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BBA

BACHELOR OF BUSSINESS ADMINISTRATION

BBAR-104

Business Economics

BUSINESS ECONOMICS

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Editorial Panel

Author

Dr. Kuldeep. D. Ahuja

Assistant Professor,

R C College of Commerce, Delhi Chakla, Ahmedabad

Reviewer

Dr. Shefali Dani

Director & Professor,

GLS BBA, GLS University, Ahmedabad

Language Editor

Dr. Vasant .K. Joshi

Associate Professor,

G.B.Shah Commerce College, 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 haveincluded may tables and examplesfor easy understanding.

We sincerely hope this book will help you in every way you expect. All the best for your studies from our team!

BUSINESS ECONOMICS

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Dr. Babasaheb Ambedkar OpenUniversity

BBAR-104/DBAR-104

BUSINESS ECONOMICS

BLOCK-1 INTRODUCTION TO ECONOMICS

UNIT 1

NATURE AND SCOPE OF ECONOMICS

UNIT 2

THE ECONOMY AND ITS BASIC PROBLEM

UNIT 3

BASIC CONCEPTS WITH COST CONCEPTS

BLOCK 1 : INTRODUCTION TO ECONOMICS

Block Introduction

in this block we will study the basics of economics and some very important topics such as nature of economics and its scope shall be covered. in the second unit economy will be discussed in detail and various problems relating to our economy will also be discussed. in the last unit some of the basic concepts of economics will also be discussed. Every effort has been made by the writer to keep the language of the content very easy and simple so that the readers may easily understand the topics of economics.

Block Objective

After learning this block, 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
- Basic problems of an economy
- Microeconomic problems
- Measure microeconomic problems
- Rule of market mechanisms in solving basic economic problem
- Rule of Government in an economy
- Various concepts of costs. (Fix, variable, opportunity, social, private etc.)
- Positive and normative economics.
- Public good, private good, merit good.
- Production function.
- Stock and flow concept.

Block Structure

Unit 1: Nature and Scope of Economics

Unit 2: The Economy and its basic problem

Unit 3: Basic Concepts with cost concepts.

Unit 1

NATURE AND SCOPE OF ECONOMICS

: UNIT STRUCTURE :

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 is 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 are as 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 endeavour, 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, I 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 ithe practical science of the production and distribution of wealthi. 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.
- it takes in to consideration the economic man.

Criticisms :

- More emphasis on wealth
- Narrow meaning of wealth
- Concept concerned only with economic wealth
- Neglect of welfare
- Neglect 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 Oriented 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 resources 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. ..... in his Principles of Economics (1890) treated economics as a study of mankind in the ordinary business of life.
   a. Dr. Alfred Marshall
   b. Lord Robbins
   c. Adam smith
2. ..... is the science, which studies human behaviour as a relation- ship between ends and scarce means which have alternative uses.
   a. Economics
   b. Micro economics

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 World 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 millions 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, but aggregates 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 mportantly, 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 the status of the highest branch of understanding to Economics

Check your progress 2

1. ..... is concerned with microscopic study of the various elements of the economic system and not with the system as a whole.
   a. Microeconomics
   b. Macro economics
2. ..... is the study of the nature, relationship and behaviour of aggregates and averages of economic quantities.
   a. Macroeconomics
   b. Microeconomics

1.4 Micro-economics

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".

1.4.1 Meaning of micro economics

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 A 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 framing 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 in adequacy. it is said that it is difficult to derive accurate and reliable conclusions about the whole or entire economy based on conclusions derived based on 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. The term 'microeconomics' is derived from the Greek word mikros‘, meaning
   a. 'small'. b. Big
   c. Tiny d. Very very small
2. helps in understanding the working of an economy, particularly a free enterprise economy.
   a. Micro economics
   b. macro economics

1.5 Macro-economics

1.5.1 Meaning of Macro Economics

Macroeconomics is 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 an 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 a better way.
- Empirical evidences: Macro studies are based on empirical evidence of theoretical issues. Macroeconomics is more realistic.
- 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 daring 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 give 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. ..... approach is criticised because it ignores the individual altogether and considers the whole economy.
   a. Macro economics
   b. Micro economics
2. ..... is more realistic.
   a. Macroeconomics
   b. Micro economics

1.6 Specialized 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 a brief 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 underdevelopment, 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 (firms and 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 the business environment of the country.

