is drawn, which is parallel to the new price line AB1and tangential to the original IC1 so that the consumer is placed back on the ordinal level of satisfaction, maintaining the same real income as before. However, with respect to the HL price line, though the consumer is brought back on the same indifference curve IC1, his equilibrium position has changed from P to S.

Graphically, thus, the substitution effect is measured by movement from one point to another point on the same indifference curve. Again, the substitution effect may be small or large, but it will always be positive. This implies that the substitution effect always induces the consumer to buy more of the good when its price falls.

Difference between Substitution Effect and Income Effect: The analytical difference between substitution effect and income effect may be stated thus:

Income effect is measured along the income-consumption curve. The substitution effect is measured along the indifference curve.

Under the income effect, the retail income changes, so that the consumer moves from one indifference curve to another. By moving on the income-consumption curve, while measuring pure substitution effect, the real income is kept constant through the method of compensating variation in income. The movement from one point to another on the same difference curve measures substitution effect.

The income effect may be positive or negative. The substitution effect is always positive.

Check your progress 2

1. _____is measured along the income-consumption curve.

   a. Substitution effect

   b. Income effect

2.4 The Price Effect: Price Consumption Curve

Every price change can be decomposed into an income effect and a substitution effect; the price effect is the sum of substitution and income effects.

The substitution effect is a price change that alters the slope of the budget constraint but leaves the consumer on the same indifference curve. In other words, it illustrates the consumer's new consumption basket after the price change while being compensated as to allow the consumer to be as happy as previously. By this effect, the consumer tends to substitute the good that becomes comparatively less expensive. In fig 6.4 below, this corresponds to an imaginary budget constraint denoted SC being tangent to the indifference curve I1.

If the good in question is a normal good, then the income effect from the rise in purchasing power from a price fall reinforces the substitution effect. If the good is an inferior good, then the income effect will offset the substitution effect to some degree. If the income effect for an inferior good is sufficiently strong, the consumer will buy less of the good when it becomes less expensive, a Giffen good (commonly believed to be a rarity).

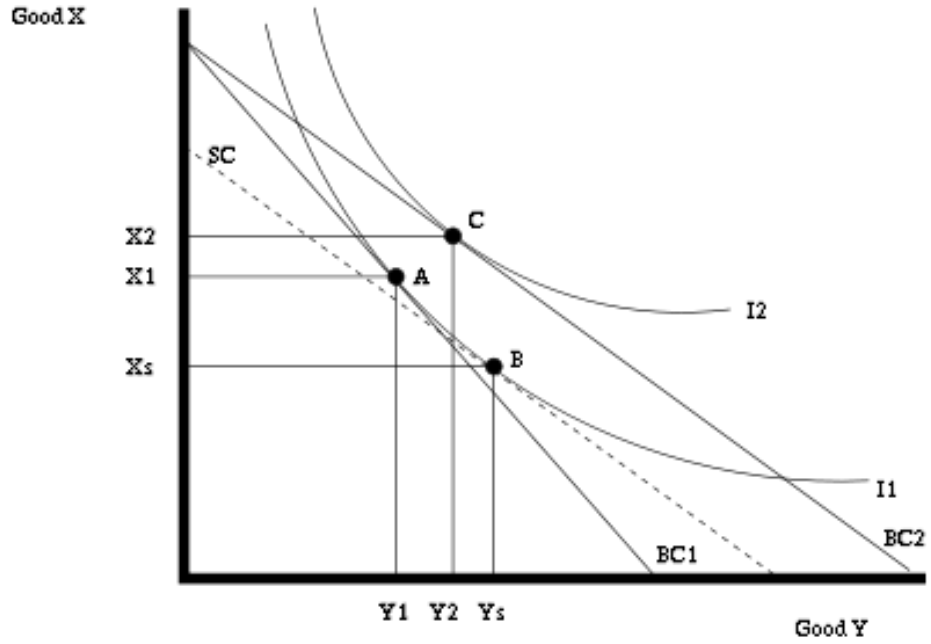


Fig 2.4 Price Consumption Curve

In the figure, the substitution effect, Δy_1^s, is the change in the amount demanded for $y$when the price of good $y$falls from $p_1$to p_1'(increasing purchasing power for y) and at the same time, the money income falls from m to m' to keep the consumer at the same level of utility on $I1$:

$$\Delta y_1^s = y_1(p_1', m') - y_1(p_1, m).$$

The substitution effect increases the amount demanded of good $y$from $y_1$to y_s. In the example, the income effect of the price fall in $y_1$partly offsets the substitution effect as the amount demanded of $y$goes from $y_s$to y_2. Thus, the price effect is the algebraic sum of the substitution effect and the income effect.

It may also be observed that the price-consumption curve (PCC) reflects the combined influence of the income and substitution effects of the price change. Again, the price consumption curve liesbetween the income positions. Its economic significance is that analytically we first measure income effect and then consider the substitution effect.

Check your progress 3

1. The _____is the sum of substitution and income effects

   a. Price c. cost

   b. Income

2.5 Separation of Price Effect into Income Effect and Substitution Effect

When the price of a commodity changes, the money income of consumer held constant, two separate and different forces are simultaneously altered to affect his demand behaviour.

1. **The Income Effect:** The change in the real income or the purchasing power of consumer's money income makes him, either better off or worse off.
2. **The Substitution Effect:** When the price of a commodity falls, it becomes relatively cheaper, so the consumer is induced to buy more of it. In addition, when its price rises, the commodity becomes relatively dearer, so the consumer tends to buy less of it, as he will replace it by buying more of other cheaper goods.

Evidently, the price effect can be interpreted as the sum of income effect plus substitution effect. Thus:

Price Effect (Pe) = Income Effect (le) + Substitution Effect (Se)

The technique of indifference curves enables us to have analytical bifurcation and exact measurement of income effect and substitution effect resulting in a price effect. Graphically, income effect is measured along the income-consumption curve, which implies a movement from one indifference curve to the other, while the substitution effect is measured by a movement from one point to another on the same indifference curve.

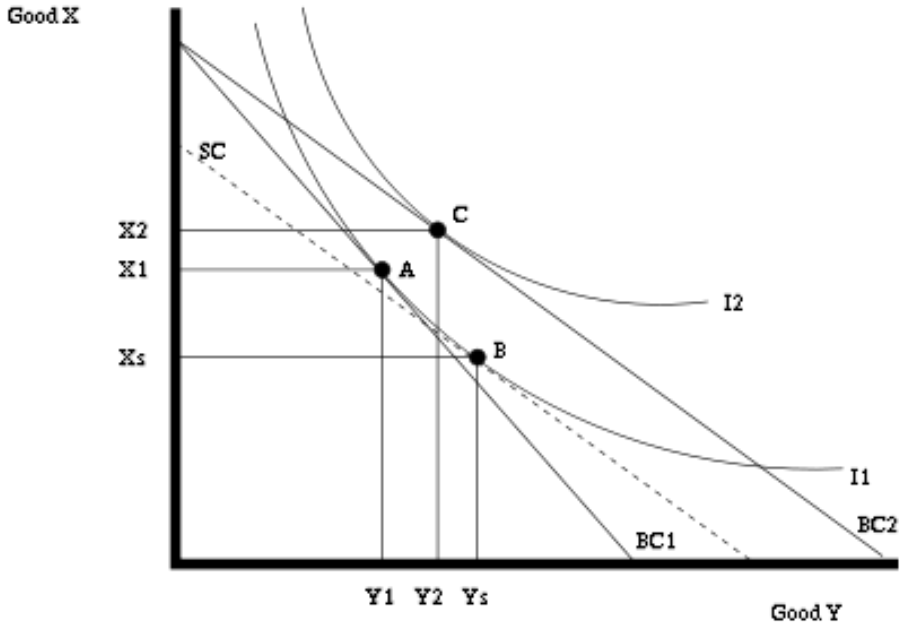


Fig 2.5 Income Consumption Curve

In the figure 2.5, the substitution effect, Δy_1^s, is the change in the amount demanded for $y$when the price of good y falls from p_1 to p_1' (increasing purchasing power for y) and at the same time, the money income falls from m to m' to keep the consumer at the same level of utility on $I1$:

$$\Delta y_1^s = y_1(p_1', m') - y_1(p_1, m).$$

The substitution effect increases the amount demanded of good $y$from $y_1$to y_s. In the example, the income effect of the price fall in y_1 partly offsets the substitution effect as the amount demanded of $y$goes from $y_s$to y_2. Thus, the price effect is the algebraic sum of the substitution effect and the income effect. It is usually found that both the income and substitution effects being positive in case of normal goods, the consumer will tend to buy more when their prices fall and vice-versa.

Check your progress 4

1. _____When the price of a commodity falls, it becomes relatively cheaper, so the consumer is induced to buy more of it.

   a. Income effect

   b. Substitution effect

2.6 Price Effect in Case of 'Inferior' Goods

Income effect tends to be negative in the case of inferior goods. Thus, when the real income of the consumer rises because of a fall in the price of a commodity, the negative income effect will induce him to buy less of this cheaper inferior good as he will prefer to buy superior goods instead that he can now afford. However, the price effect is the net effect of income and substitution effects combined together. This substitution effect is always positive whether the good is superior or inferior. If the positive substitution effect is more powerful than the negative income effect, the resulting net price effect will be positive, as the negative income effect is more than counter balanced by the strong substitution effect. To express it in symbolic terms:

When +ve Se > - ve le, Pe = Se + le = +ve net effect.

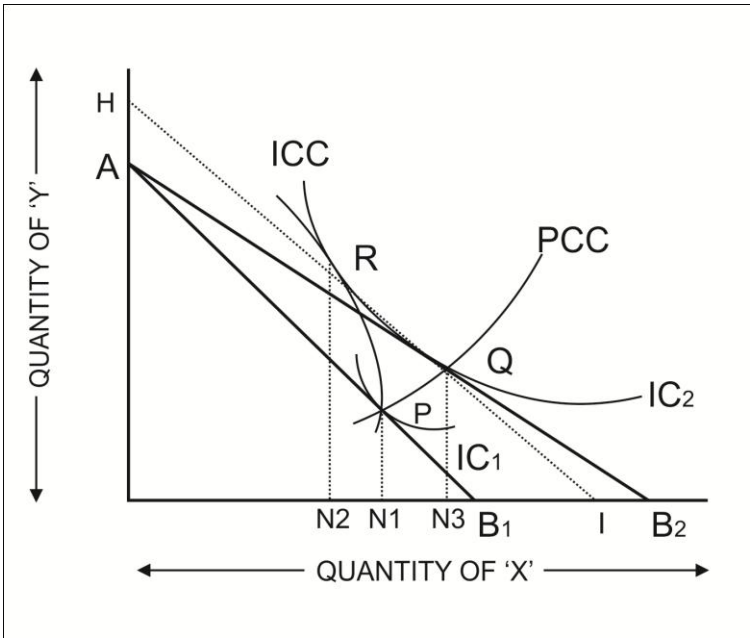


Fig 2.6 Income effect on inferior goods

In fig 2.6, AB1 is the initial price line. P is the initial equilibrium point, indicating that ON1 of X is bought. X being an inferior commodity, when its price falls, the real income of the consumer rises but it carries a negative effect, so the consumer first moves from P to R, on the income-consumption curve, which is backward sloping. The P to R, on the income-consumption curve is backward sloping. The P to R movement implies that he would buy less of X by N1N2. However, a stronger substitution effect forces the consumer to move again from R to Q. The substitution effect causes the consumer to by N2N3 of X

Thus: Net Pe = le + se

N1N3 = (-N1N2) + (N2N3). Here N1N3 is +ve

(+ N2N3) > (- N1N2)

Check your progress 5

1. _____tends to be negative in the case of inferior goods

   a. Income effect

   b. Substitution effect

2.7 Giffen's Paradox

There are few goods called 'Giffen goods' for which the negative income effect caused by a fall in their prices is stronger and predominant while the substitution effect is positive but weak in force so that the overall price effect tends to be negative. Thus, in the case of such typical inferior goods called 'Giffen goods', the consumer tends to buy less of them, after a point, even if their prices fall. This is paradox of the law of demand, which states that more is bought, when the price falls. Hence, Giffen goods are exceptions to the law of demand. The demand behaviour of the consumer in respect of these typical inferior products is reffered to as 'Giffen's Paradox'. In the nineteenth century, it was Sir Robert Giffen who pointed out the case of typical inferior goods where demand contracts even with a fall in price. Giffen explained the paradoxical tendencies by citing an example of demand for bread- the cheapest need of the poorer class in England- and observed that when the price of bread was high, people consumed more of it as it was the cheapest food as compared to other expensive food items like meat, cake, etc. However, when its price fell they would buy less of it, for they would like to spend the rise in their real income on abetterand more varied diet. In order to honour Sir Giffen, such typical inferior commodities that have a predominantly negative income effect are called 'Giffen Goods'.

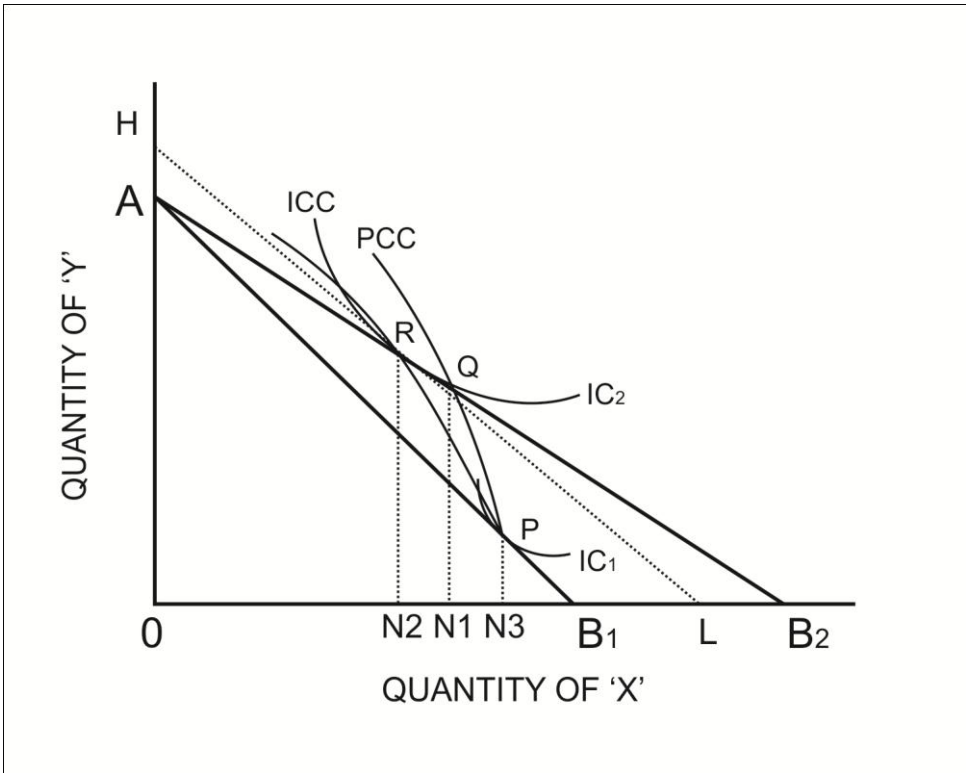


Fig 2.7 Income effect curve

In fig. 2.7, commodity X represented on the X-axis is a Giffen product. When the price of X falls, the income effect forces the consumer to move along ICC curve. The backward sloping ICC implies negative income effect. The consumer's equilibrium position changes from P to R. This means that he tends to reduce his purchase of commodity X by N1N3. However, the substitution effect, which is positive, leads the consumer to move further from point R to Q. Thus, he is induced to buy more of X by N3N2because of substitution effect. However, N3N2being lesser than N1N3, so the net price effect turns out to be negative, i.e., -N1N2. The observation may be summarised as under.

Thus: Net Pe = le + se

N1N3 = (-N1N2) + (N2N3)..... Here N1N3 is +ve

(- N1N2) > (+ N2N3).....Here N1N3 is -ve

In the case of Giffen goods, a strong negative income effect outweighs the positive substitution effect, so that the net price effect is also negative. Graphically, therefore, both the income-consumption curve (ICC) as well as the price-consumption curve (PCC) slope backward when the goods is a Giffen goods. This suggests that a consumer would buy less of such goods when its price falls. Of course, such Giffen goods are rare and are occasional exceptions to the law of demand.

Prof. Hicks in his book, A Revision of Demand Theory, evinces that good will be Giffen goods only when the following conditions are satisfied:

- The goods must be typically inferior so that it bears a strong negative income effect.
- To have a strong negative effect, the goods must be a very important item in the consumer's budget. This is to say, a substantial part of total income is spent on this goods. In practice, however, consumers do not spend a large part of their income on a commodity, which they consider inferior. Thus, most inferior goods have a significant negative income effect, while Giffen's Paradox requires a powerful negative income effect.
- The substitution effect is weak and insignificant.

To become a Giffen good, it should be an inferior good, but this is a necessary but not a sufficient condition. The income effect should also be greater than the substitution effect to ensure a Giffen'goods.

Since these conditions are rarely found in real life, the Giffen's Paradox is a rare phenomenon.

Check your progress 6

1. _____the consumer tends to buy less of them, after a point, even if their prices fall.

   a. Complementary goods

   b. Giffen goods

   c. Substitutes

2.8 The Derivation of Demand Curve from PCC

There are notable differences between the Demand Curve and the Price-Consumption Curve (PCC) and the latter appears to be superior to the former in certain respects:

- Usually, a demand curve slopes down, while price-consumption curve slopes upward. Both indicate that demand rises with fall in prices.

- In the case of demand curve, only one commodity is considered. In the case of price-consumption curve, two goods are represented. Thus, the demand curve does not reveal anything about complementary and substitutability characteristics of goods, which are clearly exposed by the price-consumption curve. Thus, from an analytical viewpoint, the price-consumption curve is superior to the conventional demand curve.
- The demand curve represents quantified marginal utility. The price-consumption curve signifies the order of ranking of the level of satisfaction.
- The demand curve assumes constant marginal utility of money. The price-consumption curve is free from any such assumption.
- The demand curve represents the consumer's average expenditure curve. The price-consumption curve represents the total outlay curve.
- The Marshallian demand curve does not reveal the size of a consumer's given income. It also does not show the income left after spending on the given commodity X. The price-consumption curve, on the other hand, represents a consumer's given money income in real terms through the budget line and also depicts what will be left after spending on X, if we plot money on X-axis. Thus, the PCC curve provides better and clearer results.
- The price-consumption curve, in fact, incorporates the conventional demand curve in it.
- The Marshallian demand curve directly informs us of how much of a commodity a consumer buys at various prices, other things being given especially, the consumer's income and the prices of other goods remaining unchanged. The information is implied in the Hicksian price-consumption curve.

The price-consumption curve shows the changes in the relative prices of two goods and the change in their demand. Thus, when the price of X changes, $\frac{Px}{Py}$ changes and the demand for X changes

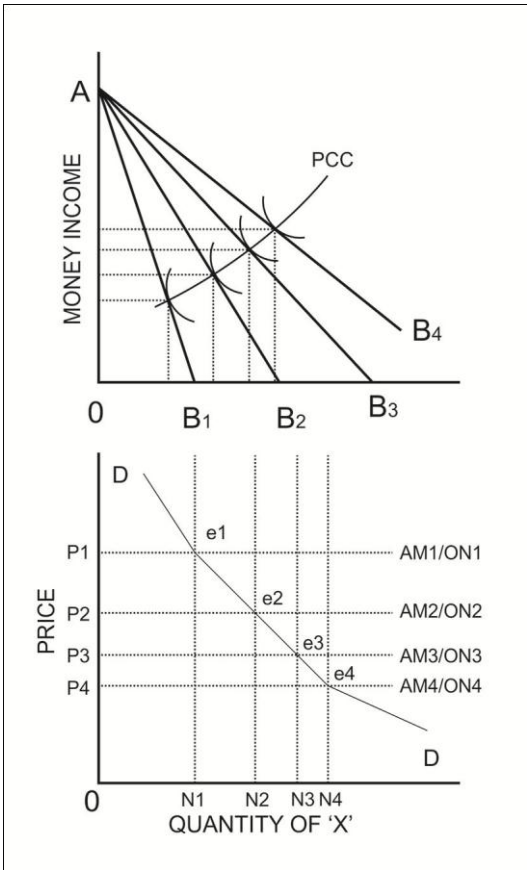


Fig 2.8 Price Consumption Curve and Derived Demand Curve

In figure 2.8, AB1, AB2, AB3and AB4 represent the prices lines when the price of X falls from P1 to P2P3and P4 respectively. PCC is the price-consumption curve. When the consumer is at an equilibrium point, he buys ON1 of X by incurring a total outlay of AM1.

Thus, unit price of X, $P_1 = \frac{AM_1}{ON_1}$

Likewise, $P_2 = \frac{AM_2}{ON_2}$, $P_3 = \frac{AM_3}{ON_3}$ and $P_4 = \frac{AM_4}{ON_4}$

This has been represented in the lower part of the diagram. As we know that at P1, the consumer buys OM1, of X2, at P2 he buys ON2 of X and so on, the points of respective quantities of upper part in the diagram can be extended to the lower part of the diagram by drawing perpendiculars. We, thus, get points, e1, e2, e3and e4. Joining these points, the demand curve DD is drawn. It is downward-sloping curve expressing inverse functional relationship between price and demand.s

Check your progress 7

1. A demand curve slopes _____, while price-consumption curve slopes _____.

   a. Downward, upward

   b. Upward, downward

2.9 Superiority of Indifference Curve Approach

The indifference curve approach is considered superior to the Marshallian utility analysis of consumer demand in the following respects:

- **More Realistic:** Marshallassumes cardinal measurement of utility, which is unrealistic. The difference curve technique, on the other hand, realistically makes an ordinal comparison of utility and the level of satisfaction.
- **Uses the Concept of Scale of Preferences with Lesser Assumptions than the Marshallian Concept of Utility:** The scale of preference is laid down based on a consumer's tastes and likings, independent of his income. Unlike Marshall, the Hicksian scale of preference needs no information bout level of satisfaction gained but it aims only at knowing whether a consumer's satisfaction level is greater than, less than or equal to, between the various combinations of two goods.
- **No Assumption of Constant Marginal Utility of Money:** The Marshallian analysis assumes that for the consumer the marginal utility of money remains constant. In the indifference curve analysis, such an assumption is not needed.
- **Wider in Scope:** Marshallian demand theory deals with a single commodity taken exclusively. Hicks' ordinal approach, however, considers at least two goods in combination. Thus, the complementary and substitutability of goods are explicitly considered in the Hicksian analysis.
- **Uses Scientific and Measurable Concept of MRS:** The utility approach is based on the law of diminishing marginal utility. On the other hand, the indifference curve approach rests on the principle of diminishing marginal rate of substitution. The concept of marginal rate of substitution is superior to that of marginal utility because it considers two goods together and because it is a ratio expressed in physical units of two goods and as such, it

is practically measurable. As Hicks claims, the replacement of the law of diminishing marginal utility by the law of diminishing marginal rate of substitution is not a mere translation but it is a positive change in a more scientific manner.

- **Exposes the Conditions of Consumer Equilibrium in a Better Way:** In Marshall's analysis, the consumer equilibrium condition is

$$\frac{MUx}{Px} = \frac{MUy}{Py}$$

Since utility cannot be measured numerically, this condition is impracticable.

In Hicksiananalysis, the equilibrium condition is expressed as

$$MRSxy = \frac{Px}{Py}$$

This is a measurable phenomenon. Again, it is more comprehensive as it recognises the fact that equilibrium in purchasing one commodity depends on the price of other goods and their stocks as well.

- **Analyses the Price Effect in a Better Way:** The Marshallian demand curve has no means to dichotomise the price effect into income and substitution effects. In the indifference curve analysis, the price consumption curve enables us to have the bifurcation of price effect into income and substitution effects.

Giffen Paradox Examined: Marshall views Giffen paradox as an exception to the law of demand. However, the case of Giffen goods is incorporated in the price-consumption curve to examine the consumer's typical behaviour caused by negative income effect. Thus, the unsolved riddle about Giffen goods in the utility analysis is solved by the indifference curve analysis.

Check your progress 8

1. Marshall views Giffen paradox as an exception to the _____

   a. demand

   b. law of demand

   c. goods

2.10 Shortcomings of the Indifference Curve Approach

Many critics have observed several drawbacks in the indifference curve analysis as well. The main shortcomings are as follows:

- **Does not Provide Positive Change in Utility Analysis:** According to Professor D.H. Robertson, the indifference curve analysis does not convey anything new regarding the theory of demand. It is just 'old wine in a new bottle'. It merely substitutes new concepts and equations in the old logic. For instance, in place of the concept of 'utility', it has introduced the term ‘preference’. Again, in place of cardinal number system, it gives just ordinal number system to denote the scale of preference. Moreover, the concept of marginal utility is replaced by the marginal rate of substitution. All these ultimately amount to the same thing as what Marshall wanted to convey in his exposition of the law of demand. Above all, the concept of' scale of preference introduced by Hicks is as subjective and unrealistic as the concept of utility itself. Thus, the indifference curve analysis has remained only an exercise of abstract thinking.
- **Diminishing Marginal Utility Assumption Used:** The Hicksian principle of diminishing marginal rate of substitution is based on the law of diminishing utility. That means the law of diminishing marginal rate of substitution is as much determinate or indeterminate as the much-criticised law of diminishing marginal utility. Thus, strangely enough, Hicks utilised Marshall's assumptions even after severely criticising them.
- **Unrealistical Assumption of Perfect Knowledge of Utility with the Consumer:** The indifference curve analysis assumes that the consumer has perfect knowledge and capability of forming his scale of preference, which is translated in terms of an indifference map, Inactual practice, this is hardly possible. In fact, the consumer would make choices in particular situations, but he would not contemplate making choices and laying down scales of preference in indefinitely large number of situations and determining indifferent positions.
- **Weak in Structure:** The indifference curve approach has a weak structure. If is based on the assumption of stability of consumer tastes and preferences. However, if tastes and preferences change due to some influences like advertisements, propaganda, fashion, etc., the entire edifice of indifference map collapses and the analysis becomes meaningless.