Check your progress 5

1. ..... examines how industrial growth affects, rather destroys, natural environment of the country, the global environment.
   a. Environmental Economics
   b. industrial Finance
   c. Regional Economics

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 the 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‘s 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. The subject matter of ..... science is the study the human behaviour.
   a. Social
   b. Public
   c. personal
2. ..... is a social science.
   a. Economics
   b. Micro economics

1.8 Nature of Economic Laws

1.8.1 Meaning of Economic Laws

Economic laws are like the laws of science both these law a 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 mportant 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 a hunam’.
- 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 operatein 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. According to ....., Economic Laws are essentially hypothetical
   a. Prof. Seligman
   b. Dr. Alfred marshal
   c. Adam smith
2. ..... deal with what is economic behaviour of man in practical life
   a. Economics laws
   b. definitions

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 can arise. 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. Economic
   b. Indian
   c. Money

1.10 Let Us Sum Up

Definition of Economics: Definitions of economics have been broadly divided into four parts: 1) Wealth Definition–Adam Smith, 2) Welfare Definition– Marshall, 3) Scarcity Definition–Robbins 4) Growth Oriented Definition– Samuelson.

Scope of Economics: 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 phenomena and to predict the consequences of change in economic conditions.

Meaning of Microeconomics: Microeconomics is concerned with microscopic study of the various elements of the economic system and not with the system as a whole.

Merits of Microeconomics: Merits can be realised from the following: 1)Working of free economy, 2)Formulation or framing of policies, 3)Allocation and utilisation of resources, 4)it guides the business community, 5)it serves as the basis for predictions, 6)Public finance, 7)International trade, 8)it serves as the basis for welfare economics.

Demerits of Microeconomics: Microeconomics suffers from the following limitations: 1) Unrealistic assumption 2) Laissez-faire philosophy as basis 3) Marginalism 4) inadequacy 5) Misleading conclusions

Meaning of Macroeconomics: 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.

Merits of Macroeconomics: Merits can be realised from the following: 1) it Provides an exploration to the functioning of an economy in general, 2) Empirical evidences 3) Policy-orientation 4) Understanding of National income, 5) income and employment theory and monetary theory 6) Dynamic science

Demerits of Macroeconomics: Demerits are as follows: 1) Disregard for individuals, 2) individual differences ignored, 3) Accurate measurement not possible, 4) in applicability of conclusions to individual units

Specalised fields of Economic Studies: Some of the major specialised fields of economic studies are listed below:

1) Economics of development 2) Public economics 3) Monetary economics

4) international economics 5) industrial economics 6) Labour economics 7) Econometrics 8) Economic history 9) History of economic thought 10) Comparative economic systems 11) Regional economics 12) industrial finance 13) Environmental economics 14) Managerial economics

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.

Characteristics of Economic Laws: The main characteristics of Economic

Laws are as follows:

1) Statements of Economic Tendencies 2) Economic Laws are less exact than the Laws of Physical Science 3) Laws of economics are more exact than the laws of other social sciences 4) Economic laws are hypothetical 5) Man is not bound to follow economic laws 6) Some economic laws are universal while some economic laws are relative

1.11 Answers for Check Your Progress

Check your progress 1

Answers: (1 - a), (2 - a)

Check your progress 2

Answers: (1 - a), (2 - a)

Check your progress 3

Answers: (1 - a), (2 - a)

Check your progress 4

Answers: (1 - a), (2 - a)

Check your progress 5

Answers: (1 - a)

Check your progress 6

Answers: (1 - a), (2 - a)

Check your progress 7

Answers: (1 - a), (2 - a)

Check your progress 8

Answers: (1 - a)

1.12 Glossary

1. Capitalism - A social system in which the means of production, distribution and exchange are wholly or substantially owned by private persons
2. Bank Credit - Credit established when a bank adds the proceeds of a loan to the account of a depositor, who may then write checks against it.

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

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

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,Lakshmi Narain Agarwal, 2009

Unit 2

THE ECONOMY AND ITS BASIC PROBLEM

: UNIT STRUCTURE :

2.0 Learning Objectives

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

- Basic problems of an economy
- Microeconomic problems
- 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 resourcesi" 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. Consumers are 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 a 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, where in the role of the government is to protect the property rights of individuals and com-

panies 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 in adequate, 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 subsection.

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. I 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 I 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 I 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 of labour and less of capital (i.e. with a labour-intensive technology) and with more of capital and less of labour (i.e. with a capital-intensive technology). The same is true with most commodities. in case of some produce, 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 in conclusively. 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 Economist's 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 risked pardised 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 becomea 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 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 wide spread 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. ..... prices and factor-quantities determine the cost of production for the business firms.
   a. Factor
   b. Production
   c. Market

2.3 How Market Mechanism Solves the Basic Problems

The way basic problems of an economy are solved 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 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 is over reigon‘ 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 mecha-

nism determines the price of each factor—rent, wages, interest and profits, respectively, for land, labour, 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 incomeand 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. ..... 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. Market Mechanism
   b. Price mechanism
   c. Demand mechanism

2.4 Efficiency of Market System

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 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 World 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 woollen 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 meager 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 eyes
   b. Invisible hands
   c. Invisitble mind

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 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, Auto

mobile 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 than they fell.

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 imposed is advantages 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 spillover benefits 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 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. The motivating force for private enterprises is _ .
   a. Profit
   b. Social service
   c. Society

2.6 The Government and the Economy

As noted above, interference of the goverment 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 are as 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. Whilein 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 completed is regard 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 thereis 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

A 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 a broad 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 theentry 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 ..... works on the principles of free enterprise system or a laissez- faire system
   a. Capitalist Economy
   b. Socialist Economy
   c. Mixed Economy

2.7 Let Us Sum Up

Economy: 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.

Economic Systems: There have been three kinds of economic systems: (i) free enterprise economy, (ii) government controlled economy and (iii) mixed economy - a system that combines the free enterprises and controlled economic systems.

Economic Problems: All modern economies face certain basic problems that can be classified as: (i) micro-economic problems and (ii) macro-economic problems.

Microeconomic Problems: 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.

Macroeconomic Problems: 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.

Market Mechanism: Market mechanism 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, government measures are not always successful.

2.8 Answers for Check Your Progress

The Economy and its Basic Problem

Check your progress 1

Answers: (1 - a)

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. Macroeconomics - Data for large groups of persons or economic analyses using aggregated at catastrophic for the whole community
2. Labour - One of the factors of production‘; the combination of all exertions by individuals, whether they be manual, physical or mental, directed towards the production of wealth

2.10 Assignment

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

2.11 Activities

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

Mixed economy is essentially a variant of capitalismi. Discuss.

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. Theintelligent Radical‘s Guide to Economic Policy, Meade, J.E., GeorgeAlien & Unwin Ltd., London, 1795
5. Welfareand Competition, Scitovsky, Tibor, Unwin University Books, 1968

Unit 3

BASIC CONCEPT WITH COST CONCEPTS

: UNIT STRUCTURE :

3.0 Learning Objectives

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

- Meaning of Accounting/ Economic cost, money / real cost.
- Meaning of private cost /social cost, fix cost, variable cost.
- Meaning of Average cost, marginal cost, opportunity cost and sunk cost.
- Concept of Public goods, private goods and merit goods.
- Concept of Production Function.
- Concept of Stock and flow.

3.1 Introduction

Economics is a science, an art and a subject which everybody needs for various reasons. There is no field which is not using the basic concept of economics. These basic concepts of economics help to understand the bigger picture of a firm, an industry, an economy and whole world. So everything starts from micro level and reached to the macro level. In this unit we will study the basic concepts of cost which will help to understand economics further and with more clarity. we all know the definition of economic now and it says that we have limited resources with unlimited wants and every resource has alternatives uses and so we have to use our resources wisely. Here comes the question of efficiency and efficiency is measured in terms of cost. Every field is trying to lower the cost of resourcces with more and more output and if want to understaned and apply the concept of efficiency we will have to understand the basic concepts of cost, not only for material benefits even for the social benefits and for the welfare aspects of the society the cost concepts become the handy tools. As if government wants to start any public work or scheme there is a cost benefit analysis which tells that resources going this way will work more for the fulfilment of same goal rather than this way.

The other concept is also related to this only that is the concept of public goods and private goods with merit goods. How much of these goods to be provided by the government, by market is also decided by the cost concept and the benefits to the society with the nature of these goods.

The concept of production function shows the functional relationship between output and inputs, it is worth mentioning here that cost concept is necessary before making any production function because cost of input is important for success of any business plan or for that matter production function.

The last concept of this unit is stock and flow concept which is also important to understand the basic concept of Micro as well as Macro economics.

3.2 Cost Concepts

3.2.1 Accounting cost / Economic cost.

Accounting Cost includes all such business expenses that are recorded in the book of accounts of a business firm as acceptable business expenses. Such expenses include expenses like Cost of Raw Material, Wages and Salaries, Various Direct and Indirect business Overheads, Depreciation, Taxes etc. When such business expenses or accounting expenses are deducted from the Sales income of any firm the accounting profit is obtained. Such Accounting/ Business expenses or costs are also termed as Explicit Costs.

- Accounting Cost: Various allowed business expenses. Such as Cost of Raw Material, Salaries and Wages, Electricity Bill, Telephone Charges, Various Administrative Expenses, Selling and Distribution Expenses, Production Overhead Expenses, Other Indirect Overhead Expenses etc.
- Accounting Profit = Sales Income - Accounting Cost

  Economic Cost on the other hand includes all the accounting expenses as well as the Opportunity cost of a business firm. Economic Cost and

Economic Profit is thus calculated as follows:

- Economic Cost = Accounting Cost (Explicit Costs) + Opportunity Cost
- Economic Profit = Total Revenues - (Accounting Cost + Opportunity Cost)

Check Your Progress 1

1. Economic cost concept is wider than accounting cost concept. (True / False)

3.2.2 Money cost / Real cost.

Money cost and Real cost:

Money Cost of production is the actual money cost made by company in the manufacture process. So the cost includes all the business expenses which nvolve amount of money to support business tasks. For example the money expenditure on purchase of raw material, payment of labour cost, rent and other costs of business etc. can be termed as Money Cost.