- **Limited Scope:** The indifference curve analysis has basic limitations of geometrical dimensions. Thus, it cannot be easily extended to more than two goods.
- **Introspective:** It provides only a psychological explanation of consumer behaviour. It is not amenable to empirical tests. Again, the functions involved in the indifference curve analysis are incapable of statistical verification.
- **Not Applicable to Indivisible Goods:** The indifference curve analysis may look absurd in the case of bulky goods, which are not divisible, when we think of TV set combined with refrigerators and so on.
- **Transitivity Condition Assumption:** Professor Armstrong points out that while drawing the indifference curve, Hicks assumes that the curves are transitive and continuous. Actually, indifference curves are non-transitive. An indifference curve is transitive if we see that the utility difference at different points of an indifference curve is not perceptible to the consumer. This may be true with very close points on an indifference curve.

In Fig 2.9, a = b, b= c, a= c is visualised on the transitivity assumption. However, when the difference of utility is perceptible, a may not be equal to c. Thus, if we remove the assumption of transitivity, indifference curves will be discontinuous. With discontinuous indifference curve, it is very difficult to make a demand analysis as has been seen in the previous sections.

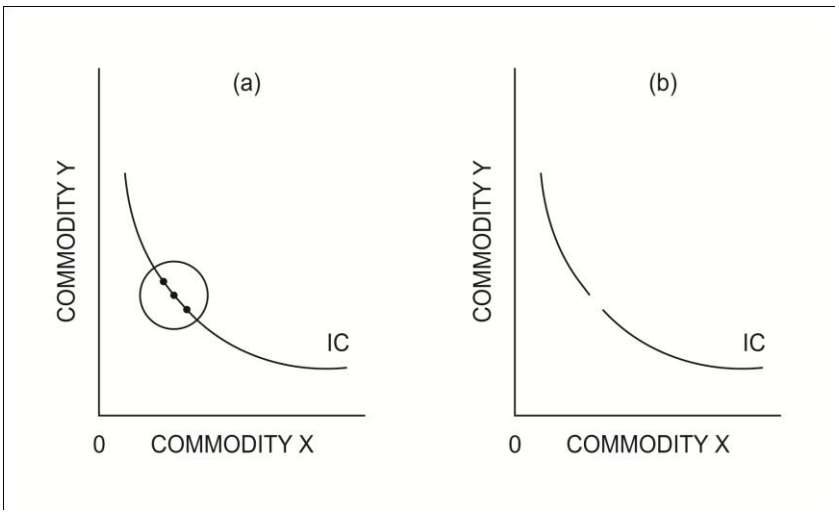


Fig 2.9 Transitive IC and Non-transitive IC

Despite these shortcomings of the indifference curve analysis, however, the fact remains the technique of indifference curve has wide application in economic analysis. It is widely used in modern welfare economics.

Check your progress 9

1. According to_____, the indifference curve analysis does not convey anything new regarding the theory of demand

   a. Professor D.H. Robertson c. Dr. Alfred Marshal

   b. Adam smith

2.11 Let Us Sum Up

In this unit we have discussed we have discussed a few more very important concepts in economics they are The income effect , it refers to the change in demand for a commodity resulting from a change in the income of the consumer, prices of goods being constant.Another important concept in economics is the income consumption curve , it is the curve drawn through the equilibrium points corresponding to the shifting budget lines when a consumer's money income is altered, when the prices of goods are held constant. It is curve measuring the income effect. The next topic was the substitution effect, it is the change in the quantity demanded of a commodity resulting from a change in its price relative to the prices of other commodities, the consumer's real income or satisfaction level being held constant.Another topic was compensation variation in income may be defined as an appropriate change in the consumer's income, which would just compensate for a change in the relative prices of goods so that the consumer is neither better nor worse off than he was before.One another important aspect studied was the superiorty of indifference curve analysis over marshallian conept of utility. Even the drawback of indifference curve was discussed in detail.

This unit is certainly going to be very helpful for the readers of the unit topics.

2.12 Answers for Check Your Progress

Check your progress 1

Answers: (1-a)

Check your progress 2

Answers: (1-b)

Check your progress 3

Answers: (1-a)

Check your progress 4

Answers: (1-b)

Check your progress 5

Answers: (1-a)

Check your progress 6

Answers: (1-b)

Check your progress 7

Answers: (1-a)

Check your progress 8

Answers: (1-b)

Check your progress 9

Answers: (1-a)

2.13 Glossary

1. **Imperfect Market** - Markets in which conditions do not correspond to the conditions for a perfect market, all markets are,therefore, imperfect, the most imperfect being monopolistic

2.14 Assignment

Discuss the effect of changes in an individual' income on his consumption

2.15 Activities

Explain how price effect is made up of income effect and substitution effect.

2.16 Case Study

"The price effect is the net result of income effect and substitution effect". Discuss

2.17 Further Readings

1. Development Theories and Growth model, P. Sen.,S Chand & Company Ltd. 1995
2. Economics: Principles and Policies, Baumol, William J. and Blinder, Alan S., Harcourt, Jovanovich, London, 1988
3. Managerial Economics, R. Cauvers, S. Chand Group, 2009

UNIT 3: DEMAND FORECASTING

Unit Structure

3.0 Learning Objectives

3.1 Introduction

3.2 Demand Forecast and Sales Forecast

3.2.1 Components of a Demand Forecasting System

3.2.2 Objectives of Demand Forecasting

3.2.3 Importance of Demand Forecasting

3.2.4 Methods of Demand Forecasting

3.2.5 Steps in Forecasting

3.2.6 Forecasting demands for new products

3.2.7 Criteria of a Good Forecasting Method

3.3 Role of Macro-Level Forecasting In Demand Forecasts

3.3.1 Macro-Parameters useful for Demand Forecasting

3.4 Let Us Sum Up

3.5 Answers for Check Your Progress

3.6 Glossary

3.7 Assignment

3.8 Activities

3.9 Case Study

3.10 Further Readings

3.0 Learning Objectives

After learning this unit, you will be able to understand:

- Concept of Demand Forecasting
- Short-term and long-term objective of Demand Forecasting
- Method of Demand Forecasting
- Steps in demand forecasting

- Merit and limitation of Demand Forecasting

3.1 Introduction

In the literary sense, 'forecasting' means 'prediction'. Forecasting may be defined as a technique of translating experience into prediction of things to come. It tries to evaluate the magnitude and significance of forces that will affect future operating conditions in an enterprise. Thus, demand forecasting is estimation of future demand.

According to Cardiff and Still, "Demand forecasting is an estimate of sales during a specified future period based on a proposed marketing plan and a set of particular uncontrollable and competitive forces". As such, demand forecasting is a projection of firms' expected level on a chosen marketing plan and assumed marketing environment.Demand forecasting is the activity of estimating the quantity of a product or service that consumers will purchase. Demand forecasting involves techniques including both informal methods, such as educated guesses and quantitative methods, such as the use of historical sales data or current data from test markets. Demand forecasting may be used in making pricing decisions, in assessing future capacity requirements or in making decisions on whether to enter a new market.

Often forecasting demand is confused with forecasting sales. However, failing to forecast demand ignores two important phenomena. There is a lot of debate in demand-planning literature about how to measure and represent historical demand, since the historical demand forms the basis of forecasting. The main question is whether we should use the history of outbound shipments or customer orders or a combination of the two as proxy for the demand.

3.2 Demand Forecast and Sales Forecast

Due to the dynamic nature of marketing phenomenon, demand forecasting has become a continuous process. It requires regular monitoring of the situation. In management circles, demand forecasting and sales forecasting are used interchangeably. Sales forecasts are first approximations in production planning. These provide foundations upon which plans may rest and adjustment may be made. According to American Marketing Association, "Sales forecast is an estimate of sales in monetary or physical units for a specified future period under a proposed business plan or programmer or under an assumed set of 'economic

and other environment forces, planning premises, outside business/ antiquate which the -forecast or-estimate is made".

3.2.1 Components of demand forecasting system

- Market research operations to get the relevant and reliable information about the trends in market
- A data processing and analysing system to estimate and evaluate the sales performance in various markets
- Proper co-ordination of steps (i) and (ii) and then to place the findings before the top management for making final decisions.

3.2.2 Objectives of demand forecasting

1. Short Term Objectives

a. **Formulation of Production Policy:** Demand forecast helps in formulating suitable production policy so that there may not be any gap between demand and supply of a product. This can further ensure:

- Regular Supply of Material: By the determination of desired volume of production based on demand forecasts, one can evaluate the necessary raw material requirements in future to ensure regular and continuous supply of the materials as well as controlling the size of inventory at economic level.
- Maximum Utilisation of Machines: The operations can be so planned that the machines are utilised to their maximum capacity.
- Regular Availability of Labour: Skilled and unskilled workers can be properly arranged to meet the production schedule equipment.

b. **Price Policy Formulation:** Demand forecasts enable the management to formulate appropriate pricing mechanism, so that the level of price does not fluctuate too much in the periods of depression or inflation.

c. **Proper Control of Sales:** Demand forecasts are calculated region wise and then the sales targets for various territories are fixed

accordingly. This later on becomes the basis to evaluate sales performance.

d. **Arrangement of Finance:** Based on demand forecast, one can determine the financial requirements of the enterprise for the production of desired output. This can minimise the cost of procuring finance.

2. Long Term Objectives: If the period of a demand forecast is more than a year then it is termed as long term forecast. The following are the main objectives of such forecasts:

a. **To decide about the Production Capacity:** The size of the plant should be such that output conforms to sales requirements. Too small or too large size of the plant may not be in the economic interest of the enterprise. By studying the demand pattern for the product and the forecasts for future the enterprise can plan for a plant/output of desired capacity.

b. **Labour Requirements:** Expenditure on labour is one of the most important components in cost of production. Reliable and accurate demand forecasts can help the management to assess appropriate labour requirements. This can ensure best labour facility and no hindrances in the production process.

c. **Production Planning:** Long-term production planning can help the management to arrange for long term finances on reasonable terms and conditions.

The analysis of long-term sales is more significant than short-term sales. Long-term sales forecast helps the management to take some policy decisions of great significance and any error committed in this may be very different or expensive to be rectified.

Thus, the overall success of an enterprise mainly depends on the quality and reliability of sales forecasting mechanism.

3.2.3 Importance of demand forecasting

1. **Management Decisions:** An efficient demand forecast helps the management to take suitable decisions regarding plant capacity, raw-material requirement, space and building needs and availability of labour and capital. Production schedules can be prepared in conformity with

demand requirement minimising inventory, production and other related costs.

2. **Evaluation:** Demand forecasting also helps in evaluating the performance of sales department.
3. **Quality and Quantity Controls:** Demand forecasting is a necessary and effective tool in the hands of the management of an enterprise to have finished goods of right quality and quantity at right time with minimum cost.
4. **Financial Estimates:** Demand forecasting is also very useful for a firm in estimating its financial requirements depending on sales level and production operations. Moreover, it also requires some time to get funds on reasonable terms. Sales forecasts will enable arrangement of sufficient funds on reasonable terms well as in advance.
5. **Under and Over Production Avoided:** Demand forecasting is essential for the old firms and new firms. It is much more important when the firm is engaged in large-scale production and there is a long gestation period in the production process. In such circumstances, an idea about future demand is necessary to avoid under production and over production.
6. **Guideline for Future:** Demand forecast for a particular product also provides a guideline for demand forecast of related industries. For example, the demand forecast for the automobile also helps the tyre industry in estimating the demand for 2 wheelers, 3 wheelers and 4 wheelers.
7. **Importance for the Government:** At macro-level, demand forecasting is useful to the government also for determining the targets of imports and exports for different commodities and planning the international business.

3.2.4 Methods of Demand Forecasting

There is no easy method or simple formula, which enables an individual or a business to predict the future with certainty or to escape the hard process of thinking. Two dangers must be guarded against. (i) Too much emphasis should not be placed on mathematical or statistical techniques of forecasting. Though statistical techniques are essential in clarifying relationships and providing techniques of analysis, they are not substitutes for judgment. (ii) We may go to the opposite extreme and regard forecasting as something to be left to the judgment of

the so-called experts. Some commonsense between pure guessing and too much mathematics are needed.

1. Survey of Buyers' Intentions

It is the most direct method of estimating demand in the short run. The customers are asked what they are planning to buy for the forthcoming time-period usually a year. This opinion survey is most useful when bulk of the sales is made to industrial producers. The burden of forecasting is shifted to the customer. The Economic Times very often publishes surveys of 'Private Sector Investment intentions'.

The Centre for Monitoring Indian Economy (CMIE) makes an annual survey of the 'Investment Intentions of the Industry'. For example, according to the CMIE, 2,600 projects costing Rs. 3, 93,000 crores were to be taken up in the Eighth Plan. The Reserve Bank of Indiaalso makes occasional studies of corporate expenditure. For example, in 1992-93, the corporate sector was likely to incur a total expenditure of Rs. 22,343 crores.

Yet it would not be wise to depend wholly on the buyer's estimates. They should be used cautiously in the light of the sellers' own judgments. A number of biases may creep into the surveys. If shortages are expected, customers may tend to exaggerate their requirements. They may know what their total requirements are but they may misjudge or mislead or may be uncertain about the quantity they intend to purchase from a particular firm.

This method is not very useful in the case of household customers due to irregularity in customers' buying intentions, their inability to foresee their choice when faced with multiple alternatives and the possibility that the buyers' plans may not be real but only a dream. This method is passive and "does not expose and measure the variables under management's control".

2. Delphi Method

The Delphi method is a systematic, interactive forecasting method, which relies on a panel of experts. The experts answer questionnaires in two or more rounds. After each round, a facilitator provides an anonymous summary of the experts' forecasts from the previous round as well as the reasons they provided for their judgments. Thus, experts are encouraged to revise their earlier answers in light of the replies of other members of their panel. It is believed that during this process, the range of the answers will decrease and the group will converge towards the 'correct' answer. Finally, the process is stopped after a pre-defined

stop criterion (e.g. number of rounds, achievement of consensus, and stability of results) and the mean or median scores of the final rounds determine the results.

Delphi is based on the principle that forecasts from a structured group of experts are more accurate than from unstructured groups or individuals. The technique can be adapted for use in face-to-face meetings and is then called mini-Delphi or Estimate-Talk-Estimate (ETE). Delphi has been widely used for business forecasting and has certain advantages over another structured forecasting approach, prediction markets.

3. Collective Opinion

It is also called sales-force polling. In it, the sales representatives are required to estimate expected sales in their respective territories and sections, because being closest to the customers, they are likely to have the most intimate feel of the market, i.e., customer reaction to the products of the firm and their sales trends. The estimates of individual sales representatives are consolidated to find out the total estimated sales. These are then reviewed to eliminate the bias of optimism on the part of some sales representatives and pessimism on the part of others. These revised estimates are further examined in the light of factors like proposed changes in selling prices, product designs and advertisement programmes, expected changes in competition, changes in secular forces like purchasing power, income distribution, employment, population, etc. The final sales forecast emerges after these factors have been taken into account. This 'collective opinion method' takes advantage of the collective wisdom of sales representatives, departmental heads like production manager, sales manager, marketing manager, managerial economist, etc. and the top executives.

4. Analysis of Time Series and Trend Projections

A firm which has been in existence for some time, will have accumulated considerable data on sales pertaining to different time periods which, when arranged chronologically, yield 'time series'. The time series relating to sales represents the past pattern of effective demand for a particular product. Such data can be presented either in a tabular form or graphically for further analysis. The most popular method of analysis of time series is to project the trend of the time series. A trend line can be fitted through a series either visually or by means of statistical techniques such as the method of least squares. The analyst chooses aplausible algebraic relation (linear, quadratic, logarithmic, etc.) between sales and the independent variable, time. The trend line is then projected into the future by extrapolation.

There are two assumptions underlying this approach: (1) The analysis of movements would be in the order of trend, seasonal variations and cyclical changes and (2) The effects of each component are independent of each other. This method is simple and inexpensive. Time series data often exhibits a persistent growth trend. Its basic assumption is that the past rate of change of the variable under study will continue in the future. It yields acceptable results so long as the time series shows a persistent tendency to move in the same direction. However, the trend projection breaks down whenever a turning point occurs. Nevertheless, a forecaster could normally expect to be right in most forecasts particularly if the turning points are few and spaced at long intervals from each other. Thus forecasting must predict turning points rather than trends. On turning points, the management will have to alter and revise its sales and production strategies drastically. Four sets of factors are responsible for the characterisation of time series by fluctuations and turning points in a time series: trend, seasonal variations, cyclical fluctuations and irregular or random forces. The problem is to separate and measure each of these four factors. The basic approach is to treat the original time series data (O or observed data) as composed of four parts: a secular trend (T), a seasonal factor (S), a cyclical element (C) and an irregular movement (I). It is generally assumed that these elements are bound together in a multiplicative relationship expressed by the equation O = TSCI. The usual practice is to compute the trend from the original data first. The trend values are then eliminated from observed data (TSCI/T). The next step is to calculate the seasonal index, which is used to remove the seasonal effect (SCI/S). A cycle is then fitted to the remainder, which also contains the irregular effect.

The decomposition of time series data is a useful analytical device for understanding the nature of business fluctuations. However, in actual business forecasting it is of limited value. The trend and the seasonal factor can be forecast, but the prediction of cycles is hazardous because there is no regularity in the cyclical behaviour.

5. Use of Economic Indicators

This approach bases demand forecasting on following economic indicators:

- Construction contracts sanctioned for the demand of building materials, say, cement
- Personal income for the demand of consumer goods
- Agricultural income for the demand of agricultural inputs, implements, fertilizers and so on

- Automobile registration for the demand of car accessories, petrol and so on

These economic indicators are published by specialised organisations like the C.S.O., which publishes national income estimates.

Steps in the Use of Economic Indicators

- See whether a relationship existsbetween the demand for a product and certain economic indicators.
- Establish the relationship through the method of least squares and derive the regression equation. Assuming the relationship to be linear, the equation will be of the form Y = a + bx. There can be curvilinear relationships as well.
- Once regression equation is derived, the value of Y i.e. 'demand' can be estimated for any given value of x.
- Past relationships may not recur. Hence, there is need for value judgement as well. New factors may also have to be taken into consideration.

6. Controlled Experiments

Controlled experiments have sufficient potential to become a major method for business research and analysis in future. In this method, an effort is made to separately vary certain determinants of demand, which can be manipulated e.g. price, advertising etc., and conduct the experiments assuming that the other factors remain constant. The effect of demand determinants like price, advertisement, packaging, etc., on sales can be assessed by either varying them over different markets or by varying them over different periods in the same markets. For example, different prices would be associated with different sales. On that basis, the price-quantity relationship is estimated in the form of regression equation and used for forecasting purposes.

The market divisions here must be homogeneous with regard to income, tastes, etc. Controlled experiments have often been conducted in the U.S.A. to gauge the effect of a change in some demand determinants like price, advertising, product design, etc. For example, the Parker Pen Co. used this method to find out the effect of a price rise on the demand for Quink ink.

7. Judgmental Approach:

In this method, the management may have to use its own judgment, when:

- Analysis of time series and trend projections is not feasible because of wide fluctuations in sales or because of anticipated changes in trends.
- Use of regression method is not possible because of lack of historical data or because of management's inability to predict or even identify causal factors. If statistical methods are used, it might be desirable to supplement them by use of judgement for the following reasons:
  - Even the most sophisticated statistical methods cannot incorporate all the potential factors affecting demand as, for example, a major technological breakthrough in product or process design.
  - For industrial products, demand may be concentrated in a small number of buyers. If the management anticipates loss or addition of a few such large buyers, it could be taken into account only through the judgemental approach.
  - Statistical forecasts are more reliable for larger levels of aggregations. Thus while it may be possible to forecast the total national demand more or less accurately, it may be more difficult to accurately forecast demand by sales territory, sizes and models. In such cases, one has to depend on judgement for developing forecasts that are more detailed.

3.2.5 Steps in forecasting

- Identify and clearly state the objectives of forecasting — short-term or long-term, market share or industry as a whole.
- Select appropriate method of forecasting.
- Identify the variables affecting the demand for the product and express them in appropriate forms.
- Gather relevant data or approximations to relevant data to represent the variables.
- Determine the most probable relationship between the dependent and the independent variables using statistical techniques.
- Prepare the forecast and interpret the results. Interpretation is more important to the management.
- Following two different assumptions may be made for forecasting the company's share in the demand.

- The ratio of the company sales to the total industry sales will continue as in the past.
- On the basis of an analysis of likely competition and industry trends, the company may assume a market share different from that of the past.

However, it would be useful to prepare alternative forecasts which are mop meaningful than a single forecast. As forecasts are based on certain assumptions, these must be revised when improved information is available. In long-term forecasts, the projections may be revised every year, sometimes known as rolling forecasts.

- Forecast may be made either in terms of physical units or in terms of rupees of sales volume. The latter may be converted into physical units by dividing it by the expected selling price.
- Forecasts may be made in terms of product groups and then broken for individual products based on past percentages. Product group may be divided into individual products in terms of sizes, brands, labels, colours, etc.
- Forecasts may be made on annual basis and then divided monthly or weekly based on past records.
- For determining the month-wise break-up of the forecast sales of a new product, either: (i) use may be made of other firms' data, if available or (ii) some survey may be necessary. The situation will be similar when the forecast sales of a product-line have to be divided product-wise.
- Sales may change over time by a constant proportion rather than by a constant absolute amount. For example, if a firm is projecting its sales for five years into the future and if it has determined that sales are increasing at an annual rate of 10 per cent, the projection would simply involve multiplying the 10 per cent growth factor for 5 years times present sales.

3.2.6 Forecasting Demand for New Products

Joel Dean has suggested following possible approaches to the problem of forecasting demand for new products:

- Project the demand for the new product as an outgrowth of an existing old product.

- Analyse the new product as a substitute for some existing product or service.
- Estimate the rate of growth and the ultimate level of demand for the new product based on the pattern of growth of established products.
- Estimate the demand by making direct enquiries from the ultimate purchasers, either by the use of samples or on a full scale.
- Offer the new product for sale in a sample market e.g. by direct mail or through one multiple shop organisation.
- Survey the reaction of the consumers to a new product indirectly through specialised dealers. These dealers are supposed to have knowledge about consumers' need and alternative opportunities

These methods are not mutually exclusive and it would be desirable to try to combine several of them so that crosschecking is possible. To some extent, the methods of forecasting demand for an established product may also be applied or adapted for new products.

3.2.7 Criteria of a good forecasting method

1. **Accuracy:** It is necessary to check the accuracy of past forecasts against present performance and of present forecasts against future performance. The accuracy of the forecast is measured by: (a) the degree of deviations between forecasts and actual and (b) the extent of success in forecasting directional changes.
2. **Simplicity and Ease of Comprehension:** For proper interpretation of the results, management must be able to understand. They should have confidence in the techniques used. If management does not really understand the procedure or what the forecaster is doing, elaborate mathematical and econometric procedures may be judged less desirable.
3. **Economy:** Costs must be weighed against the importance of the forecast to the operations of the business. The criterion here is the economic consideration of balancing the benefits from increased accuracy against the extra cost of providing the improved forecasting.
4. **Availability:** The techniques employed should be able to produce meaningful results quickly. Techniques, which take a long time to work out,

may produce useful information too late for effective management decisions.

5. **Maintenance of Timeliness:** The forecast should be capable of being maintained on an up-to-date basis. According to Norman N. Barish this has three aspects

   - The relationships underlying the procedure should be stable so that they will carry into the future for a significant amount of time.
   - Current data required to use these underlying relationships should be available on timely basis.

The forecasting procedure should permit changes to be made in the relationships as they occur.

Check your progress 1

1. The _____is a systematic, interactive forecasting method, which relies on a panel of experts.

   a. Delphi method

   b. Collective opinion method

   c. Survey method

3.3 Role of Macro-Level Forecasting in Demand Forecasts

Macro-level forecasting precedes micro-level demand forecasting. The macro-parameters such as Gross National Product (GNP), population growth, per capita income, aggregate savings, level of investment, etc., provide boundaries within which projections of demand for an industry, a firm or a product fit in. For example, if the level of national savings is projected to rise fast, the disposable consumer expenditure on products will decline. Thus, savings parameter has a bearing on future demand for consumer goods, specially durable consumer goods. Likewise, rising population indicates that the market for various commodities is in general expanding.

3.3.1 Macro-Parameters Useful For Demand Forecasting

- **National income and per capita income:** Increase in these parameters indicates rising market potential for consumer goods.
- **Savings:** If the level of savings is high, this would dampen consumer goods demand.
- **Investment:** An increase in investment would raise demand for intermediate goods or vice versa.
- **Population Growth:** The future demand for all types of goods would rise with population growth.
- **Government Expenditure:** High level of public expenditure would stimulate investment in the private sector. In the context of Indian economy, the increase in public expenditure has a decisive role in stimulating private investment, aggregate demand and the level of spending in general.
- **Taxation:** Taxation can also influence demand pattern. Certain taxes would depress the demand of commodities taxed. For example, high level of excise duties on semi-luxury and luxury goods such as electrical appliances, refrigerators, air-conditioners etc. would depress the demand for these goods. Further, this in turn would depress investment in these industries and as such demand for capital goods employed in these industries.
- **Credit Policy:** Such policies influence cost of credit, credit availability and company finance. The time pattern of investment is largely affected by credit policies. Again, inventories are largely affected by credit policies through their effects on carrying costs of inventories. Credit policies affect holding capacities of all business sections — producers, dealers and retailers.

In India, information and data about macro parameters are mostly available in various publications of Government organisations, National Council of Applied Economic Research and Central Statistical Organisation are some of them. Forecasts regarding national parameters would influence and determine firm's demand projections. A good crop forecast and higher rural incomes would lower cost of materials and boost demand for various products. The data pertaining to national income, per capita income, production, prices, taxes, etc., presents a reasonable basis for good forecasts.

Check your progress 2

1. High level of taxes on semi-luxury and luxury goods such as electrical appliances, refrigerators, air-conditioners etc. would _____ the demand for these goods

   a. increase

   b. Depress

3.4 Let Us Sum Up

In this unit demand forecasting has been discussed here in very detail. We have studied that, "Demand forecasting is an estimate of sales during a specified future period based on a proposed marketing plan and a set of particular uncontrollable and competitive forces". Demand forecasting is the activity of estimating the quantity of a product or service that consumers will purchase. Demand forecasting involves techniques including both informal methods, such as educated guesses and quantitative methods, and the use of historical sales data or current data from test markets. Apart from this we studied the objectives of demand forecasting its importance

This unit is going to be very helpful for the students in learning the important concepts of economics.

3.5 Answers for Check Your Progress

Check your progress 1

Answers: (1-a)

Check your progress 2

Answers: (1-b)

3.6 Glossary

1. **Implicit Costs** - Costs in the form of lost opportunities to use resources, including time, in another way, e.g. a major implicit cost of a university education is the foregone opportunity to work and receive an income.

3.7 Assignment

What are the important methods of demand forecasting?

3.8 Activities

What is the general approach to demand forecasting?

3.9 Case Study

Forecast demand of any one commodity in the market by using several methods.

3.10 Further Readings

1. Business Economic, Micro and Macro, H.L Ahuja, S Chand & Company Ltd, 1999
2. Development Theories and Growth Model, P. Sen, S Chand & Company Ltd. 1995
3. Financial Management, M.Y.Khan, P.K. Jain Tata McGraw –Hill Publishing Company Ltd. New Delhi, 1999
4. Managerial Economics, R. Cauvers, S. Chand, 2009
5. Principles of Economics, Seth, M.L,LakshmiNarainAgarwal, 2009

UNIT 4: PRICING STRATEGIES AND PRACTICES

Unit Structure

4.0 Learning Objectives

4.1 Introduction

4.2 Pricing Strategies

4.2.1 Cost Plus Pricing or Mark up Pricing

4.2.2 Multiple Product Pricing

4.2.3 Pricing in Relation to Established Products

4.3 Peak Load Pricing

4.4 Game theory

4.5 Let Us Sum Up

4.6 Answers for Check Your Progress

4.7 Glossary

4.8 Assignment

4.9 Activities

4.10 Case Study

4.11 Further Readings

4.0 Learning Objectives

After learning this unit, you will be able to understand:

- The basics of pricing methods generally used by producers
- The logic of various pricing methods
- The underlying factors in pricing in different situations.
- The basis of pricing in different markets and under various stages of production

4.1 Introduction

A business can use a variety of pricing strategies when selling a product or service. The Price can be set to maximize profitability for each unit sold or from the market overall. It can be used to defend an existing market from new entrants, to increase market share within a market or to enter a new market. Businesses may benefit from lowering or raising prices, depending on the needs and behaviors of customers and clients in the particular market. Finding the right pricing strategy is an important element in running a successful business

4.2 Pricing Strategy

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4.2.1 Cost PlusPricing or Mark up Pricing

Cost-plus pricing also known as mark up pricing is the simplest pricing method.

Cost-plus pricing is a pricing strategy in which the selling price is determined by adding a percentage markup to a product's unit cost. An alternative pricing method is value-based pricing.

Cost-plus pricing is often used on government contracts (cost-plus contracts), and was criticized for reducing pressure on suppliers to control direct costs, indirect costs and fixed costs whether related to the production and sale of the product or service or not.

Cost breakdowns must be deliberately maintained. This information is necessary to generate accurate cost estimates.

Cost-plus pricing is especially common for utilities and single-buyer products that are manufactured to the buyer's specification such as military procurement.

The firm calculates the cost of producing the product and adds on a percentage (profit) to that price to give the selling price. This method although simple has two flaws; it takes no account of demand and there is no way of determining if potential customers will purchase the product at the calculated price.

4.2.2 Multiple product pricing

Almost all the firms have more than one product in their line of production. Even the most specialized firm's produce acommodity in multiple models, styles and size, each so much differentiated from the other that each model or size of the product may be considered a different products e.g. the various models of television, refrigerators, etc. produced by the same company may be treated as different product for at leastpricing purpose. The various models are so differentiated that consumers view them as different products. Hence each model or product has different average revenue (AR) and Marginal Revenue curves and that one product of the firm concepts against the other product. The pricing under this condition is known as multi-product pricing or product line pricing. In multi-product pricing, each product has separated them and curve. But, since all of them are produced under one organization by interchangeable production facilities, they have only one inseparable marginal cost curve. That is, while revenue curves, AR and MR, are separate for each product, cost curves AC and MC are inseparable.

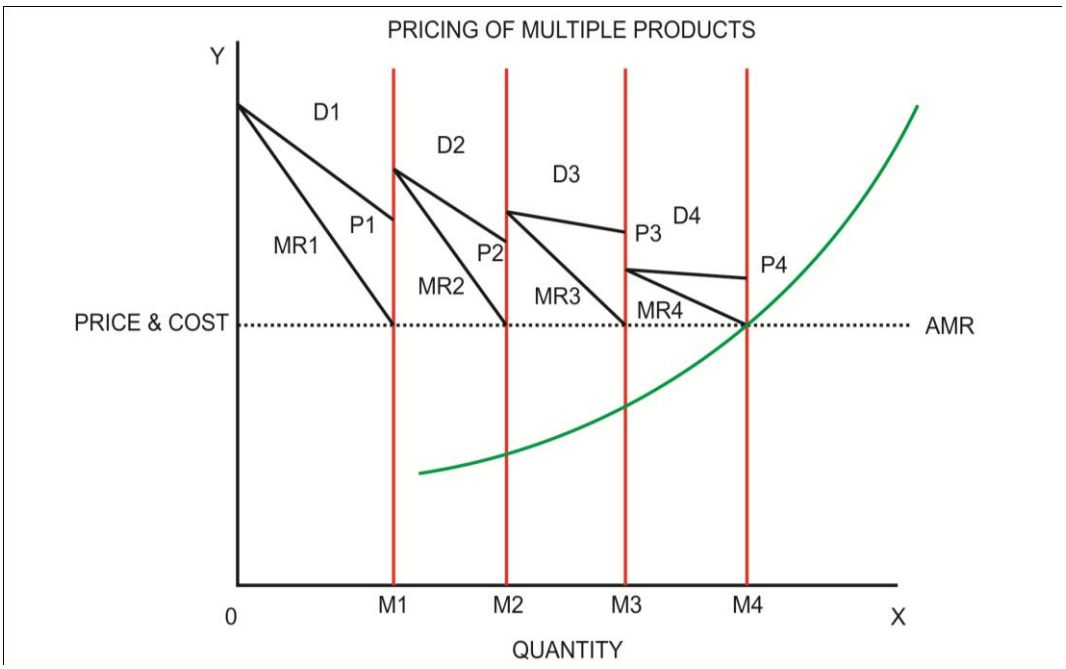


Fig 4.1 Multiple product pricing

Have you noticed the various models of mobile handsets produced by one company, say Nokia, L.G? Why are various models manufactured? The answer to this is obvious. People choices are different depending upon their preferences, usage, aesthetic senses, snobappeal, fashion sense, etc. For e.g. a person may go in for an ordinary model without added features, but priced less. So Nokia is producing different models to suit the varying needs of its customers. In this manner they can maximize sales or profit so a firm may be producing variety of products which may differ in style, model, functions, sizes, etc. so physically the models may be different and each one has market share. The models keep on changing to cater to the changing demand pattern. The producersalso try to introduce new products along with old. Naturally the firm s will not have stable profit maximum point. It keeps on shifting. For firms producing multiple products, it is convenient to introduce new items since already the overhead expenses are incurred. Management and labor can also be common for many products. So if there is idle capacity it can be utilized to produce new products.For example, a firm produces a particular brand of car, say HyundaiI 10. The capacity utilization is 70 %. The marginal revenue will be equal to marginal cost and profits are made. The excess capacity can be used to produce another car or bike and if there is excess capacity still, he can go for a third product. In each of the product category, MR (extra income from the last unit) and MC (the cost of producing the last unit) will be equal. This is applicable to any number of new products and markets. The diagram illustrates multiproduct pricing. Market A has the demand curve A1. The second market has B2. MC is the marginal cost, which is common. OM1 quantity is sold in market 1 and M1 M2 quantity is sold in market 2. The horizontal line AMR is the aggregate marginal revenue curve. In equilibrium, the marginal revenues of different products will be equal to each other and all are equal to MC. The four markets have four demand curves and corresponding MR curves, MR1, MR2, MR3 and MR 4. Each product is charged differently. For example in the first market A the firm sells OM 1output. At this point MR1 = MC. The price charged is P1M1.The price charged is M2P2 in the second market and M3P3 in the third market and so on. It may be noted that in the above given example price is just above the MC. The demand in this market is elastic. So prices are also kept lower. So a rational producer will keep the prices low in such a situation to maximize profits. Thus, the producers in multi product pricing may sell different types or models of a commodity in different markets depending on elasticity of demand and thus make a profit.

4.2.3 Pricing in Relation to Established Products

Many producers enter the market often with a new brand of a commodity for which several substitute are available. For example, cold drink like Coke and spot were quite popular in the, market during 1980s when new brand like limca, Thums up, Pepsi were introduced in the market.

Generally three typeof pricing strategies are adopted in pricing a new product in relation to its well established substitudes:-

a. **Pricing below the market price:**This strategy gives the new brand an opportunity to gain popularity and establish itself.

b. **Pricing at Market price:** Pricing at par with the market price of the existing brand is considered to be the most reasonable pricing strategy for a product which is being sold in a strongly competitive market.

c. **Pricing above the existing market-price:** This strategy is adopted when a seller intends to achieve a prestigious position among the seller in the locality.

Check your progress 1

1. _____is a pricing strategy in which the selling price is determined by adding a percentage markup to a product's unit cost.

   a. Cost-plus pricing c. Peak load pricing

   b. Multiple product pricing

4.3 Peak Load Pricing

Peak-load pricing is a pricing technique applied to public goods. Instead of different demands for the same public good, we consider the demands for a public good in different periods of the day, month or year, then finding the optimal capacity (quantity supplied) and, afterwards, the optimal peak-load prices.

This has particular applications in public goods such as public urban transportation, where day demand (peak period) is usually much higher than night demand (off-peak period). By subtracting the marginal costs of operation from the original demands we find the marginal benefits of capacity, which must then be vertically aggregated and equated to the marginal cost of increasing capacity. For

example, cell phone use during peak usage time is more expensive than during off peak time. The higher peak price also encourages customers with flexibility of usage to shift the usage to off peak time where there is excess separable capacity available.

With the optimal capacity found, the optimal peak-load prices are found by adding the marginal costs of operation to the marginal benefit generated, in each period, by the optimal capacity.It may happen, however, that the optimal capacity is not fully used during the off-peak period. In that case, the capacity expansion will be totally supported by the peak demanders.

Peak Load Pricing is a pricing strategy that implies price will be set at the highest level during times when demand is at a peak. The pricing strategy is an attempt to shift demand, or at least consumption of the good or service, to accommodate supply. The idea is that pricing higher when demand is at its peak will balance out the supply and demand so that there is no shortage on either end of the spectrum. If a good is priced at a high cost and many demand it, a capacity will be balanced. This is a type of price discrimination; a firm discriminates between high-traffic, high usage or high demand times and low usage time periods. The consumer that purchases during high usage times has to pay a higher price than that of the consumer that can delay his purchase or demand.

Graphically, Marginal Cost is constant until the quantity being produced is the maximum that the firm can produce. At this quantity, Marginal Cost becomes vertical. Since firms optimize profits when MC=MR, shifts in MR and MC effect the price. As demand shifts outwards, Marginal Revenue increases. As a result, the point where MR=MC increases and higher prices result.

Check your progress 2

1. _____pricing is a pricing technique generally applied to public goods.
   a. Cost plus pricing
   b. Peak-load

4.4 Game theory

Game theory is the study of strategic decision making. Specifically, it is "the study of mathematical models of conflict and cooperation between intelligent

rational decision-makers."Analternative term suggested "as a more descriptive name for the discipline" is interactive decision theory.Game theory is mainly used in economics, political science, and psychology, as well as logic, computer science, and biology. The subject first addressed zero-sum games, such that one person's gains exactly equal net losses of the other participant or participants. Today, however, game theory applies to a wide range of behavioral relations, and has developed into an umbrella term for the logical side of decision science, including both humans and non-humans (e.g. computers, animals).

Game theory is the process of modeling the strategic interaction between two or more players in a situation containing set rules and outcomes. While used in a number of disciplines, game theory is most notably used as a tool within the study of economics. The economic application of game theory can be a valuable tool to idea in the fundamental analysis of industries, sectors and any strategic interaction between two or more firms. Here, we'll take an introductory look at game theory and the terms involved, and introduce you to a simple method of solving games, called backwards induction.

Definitions

Any time we have a situation with two or more players that involves known payouts or quantifiable consequences, we can use game theory to help determine the most likely outcomes.

Let's start out by defining a few terms commonly used in the study of game theory:

- **Game:** Any set of circumstances that has a result dependent on the actions of two of more decision makers ("players")
- **Players:** A strategic decision maker within the context of the game
- **Strategy:** A complete plan of action a player will take given the set of circumstances that might arise within the game
- **Payoff:** The payout a player receives from arriving at a particular outcome. The payout can be in any quantifiable form, from dollars to utility.
- **Information Set:** The information available at a given point in the game. The term information set is most usually applied when the game has a sequential component.
- **Equilibrium:** The point in a game where both players have made their decisions and an outcome is reached.

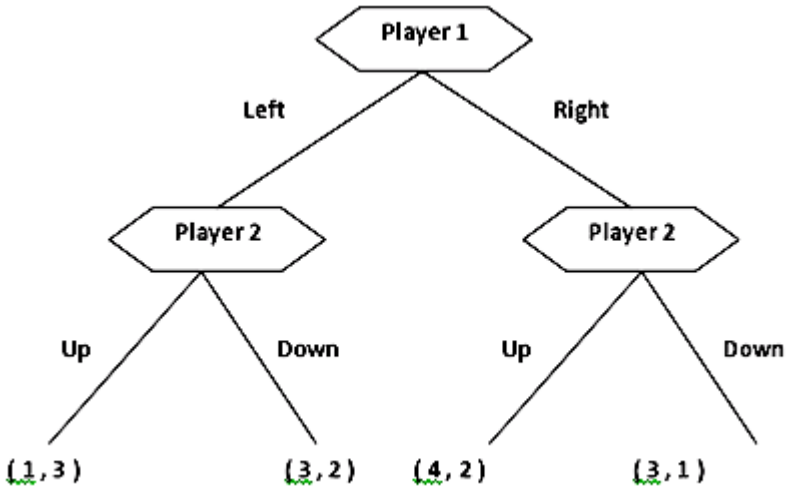
Assumptions

As with any concept in economics, there is the assumption of rationality. There is also an assumption of maximization. It is assumed that players within the game are rational and will strive to maximize their payoffs in the game. When examining games that are already set up, it is assumed on your behalf that the payouts listed include the sum of all payoffs that are associated with that outcome. This will exclude any "what if" questions that may arise.

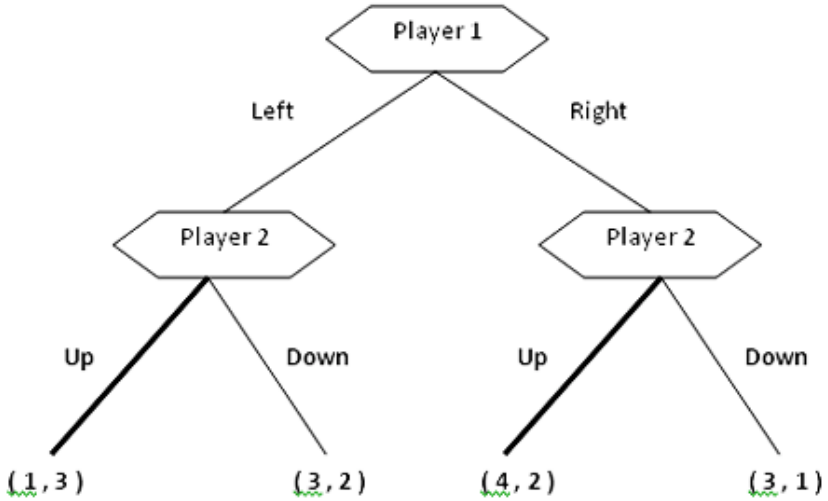
The number of players in a game can theoretically be infinite, but most games will be put into the context of two players. One of the simplest games is a sequential game involving two players.

Solving Sequential Games Using Backwards Induction

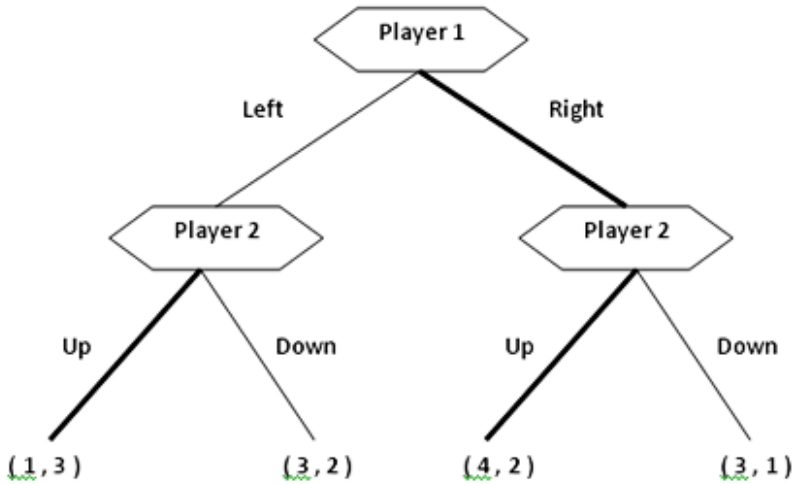
Below is a simple sequential game between two players. The labels with Player 1 and two within them are the information sets for players one or two, respectively. The numbers in the parentheses at the bottom of the tree are the payoffs at each respective point, in the format (Player 1, Player 2). The game is also sequential, so Player 1 makes the first decision (left or right) and Player 2 makes its decision after Player 1 (up or down).



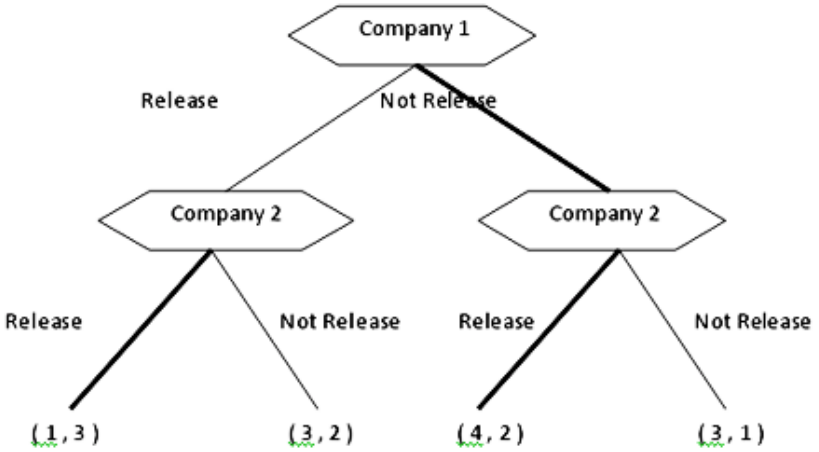
Backwards induction, like all game theory, uses the assumptions of rationality and maximization, meaning that Player 2 will maximize his payoff in any given situation. At either information set we have two choices, four in all. By eliminating the choices that Player 2 will not choose, we can narrow down our tree. In this way, we will bold the lines that maximize the player's payoff at the given information set.



After this reduction, Player 1 can maximize its payoffs now that Player 2's choices are made known. The result is an equilibrium found by backwards induction of Player 1 choosing "right" and Player 2 choosing "up". Below is the solution to the game with the equilibrium path bolded.



For example, one could easily set up a game similar to the one above using companies as the players. This game could include product release scenarios. If Company 1 wanted to release a product, what might Company 2 do in response? Will Company 2 release a similar competing product? By forecasting sales of this new product in different scenarios, we can set up a game to predict how events might unfold. Below is an alter-example of how one might model such a game.



Conclusion

By using simple methods of game theory, we can solve for what would be a confusing array of outcomes in a real-world situation. Using game theory as a tool for financial analysis, it can be very helpful in sorting out potentially messy real-world situations, from mergers to product releases.

Check your progress 3

1. _____is the process of modeling the strategic interaction between two or more players.

   a. Game theory
   c. Management theory
   b. Production theory

4.5 Let Us Sum Up

The given unit we prove to be very helpful for the readers in understanding the tough principles of economics. In this unit we studied Cost-plus pricing, in which we studied that it is a pricing strategy in which the selling price is determined by adding a percentage markup to a product's unit cost .

Peak-load pricing is a pricing technique applied to public goods. Instead of different demands for the same public good, we consider the demands for a public

good in different periods of the day, month or year, then finding the optimal capacity (quantity supplied) and, afterwards, the optimal peak-load prices.

Game theory is the process of modeling the strategic interaction between two or more players in a situation containing set rules and outcomes. While used in a number of disciplines, game theory is most notably used as a tool within the study of economics.

4.6 Answers for Check Your Progress

Check your progress 1

Answers: (1-a)

Check your progress 2

Answers: (1-b)

Check your progress 3

Answers: (1-a)

4.7 Glossary

1. **Factor Cost -**What producers receive for the sale of their products and services.This is not synonymous with market prices but the net amount after the state has taken indirect taxes or similar charges.
2. **Factor Incomes -**Incomes accruing to the factors of production; wages, salaries, profits, interest and rent

4.8 Assignment

Write a note on various Pricing Strategies

4.9 Activities

Explain the peak load pricing

4.10 Case Study

Discuss the game theory in detail

4.11 Further Readings

1. Business Economic, Micro and Macro, H.L Ahuja, S Chand & Company Ltd, 1999
2. Development Theories and Growth Model, P. Sen, S Chand & Company Ltd. 1995
3. Financial Management, M.Y.Khan, P.K. Jain Tata McGraw –Hill Publishing Company Ltd. New Delhi, 1999
4. Managerial Economics, R. Cauvers, S. Chand, 2009
5. Principles of Economics, Seth, M.L,LakshmiNarainAgarwal, 2009

Block Summary

In this unit we studied so many difficult topics in a very easy and simple manner. Here in this block under unit first we studied about the theory of Production. It covers the topics such as Concepts in the Production Theory, Meaning of Production, Input and Output, Fixed and Variable Inputs, Short Run and Long Run, Production Function. The second unit covered the topic Price, Income and Substitution Effects on Consumer's Equilibrium. In the third unit we discussed another very important topic of demand forecasting whereas as lastly under unit fourth unit we covered the topic Pricing Strategies and Practices.

Therefore this unit is going to be of great help for all of us in understanding these topics which are considered to be very tough enough for the students to understand. Every effort has been made to discuss the topics in very simple and easy way.

Block Assignment

Short Answer Questions

a. The income consumption curve

b. The price effects

c. The Income effects

d. The substitute effects

e. The consumer's equilibrium

f. Production theory

g. Meaning of production

h. Production function

i. Demand forecasting

j. Delphi method

k. Markup pricing

l. Game theory

Long Answer Questions

1. What are the shortcomings of Marshallian utility analysis? How is indifference curve technique superior to it?
2. Explain how 'Giffen goods' constitute an exception to the law of Demand.
3. Write a note on production function and its types.
4. Discuss the Game theory in detail.

Enrolment No. ☐

1. How many hours did you need for studying the units?

Unit No	**1**	**2**	**3**	**4**
Nos of Hrs				

2. Please give your reactions to the following items based on your reading of the block:

Items	Excellent	Very Good	Good	Poor	Give specific example if any
Presentation Quality	☐	☐	☐	☐	_____
Language and Style	☐	☐	☐	☐	_____
Illustration used (Diagram, tables etc)	☐	☐	☐	☐	_____
Conceptual Clarity	☐	☐	☐	☐	_____
Check your progress Quest	☐	☐	☐	☐	_____
Feed back to CYP Question	☐	☐	☐	☐	_____

3. Any Other Comments

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Education is something which ought to be brought within the reach of every one.

- Dr. B. R. Ambedkar

Dr. Babasaheb Ambedkar Open University
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ECONOMICS ENVIRONMENT FOR BUSINESS

PGDBA-102



BLOCK 4:
MARKET STRUCTURE, PRODUCT AND THEORY OF RENT

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ECONOMICS ENVIRONMENT FOR BUSINESS

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ROLE OF SELF INSTRUCTIONAL MATERIAL IN DISTANCE LEARNING

The need to plan effective instruction is imperative for a successful distance teaching repertoire. This is due to the fact that the instructional designer, the tutor, the author (s) and the student are often separated by distance and may never meet in person. This is an increasingly common scenario in distance education instruction. As much as possible, teaching by distance should stimulate the student's intellectual involvement and contain all the necessary learning instructional activities that are capable of guiding the student through the course objectives. Therefore, the course / self-instructional material are completely equipped with everything that the syllabus prescribes.

To ensure effective instruction, a number of instructional design ideas are used and these help students to acquire knowledge, intellectual skills, motor skills and necessary attitudinal changes. In this respect, students' assessment and course evaluation are incorporated in the text.

The nature of instructional activities used in distance education self-instructional materials depends on the domain of learning that they reinforce in the text, that is, the cognitive, psychomotor and affective. These are further interpreted in the acquisition of knowledge, intellectual skills and motor skills. Students may be encouraged to gain, apply and communicate (orally or in writing) the knowledge acquired. Intellectual-skills objectives may be met by designing instructions that make use of students' prior knowledge and experiences in the discourse as the foundation on which newly acquired knowledge is built.

The provision of exercises in the form of assignments, projects and tutorial feedback is necessary. Instructional activities that teach motor skills need to be graphically demonstrated and the correct practices provided during tutorials. Instructional activities for inculcating change in attitude and behavior should create interest and demonstrate need and benefits gained by adopting the required change. Information on the adoption and procedures for practice of new attitudes may then be introduced.

Teaching and learning at a distance eliminates interactive communication cues, such as pauses, intonation and gestures, associated with the face-to-face method of teaching. This is particularly so with the exclusive use of print media. Instructional activities built into the instructional repertoire provide this missing interaction between the student and the teacher. Therefore, the use of instructional activities to affect better distance teaching is not optional, but mandatory.

Our team of successful writers and authors has tried to reduce this.

Divide and to bring this Self Instructional Material as the best teaching and communication tool. Instructional activities are varied in order to assess the different facets of the domains of learning.

Distance education teaching repertoire involves extensive use of self-instructional materials, be they print or otherwise. These materials are designed to achieve certain pre-determined learning outcomes, namely goals and objectives that are contained in an instructional plan. Since the teaching process is affected over a distance, there is need to ensure that students actively participate in their learning by performing specific tasks that help them to understand the relevant concepts. Therefore, a set of exercises is built into the teaching repertoire in order to link what students and tutors do in the framework of the course outline. These could be in the form of students' assignments, a research project or a science practical exercise. Examples of instructional activities in distance education are too numerous to list. Instructional activities, when used in this context, help to motivate students, guide and measure students' performance (continuous assessment)

PREFACE

We have put in lots of hard work to make this book as user-friendly as possible, but we have not sacrificed quality. Experts were involved in preparing the materials. However, concepts are explained in easy language for you. We have included many tables and examples for easy understanding.

We sincerely hope this book will help you in every way you expect.

All the best for your studies from our team!

ECONOMICS ENVIRONMENT FOR BUSINESS

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UNIT 4 PRICING STRATEGIES AND PRACTICES

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BLOCK 4: MARKET STRUCTURE, PRODUCT AND THEORY OF RENT

UNIT 1 MARKET STRUCTURE

Introduction, Market Structure, Classification of market, Perfect competition, Pure and perfect competition, Perfect competition in practice, Monopoly, Monopolistic competition, Oligopoly definition, Duopoly definition

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UNIT 3 **THEORY OF RENT, INTEREST AND PROFIT**

Introduction, Ricardian Theory of Rent, Interest, Demand for Capital, Keynes' Liquidity-Preference Theory, Determination of Interest Rate, Profit, Non-Insurable risks, The Innovation Theory of Profit, Concept of Theories

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PGDBA-102

ECONOMICS ENVIRONMENT FOR BUSINESS

BLOCK 4: MARKET STRUCTURE, PRODUCT AND THEORY OF RENT

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BLOCK 4: MARKET STRUCTURE, PRODUCT AND THEORY OF RENT

Block Introduction

This block aims to give an introduction on the topics market structure, product and theory of rent to its readers. The block has been divided into three units.

Here in this block which is dividied into three unti unit first tries to explain the Market structure, Whereas the second unit has made an attempt to explain the role of Factor Price, Lastly the third unit has explained the Ricardian Theory of Rent, Interest, Demand for Capital, Keynes' Liquidity-Preference Theory, Determination of Interest Rate, Profit, Non-Insurable risks, The Innovation Theory of Profit, Concept of Theories.

The block will be of great help to the students in understanding the basics of market structure, product and theory of rent.

Block Objective

After learning this unit, you will be able to understand:

- Market structure
- Monopoly and monopolistic competitions
- Oligopoly
- Factor price
- Rent, Interest and Profit

Block Structure

Unit 1: Market Structure

Unit 2: Product and Factor Pricing

Unit 3: Theory of Rent, Interest and Profit

UNIT 1: MARKET STRUCTURE

Unit Structure

1.0 Learning Objectives

1.1 Introduction

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1.0 Learning Objectives

After learning this unit, you will be able to understand:

- The Meaning and classification of market structure.
- Concept of monopoly and monopolistic competitions.
- What is oligopoly?
- The concept of oligopoly.
- Price determination under various market structures.

1.1 Introduction

A market is any one of a variety of different systems, institutions, procedures, social relations and infrastructures whereby people trade and goods and services. It forms part of the economy. It is an arrangement that allows buyers and sellers to exchange things. Competition is essential in markets and separates market from trade. Two persons may trade, but it takes at least three persons to make a market, so that there is competition on at least one of its two sides. Markets vary in size, range, geographic scale, location, types and variety of human communitiesand in the types of goods and services traded. Some examples include local farmers' markets held in town squares or parking lots, shopping

centers and shopping malls, international currency and commodity markets, legally created markets such as for pollution permits and illegal markets such as the market for illicit drugs.

In mainstream economics, the concept of a market is any structure that allows buyers and sellers to exchange any type of goods, services and information. The exchange of goods or services for money is a transaction. Market participants consist of all the buyers and sellers of a good, who influence its price. This influence is a major study of economics. It has given rise to several theories and models concerning the basic market forces of supply and demand. There are two roles in markets, buyers and sellers. The market facilitates trade and enables the distribution and allocation of resources in a society. Markets allow any tradable item to be evaluated and priced. A market emerges more or less spontaneously. It may be constructed deliberately by human interaction in order to enable the exchange of rights (ownership) of services and goods.

1.2 Market Structure

Market structure can be explained as interconnected characteristics of a market, such as the number and relative strength of buyers and sellers and degree of collusion among them, level and forms of competition, extent of product differentiation and ease of entry into and exit from the market.

According to the above explanation, the five elements of market mechanism can be identified as

- Buyers
- Sellers
- Interaction between buyers and sellers
- Existence of a commodity or services to be traded and price

Check your progress 1

1. _____can be explained as interconnected characteristics of a market

   a. Market structure c. Buyer

   b. Market demand d. Sellers

1.3 Classification of Markets

Markets can be classified on several base as under:-

- On the geographical basis i.e. the area of their operations- e.g. local markets, national market and the world market.
- On the functional basis, i.e., the manner in which they function or the business they transact- e.g. mixed or general markets and specialised markets like the produce exchange, stock exchange, money market and foreign exchange market.
- Based on the nature of competition prevailing in the market, we have perfect and imperfect market.

Here we are going to learn, classification of market based on competition criterion. Markets are classified on the basis of competition among buyers and sellers.

- **Pure Competition:** It exists when there are large number of buyers and sellers; the commodity is homogeneous or uniform in quality.
- **Perfect Competition:** It is a wider concept than that of pure competition. There are large number of buyers and sellers having full knowledge of markets. Either buyers or sellers have no control over the price of a commodity. The price of a commodity is the same all over. There are no transport costs. Factors of production are perfectly mobile. There is free entry of firms. Any firm can leave the industry or any firm can enter the industry. Such perfect markets are rarely found in real life. Therefore, it is said that perfect competition is myth.
- **Monopoly:** It refers to a market here there is only one producer or only one seller for a commodity. Therefore, he has full control over supply and price.
- **Monopsony:** When there are large numbers of producers or sellers but there is only one buyer, it is monopsony. A single buyer becomes extra powerful to control the prices.
- **Bilateral Monopoly:** When there is only one seller and only one buyer, it is a situation of bilateral monopoly. Price in this situation depends upon the relative power of the buyer and seller.
- **Duopoly:** In this market there are two sellers facing a large number of buyers, producing homogeneous or differentiated products.

- **Oligopoly:** It is a market form where a few firms control the supply. Each firm will be producing substantial proportion of output in the industry. They produce goods, which may be close substitutes.

1.3.1 Extent of the Market

The extent of the market means the size of the market. This depends upon several considerations.

- **Nature of the Commodity:** A durable commodity has a wide market, as in the case of gold, silver, etc. perishable goods will have limited market.
- **Extent of Demand:** A commodity, which has universal demand, will have a wider market i.e. silver, gold, etc.
- **Portability:** When goods are sent from place to place easily, they are called portable goods. The market for such portable goods tends to be wider i.e. Cosmetics, etc.
- **Cognoscibility:** Certain goods are standardised, can easily be standardised or can easily be classified. If the samples of the commodities can be sent, the customers even from distant places can forward their orders. Such goods will have wider markets.
- **Means of Transport and Communications:** There are better prospects for expansion of markets because of development of quick means of transport. Similarly, expansion of telephones, mobiles fax, Internet services increase contact between buyers and sellers resulting in expansion of market for the goods.
- **The Level of National Income:** The countries having a high level of national income can offer a large market for their products. In this respect, developed countries offer an attractive market for exports.
- **Large Population:** The countries like India and China have large population. Such countries can offer a side market for a variety of goods.
- **Law and order:** Good conditions of law and order and political stability are conductive for wider market. Similarly, world peace and security contribute to the expansion of markets.

- **Currency and Credit System:** A sound currency and credit system helps the expansion of trade and commerce. International Monetary Fund (IMF) plays a great role in the expansion of world trade.
- **Trade Policy:** Liberal trade policies followed by the countries have the way for international market for the commodities and services. India's efforts to adopt liberal trade policy in the recent years have opened her wide market to the other countries. Only large production is not enough. Marketability is very essential to enable them to sell it. All factors affecting the extent of the market must be recognised in the roles of the firm.

Moreover, the nature of the market structure has an important role to play in the determination of output and price. The bargaining power on the part of the seller and buyer depends upon the number of buyers and sellers. The lesser the number on any side, the more the bargaining power.

Check your progress 2

1. _____refers to a market here there is only one producer or only one seller for a commodity. Therefore, he has full control over supply and price.

   b. Monopoly c. Pure competition

   a. Monospony

1.4 Perfect Competition

1.4.1 Meaning of Perfect Competition

Perfect competition refers to the market structure where competition among the sellers and buyers prevails in perfect form. In a perfectly competitive market, a single market price prevails for the commodity, which is determined by the forces of total demand and total supply in the market. Under perfect competition, every participant (whether a seller or abuyer) is a 'price-taker'. Everyone has to accept the prevailing market price as individually no one is in a position to influence it.

1.4.2 Characteristics of Perfect Competition

The following conditions must exist for a market structure to be perfectly competitive. These are also the distinct features or distinguishing marks of perfect competition:

a. **Large Number of Sellers:** A perfectly competitive market structure is formed by a large number of actual and potential firms or sellers. Their number is sufficiently large and as the size of each firm is relatively small, so each one has an insubstantial share of the market. In other words, the individual seller or firm's supply is just a fraction of the total market supply. Consequently, any variation in individual supply has a negligible effect on the total supply. Thus, an individual firm cannot exert any influence on the ruling market price.

b. **Large Number of Buyers:** There are a very large number of actual and potential buyers so that each individual buyer's demand constitutes just a fraction of the total market demand. Hence, no individual buyer is in a position to exert his influence on the prevailing price of the product.

From the above two conditions, it follows that though an individual buyer or seller cannot affect the price, all firms together or all buyers together can change the market supply or demand as whole, so that the market price will be affected.

c. **Product Homogeneity:** The commodity supplied by each firm in a perfectly competitive market is homogeneous. That means, the product of each seller is virtually standardised i.e. there is no identification of the product of each seller, as there is no product differentiation. Since each firm produces an identical product, their product can be readily substituted for each other. Hence, the buyer has no specific preference to buy from a particular seller only. His purchase from any particular seller is a matter of chance and not of choice, because of the homogeneity of goods.

Under perfect competition, the market is also described as industry. Industry refers to a set or collection of all the firms or business units producing identical goods.

Moreover, because of the homogeneity of product, an individual seller cannot increase its price independently as he might lose all of its market to its competitors.

d. **Free Entry and Exit of Firms:** There is free entry of new firms in the market. There is no legal, technological, economic, financial or any other barrier to their entry. Similarly, existing firms are free to quit the market. Thus, the mobility of firms ensures that whenever there is scope in the business, new entry will take place and competition will remain always stiff. Due to the natural stiffness of competition, inefficient firms would have to quit the industry eventually.

e. **Perfect Knowledge of Market Conditions:** Perfect competition requires that all the buyers and sellers must possess perfect knowledge about the existing market conditions, especially regarding the market price, quantities and sources of supply. When there is such perfect knowledge, no buyer could be charged a price different from the market price. Similarly, no seller would unnecessarily lose by selling at a lower price than the prevailing market price. This way, perfect knowledge ensures transactions at a uniform price.

f. **Perfect Mobility of Factors of Production:** A necessary assumption of perfect competition is that factors of production are perfectly mobile. Perfect mobility of factors alone can ensure easy entry or exit of firms. Again, it also ensures that the factor costs are the same for all firms.

g. **Government Non-intervention:** Perfect competition also implies that there is no government intervention in the working of market economy. That is to say, there are no tariffs, subsidies, rationing of goods, control on supply of raw materials, licensing policy or other government interference Government non-intervention is essential to permit free entry of firms and for automatic adjustment of demand and supply through the market mechanism.

h. **No Transport Cost Difference:** It is essential that competitive position of no firm is adversely affected by transport cost differences. It is thus assumed that there is absence of transport cost as all firms are close to the market or there is equal transport cost faced by all, as all firms are supposed to be equally far away from the market.

1.4.3 Price Determination Under Perfect Competition

Price under perfect competition is determined by the forces of demand and supply of the industry. Price once fixed up by the industry is taken up by all the firms and the firm can sell any number of units at that price.

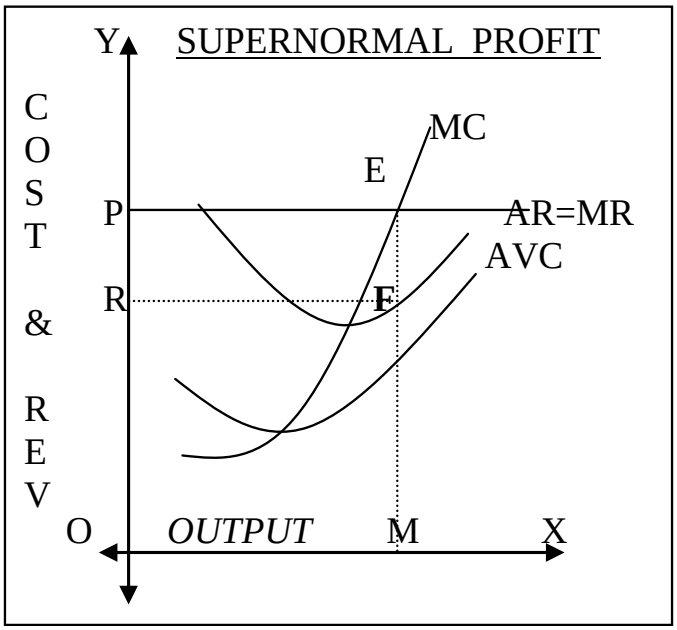
The firm may earn normal profits, super normal profits in the short run whereas it earns normal profits in the long run.

1. Short Run Equilibrium of a Firm under Perfect Competition

Under short period, the firm can face four different situations depending on whether:

- AR > AC – Supernormal Profits
- AR = AC – Normal profits
- AR < AC – Losses
- AR < AC < AVC – Shut down point

a. **Supernormal Equilibrium:** E is the point of stable equilibrium as MC = MR and the MC cuts the MR from below.



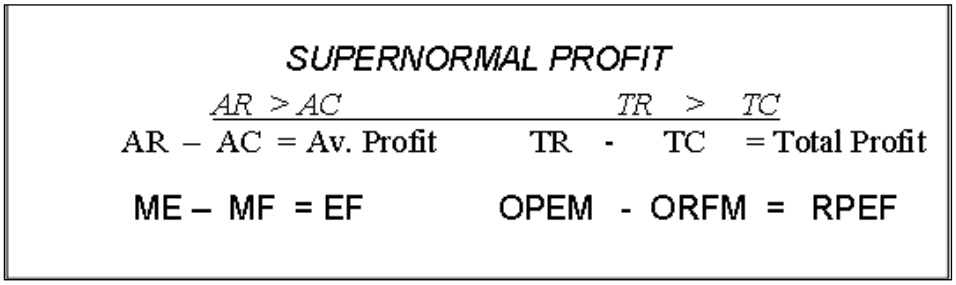
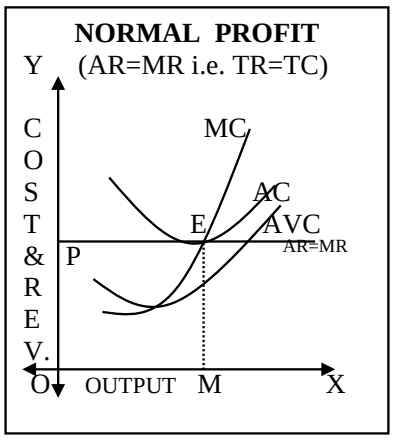


Fig 1.1 Supernormal Equilibrium

This is point the firm produces OM amount of the output. To produce this output, the firm incurs an average cost of MF, while it earns average revenue of ME. It will be noticed that since at equilibrium ME > MF, the firm makes a profit of FE per unit of output sold. Again, since the total revenue earned when OM is sold is OPEM and the total cost incurred to produce the same output is ORFM, the total profit earned at that level of output is RPEF.

b. Normal Profits: With the condition of MC = MR and the MC cuts the MR from below, if E is the point of stable equilibrium, output of the firm is OM. To produce this output, the firm incurs an average cost ME, while it earns average revenue, which is also equal to ME. Thus, we see that the firm just makes a normal profit i.e. AR = AC. Since the total revenue earned and the total cost incurred at output OM is OPEM, the firm earns a normal profit.



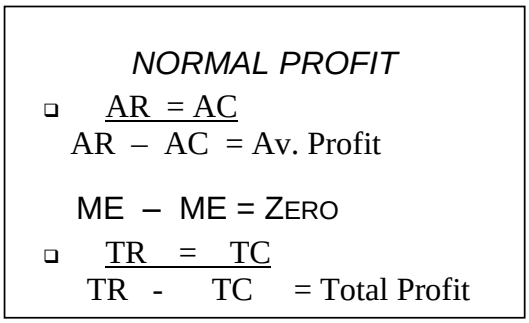
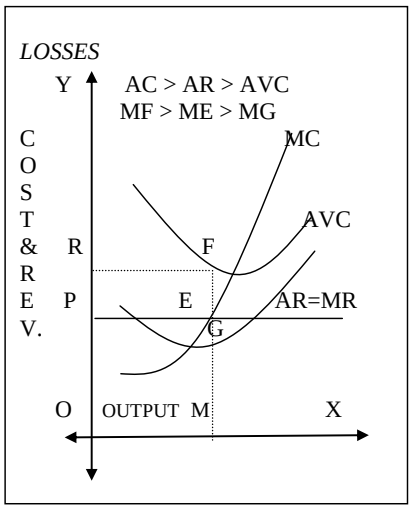


Fig 1.2 Normal profit equilibrium

c. Losses: At the point of equilibrium i.e. E where MR = MC, the firm produces OM amount of the output. To produce this output, the firm incurs an average cost of PF, while it earns average revenue, which is equal to ME.

Since, at equilibrium MF > ME, (AR<AC) the firm incurs a loss of EF per unit of output produced. Again, since the total revenue earned when OM output is sold is only OPEM, while the total cost incurred at output OM is ORFM, the firm incurs a total loss of PRFE. This is actually the situation where the firm is minimising its losses.



LOSSES

- *AR < AC*

  AR – AC = Av. Profit

  ME – MF = - EF

- *TR < TC*

  TR - TC = Total Profit

  OPEM - ORFM = - PRFE

Fig 1.3 Losses

In-spite of incurring loss, the firm could continue its functioning because its average variable cost is being covered. At output OM, the firm covers its AVC, which is equal to MG. Hence, as long as the firm is recovering at least its AVC, it would be possible for this firm to continue functioning.

d. Shut Down Point: With MR = MC, the firm attains equilibrium at point E where, it produces OM amount of the output. To produce this output, the firm incurs an average cost of MF, while it earns average revenue ME. At equilibrium MF > ME, the firm incurs a loss of EF per unit of output produced. Since the total revenue earned is only OPEM, while the total cost incurred is ORFM, the firm incurs a total loss of PRFE. The loss incurred is too much for this firm to continue, as this firms' AVC curve is also above its AR = MR curves i.e. it is unable to cover even its AVC. In the above situation, at output OM, the firm's AVC, is equal to MG, which is greater than the AR = ME. Hence, this firm is not even recovering its daily or running expenses, so it should shut down.

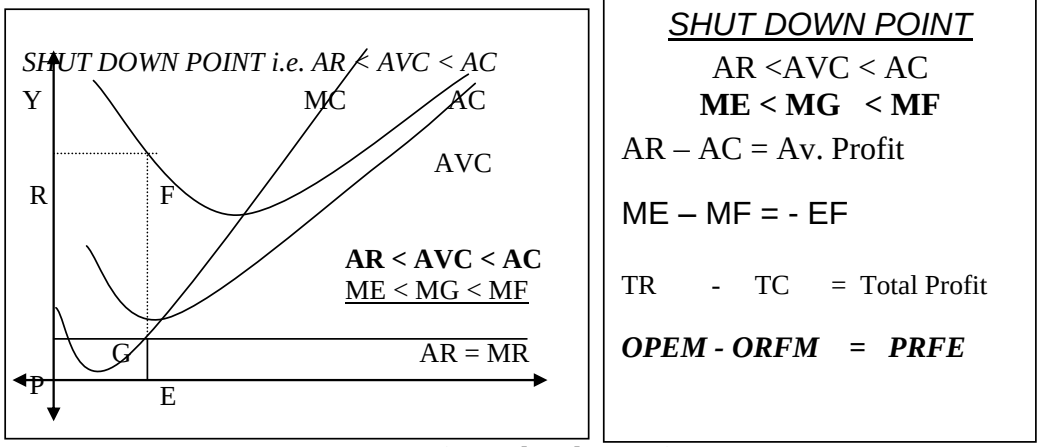


Fig 1.4 shut down point

2. Long Run Equilibrium of a firm under Perfect Competition

In the long run, due to the assumption of free entry and exit of the firms, it is not possible for the firms to make super-normal profits nor is it possible for them to incur losses. Hence, due to the size of the industry increasing or decreasing in the long run, firms can only earn normal profits in this time period.

The possibility of only normal profits can be explained as under.

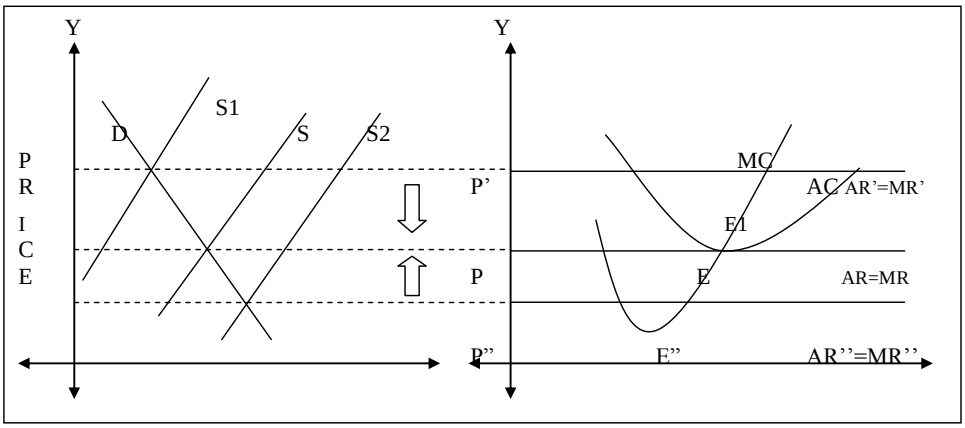


Fig 1.5 Long Run Equilibrium under Perfect Competition

Suppose that the firm is earning a super-normal profit in the long run, since the industry's price (OP) (i.e. the firm's AR' = MR' = OP') is greater than its AC. Now, in this situation, new firms would find this area of production to be attractive and hence they would enter this industry in large numbers. With the number of firms increasing, the supply in the industry also rises. As the supply rises, the price will start lowering. This will go on until the supply curve becomes S1 to S. This leads to fall in price from P1 to P. It will be noticed that the firm's

AR=MR curve becomes tangential to the firms LAC at point E and so from the situation of earning super-normal profits the profit size has been reduced to normal profit.

Again, suppose that in the firm is incurring losses in the long run since the industry's price (OP) (i.e. the firm's AR'' = MR'' = OP") is lower than its AC. Now, in this situation, some of the firms that are unable to recover even their AVC will shut down and leave the industry. With the number of firms decreasing, the supply in the industry also falls. As the supply keeps falling, the price will start rising. Thus, price rises from P2 to P. This will go on till the supply curve becomes S2 to S. Now it will be noticed that the firm's AR=MR curve becomes tangential to the firms LAC and so from the situation of incurring losses, the firm's revenues have improved so as to convert losses into normal profits.

Hence, we can conclude that in the long run, a firm under perfect competition can only earn normal profits and not earn super-normal profits or incur losses.

Check your progress 3

1. _____refers to the market structure where competition among the sellers and buyers prevails in perfect form.

   a. Perfect competition

   b. Pure competition

   c. Monopoly

1.5 Pure and Perfect Competition

A distinction is often made between pure competition and perfect competition. However, this distinction is more a matter of degree than of kind. For a market to be purely competitive, three fundamental conditions must prevail. These are:

- Large number of buyers and sellers.
- Homogeneity of product.
- Free entry or exit of firms.

For the market to be perfectly competitive, four additional conditions must be fulfilled viz.

- Perfect knowledge of market.
- Perfect mobility of factors of production.
- Absolute government non-intervention and
- No transport cost difference.

Incidentally, the term ‘perfect competition' is traditionally used by British economists while discussing price theory. American economists, however, prefer to construct a 'pure competition' market model, realistically assuming that additional conditions for perfect competition, such as perfect mobility of labour, perfect knowledge, etc., may not be attainable.

Perfect competition in fact is just a concept, a suggestive norm or ideal for the market structure. Pure competition substantiates the norm of perfect competition without fully attaining it.

Check your progress 4

1. Incidentally, the term ‘_____competition' is traditionally used by British economists while discussing price theory.

   a. Pure

   b. Perfect

1.6 Perfect Competition in Practice

Perfect competition is an ‘ideal concept’ of market rather than an actual market reality. To some extent, the perfect competition model fits into the market for farm products like rice, cotton, wheat, etc., when all the units of each commodity are identical. Moreover, oil conditions of perfect competition may not be satisfied. Outside the sphere of agriculture, perfect competition is a rare phenomenon. In fact, in present-day economies, the competitive market is becoming less and less realistic even in agricultural products.

Check your progress 5

1. _____is an 'ideal concept' of market rather than an actual market reality.

   a. Perfect competition c. Monopoly

   b. Pure Competition

1.7 Monopoly

The term 'monopoly' has been derived from Greek term 'Monopolian' that means a single seller. Thus, monopoly is a market condition in which there is a single seller of a particular commodity who is called monopolist and has complete control over the supply of his product.

1.7.1 Definition of Monopoly

1. Prof. Thomas- "Broadly, the term monopoly is used to cover any effective price control, whether of supply or demand of services or goods; narrowly it is used to mean a combination of manufacturers or merchants to control the supply price of commodities or services".

2. Prof. Chamberlain- "Monopoly refers to the control over supply".

3. Prof. Robert Triffin- "Monopoly is a market situation in which the firm is independent of price changes in the product of each and every other firm".

1.7.2 Features of Monopoly

The characteristic features of a monopolistic firm are:

- The monopolist is the single producer in the market. Thus, under monopoly firm and industry are identical.
- There are no closely competitive substitutes for the product. Therefore, the

buyers have no alternative or choice. They have either to buy the product or go without it.

- Monopoly is a complete negation of competition.
- A monopolist is a price-maker and not a price-taker. In fact, his price fixing power is absolute. He is in a position to fix the price for the product as he likes. He can vary the price from buyer to buyer. Thus, in a competitive industry, there is single ruling price, while in a monopoly there may be price differentials.
- A monopoly firm itself being the industry faces a downward-sloping demand curve for its product. That means it cannot sell more output unless the price is lowered.
- A pure monopolist has no immediate rivals due to certain barriers to entry in the field. There are legal, technological, economic or natural obstacles, which may block the entry of new firms.
- Since a monopolist has complete control over the market supply in the absence of a close or remote substitute for his product, he can fix the price as well as quantity of output to be sold in the market.

Though a monopolist is a price-maker, he has limited power to charge a high price for his product in the market. This is because, he cannot disregard demand situation in the market. If buyers refuse to buy at a very high price, he has to keep a lower price. He will produce that level of output, which maximises profits and charge only that price at which he is in a position to dispose of his entire output. Thus, a monopolist sets price for his production in relation to the demand position and not just fix up any price he likes.

1.7.3 Types of Monopoly

Monopoly is the antithesis of competition. There are various kinds of monopoly.

- **Natural Monopoly:** It arises due to economies of scale. Natural monopolies arise due to concentration of raw materials in a particular region. An example of natural monopoly is the nickel supply of Canada (about 90% of world's supply). Factors like, climate, environment nearness to market may also create natural monopolies.

- **Social Monopolies:** These are owned and managed by the government. The main objective of such monopolies is to serve society. So they are called welfare monopolies i.e. railways, electricity, etc.
- **Private Monopoly:** It is owned and operated by a private individual or companies. The main objective is to maximise profit.
- **Legal Monopoly:** It is conferred on certain firms and is protected by the law for them to enjoy the fruits of their labour. The special trademarks, copyrights and patents are the examples.
- **Service Monopoly:** It arises in service also. If there is only specialist doctor in a particular area, he becomes the monopolist.
- **Simple Monopoly:** When a monopolist charges the same price for a particular product for all the customers, it is a simple monopoly.
- **Fiscal Monopoly:** Sometimes some activities such as minting of coins or printing of currencies will be undertaken only by the government for various reasons. Such monopolies are known as fiscal monopolies.
- **Discriminating Monopoly:** It is one in which different prices are charged for the same product for different customers.
- **Voluntary Monopolies:** These are created to eliminate competition and to earn huge profits i.e. Cartel, Trust and Holding Company etc.

1.7.4 Price Determination Under Monopoly

Under monopoly conditions, too, there is bound to be interaction between the forces of demand and supply. However, the difference is that supply is not free to adjust itself to demand. It is under the control of the monopolist. A monopolist is the sole producer of his product, which has no closely competing substitutes. In other words, the cross-elasticity of demand between the product of the monopolist and the product of the closest rival must be very low i.e. the product of a rival cannot take the place of the monopolised product. Monopolist is a sole producer of the commodity and he can easily influence the price by changing his supply. The monopolist can influence the price. In fact, he sets the price.

Being in control of supply, the monopolist can (a) fix the price and offer to supply the quantity demanded at that price or (b) he can fix the supply and then let price be determined by demand in relation to the supply fixed by him. However,

he cannot fix both the price and force people to buy a pre-determined quantity at that price. He can only do one of the two things i.e. either fix the price or fix the supply.

Equalising Marginal Revenue and Marginal Cost

The aim of the monopolist, like every other producer, is to maximise his total money profits. Therefore, he will produce to a point and charge a price, which gives him the maximum money profits. In other words, he will be in equilibrium at the price-output level, at which his profits are maximum. He will go on producing so long as additional unitsadd more to revenue as to cost. He will stop at that point beyond which additional units of production add more to cost than to revenue.

In other words, the monopolist will be in equilibrium position at that level of output at which marginal revenue equals marginal cost. He will continue expanding output so long as marginal revenue exceeds marginal cost. He does so because profits will go on increasing as long as marginal revenue exceeds marginal cost. At the point where marginal revenue is equal to marginal cost, profits will be maximised. If the production is carried beyond this point, the profits will start decreasing.

The price-output equilibrium of the monopolist can be easily understood with the help of figure 1.6 on the next page. AR is the demand curve or average revenue curve facing the monopolist. MR is the marginal revenue curve, which lies below the average revenue curve AR. AC is the average cost curve and MC is the marginal cost curve. It can be seen from the diagram that up until OM output, the marginal revenue is greater than marginal cost, but beyond OM the marginal revenue is less than marginal cost. Therefore, the monopolist will be in equilibrium at output OM, where marginal revenue is equal to marginal cost and profits are the maximum the price at which output OM is sold in the market can be known from looking at demand curve or average revenue curve AR. It can be seen from Fig. 1.6 that corresponding to equilibrium output OM, the price or the demand or average revenue is MP’ (= OP).

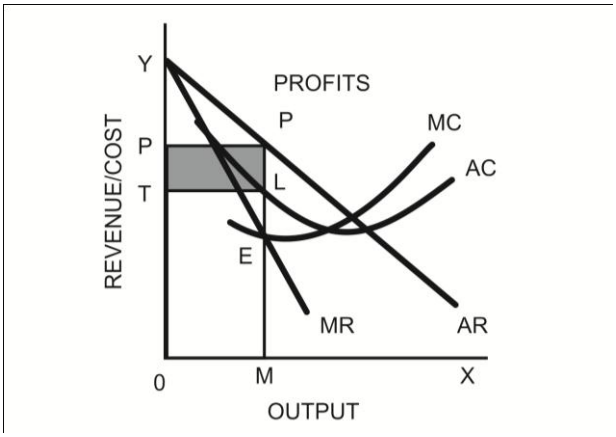


Fig 1.6 Price-output equilibrium

What amount of actual total profits—however maximum they would be in the given cost-revenue situation—will be earned by the monopolist in this equilibrium position. This can be found in the following way.

At output OM, while MP' is the average revenue; ML is the average cost Therefore. P'L is the profit per unit.

Now the total profits = Profits per unit x total output sold

= P'L x OM

= P'LXTL

= P'LTP

Thus, the total profits earned by (he monopolist in the equilibrium position will be equal to the rectangle P'LTP i.e. the shaded area in figure 1.6.

Monopoly Price Not Necessarily a High Price

Monopoly price is not necessarily a high price. It may sometimes be even lower than the price under competition, because the monopolist is spared the expenses of advertisement. Besides, he gains from the usual economies, resulting from large-scale production. It is also not necessary that the monopolist should always charge the highest possible price. He is afraid of public opinion, government interference and of substitutes being adopted for the commodities he produces. Thus, the monopoly price is not necessarily a high price. However, it generally is high. The monopolist cannot help exploiting his monopolistic position and charging a high price.

Check your progress 6

1. The _____price is not necessarily a high price. However, it generally is high.

   a. Duopoly c. moopolistic

   b. Monopoly

1.8 Monopolistic Competition

1.8.1 Meaningof Monopolistic Competition

Monopolistic competition is a situation of market in which the number of producers and sellers is large though not so large as to create the situation of perfect competition. Thus, it is a compromise between perfect competition and monopoly. Under it, every producer and seller is a monopolist in his particular area due to product differentiation. Competition is also found among different producers and sellers due to product homogeneity. Thus, monopolistic competition is a combination of both perfect competition and monopoly. Hence, it is called imperfect competition. For example, there are several brands of soaps and every producer and sellers of these brands is a monopolist to some extent because of different brands but since all the brands are close substitutes to each other, there is a competition among the producers and sellers of these brands.

1.8.2 Features of Monopolistic Competition

- **Large Number of Producers and Sellers:** The number of producers and sellers is large but an individual producer and seller contributes only a small part of the total demand of the product.
- **Competition among Producers:** All the producers produce different brands of a product but all of these brands are close substitutes to each other, which creates tough competition among the producers of different brands.
- **Product Differentiation:** Though the commodities produced by different producers are identical to each other but these commodities are not identical. They are different from each other in one respect or the other. Hence, different producers sell their products at different prices.

- **Free Entry and Exit of Firms:** There is no restriction on the entry and exit of firms. A new firm can enter into the market at any time and an existing firm can leave the market at any time.
- **Non-Price Competition:** The competition is generally non-price competition. Different producers sell their products at different prices but they compete with each other based on quality, colour, packing, design, etc.
- **Important Role of Selling Costs:** Selling costs play more important role than the cost of production because every producer has to face severe competition from other producers. Only those producers can be successful who adopt suitable marketing policies and present their product through effective channels.
- **Flat Demand Curve:** The demand curve tends to be flat because this is a market situation between monopoly and perfect competition.

1.8.3 Price Determination under Monopolistic Competition

Monopolistic competition is the market situation between perfect competition and monopoly. Neither monopoly nor perfect competition is found in real life but only monopolistic competition. Under this, the number of producers and sellers is large and most of them work at small scale. They produce and sell the same product but their products are not exactly identical.

Under monopolistic competition, price is determined based on same principles under which it is determined under perfect competition and monopoly. It is determined at the point at which marginal revenue and marginal cost are equal (MR = MC), because at this point the firm is in a position to earn maximum profit. If at a time, marginal revenue of a firm is more than its marginal cost (MR > MC), it is profitable for the firm to increase its production. In order to sell more quantity of a product, its selling price should be decreased and gradually it should come down to the point of equilibrium. If, on the contrary, marginal revenue of a firm is less than its marginal cost (MR < MC), it will be profitable for the firm to curtail its production. By doing so, it can increase selling price and gradually it will increase to the point of equilibrium. Thus, the price under monopolistic competition is determined at the point at which marginal cost and marginal revenue of a firm are equal.

A) Short-term Equilibrium of a Firm

Short-term refers to the period in which a firm cannot adjust supply of its product according to demand. Due to this reason, a firm cannot do much about its profit position in short-run. Therefore, in short-run, there may be three possibilities with regard to profit (i) abnormal profit (ii) Normal or Zero profit (iii) Loss.

1. **Abnormal Profit:**In short-run a firm may be in a position to get abnormal profit only when the demand of the product of the firm is very high and there is no close substitute to its product because under these circumstances, the firm can fix high price for its product and can get abnormal profit. This can be possible only in short-run because no new firm can enter into the market in short-run. This can be explained with the help of a diagram 1.7.

Quantity of Production

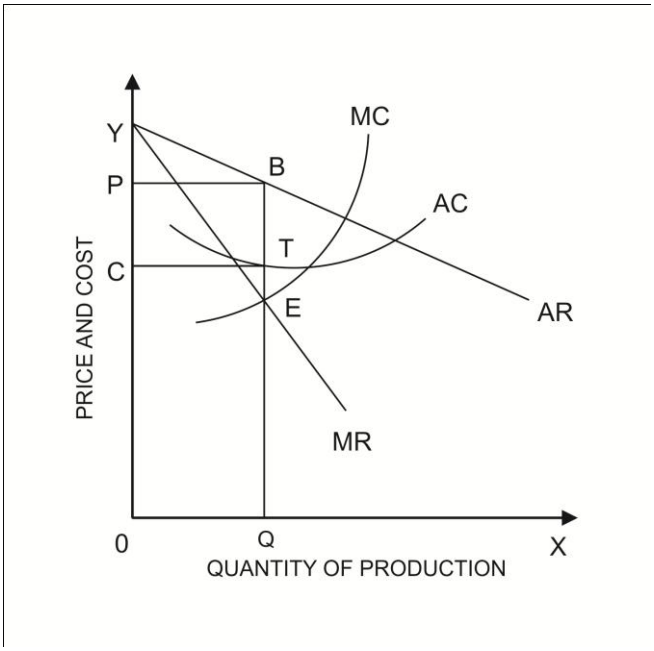


Fig 1.7 Quantity of Production

In the diagram, 'E'is the point of equilibrium of firm because at this point marginal cost and marginal revenue of the firm are equal. At this point, 'OP' is the equilibrium price, 'OQ' is the equilibrium quantity of production and sale, 'PC' is the profit per unit. In this situation, the firm will earn abnormal profit equal to the area PSTC.

2. **Normal Profit or Zero Profit:** When demand of the product of a firm is not very high, the firm may get only the normal profit when average revenue is

slightly more than average cost or zero profit when average revenue and average cost are equal. These situations can be illustrated with the help of diagram.

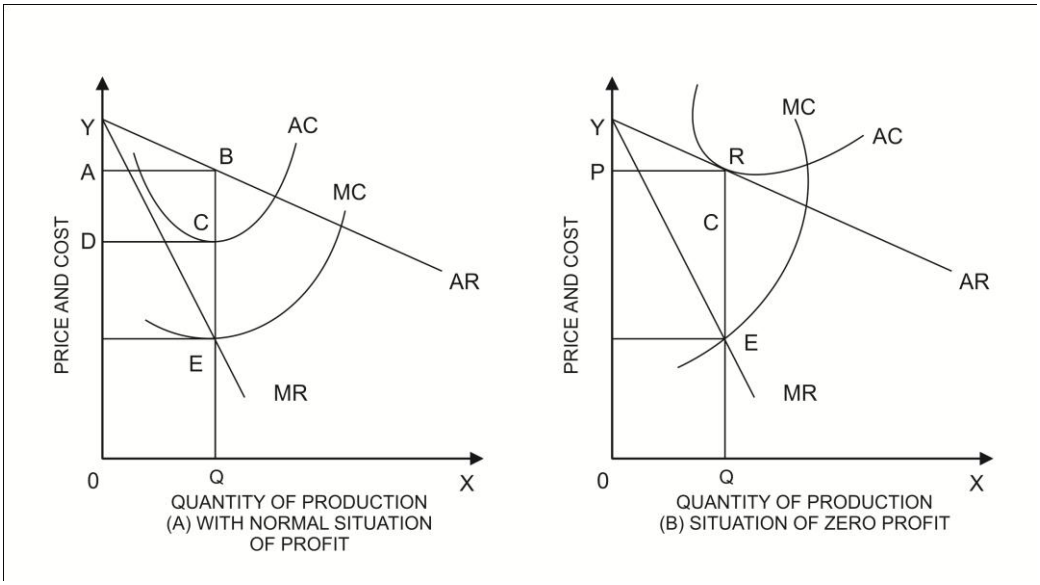


Fig 1.8 Quantity of Production a With Normal Situation of Profit

The diagram is the point of equilibrium of firm because at this point marginal cost and marginal revenue of the firm are equal. At this point, 'OQ' is the equilibrium quantity, 'OA' is the price per unit and 'OD' is the cost per unit. Here, average revenue is slightly more than average cost; in this case, the firm is getting profit equal to the area of 'ABCD'.

In the diagram, 'E' is the point of equilibrium of firm because at this marginal cost and marginal revenue of the firm are equal. At this point, 'OQ' is the equilibrium quantity, 'OP1 is the price per unit and 'OP' is also the cost per unit. Here, average revenue and average cost are equal. Therefore, the firm is not making any profit or loss.

3. **Loss:** In short-run, a firm may have to suffer loss when demand of the product of firm is so weak that the firm has to sell its product at a price less than its cost, in this case, average revenue of the firm is less than its average cost. It can be illustrated with the help of diagram 1.9.

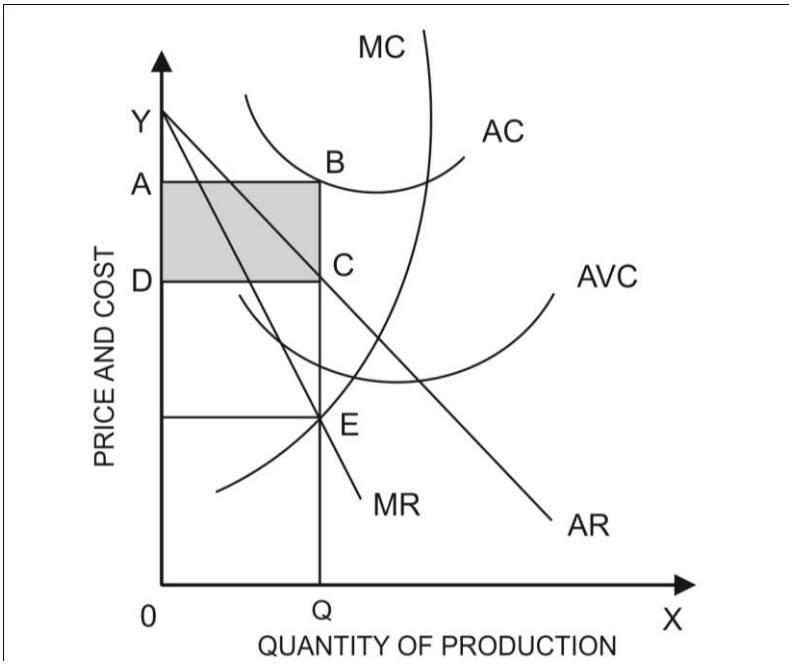


Fig 1.9 Quantity of Production

In diagram 1.9 average revenue of the firm is less than its average cost. 'E' is the point of equilibrium. At this point, 'OQ' is the equilibrium quantity, 'OD' is the price per unit and 'OA' is the cost per unit. Here, price per unit is less than cost per unit. Therefore, the firm is suffering a loss equal to the area of' ABCD'.

B) Long-term Equilibrium of a Firm

Long-term is the period in which a firm can adjust supply of its product according to its demand. New firms can also enter into the market in the period. Here, a firm always gets normal profit because if a firm is getting abnormal profit in short-term, new firms will enter into the market. It will increase the supply of product and as a result, price of the product will decrease. This sequence of new firms entering into the market will continue until the firm comes in the position of getting normal profit only. On the contrary, if a firm is suffering loss in short-run, some firms will exit from the industry. Now, supply of the product will decrease and price of the product will increase to the level of average cost or slightly above the average cost. Hence, firm will get normal profit. However, following two conditions should be satisfied for the equilibrium of a firm in the long run.

- Marginal cost and marginal revenue of all the firms should be equal.
- Average cost and average revenue of all the firms should be equal. It can be illustrated with the help of diagram.

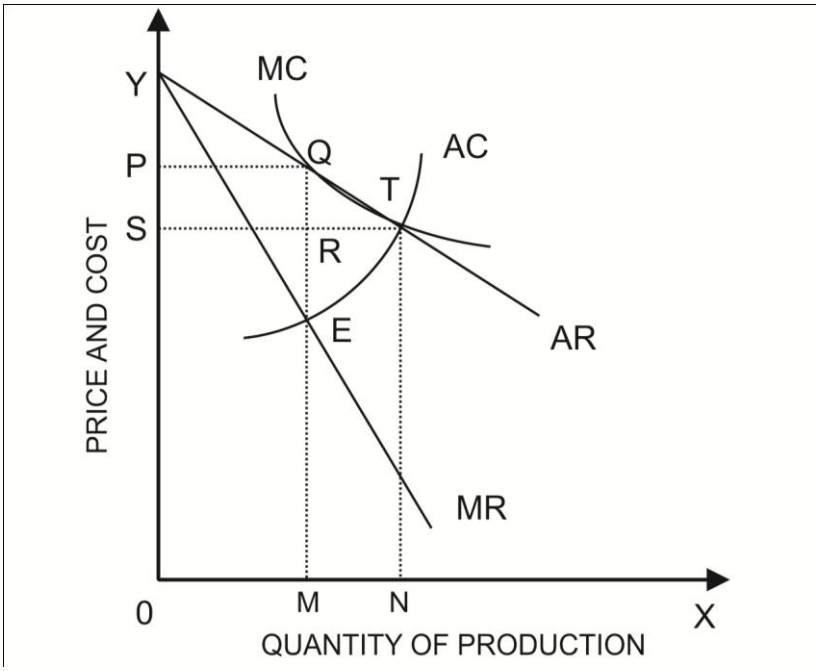


Fig 1.10: Quantity of Production

In diagram, 'E' is the point of equilibrium. At this point, MC = MR. At this point, 'OM' is the equilibrium quantity, 'OP' is the equilibrium price and 'QM' is the average cost. At this point, average cost and average revenue are equal. It satisfies the conditions of normal profit. In this situation, the firm is getting normal profit equal to the area of PQRS).

Check your progress 7

1. _____ is a compromise between perfect competition and monopoly.

   a. Monopolistic

   b. Duopoly

1.9 Oligopoly

1.9.1 Definitions of Oligopoly

1. Mrs. John Robinson - "Oligopoly is market situation in between monopoly and perfect competition in which the number of sellers is more than

	one but is not so large that the market price is not influenced by any one of them".
2. Prof. George J. Stigler	- "Oligopoly is a market situation in which a firm determines its marketing policies on the basis of expected behaviour of close competitors".
3. Prof. Stoneurand Prof. Hague	- "Oligopoly is different from monopoly on one hand in which there is a single seller. On the other hand, it differs from perfect competition and monopolistic competition, in which there is a large number of sellers. In other words, while describing the concept of oligopoly, we include the concept of a small group of firms".
4. Prof. Left Witch	- "Oligopoly is a market situation in which there is a small number of sellers and the activities of every seller are important for others".

Thus, oligopoly is a market situation in which a few firms producing an identical product or the products which are close substitutes to each other compete with each other.

1.9.2 Characteristics of Oligopoly

1. **Small Number of Sellers:** There is more than one seller of a product but the number is not so large as to create perfect competition of monopolistic competition.
2. **Interdependence of Sellers:** All the sellers depend upon each other. They are not free to determine their own marketing and price policies.Activities of one seller affect those of others.
3. **Homogenous Product:** The product of all the sellers is identical or close substitute of each other.
4. **Uniformity of Price:** All the sellers follow a uniform price policy because of the uniformity of their product.

5. **Price Rigidity:** As the activities of all sellers are interdependent, the sellers do not like to change the price of their product frequently. Therefore, the market price tends to be stable.
6. **Entry and Exit of Firms:** The entry and exit of firms is comparatively difficult due to non-availability of raw materials, labour, etc.
7. **Inconsistency in Firms:** All the firms working in a market are not exactly similar to each other. One firm may be large and another firm may be small.
8. **Uncertainty of Demand Curve:** Demand curve is very uncertain. A firm cannot forecast its demand curve easily because it is very difficult to forecast whether the competitors will change their policies or not on a change in the policies of the firm. It is also very difficult to forecast the extent of such changes. Hence, demand curve of an oligopoly firm is always uncertain.

1.9.3 Types of Oligopoly

Oligopoly is generally of two types:

1. **Pure Oligopoly:** When all the firms of an industry produce and sell lenticels product, it is called pure oligopoly.
2. **Differentiated Oligopoly:** When all the firms of an industry produce and all different products are close substitutes for each other, it is called differentiated oligopoly. In practical life, differentiated oligopoly is more common.

Check your progress 8

1. _____is a market situation in which a few firms producing an identical product or the products which are close substitutes to each other, compete with each other.

   a. Monopoly
   c. Monopolistic
   b. Oligopoly

1.10 Duopoly

1.10.1 Definitions of Duopoly

According to Dr. John, “Duopoly is that situation of a market in which there are two producers of a product, either perfectly identical or almost identical. They are not bound by an agreement regarding price or the quantity of production."

Duopoly is a market situation in which there are only two producers or sellers of a product who produce and sell almost identical product. However, their pricing policy and marketing policies may be different. They may agree to co-operate with each other or they may go in for cut throat competition. There may or may not be an agreement between them. They may fix the same price for their product or they may fix different prices.

1.10.2 Characteristics of Duopoly

Following are the characteristics of duopoly:

- There are only two producers or sellers of a product.
- Both the producers and sellers produce and sell a product, which may be either perfectly identical or almost identical.
- Either the producers and sellers may adopt their independent price policy or they may agree upon a uniform price.
- Either the producers and sellers may adopt independent production and marketing policies or there may be an agreement between them in this regard.
- Either the producers and sellers may compete with each other or they may agree to cooperate with each other.

Check your progress 9

1. _____is a market situation in which there are only two producers or sellers of a product who produce and sell almost identical product.

   a. Duopoly c. oligopoly

   b. Monopoly

1.11 Let Us Sum Up

In this unit we will be discussing in very detail about the various market structure. In shore market structure can be explained interconnected characteristics of a market, such as the number and relative strength of buyers and sellers and degree of collusion among them, level and forms of competition, extent of product differentiation and ease of entry into and exit from the market.The various kinds of markets are 1) Pure Competition 2) Perfect Competition 3) Monopoly 4) Monopson 5) Bilateral Monopoly 6) Duopoly 7) Oligopoly.

After this we discussed the various kinds of markets and how price is determined in these markets. This block is certainly going to be of great help for the readers in understanding the various kinds markets that are prevelant in the society and how is price determined over there. Price determination is indeed very technical process and for this the characterstics of various kinds of markets should always be kept in mind.

1.12 Answers for Check Your Progress

Check your progress 1

Answers: (1-a)

Check your progress 2

Answers: (1-b)

Check your progress 3

Answers: (1-a)

Check your progress 4

Answers: (1-b)

Check your progress 5

Answers: (1-a)

Check your progress 6

Answers: (1-b)

Check your progress 7

Answers: (1-a)

Check your progress 8

Answers: (1-b)

Check your progress 9

Answers: (1-a)

1.13 Glossary

1. **Utility Goods -** Goods produced cheaply for the home market in a limited range of patterns or designs during the Second World War and the years immediately following.

1.14 Assignment

What is market? Classify market into various forms and explain them.

1.15 Activities

Discuss concept of monopoly and monopolistic competition.

1.16 Case Study

Study your local market and prepare a list of products which has monopoly in the market.

1.17 Further Reading

1. Business Economic, Micro H.L Ahuja.
2. Development Theories and Growth Model, P. Sen.,S Chand & Company Ltd. 1995.
3. Financial Management, M.Y.Khan , P.K. Jain Tata McGraw Hill Publishing Company Ltd. New Delhi, 1999.
4. Economics: Principles and Policies, Baumol, William J. and Blinder, Alan S., Harcourt, Jovanovich, London, 1988.
5. Managerial Economics, R. Cauvers, S. Chand Group, 2009.

UNIT 2: PRODUCT AND FACTOR PRICING

Unit Structure

2.0 Learning Objectives

2.1 Introduction

2.2 Role of Factor Price

2.3 Theory of Distribution

2.3.1 Marginal Productivity Theory

2.3.2 Marginal Productivity

2.3.3 Criticism of the Theory

2.4 Meaning of Wages

2.5 Theories of Wages

2.6 Subsistence Theory

2.7 Wages Fund Theory

2.8 Residual Claimant Theory

2.9 Let Us Sum Up

2.10 Answers for Check Your Progress

2.11 Glossary

2.12 Assignment

2.13 Activities

2.14 Case Study

2.15 Further Readings

2.0 Learning Objectives

After learning this unit, you will be able to understand:

- The role of factor price.
- The theory of distribution.
- The concepts of wages.

- Residual Claimant Theory.

2.1 Introduction

In the earlier chapter, we discussed the factors of production. Distribution of factors of production means the returns of factors of production, e.g. land fetches rent, labour earns wages, capital obtains interest and an organiser reaps profit. We are going to discuss theories of distribution and wages further.

The prices paid by businessmen to the various factors of production in the form of rent, wages, interest etc. are major determinants of money income. Thus, the resource prices play a crucial role in determining the distribution of income in the community. The households supply the human and property resources and get money incomes in return.

The factor prices serve as a rationing device for the utilization of the productive resources. These resources are allocated among various industries and firms through the mechanism of factor prices. These prices facilitate the shifting of resources from the less remunerative uses to the more profitable ones. Dynamic societies cannot function without this shifting.

From the point of view of firms, the resource prices enable the application to production of the most economical or least cost combination of factors. To the firms, factor prices are costs and these costs must be minimised in order to maximise profits.

Finally, since resource prices constitute incomes for the various sections of the society, a very important consideration is the attainment of equality of incomes. This trend in modern societies highlights the ethical and political significance of factor prices.

2.2 Role of Factor Price

Price theory covers both products pricing and factor pricing. So far we have studied product pricing and now we turn to factor pricing. Factor prices play an important role in the economy:

- **Employment Level is decided:** It is through factor prices that employment levels of the various productive resources are determined, i.e. how much of a factor of production should be utilized in the process of production. A fall

in the price of a factor will lead to increase in its demand and more of it being employed and vice-versa.

- **Allocate the productive Resources:** The second important function of the factor prices is to allocate the productive resources to various alternative uses. They signal the 'r' (resources) from the less important to the more important uses. This sort of discrimination will be simply out of question in the absence of guidelines furnished by factor prices.
- **Allocation of Recourses to community:** As a corollary from the second function, factor prices not only guide the individual firms regarding the use of resources, they also bring about the most efficient allocation of the resources of the community. Without pricing of factors, optimum utilization of factors will not be possible.
- **Decide Income:** Finally, since we all are suppliers of one resource or the other, factor pricing determines the incomes of all of us, i.e. our respective shares in the national output.

Check your progress 1

1. _____in the price of a factor will lead to increase in its demand.

   a. Fall

   b. Increase

2.3 Theory of Distribution

For a long time, economists explained the determination of factor prices with the help of a theory called the Marginal Productivity Theory, which is discussed below.

2.3.1 Marginal Productivity Theory

The entrepreneur buys the services of various factors of production. He is the agent through whom various factors get their rewards in the form of rent, wages, interest, etc. The entrepreneur works for profit. He can only pay a price for a factor, which he finds just worthwhile. Obviously; he cannot afford to pay more

than its marginal productivity. Since there is open competition, no factor-owner will accept less than the marginal productivity of the factor supplied by him. That is how marginal productivity (not total productivity) determines the remuneration or the price of a factor of production.

The entrepreneur, in employing various factors of production, acts according to the principle of substitution. He substitutes one factor for another till the marginal productivities of all the factors divided by their respective prices are equalized. This will be the most economical combination, which yields him the maximum profits.

2.3.2 Marginal Productivity

As explained earlier, by the marginal productivity of a factor of production we mean the addition made to total output by the employment of the marginal unit, i.e. the unit, which the employer thinks just worthwhile employing. At the margin of employment, the payment made to the factor concerned is just equal to the value of the addition made to the total output on account of the employment of the additional unit of a factor. If, for instance, the prevailing wage is less than the marginal productivity, then more labour will be employed. Competition among employers will raise the wage to the level of marginal productivity. If, on the other hand, the marginal productivity is less than the wage, the employers are losing and they will reduce their demand for labour. As a result, the wage rate will come down to the level of marginal productivity.

Also, factors of production tend to move from those uses in which their marginal productivity is low to those in which it is high. In this way, a given supply of a factor of production is distributed in such a way that its marginal productivity is equal in all the uses. That is why we can say that the price of a factor of production is determined by its marginal productivity and this marginal productivity is the same in all its uses. Thus, in a position of competitive equilibrium

- The marginal productivity of a factor of production is the same as in employments.
- The marginal productivity of a factor of production is measured by the price of the factor of production.
- Marginal productivities of various factors are proportional to their

respective prices.

Over the entire field of employment, therefore, each factor of production tends to be paid in proportion to its marginal productivity.

Thus, the distribution of National Dividend or the total aggregate output of an economy is not a scramble as the strikes or lockouts make it appear to be. It is governed by a definite economic principle, viz. marginal productivity.

It should be noted that for an individual employer working under perfect competition, the prices that he has to pay for the factors of production are already determined. Since his demand for the factors of production is only an insignificant proportion of the total demand, his employing more or less of the factors does not appreciably affect their prices. What he does is to push the use of each of the factors he employs to such a point as to make its marginal productivity equal to its price as already determined by the market forces.

2.3.3 Criticism of the Theory

The theory does not have practical implications. This theory does not talk about actual rewards earned by different factors of production.

- It assumes that all the units of a factor are homogeneous, so that any one unit is as good as any other. This is not actually the case. All labourers are not alike; neither are they of varying efficiency; nor are all the units of land similar. The capital equipment is also of different types. Thus, we cannot talk of marginal productivity of a factor in general.
- It is assumed that different factors are capable of being substituted for one another, so that, at the margin, it is possible to use a little more land or a little more labour or capital, etc. If this substitution is not possible, marginal productivity of the various factors may remain unequal. Actually, it is not always possible to substitute labour for capital and vice versa. Different factors of production are not close substitutes for one another.
- It is also assumed that the amount of a particular factor that is used can be continuously varied, so that it is possible to apply a little more or a little less of the same factor. If this cannot be done, as is sometimes the case, the use of the factor cannot be pushed to the point at which its marginal productivity becomes equal to its cost.

- It is assumed that the factors of production are mobile as between various uses. We know that land lacks mobility, neither are labour and capital perfectly mobile. Human package is said to be the least portable. If a factor cannot be moved from one use or employment to another, its marginal productivity i.e. the various employments may remain unequal.
- The theory is based on the law of diminishing returns as applied to the organisation of abusiness. This means that other things being equal, a disproportionate increase in the supply of any factor increases total production at a diminishing rate. We know, however, that in manufacturing industries, the operation of the law of diminishing returns is held in check.
- It is under these assumptions that the reward for each of the four factors of production, viz., rent of land, interest on capital, wages of labour and profits of enterprise, tends to equal the value of its marginal net product. However, these assumptions do not always hold good.
- The marginal productivity theory has been criticized by Keynes thus: One implication of this theory is that if employment is to be increased, wages should be lowered so that more labour will be employed to make marginal productivity equal to the wage. This argument is fallacious. This may be true in the case of an individual adjustor in a firm. It cannot apply to the economy as a whole. The total employment in a country depends on effective or aggregate demand and not on the level of wages.
- According to marginal productivity theory, marginal productivity determines the reward of a factor of production. In other words, the two are independent. This is not really the case. One affects the other. The marginal productivity or efficiency of a factor also depends on the reward it gets. For example, in the case of labour, their wages determine their standard of living, which in turn determines their efficiency or productivity.
- One common criticism is that a product is the result of the co-operative efforts of all the factors of production and that it is impossible to separate the share contributed by each. This criticism advanced by Tossing and Davenport is obviously based on a misreading of the concept of marginal productivity. As we have already explained, marginal productivity is not the net product solely due to the marginal factor. We merely assign that product to the factor on the margin of use. It is the net addition made to the total production by the employment of this additional factor or deduction caused

in it if this factor were withdrawn.

- Hobson makes another attack. It is held that if any particular factor unit is withdrawn, the whole business will be so disorganized that the loss to production will be much more than the productivity of the unit withdrawn. This criticism is also due to the wrong application of the theory. The attention is fixed on a small business organisation and large units of factors. If we conceive of a large business and small units of factors, it will be clear that withdrawing a unit at the margin will not appreciably affect the productivity of the other factors.
- It is also objected that the theory assumes that the supply of a factor is fixed. In actual practice, the reward enjoyed by a factor does affect its supply. The theory approaches the problem from the side of demand only. It is thus a one-sided explanation.
- It should be remembered that the theory is valid only under the assumption of perfect competition. In real life, competition is not perfect. Hence, actual rewards paid to the factors of production do not conform to their relative marginal productivities.

Moreover, this explanation of the determination of the shares of the various factors of production in a capitalistic economy should not be regarded as a justification, from the ethical point of view. The theory is essentially positive and not normative. It does not say that the reward of a factor according to marginal productivity is a just reward.

We may conclude in the words of Professor Samuelson: "It (marginal productivity theory) is not a theory that explains wages, rents or interest; on the contrary, it simply explains how factors of production are hired by the firm, once their prices are known." It tells us, for instance, how many workers an employer will employ at a given wage level. It does not tell how that wage level itself is determined.

Check your progress 2

1. For a long time, economists explained the determination of factor prices with the help of a theory called the _____.

   a. Theory of rent

   b. Marginal Productivity Theory

2.4 Meaning of Wages

Wages differ in their meaning from person to person. In simple terms, it is a payment / remuneration for work done. In economic terms, it is more descriptive. It includes the work of all who work for a living, whether this work is physical or mental. It also includes the exertions of independent professional men and women like doctors, lawyers, musicians and painters who render services for money.

In fact, 'labour' in Economics means all kind of work for which a reward is paid. Any type of reward for human exertion, whether paid by hour, day, month or year and paid by cash, kind or both are called wages.

"A wage may be defined as a sum of money paid under contract by an employer to a worker for services rendered" (Benham). It is essentially a price for a particular commodity, viz. labour services.

Check your progress 3

1. In simple terms, _____ is a payment / remuneration for work done.

   a. Wage c. rent

   b. Salary

2.5 Theories of Wages

In order to explain how wages are determined, several theories have been propounded. Mentioned below are few theories of wages. We briefly refer below to some old theories and discuss in detail the Subsistence Theory, Wages Fund Theory, and Residual Claimant Theory.

- Subsistence theory of wages.
- Wages fund theory.
- Residual claimant theory of wages.
- Standard of living theory of wages.
- Bargaining theory of wages.
- Marginal productivity theory of wages.

Check your progress 4

1. Subsistence theory is one of the theories of _____.

   a. Rent c. income

   b. Wages

2.6 Subsistence Theory

It was believed that wages, in the long run, would tend to equal just enough of food, clothing and shelter to maintain existence. This is known as the Iron Lay of Wages or the Subsistence Theory of Wages.

This theory was propounded by David Ricardo. According to this theory, wages tend to maintain the level just significant to maintain the workers at the minimum subsistence. If the level of wages rises above the subsistence level, the supply of labour becomes high in number or large. The supply of labour brings wages downward to maintain the subsistence level.If the wages falls below the subsistence level, the supply of labour decreases until wages rise again to maintain the subsistence level. It is supposed that the supply of labour is infinitely elastic.

Criticism of the theory

- It assumes that the supply of labour is infinitely elastic, which is wrong.
- It is wrong to say that increase in wages must increase the size of the family. Many people prefer high standard of living to a larger family.
- The theory does not explain differences in wages of workers having the same standard of living.
- It explains adjustment of wages over a generation and does not explain fluctuations from year to year.
- The theory is pessimistic and holds no bright prospects for labour.

Check your progress 5

1. Subsistence Theory of Wageswas propounded by _____.

   a. David Ricardo c. Dr. Alfred Marshal

   b. Adam smith

2.7 Wages Fund Theory

The wages fund theory was developed by J. S. Mill. He mentioned that a certain fixed proportion of the capital of a country was set apart for payment as wages of labourers. This proportion he called the Wages Fund.

$$\text{Wage} = \frac{\text{Capital}}{\text{Population}}$$

Thus, according to him, wages at any moment were determined by the amount of money in the wages fund and the total number of workers in the country. If the fund remains constant and the supply of labour increases, wages would fall and vice versa. It is implied that if wages are forced up, capital will leave the country.

Criticism of the theory

- The theory does not explain how the wages fund arises and why it remains fixed.
- It has been proved to be historically false.
- It is no theory, but only a truism and says what is self-evident.
- The interests of labour and capital do not always conflict as the theory implies. During industrial prosperity, both wages and profits rise.
- Capital is not as sensitive as it is assumed.
- It does not explain differences in wages in different occupations.

Actually, wages do not correspond to the total amount of capital available. In some countries, wages are high even though capital is scarce, e.g. in new countries.

Check your progress 6

1. The wages fund theory was developed by _____.

   a. Adam smit c. Alfred Marshal

   b. J. S. Mill

2.8 Residual Claimant Theory

The residual claimant theory replaced the wages fund theory. According to this theory, the worker is the residual claimant of the product of industry. He gets out of the product what remains after land, capital and organisation have been paid their rewards. Thus, wages are determined after rent, interest and profits have been deducted from the total product.

Criticism of the theory

- In actual practice, it is found that at times of business boom, when rent, interest and products rise, wages also increase.
- It is not the worker who is the residual claimant, but the entrepreneur. It does not explain how trade unions are able to raise wages.
- It ignores the influence of supply or labour.

Check your progress 7

1. The _____theory replaced the wages fund theory.

   a. residual claimant c. income theory

   b. wage theory

2.9 Let Us Sum Up

In this unit we learnt another important topic of product and factor pricing. This has very important role in the economy.

We even discussed the marginal productivity in this unit and studied that by the marginal productivity of a factor of production, we mean the addition made to total output by the employment of the marginal unit, i.e. the unit, which the employer thinks just worthwhile employing.Here in this unit we even discussed about the various theories of wage. Thereafter we discussed the wages fund theory of J.S.Mill and he mentioned that a certain fixed proportion of the capital of a country was set apart for payment as wages of labourers. This proportion he called the Wages Fund. Lastly we discussed the residual claimant theory under which we studied that the worker is the residual claimant of the product of industry. He gets out of the product what remains after land, capital and organisation have been

paid their rewards. This unit is going to be of great help for the readers in making these topics so easily understandable.

2.10 Answers for Check Your Progress

Check your progress 1

Answers: (1-a)

Check your progress 2

Answers: (1-b)

Check your progress 3

Answers: (1-a)

Check your progress 4

Answers: (1-b)

Check your progress 5

Answers: (1-a)

Check your progress 6

Answers: (1-b)

Check your progress 7

Answers: (1-a)

2.11 Glossary

1. **Utility Optimum -** A position in which the satisfaction of a community cannot be increased and the satisfaction of one member of the community cannot be increased without reducing the satisfaction of another.
2. **Volume of Money -** Same as money supply.

2.12 Assignment

Explain the theory of distribution. What were the criticisms of the theory?

2.13 Activities

Explain any two theories of Wages.

2.14 Case Study

Point out / List down various factors of distribution in a departmental store. Study the present wages system employed there.

2.15 Further Readings

1. Business Economic, Micro and Macro, H.L Ahuja, S Chand & Company Ltd, 1999.
2. Development Theories and Growth model, P. Sen, S Chand & Company Ltd. 1995.
3. Financial Management, M.Y. Khan, P.K. Jain, Tata McGraw Hill Publishing Company Ltd., 1999.
4. Managerial Economics, R. Cauvers, S. Chand, 2009.
5. Principles of Economics, Seth, M.L,Lakshmi Narain Agarwal, 2009.

UNIT 3: THEORY OF RENT, INTEREST AND PROFIT

Unit Structure

3.0 Learning Objectives

3.1 Introduction

3.2 Ricardian Theory of Rent

3.2.1 Definition of Rent

3.2.2 Concept of Ricardian Theory

3.2.3 Main Aspects of Ricardian theory

3.2.4 Assumptions

3.2.5 Criticisms

3.3 Interest

3.3.1 Meaning of Interest

3.3.2 Gross and Net Interest

3.3.3 Why is Interest paid?

3.3.4 Theories of Interest

3.4 Demand for Capital

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3.7.2 Gross Profit and Net Profit

3.7.3 Sources of Profit

3.7.4 Dynamic Theory of Profit

3.7.5 Modern Theory of Profit / Risk and Uncertainty Bearing Theory of Profit

3.8 Non-Insurable Risks

3.9 The Innovation Theory of Profit

3.10 Concept of Theories

3.11 Let Us Sum Up

3.12 Answers for Check Your Progress

3.13 Glossary

3.14 Assignment

3.15 Activities

3.16 Case Study

3.17 Further Readings

3.0 Learning Objectives

After learning this unit, you will be able to understand:

- The concept of rent.
- Ricardian aspect of rent.
- The concept of Interest.
- The liquidity preference theory of interest.
- The concept of profit.
- Theories of Profit.

3.1 Introduction

Rent: Rent is a payment made for the use of Land.The Classical Economist established the relationship of 'Rent' with 'Land'. Nevertheless, according to Modern Economists, an important quality of land i.e. the Element of Scarcity or Limitedness (i.e. Land-element) can also be possessed by every factor of production. These factors are labour and capital etc. Therefore, every factor of production can obtain rent.

Interest: What is it that catches your eye when you enter a big factory? It is the machine and not the man behind it. Huge and powerful, the machine must have cost a large amount of money. There are many such machines in a factory. We cannot expect one man alone to buy them out of his own finances. Hence,

capital has to be borrowed for the purposes of large-scale upgradation. The payment made to its owner for the use of capital is called interest.

Profit: Profit is the return to entrepreneurial ability. However, a minimum sum essential to retain the entrepreneur in a given line of production is termed 'normal profit'. This normal profit is treated as a part of the cost of production. Hence, normal profit is not true economic profit. In the true economic sense, profit, i.e. economic or pure profit, is the total revenue left after all costs- explicit, including normal profit- are paid. In this sense, economic profits are residual. Thus, when economists talk of profits, they always mean economic or pure business profit, which is in excess of normal profit.

Another important feature of profit is that being a residual income, it may even be negative. Negative profit is called loss. When total cost exceeds total revenue, there is loss or negative profit. It is only the entrepreneur who has to suffer a negative reward. Apparently, profit cannot be calculated in advance because it is uncertain, variable and unpredictable by nature. Profit can be measured only when it is realised.

3.2 Ricardian Theory of Rent

3.2.1 Definition of Rent

According to Prof. Ricardo, "Rent is that portion of the produce of earth which is paid to the Landlord for the use of the 'Original and Indestructible Powers' of the soil". In the words of Prof. Marshall, "The income derived from the ownership of land and other gifts of' nature is commonly called Rent".

According to Modern Economists, "Rent is surplus over the Minimum Supply Price i.e. Opportunity Cost to keep a Factor of Production in the Present Occupation. Before explaining the Ricardian Theory of Rent we shall have to keep in mind three Basic things:

- The fertility of different pieces of land is different. Some pieces of land are more fertile and some pieces of land are less fertile.
- The law of diminishing returns operates in agriculture or it applies to land.
- The rate of rent depends upon the fertility and situation of the land. More fertile and best-situated land gets more rent.

The Ricardian theory of rent is based on two important laws of economics:

- The law of diminishing returns
- Rapid growth of population

3.2.2 Concept of Ricardian Theory

In day-to-day life, rent is paid as a reward for using some durable commodity. However, in economics, it does not mean so. Different economists have defined rent differently. According to Ricardo, only the landlord gets rent. On the other hand, according to modern view, factor owner may be rent.

British Economist Prof. David Ricardo was the first Economist who stated the Theory of Rent at the end of 18th Century. Since Ricardo stated the theory before the other theories of Rent, this theory is known by his name and it is called the Ricardian Theory of Rent. He has discussed his views on rent in his book the Principles of Political Economy with the help of the rent theory. Ricardo explained that price does not increase due to rent but rent exists because price increases.

According to him, rent is a surplus over cost of production/cultivation. Thus, whatever is left after deducting cost of production from total revenue is called rent. The amount of rent depends upon fertility of land. More fertile land gets more rent; less fertile land gets less rent while least fertile land does not get any rent. Thus, rent is paid because of differences in soil and therefore, this theory is also called the Differential Rent Theory.

We can explain four important features of Ricardo's Rent Theory:

- Rent is paid only to land.
- Rent is paid because of differences in the fertility of soil.
- Rent is not included in cost of production because it is the surplus over cost of production.
- Corn is not high because a rent is paid but a rent is paid because corn is high". (Rent increases due to higher fertility of land and not the other way round. Better-quality land are limited in quantity hence the land which is most fertile generates the highest rent and the least fertile land gets no rent)

3.2.3 Main Aspects of Ricardian theory

- Economic rent is the difference between the produce of super marginal land (or Infra Marginal Land) and produce of the marginal land. In the form of an equation, we can say as under.
- Economic Rent - Produce of Super Marginal Land - Produce of Marginal Land.
- Rent is paid to the landlord for the original and indestructible powers of the soil.
- Rent increases due to increase in the population.
- Rent does not only arise due to fertility of land but also due to the situation of land.
- Land is cultivated in the order of the fertility of land. It means that people cultivate that land first which is 'most fertile' and then they go on cultivating less and less fertile land.

3.2.4 Assumptions

- There exists a perfectly competitive market.
- Land differs in fertility and more fertile land is cultivated first while less fertile land later on.
- Land is used only for agricultural purposes and therefore its transfer price is zero.
- The theory is applicable in the long-run period only.
- There exists no rent for least fertile land and rent of more fertile land is paid with reference to marginal land.

3.2.5 Criticisms

- According to modern thinking, rent is paid not only to land but other factors of production may also generate rent.
- According to Ricardo, rent is paid because of original and indestructible powers of soil. However, while explaining the theory, he argued that

marginal land does not get rent. These are two contradictory statements because although it is less fertile, marginal land also possesses some original and indestructible powers. Therefore, according to the definition, marginal land must also obtain rent.

- According to Ricardo, powers of soil are original and indestructible. However, it is argued that powers of soil are destructible because if land is cultivated continuously, it loses its fertility. Also, powers of soil are not original because with the use of fertilisers, powers of soil become man-made.
- Ricardo was of the opinion that land is cultivated by considering fertility. However, in practice, which land will be cultivated is decided by various other factors like convenience, availability of irrigation facilities, distance from the market etc.
- Ricardo was of the opinion that rent is surplus over cost of production, i.e. it is not included in the cost of production. However, according to the modern theory, rents are included in cost of production and therefore, rent determines the price.
- Ricardo assumed perfectly competitive market. However, in practice such a market does not exist.

Check your progress 1

1. The income derived from the ownership of land and other gifts of' nature is commonly called Rent was said by _____

   a. Alfred Marshal c. J.s. mill

   b. David Ricardo

3.3 Interest

3.3.1 Meaning of Interest

The term 'interest' is used in two senses: (i) as a price or compensation paid by the borrowers to the lenders of loanable funds and (ii) as a reward to the capital as a factor of production.

Classical economists like Adam Smith and David Ricardo, for instance, regarded interest as a return on capital invested. They considered it an income to capital just as rent is to land. Thus, classical economists measured the rate of interest in real terms.

On practical considerations, however, modern economists usually treat interest as the price of borrowed money.

Benham, for instance, defines interest as the "price paid for a loan".

Meyer also puts it that interest is the price paid for the use of loanable funds.

Keynes regarded interest to be a purely monetary phenomenon and defined it as "the reward made to the lender of money for parting with liquidity".

As is commonly understood, interest is the payment made by the borrower to the lender of a money loan. It is usually expressed as an annual rate in terms of money and is calculated on the principal of the loan. We may define interest as the price paid for the use of other's capital funds for certain duration. In the real economic sense, however, interest may be conceived as a price of a money loan, i.e. liquid capital, which may be borrowed either for production or even for consumption purposes.

In an accounting sense, interest rate is calculated on a yearly basis in terms of a percentage of the loan amount.

3.3.2 Gross and Net Interest

The actual amount paid by the borrower to the capitalist as the price of capital fund borrowed is called the gross interest, while the payment made exclusively for the use of capital is regarded as net interest or pure interest.

Gross interest includes, besides net interest or pure interest, the following elements:

- **Compensation for risks:** Giving a money loan to somebody always involves a risk that the borrower may not repay it. To cover this risk, the lender charges more, in addition to the net interest. Thus, when loans are made without adequate security, they involve a high element of risk, so a high rate of interest is charged.
- **Compensation for inconvenience:** A lender lends only by saving, i.e. by restricting his consumption out of his income, which obviously involves

some inconvenience which is to be compensated. A similar inconvenience is that the lender may not be able to get his money back as and when he may need it for his own use. Hence, a payment to compensate this sort of inconvenience may be charged by the lender. Thus, the greater the degree of inconvenience caused to the lender, the higher will be the rate of interest.

- **Payment of management services:** A lender of capital funds has to spend money and energy in the management of credit. For instance, in the lending business, certain legal formalities have to be fulfilled, say, fees for obtaining moneylender's license, stamp duties, etc. Proper accounts must be maintained. He has to maintain clerical staff as well. Thus, for all such sort of management services, reward has to be paid by the borrower to the lender. Hence, gross interest also includes payment for management expenses.
- **Compensation for the changing value of money:** When prices are rising under inflationary conditions, the purchasing power of money declines over some time and the creditor loses. To avoid such a loss, a high rate of interest may be demanded by the lender.

To sum up:

Net Interest = Net Payment for the use of capital

Gross Interest = Net Interest + Payment for Risk + Payment for Management Services + Compensation for changing value of money

Usually, the net rate of interest is the same everywhere. In economic equilibrium, the demand for and supply of capital determine the net rate of interest. However, in practice, gross interest rate is charged. Gross interest rates are different in different cases at different place and different timesand in the case of different individuals.

3.3.3 Why is Interest Paid?

- **Productivity of capital:** Interest is paid by the borrower to the lender, because borrowed money capital is productively used.
- **Compensation for parting with liquidity:** As Keynes puts it, interest is the reward for parting with liquidity. When a lender lends money, he undergoes a sacrifice of present time consumption in parting with its purchasing power

to the borrower. This is to be compensated by the borrower.

- **To induce savings:** Lending of money usually comes out of savings. Savers are induced to save more by restricting consumption, when higher rates of interest are paid. When investment demand is in excess of savings, interest rates will go up.
- **To mobilise loanable funds:** Banks and other financial institutions offer interest rates to mobilise loanable funds from the household sector to the money and capital markets. People may opt for financial investment of their savings when attractive returns are offered by the financial institutions. Financial institutions serve as intermediaries and pass on these funds so mobilised to the firm sector for real investment.

Similarly, the demand for interest on the lenders' side is also justifiable for the reason of moderation or sacrifice of immediate consumption undergone by them in parting with liquidity. They also claim a share in the income generated by capital in its productive use in terms of interest rate. They also face risks of losing money when the loan is not repaid by the borrower. To compensate for all these risk elements, they reasonably demand some interest.

3.3.4 Theories of Interest

Why interest is paid at all is abaffling question to answer. Different economists have offered different explanations or theories on the origin and determination of the rate of interest.

In the classical era, though the basic mode of economic thinking was in real terms, different classical economists have interpreted interest from different angles. Early classical ideas on interest can be grouped into the following set of theories (1) Productivity theory (2) Abstinence or waiting theory (3) Time preference theory (4) The Classical or Saving and (5) Investment Theory of Interest.

According to the classical theory, interest, in real terms, is the reward for the productive use of the capital, which is equal to the marginal productivity of physical capital. In a money economy, however, as the physical capital is purchased with monetary funds, the rate of interest is taken to be the annual rate of return over money capital invested in physical capital assets.

According to Keynes, true classical theory of interest rate is the savings investment theory. It was presented in a refined form by economists like Marshall, Pigou, Taussig, etc. Basically, the theory holds the proposition based on the general equilibrium theory that the rate of interest is determined by the intersection of demand for and supply of capital. Thus, an equilibrium rate of interest is determined at a point at which the demand for capital equals its supply.

Demand for capital stems from investment decisions of the entrepreneur class. Investment demand schedule thus reflects the demand for capital, while the supply of capital results from savings in the community. Savings schedule thus represents the supply of capital. It follows that savings and investment are the two schedules. At the equilibrium rate of interest, total investment and total savings are equal.

It should be noted that the theory assumes real savings and real investment. Real savings refer to those parts of real incomes, which are left unconsumed to provide resources for investment purposes. Real investment implies use of resources in producing new capital assets like machines, factory plants, tools and equipments, etc. It means investment in capital goods industries in real terms.

Check your progress 2

1. The true classical theory of interest rate is the savings investment theory was said by _____.

   a. Alfred Marshall c. Adam smith

   b. Keynes

3.4 Demands for Capital

Demand for capital comes from entrepreneurs who wish to invest capital for business. In fact, demand for capital implies the demand for savings. Investors agree to pay interest on these savings because the capital projects, which will be undertaken with the use of these funds, will be so productive that the returns on investments realised will be in excess of the cost of borrowing, i.e. interest. In short, capital is demanded because it is productive, i.e. it has the power to yield an income even after covering its cost, i.e. interest. The marginal productivity curve of capital thus determines the demand curve for capital. Indeed, the marginal

productivity curve is, after a point, a downward-sloping curve. While deciding about an investment, the entrepreneur, however, compares the marginal productivity of capital with the prevailing market rate of interest.

Marginal productivity of capital = the marginal physical product of capital X the price of the product

Given the marginal productivity, when the rate of interest falls, the entrepreneur will be induced to invest more until the marginal productivity of capital is equal to the rate of interest. Thus, investment demand expands when the interest rate falls and it contracts when the interest rate rises. As such, investment demand is regarded as the inverse function of the rate of interest. In symbolic terms:

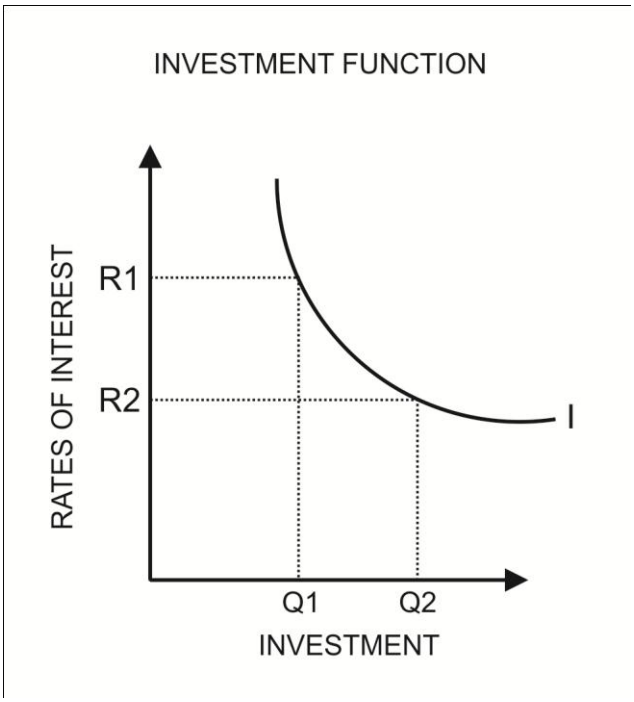


Fig 3.1 Investment Function

Where,

I = investment demand

r = rate of interest

And f = functional relationship

The above-mentioned is an investment demand schedule in graphical terms.

It can be seen that when the rate of interest is OR1, the investment volume is OQ1. When the interest rate falls to OR2, investment volume rises to OQ2. It follows that the investment demand curve is a downward-sloping curve.

Supply of Capital

Saving is the source of capital formation. Therefore, supply of capital depends on the availability of savings in the economy. Savings emerge out of people's desire and capacity to save. The rate of interest plays an important role in the determination of savings. The classical economists commonly held that the rate of saving is the direct function of the rate of interest. This means savings expand with the rise in the rate of interest and contract when the rate of interest falls. In symbolic terms, the saving function may be stated as follows:

$S = f(r)$, in which $s/r < 0$

Where, S = volume of savings, r = rote of interest and f stands for functional relationship.

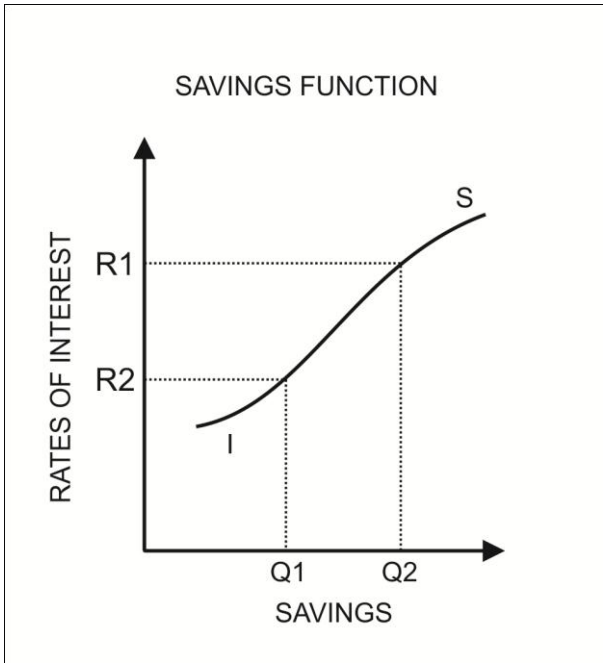


Fig 3.2 Supply of Capital

Above illustrated is the savings schedule in graphical terms.

The savings schedule refers to the quantum of savings at alternative rates of interest. When the rate of interest is OR1, OQ2 is the savings, when the interest rate rises to OR1, savings expand to OQ2 level. The saving function or the supply of savings curve is an upward-sloping curve.

It must be noted that savings and investment, referred to in the above functions, are in real terms.

Equilibrium Rate of Interest

The equilibrium rate of interest is determined at that point at which both demand for and supply of capital are equal. In other words, at the point at which investment equals savings, the equilibrium rate of interest is determined.

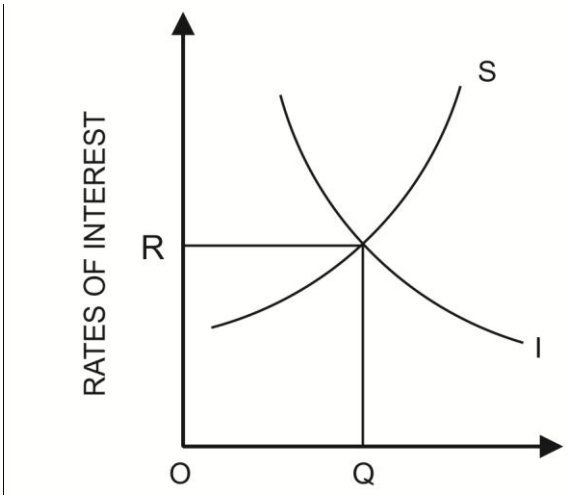


Fig 3.3 Equilibrium Rate of Interest

In Fig. 3.3, OR is the equilibrium rate of interest which is determined at the point at which the supply of savings curve intersects the investment demand curve, so that OQ amount of savings is supplied as well as invested. This obviously implies that demand for capital (OQ) is equal to the supply of capital (OQ) at the equilibrium rate of interest (OR). Indeed, the demand for capital is influenced by the productivity of capital and the supply of capital. In turn, savings are conditioned by the thrifty habit of the community. Thus, the classical theory of interest implies that the real factors, thrift and productivity, in the economy are the fundamental determinants of the rate of interest.

Criticisms

Keynes is a firm critic of the classical theory of the rate of interest. Major criticisms levelled against the classical theory are as follows:

- Keynes attacks the classical view that interest is the reward for saving. He points out that one can get interest by lending money, which has not been saved but has been inherited from one's ancestors. Similarly, if a man hoards his savings in cash, he earns no interest. Further, the amount of savings depends not only on the rate of interest but also on the level of income and

hence the rate of interest cannot be a return on saving. According to Keynes, interest is purely a money phenomenon, a payment for the use of money and the rate of interest is a reward for parting with liquid cash (i.e. dishoarding) rather than a return on saving.

- Keynes further maintains that the classical theory of interest is indeterminate and confusing.

  It involves a circular reasoning as follows:

  r = f (S, I)

  However, S = f (r)..... (Direct function) and

  I = f (r)..... (Inverse function)

Hence, we cannot know the rate of interest unless we know the savings and investment schedules, which, again, cannot be known unless the rate of interest is known. Thus, the theory fails to offer a determinate solution.

- Further, the classical theory looks upon money merely as a medium of exchange. It does not take into account the role of money as a store of value. It assumes that income not spent on consumption should necessarily be diverted to investment; it ignores the possibility of saving being hoarded. These factors make the classical theory unrealistic and inapplicable in a dynamic economy. It fails to integrate monetary theory into the general body of economic theory.
- According to the classicists, the rate of interest is an "equilibrating" factor between savings and investment. In the view of Keynes, "The rate of interest is not the price which brings into equilibrium the demand for resources to invest with the readiness to abstain from present consumption. It is the price which equilibrates the desire to hold wealth in the form of cash with the available quantity of each".
- Keynes also points out that equality between saving and investment was brought about by changes in the level of income and not by the rate of interest, as asserted by the classical economists.
- It has been pointed out that the classical interest theory is narrow in scope in so far as it ignores consumption loan and takes into account only the capital used for productive purposes.

The classical theory also ignores the vital role played by the supply of money for determination of the rate of interest for bank credit. According to it, if there is an increase in the demand for investment, the saving schedule remaining unchanged, the rate of interest will rise. But today, savings are supplemented by credit and the rate of interest may not rise even though investment demand may have increased.

Check your progress 3

1. _____is a firm critic of the classical theory of the rate of interest

   a. Keynes c. J.s.Mill

   b. Adam smith

3.5 Keynes' Liquidity-Preference Theory

Interest is regarded by Keynes as a purely monetary phenomenon in the sense that the rate of interest is determined by the intersection of the demand for and the supply of money. The demand for liquidity together with the supply of money determines the interest rate. Interest is the reward paid for parting with liquidity, i.e. giving up the cash balances held.

Thus, the rate of interest, according to Keynes, is determined by the intersection of the supply schedule of money (the total quantity of money) and the demand schedule for money (the "liquidity-preference").

The demand for money is a demand for liquidity- the liquidity preference schedule. The concept of liquidity preference implies the preference of the people to hold wealth in the form of liquid cash rather than in other non-liquid forms like bonds, securities, bills of exchange, land, gold, etc.

The demand for money, according to Keynes, is thus a demand to hold money- cash balances. The composite demand for money is divided into two principal demands, namely (i) demand for money as a medium of exchange (active cash balance) and (ii) demand for money as a store of wealth (idle cash balance). Now the demand for money as a medium of exchange is motivated by the necessities of transactions and precaution. Demand for money as a store of wealth is prompted by speculation. There are three motives which lead to liquidity

preference: (1) transactions motive (2) the speculative motive and (3) the precaution motive.

In the liquidity function, however, as postulated by Keynes, the demand for money is positively correlated with income- an increased level of incomes implies a rise in the demand for money and vice versa. On the other hand, it is negatively correlated with the rate of interest- the rate of interest reduces the demand for money or, in other words, increase in the demand for money leads to a rise in the rate of interest and vice versa.

Liquidity-Preference Schedule

The liquidity-preference schedule expresses the functional relation between the amount of money demanded for all liquidity motives and rate of interest. The demand for money or the liquidity function can be conveniently explained diagrammatically.

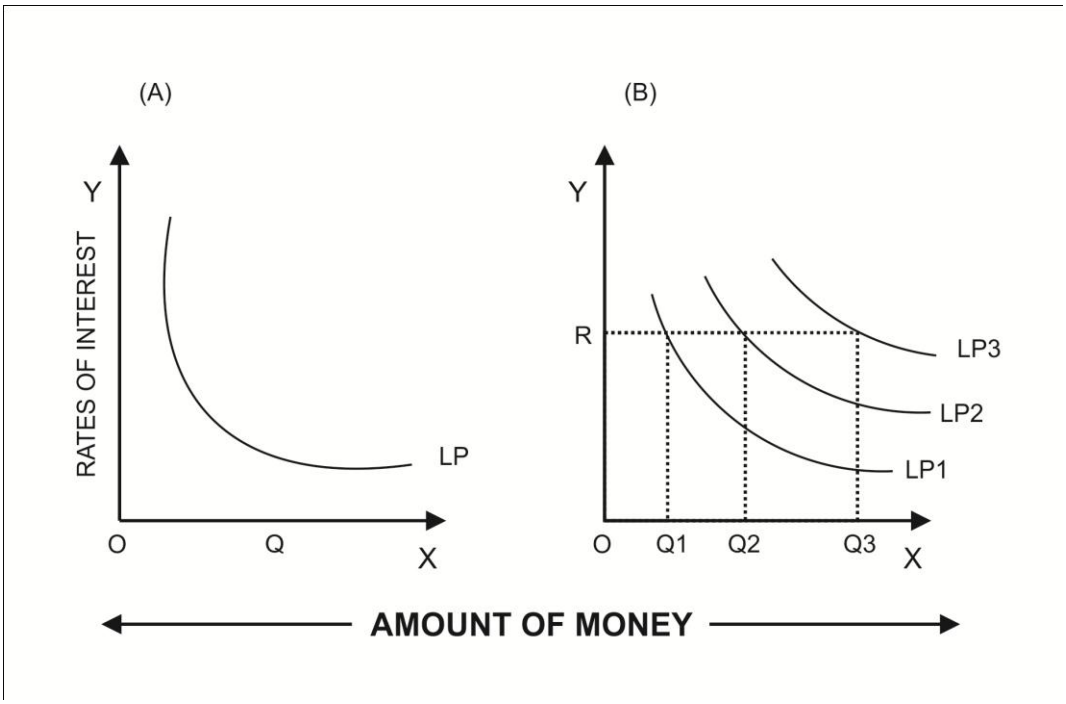


Fig 3.4 Liquidity Preference

In Fig 3.4, the liquidity function is generally downward-sloping; indicating that the amount of money demanded for liquidity purposes is a decreasing function of the rate of interest. The reason is that the community is ordinarily willing to hold more money at a low rate of interest than at a high rote of interest.

The above figure shows that when there is an upward shift of the entire liquidity function (as LP1, LP2, LP3), owing to changes in the level of income affecting the community's expectations regarding the advantages of holding liquid assets, the amount of money demanded for liquidity purposes increases from OQ1 to OQ3 at the prevailing rate of interest OR.

Check your progress 4

1. Interest is regarded by _____as a purely monetary phenomenon

   a. Adam smith

   b. Keynes

3.6 Determination of Interest Rate

According to the liquidity preference theory, the equilibrium rate of interest is determined by the interaction between the liquidity preference function (the demand for money) and the supply of money.

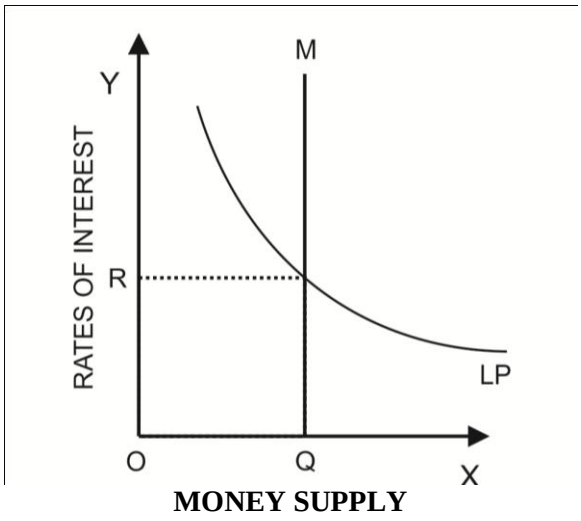


Fig 3.5 Liquidity Preference Theory of Interest

The theory further states that any change in the liquidity preference function (LP) or change in money supply or changes in both leads to changes in the rate of interest. Thus, as shown in Fig 3.5, if given the money supply, the liquidity preference curve (LPJ) shifts from LP1to LP2, implying thereby an increase in demand for money; the equilibrium rate of interest also rises from R1 to R2.

Similarly, assuming a given liquidity-preference function (LP), as in Fig. 3.6, when the money supply increases from Q1 to Q2, the rate of interest falls from R1 to R2

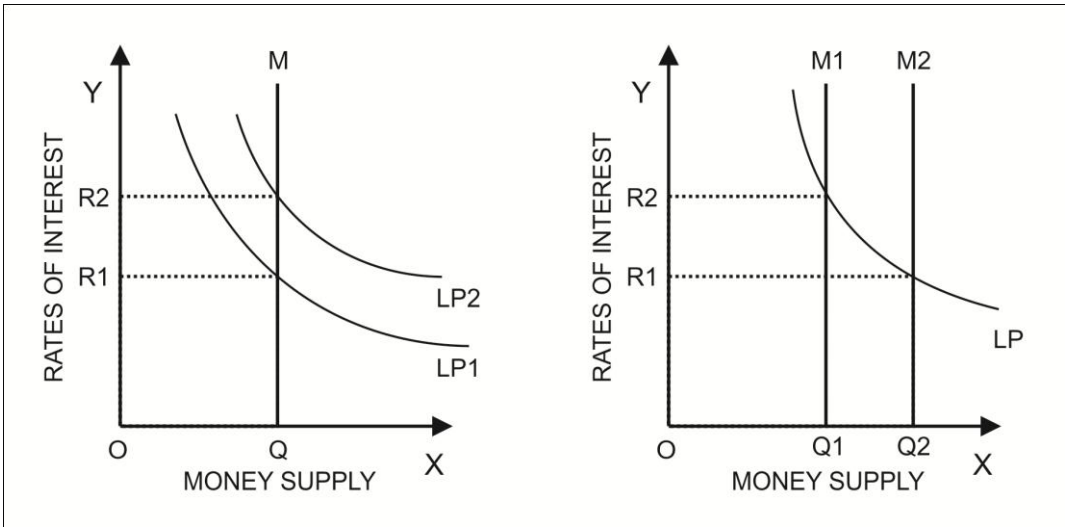


Fig 3.6 Liquidity-preference function

Criticisms

The following major criticisms have been levelled against the liquidity preference theory of interest:

1. Prof. Hansen maintains that the Keynesian theory of interest rate, like the classical theory, is indeterminate. In the Keynesian version, the liquidity preference function will shift up or down with changes in the level of income. Particularly li (i.e. liquidity preference for transactions and out of precautionary motive), being the function of income, we already know the income level. To know the level of income, we must know the rate of interest. Thus, Keynes criticism of the classical theory applies equally to his own theory.

2. Professor Hazlitt strongly criticised the Keynesian theory of interest on the following grounds:

    a. According to Hazlitt, the Keynesian theory of interest appeared to be one-sided as it ignored real factors. Keynes considered interest to be a purely monetary phenomenon and refused to believe that real factors, like productivity and time-preference, had any influence on the rate of interest. Similarly, the classicists also were wrong in considering interest purely as a real phenomenon and ignoring the monetary factors.

b. Keynes ignored the element of saving, which he considered interest, a reward for parting with Liquidity. Professor Jacob Viner points out that "Without saving, there can be no liquidity to surrender. The rate of interest is the return for saving without liquidity". As such, the element of saving cannot be ignored in any theory of interest

c. The liquidity-preference version is clearly wrong. It goes directly contrary to the facts that it presumes to explain. If the theory were right, the rate of interest would be the highest precisely at the bottom of a depression when, due to failing prices, people's preference for liquidity is the strongest, On the contrary, the rate of interest is at the bottom of a depression.

d. The concept of liquidity preference, in the theory of interest, is vague and confusing. For instance, if a man holds funds in the form of time-deposits, he will be paid interest on them; therefore, he is getting both, i.e. interest-cum-liquidity.

3. For some critics, Keynes' liquidity-preference theory of interest furnishes too narrow an explanation of the rate of interest. In their view, the desire for liquidity- an important factor in determining the rate of interest- arises not only from the three main motives (transactions, precautionary and speculative} mentioned by Keynes, but also from several other factors, not stressed by him.

4. Some critics opine that interest is not a reward for parting with liquidity as stressed by Keynes. In their view, interest is the reward paid to the lender (or the productivity of capital. As such, interest is paid because capital is productive.

5. According to Keynes, the rate of interest is independent of the demand (or investment funds). Critics point out that this is unrealistic. The cash balances of the entrepreneurial class are largely influenced by their demand (or capital for purposes of investment. The demand (or capital being dependent upon the marginal productivity of capital, the rate of interest is not determined independently of the marginal efficiency of capital or the demand for investment funds.

6. The Keynesian theory concentrates only on the short run and ignores the long period. However, for capital investment, it is a long-term rather than a short term rate of interest which is really significant.

Check your progress 5

1. _____strongly criticised the Keynesian theory of interest

a. Professor Hazlitt c. Keynes

b. Adam smith d. Alfred marshal

3.7 Profit

3.7.1 Meaning of Profit

Profit is the earning of an entrepreneur. To the economist, the most significant point about profit is that it is residual income.

However, the term 'profit' has different connotations in the accounting sense and in the economic sense.

In the accounting sense, when total cost is subtracted from total revenue or total sales receipts of the firm, the residual is termed as profit.

Thus, Profit = Total Revenue -- Total Cost.

In the accounting sense also, profit is measured in the same fashion. But conceptually, there is a sharp difference in its measurement.

In the accounting practice, when total cost is measured, only explicit costs, i.e. contractual payments made to different factor inputs by the firm, are considered. These include wages, salaries, and expenses on raw materials, fuel and power, rents and interest. To these inputs, cost of depreciation charges ore added.

In the economic sense, when the total costs are measured, we include explicit as well as implicit costs. Implicit costs refer to costs which are to be deemed and imputed as costs when a firm uses its own capital, for which obviously no interest is payable to anybody. Similarly, the entrepreneur provides managerial service for which he does not receive any remuneration by way of salary. In a true economic sense, therefore, implicit and explicit rents are included in the cost of production. Hence:

Profit = Total Revenue -- Total explicit and implicit costs.

Professor Savage and Small, therefore, define profit as "what remains of the firm's revenue after all inputs have been paid". It in this way, in the economic

sense, profit is looked upon as a surplus i.e. a surplus of a firm's total receipts over its total costs (explicit plus implicit).

Profit is the return to entrepreneurial ability. However a minimum sum essential to retain the entrepreneur in a given line of production is termed 'normal profit'. This normal profit is treated as a part of the cost of production. Hence normal profit is not true economic profit. In the true economic sense, profit i.e. economic or pure profit, is the total revenue left after all costs—explicit, including normal profit—are paid. In this sense, economic profits are residual. Thus,when economists talk of profits, they always mean economic or pure business profit, which is in excess of normal profit.

Another important feature of profit is that, being a residual income, it may even be negative. Negative profit is called loss. When total cost exceeds total revenue, there is loss or negative profit. It is only the entrepreneur who has to suffer a negative reward.

Apparently, profit cannot be calculated in advance because it is uncertain, variable and unpredictable by nature. Profit can be measured only when it isrealised. It is thus a term basically used in the ex-ante sense. Viewing the balance sheet of any joint-stock, company, we can know the apparent rate of profit on capital invested for the past years. But, we cannot know the rate of profit in future years well in advance due to a high degree of uncertainty involved in business.

3.7.2 Gross Profit and Net Profit

In ordinary parlance, profit actually means gross profit. It is the surplus of total revenue over total money expenditure incurred by a firm in the production process. Gross profit, thus, includes many items of input, service and their miscellaneous costs. Soil cannot be regarded as profit in the real sense. Thus, though profit is residual income, the whole of it is not pure economic profit which is a return for the risk-bearing function of the entrepreneur.

Gross profit includes the following items:

1. Imputed costs like maintenance and depreciation charges. To arrive at net profit, these are to be deducted from gross profit.
2. Implicit returns, such as implicit rent, implicit wages and implicit interests for the factors-land, labour and capital—owned and supplied by the

entrepreneur himself. In many business firms, the entrepreneur uses his own land, invests his own capital and also he himself works as manager.

3. Normal profit is also the implicit cost of entrepreneurial input. It is the imputed minimum return for the entrepreneur's organisational function.

4. Non-entrepreneurial profit includes windfall gains, monopoly gains, etc., which accrue to the entrepreneur as a result of change of events and market imperfections, this profit element is not related to entrepreneurial ability in the strict sense.

5. Net profit is the pure economic profit earned by the entrepreneur for his services and efficiency.

In short:

Gross Profit = Net Profit + Implicit Rent + Implicit Wages + Implicit Interest + Normal Profit + Depreciation and Maintenance Charges + Non-entrepreneurial Profit

Thus it follows that:

Net Profit = Gross Profit – (Implicit Rent + Implicit Wages + Implicit Interest + Normal Profit + Depreciation and Maintenance Charges + Non-entrepreneurial Profit)

Indeed, net profit, economic profit or pure business profit is the reward earned exclusively by the entrepreneur for his entrepreneurial functions, which are:

1. **Efficiency in the Organisation of Business:** He coordinates different factors of production—land, labour, capital—in the production process. By efficient organisation, he minimises the costs of production and is, therefore, entitled to super-normal profit.

2. **Risk-Bearing Function:** Pure business profit is the reward for risks borne by the entrepreneur. The entrepreneur alone bears the risks involved in the business; so he is entitled to a pure profit.

3. **Innovating Function:** Profit is also the reward earned by the entrepreneur for innovations. Hemay adopt new techniques, new products, new markets, in order to earn excess profit.

It is the net profit which may be positive or negative. A negative profit means a loss.

3.7.3 Sources of Profit

Sources of economic profit are many. There exists a lack of agreement among economistsabout the true sources of profit and the proper functions of the entrepreneur. Different economists have emphasised different sources of profit. For instance, in the view of J.B.Clark, the origin of profit is attributed to a dynamic economy. It is held that in a purely competitive, static economy, pure profits tend to be zero. Since, there is perfect general equilibrium in the economy, so in each case of price average cost, only normal profit is yielded. But it is only dynamic changes like change in demand, technological advancement etc., which cause the emergence of pure profit in a modem dynamic economy. Professor Schumpeter, on the other hand, emphasises on innovation as the fundamental source of profit. Hawley considers risk-bearing as the source of profit, while F.H. Knight traces profit to uncertainty. Mrs. Robinson, Professors Chamberlin and Kalecki, however, opine that profit is determined by the degree of monopoly power enjoyed by the entrepreneur in the market for his product. Professor Keirstead, therefore, summarises all these sources of profit in the following words: "Profits may come to exist as a result of monopoly or monopsony as a reward for innovation, as a reward for the correct estimate of uncertain factors, either particular to the industry or general to the whole economy".

3.7.4 Dynamic Theory of Profit

J.B. Clerk originated the 'Dynamic Theory of Profit'. In his view, dynamic changes in the economy should be regarded as the fundamental cause of the emergence of profits.

Clark defines profit as the difference between selling price and costs resulting on account of changes in demand and supply conditions. Briefly, profit is the surplus over costs.

Clark held that in a stationary state having static economic conditions of demand and supply, there can be no real or pure profit as a surplus. In a stationary economy, the quantum of capital invested, methods of production, managerial organisation, technology, demand pattern, etc., remain constant. Under competitive conditions, thus, price tends to equal average costs; hence, the surplus is zero, so no pure profit. However, there may be some frictional profits emerging due to frictions in the system. But, this cannot be regarded as real profit.

Profit is the outcome of dynamic changes in the economy. It is, thus, a dynamic surplus of the dynamic economy. A dynamic modem economy is full or changes. According to Clark, the following 'general' changes cause profit to emerge:

- Increase in population
- Changes in tastes and preferences
- Multiplication of wants
- Capital formation
- Technological advancement
- Changes in the form of business organisation

On account of these changes the economy tends to be dynamic. Demand and supply conditions are altered. Some entrepreneurs may attain advantageous business positions against others and may reap a surplus over costs, as a real profit. In short, those who take advantage of a changing situation can earn real profits according to their efficiency. Inefficient and careless producers who fail to move with dynamic changes may not get any real profit and may even incurs losses.

Clark's dynamic theory of profit has element of truth in it as it emphasises the dynamic aspect of profit. But, it has been criticised on the following counts:

- According to Taussig, Clark's theory gives an artificial dichotomy of 'profit' and 'wages of management.'
- Clark's theory suggests that all dynamic changes lead to profit. Critics, however, point out that only unpredictable change would give rise to profits. Predictable changes will not cause surplus to emerge on account of precise adjustments.
- Clark's theory indicates that in a stationary state, there is only a factional profit. But, the concept of frictional profit is vague. Rather, normal profit is earned in a stationary state.
- Clark's theory does not stress the element of risk involved in business due to dynamic changes. Thus, the best course is to combine elements of risk/dynamic changes to understand the true nature of profit in a modern economy.

3.7.5 Modern Theory of Profit/Risk and Uncertainty Bearing Theory of Profit

Risk and uncertainty-bearing theory is the modern theory of profit. In the history of economic ideas, there are two stages in the development of theory:

- The risk-bearing theory of profit.
- The uncertainty-bearing theory of profit.

The former was presented by Hawley, which had many short-comings. Prof. Knight made an improvement over it and presented a refined version called 'uncertainty-bearing' theory.

I. Risk-Bearing Theory of Profit

The classical and neo-classical economists did recognise that risk is inherent in any business. J.S. Mill, for instance, mentioned about the hazard or risk of enterprise. Marshall also regarded risk-bearing as a unique function of the entrepreneur.But it was Prof. Hawley who categorically attributed profit to me compensation payable to the entrepreneur for his risk-bearing function.

To Professor Hawley, since the entrepreneur undertakes the risks of the business, he is entitled to receive profit as his reward. In fact, the chance to make a profit induces businessmen to run the risk of loss. If there is no hope for substantial profit, no one will be willing to risk money by investing it in a business.

Profits are commensurate with risks. The more risky the business, the higher is the expected profit rate. Professor Holland has empirically investigated the rate of profit on capitalisation earned by business firms, with a view to discovering whether the spectrum of profit rates of business can be explained by the risk factor. He concludes: "The riskier the industry or firm, the higher its profit rate". But, he also warns that this is a tentative finding; therefore, much remains to be refined and tested in depth.

The following criticisms have been leveledagainst the risk theory:

- There can be no functional relationship between risk and profit. Those who undertake high risks in certain business may not necessarily earn high profits.
- To some critics, like Care, profit is based not on the entrepreneur's ability to undertake the risks of business, but rather on his capability of risk-

avoidance.

- The theory disregards many other factors attributable to profit and just concentrates on risks.

II. Uncertainty-Bearing Theory of Profit

It is a refined and improved version of Hawley's risk-bearing theory, propounded by Prof. Knight.

According to Prof. Knight, profit is the reward to the entrepreneur for uncertainty-bearing.

Profit is earned by the entrepreneur when he is capable of making successful decisions about the business under conditions of uncertainty owing to dynamic changes.

Knight defines pure profit as "the difference between the returns actually realised by the entrepreneur and the competitive rate of interest on high-class gift-edged securities". According to Knight, pure profits are linked with uncertainty and risk-bearing. He, however, classifies risks into: (i) insurable risks and (it) non-insurable risks. Of the many risks involved in the business, some risks are predictable because they are certain and hence are insurable. For instance, fire, theft, flood, accident, etc., are risks in business, but these can be insured. Thus, business loss arising out of such risks is covered by insurance. Hence, in a modem economy, insurable risks are not the real risks attributed to entrepreneurial functions.

True entrepreneurship lies in bearing non-insurable risks and uncertainties. Unforeseeable risks are non-insurable. According to Stonier and Hague, the difference between insurable and non-insurable risks lies in the fact that there is a possibility of statistical prediction of the probability of some events while there are certain events whose probability of occurrence cannot be predicted statistically. For instance, probability of fire or accident, in general, can be estimated quite precisely by statisticians. Hence, insurance companies calculate risk and offer insurance policies at premiums which cover the amount of claims they might have to pay. So, the insurance company does not bear the actual risk. Similarly, entrepreneurs avoid risks by insuring against them. Again, insurance premiums paid by the mare treated as costs of production, which are covered in the price of the product. Thus, it follows that profit cannot be the reward for such insurable risks

Check your progress 6

1. _____ define profit as "what remains of the firm's revenue after all inputs have been paid"

   a. Adam smith

   c. Hazlitt

   b. Professor Savage and Small

3.8 Non-Insurable risks

There are risks which are uncertain and incalculable. Such risks being unpredictable, no insurance company would be willing to cover them. Such non-insurable risks are:

a. **Demand Fluctuations:** In a dynamic economy, changes in demand for a product may result from a change in the size and age structure of the population, change in fashion, change in distribution of income, etc. When demand fluctuates, the firm's revenue also changes. There cannot be insurance against these changes. A sudden decrease in demand may cause a great loss to a Firm; but such losses are non-insurable.

b. **Trade Cycles:** In a capitalist economy, prosperity and depression are two major facets of modern business. During prosperity, a handsome profit may be reaped. However, during depression, there is overall contraction of economic activities, leading to a sudden rapid decrease in demand (or goods and resources, causing widespread losses. Recession and depression lack periodicity, hence alterations in the revenue and cost conditions of firms, influenced by such phenomena, cannot be predicted nor can they be insured against.

c. **Technological Changes:** When technology advances, a firm has to adopt a new technology to retain its competitive strength. And technology has a direct bearing on the cost of production. Discarding old techniques, etc., leads to a loss which cannot be insured against.

d. **Competition:** Most of the markets are monopolistically competitive and there are no strong barriers to entry. Entry of new firms means a cut in the existing market share possessed by old firms. Competition from new rivals leads to a fall in price and diminution of profit. However, there cannot be any insurance against the risks of competition. Again, no one can predict

when exactly a new firm will enter the market and what will be its competitive strengths

e. **Structural Changes:** In a dynamic economy, there are constant changes in consumer tastes, income, price of substitutes, population growth, advertising, etc. These structural factor; may continually alter the sales of firms, so that a high degree of uncertainty about business is created, which is not insurable.

f. **Changes in Government's Policies:** Government's economic policies—industrial, fiscal and monetary, etc., are always uncertain and unpredictable. Changes in government's economic policies widely affect business situations; for instance, when high taxes are imposed on certain goods, people's preferences may alter, so sales of such goods may decline. If government relaxes its import policy, producers of import substitutes will race keen foreign competition and may also experience a decline in their sales. Similarly, changes in licensing policy may alter the degree of monopoly power and sales position of many existing firms. Again, when, say, the Reserve Bank adopts a tight money policy by raising the bank and interest rates, cost conditions of many firms and their expansion projects may be adversely affected.

g. **Outbreak of War:** War affects businesses in a very uncertain manner yet, nobody can predict war.

All these risks are uncertain and unforeseeable and so are uninsurable. It is the main function of the entrepreneur to bear all such uncertainties of business. These uncertainties are distinct from risk, which is predictable and insurable.They coincide with risk which is unpredictable and uninsurable. Thus, all true profit is an exclusive reward to the entrepreneur for making business decisions for his Firm under unpredictable, uncertain, dynamic economic conditions.

In short, Knight's theory implies that:

- Profit is the reward for uncertainty-bearing.
- The unmeasurable risks are termed as uncertainty. These immeasurable risks are true hazards of business.
- Pure profit is, however, a temporal and unfixed reward. It is tuned to uncertainty. Once the unforeseen circumstances become known, necessary adjustment would be possible. Then, pure profit disappears.

Criticisms

- Knight's theory has been criticised on the following counts:
- In fact, it is business ability rather than atmosphere of uncertainty which leads to a high reward of profit.
- Knight fails to distinguish between ownership and control in modern joint-stock companies, where shareholders are the owners but business control is in the hands of salaried managers. The concept of profit and entrepreneurial function in such cases is not suitably exposed by the theory.
- The theory does not suit well to expose the phenomenon of monopoly profit, when there is least uncertainty element cannot be quantified to impute profit.
- Above all, the uncertainty element cannot be quantified to impute profit.

To sum up: "The modern theory of profit regards the entrepreneur's contribution to the process of production as that of bearing non-insurable risks and uncertainties".

Pure profits are the reward for bearing risks and uncertainties. In a purely competitive market of a static economy, the risk of uncertainty is absent, in the long run, when industry attains equilibrium, there exists no pure profit. Since, there is no uncertainty about the future and the entrepreneur has to repeat (he same process of production without any risk, there is not profit in the true sense i.e. profit as residual income. There is no residual surplus because price minus average cost and the marginal revenue product of entrepreneurship tends to be zero.

It follows that in the long run, in a static economy, there is only normal profit. There may be other implicit profit such as wages of management, when an entrepreneur himself renders the services in place of a manager, to conduct the business affairs. Again, there may be implicit interest to be earned by the entrepreneur for his own capital invested in the business. All these elements, though residual incomes as surplus or revenue over the explicit cost of the firm, should not be regarded as pure profits because these are not earned as reward for risk-taking. Pure profits are earned as the reward for the entrepreneurial function of uncertainly-bearing. Ours is a dynamic world having a high degree of uncertainty and provides a source of earning pure profits even in the long run.

Check your progress 7

1. _____theory implies that Profit is the reward for uncertainty-bearing

   a. Knight's

   c. keynes

   b. Savage and small

3.9 The Innovation Theory of Profit

Schumpeter deemed profit as the reward for enterprise and innovation. In his view, the entrepreneur initiates innovation in the business and when he succeeds, he earns profit as his reward.

Schumpeter emphasised this function of the entrepreneur to distinguish him from the bureaucratic executive or the manager, who simply runs an established business in a steady manner.Innovationand growth of a firm are the real jobs of the entrepreneur. As an innovator, the entrepreneur pursues new activities. Innovation means commercial application or new scientific inventions and discoveries. An innovator is, therefore, a businessman with a vision, originality and is bold enough to bear high risks involved in undertaking a new business. The innovator is not a scientist but he successfully introduces new inventions on a commercial basis. To explain the phenomenon, we may refer to an example given by Samuelson. The scientific theory of radio wave was the brain wave of Maxwell. Experiments on this theory were conducted by Hertz and its commercially profitable use was carried out by Marconi and Sarnoff, who are the innovators in radio manufacturing.

Innovation is always purposeful if it is sought for altering cost and revenue data in a profitable manner. There are, thus, two types of innovation: (i) product innovation and (ii) market innovation. Under product innovations, there are technical improvements, changes in the method of production and changes in the method of organisation and operation etc., all of which affect the cost and quality of the product.When cost minimisation techniques are introduced by the firm, it can yield, at least temporarily, a high rate of profit.

Under market innovations, there are changes influencing the market demand for the firm's products. Discovery and exploitation or new market territory, introducing a new variety of product and product improvement, new modes of advertising and sales propaganda, etc., may be regarded as market innovations.

Any form of innovation leads to profit. It is described as innovational profit. Innovational profit is not the attribute of a particular factor unit such as monopoly profit. It is uncertain and unpredictable. It is temporary in nature. An innovator who is a pioneer of the business would earn innovational profit till other firms successfully imitate him and compete for it on a large scale. Thus, innovational profits disappear when similar products enter the market. However, once innovational profit is competed away by rivals and imitators, the pioneer may search for another innovation. So, again, he tends to earn innovational profit. In this way, innovational profit appears and reappears. So, these innovational profits exists continually in a modem progressive business.

Since there is a high element of uncertainty involved in innovational profit on account of imitation, new inventions etc., we can say that innovation, as a source of profit, is nothing but a special case of risk and uncertainty-bearing.

In short, Schumpeter's innovation theory of profit is a functional theory. Essentially, innovation implies uncertainty. Innovators earn uncertainty—induced profits. But, Knight's uncertainty theory of profit has a wider connotation than Schumpeter's innovation theory, for uncertainty is involved in all business decision-making, even when it is not concerned with innovation. The entrepreneur, thus, earns profits not only for innovation but also for bearing non-insurable risks and uncertainties in business activity.

Check your progress 8

1. The scientific theory of radio wave was the brain wave of_____.

   a. Knight c. Marshal

   b. Maxwell

3.10 Concept of Theories

Several theories have been put forward by way of explanation of profit. Let us examine some of the well knownamong them.

1. Rent Theory of Profit

The Rent Theory of Profit was propounded by an American economist F.A. Walker. He was the first to introduce a distinction between a capitalist and an

entrepreneur into English economic theory. An entrepreneur need not be a capitalist. He is a person who may undertake a business without using any of his own capital.

Rent of Ability

Walker regards profit, as rent of ability, just as there are different grades of land there are different grades of entrepreneurs. The least efficient entrepreneur, who must remain in the field of production to meet the current demand, just recovers his cost of production and nothing besides. Above him are entrepreneurs of superior ability. Just as rent arises because of the differential advantage enjoyed by superior land over the marginal land, similarly profit also is the reward for differential ability of the entrepreneur over the marginal entrepreneur or the no-profit entrepreneur. Profit is thus like rent and like rent it does not enter into price. Wages of management are not profit. The marginal employer only earns the wages of management and no more. With a slight unfavourable turn of prices or costs, he would prefer to work as an employee rather than as an employer. Wages of management thus must be paid to keep up the given supply of entrepreneurs. Such wages thus enter into price.

Criticism

This theory has the same weakness as Ricardo's theory of rent:

- The employers, who will leave the business with a slight unfavourable turn of events, are not necessarily the least efficient. He may be higher up in the scale and may be attracted by more profitable alternative employments.
- The theory, moreover, does not explain the real nature of profits; it merely provides at best a measure of profits.
- Also, it is wrong to say that profits do not enter into price. They may not enter into price in the short period but they must do so in the long run. Unless the price of the commodity he sells is high enough to compensate the entrepreneur by ensuring the payment of normal profit, he will quit the business. In this way, the supply of the commodity will decrease and its price rise to include normal profit. Hence, profit enters into price in the long run.
- Finally, the theory fails to explain the size of the profit. The profit arises from scarcity of employers and the theory of profits must explain the cause of this scarcity.

There is no doubt that there is differential element in 'profit'. Superior entrepreneurs earn higher profit. But the analogy ends there. There can be no-rent land but there cannot be any no-profit employer. If he does not get profit in the long run, he will join the ranks of salaried employees.

Nevertheless profit does contain an element of rent because of differences in the ability of the entrepreneurs. But it is not entirely of the nature of rate.

2. Dynamic Theory

This theory is associated with the name of J. B. Clark, who is of the opinion that there can be not profit in the static world where size and composition of the population, the number and variety of human tastes and desires, techniques of production, technical knowledge, commercial organisation, etc., remain constant. In a world like this, everything is known and is knowable and can be accurately foreseen. There is no risk and hence no profit. Costs and selling price are always equal and there can be no profit beyond wages for the routine work of supervision.

But we are not living in a stationary state. Ours is a dynamic world and some changes are constantly taking place. The clever entrepreneur foresees these changes. He is a pioneer. Somehow by invention or otherwise, he lowers his cost of production and makes profits. The changing world offers limitless opportunities to the far-sighted, daring and clever entrepreneurs to make profits by turning the facts of the situation in their favour. It is only because the world is dynamic that it is possible for them to keep the lead and reap the profits. In a static state, profits will disappear and the entrepreneurs will only earn wages of management.

Criticism:

Prof. Knight, however, is of the opinion that only those changes which cannot be foreseen and which cannot be provided for in advance will yield profits and not others. He says, "It cannot, then, be changed, which is the cause of profit, since if the law of change is known as in fact is largely the case, no profits can arise. Change may cause a situation out of which profit will be made, if it brings about ignorance of the future".

Check your progress 9

1. _____regards profit, as rent of ability.

   a. Walker c. Adam

   b. J.S.Mill d. Keynes

3.11 Let Us Sum Up

This was indeed a very detailed unit which discussed few of the very important concepts of economics. In this unit we discussed the theoried of rent, interest and profit.

Here we learnt that rent is that portion of the produce of earth which is paid to the landlord for the use of the ‘original and indestructible powers’ of the soil”. In the words of Prof. Marshall, “The income derived from the ownership of land and other gifts of’ nature is commonly called rent". We even discussed the Ricardian theory of rent, according to him; rent is a surplus over cost of production/cultivation. The next important topic that we studied was interest and we learnt that the term ‘interest’ is used in two senses: (i) as a price or compensation paid by the borrowers to the lenders of loanable funds and (ii) as a reward to the capital as a factor of production. We even learnt about profit which is the earning of an entrepreneur. To the economist, the most significant point about profit is that it is a residual income.However, the term 'profit' has different connotations in the accounting sense and in the economic sense.

This unit has tried best to discuss the few of other topics of economics in a very simple and easy language to its readers.

3.12 Answers for Check Your Progress

Check your progress 1

Answers: (1-a)

Check your progress 2

Answers: (1-b)

Check your progress 3

Answers: (1-a)

Check your progress 4

Answers: (1-b)

Check your progress 5

Answers: (1-a)

Check your progress 6

Answers: (1-b)

Check your progress 7

Answers: (1-a)

Check your progress 8

Answers: (1-b)

Check your progress 9

Answers: (1-a)

3.13 Glossary

1. **Volume of Trade -** In the securities market, the total number of shares that change hands in a day's trading on an organised exchange. The term is also sometimes used for trade in a single stock.
2. **Voluntary Unemployment -** A description given by Keynes to unemployment directly due to the 'withdrawal of their labour by a body of workers because they do not choose to work for less than a certain real reward'.

3.14 Assignment

Explain Ricardian concept in details.

3.15 Activities

What do you understand by profit? What are the main sources of profit?

3.16 Case Study

Study interest and profit in pure competitions.

3.17 Further Readings

1. Business Economic, Micro H.L Ahuja.
2. Development Theories and Growth Model, P. Sen.,S Chand & Company Ltd. 1995.
3. Financial Management, M.Y.Khan, P.K. Jain Tata McGraw Hill Publishing Company Ltd. New Delhi, 1999.
4. Economics: Principles and Policies, Baumol, William J. and Blinder, Alan S., Harcourt, Jovanovich, London, 1988.
5. Managerial Economics, R. Cauvers, S. Chand Group, 2009.

Block Summary

This block proved to be of great help for the students in making them learn few of the most typical and not so easy topics of economics. The block consisted of three units where unit first tries to explain the market structure, Classification of market, Perfect competition, Pure and perfect competition, Perfect competition in practice, Monopoly, Monopolistic competition, Oligopoly definition, Duopoly definition. On the other hand second unit has made an attempt to explain the role of Factor Price, Theory of Distribution, Meaning of Wages, Theories of Wages, Subsistence Theory, Wages Fund Theory, and Residual Claimant Theory, whereas the third unit has explained the Ricardian Theory of Rent, Interest, Demand for Capital, Keynes' Liquidity-Preference Theory, Determination of Interest Rate, Profit, Non-Insurable risks, The Innovation Theory of Profit, Concept of Theories.

The block will be of great help to the students in understanding the basics of market structure, product and theory of rent.

Block Assignment

Short Answer Questions

1. Price determination under monopolistic competition.
2. Short-term equilibrium of a firm.
3. Long-term equilibrium of a firm.
4. Oligopoly and its characteristics.
5. Duopoly.
6. Role of factor pricing.
7. Wages fund theory.
8. Residual claimant theory.
9. Marginal Productivity.
10. Liquidity Preference theory.
11. Determination of interest rate.
12. Uncertainity Bearing Theory of Profit.
13. Demand for capital.
14. Gross profit and net profit.

Long Answer Questions

1. Study your local market and collect information about various aspects of market.
2. Discuss the subsistence theory of wages.
3. Profits are a reward for risks and uncertainly-bearing". Discuss.
4. Explain in brief theories of interest. Why is interest paid?
5. Explain the liquidity preference theory of Interest of Keynes. What are its short-comings?

Enrolment No. ☐

1. How many hours did you need for studying the units?

Unit No	1	2	3	4
Nos of Hrs				

2. Please give your reactions to the following items based on your reading of the block:

Items	Excellent	Very Good	Good	Poor	Give specific example if any
Presentation Quality	☐	☐	☐	☐	_____
Language and Style	☐	☐	☐	☐	_____
Illustration used (Diagram, tables etc)	☐	☐	☐	☐	_____
Conceptual Clarity	☐	☐	☐	☐	_____
Check your progress Quest	☐	☐	☐	☐	_____
Feed back to CYP Question	☐	☐	☐	☐	_____

3. Any Other Comments

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Education is something which ought to be brought within the reach of every one.

- Dr. B. R. Ambedkar

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