Real Cost of manufacture or business operation on the other side contains all such costs of business which might involve actual monetary expenditure. For example if owner of a business venture uses his personal land and building for running the business venture and he/she does not charge any rent for the same then such head will not be considered/included while computing the Money Cost but this head will be part of Real Cost computation. Here the cost involved is the Opportunity Cost of the land and building. If the promoter of the company had not used the land and building for the business venture then the land and building could have been used elsewhere for some other venture and could have generated some income for the promoter. This income/rent which could have been earned under the next best investment option is the opportunity cost which needs to be considered while calculating the Real Cost for the firm.

Case study:

A company 'Arizona Textiles limited' is producing cotton textiles. Various business expenses on per annum basis are as follows: Power Charges - Rs. 5, 00, 00, Cost of Yarn - Rs. 10, 00, 000, Salaries and Wages - Rs. 8, 00, 000, Various Direct and Indirect Overhead Expenses - Rs. 10, 00, 000. The company is not paying any rent for the building from where it is operating as the building is owned by the promoter of the company. If this building had been rented out by the promoter in the market then it could have earned a rent of Rs. 2, 00,000 per annum.

In the above case Money Cost is Rs. 33, 00,000, obtained after adding the following: Power Charges, Cost of Yarn, Salaries and Wages, Various Direct and Indirect Overhead Expenses.

On the other hand Real Cost is Rs. 35, 00,000, which has been obtained after adding the following: Money Cost plus the rent which the building belonging to the promoter could have earned in outside market.

3.2.3 Private cost / Social cost.

The actual expenses of individuals/ firms which are borne or paid out by the individual or a firm can be termed as Private Cost. Thus for a business firm this may include expenses like Cost of Raw Material, Salaries and Wages, Rent, Various Overhead Expenses etc.

On the other hand Private Cost for an individual will be his or her private expenses such as expense on food, rent of house, expenses on clothing, expenses on travel, expenses on entertainment etc.

Social Cost on the other hand includes Private Cost and also such costs which are not endured by the firm but by the society at large. For example the cost of loss or disutility caused by the tasks of a firm in an economy may not be abided by the firm in question but it impacts the society at large and thus such cost is added to the Private Cost to find the Social Cost of manufacturing the product. Such Cost is also known as External Cost. Another example of external cost can be the cost of giving the basic infrastructure facilities like good roads, sewage system or network, street lights etc. Cost of such kind of services is not swallowed by a business firm even though the firm is benefits from such facilities. Such costs (External Costs) are thus added to the Private Cost to find the Social Cost of producing a product or good.

Above can be understood by following example: If a Tannery firm (A firm processing animal skins) releases its toxic wastes in the river flowing nearby its factory premises then this act of the Tannery firm results in water pollution and environmental damage. The Cost of such damage/loss (also known as External Cost) is added to the private costs of the tannery firm to get fair idea of Social cost involved in the production of the product in question.

Social Cost of an individual will include his private cost and the cost of damage on account of his actions (that has resulted in doing harm/damage to the environment/society at large).

Case study

A Company, 'Giga Dyes and Chemicals limited' is producing chemical dyes that are being used in various industrial activities. Various production expenses are as follows: Cost of Raw Material - 5, 00, 000, Salaries and Wages - Rs. 9, 00, 000, Various Direct and Indirect Overhead Expenses - Rs. 12, 00, 000, Selling and Distribution Expenses - Rs. 4, 00, 000. The by-product of the production process of chemical dyes produced by Giga Dye are certain toxic chemicals which are being released by 'Giga Dye and Chemicals' directly into a river flowing near the Dye manufacturing plant. This is polluting the river and killing the organic life thriving in as well as near the river. The cost of loss to the environment caused by Giga is estimated to be Rs. 20, 00, 000 per annum.

(Source: - https://wikieducator.org/Introduction_to_Cost_Concepts)

In the above case, the Private Cost for 'Giga Dye and Chemicals Limited is Rs. 30, 00, 000. This is sum total of various business expenses of Giga such as Cost of Raw Material, Salaries and Wages Overhead Expenses and Selling and Distribution Expenses.

On the other hand Social Cost is Rs. 50, 00, 000. This includes the cost of damage to the environment caused by the activities of the firm. Thus Social cost is Private Cost + External cost. In this case this is = 30, 00, 000 + 20, 00, 000.

Check your Progress 2

1. Social cost mostly born by private owners. (True/ False)

3.2.4 Fix cost.

Fixed Cost is the cost which does not change (that is either goes up or goes down) regardless of whether the firm is working or not. This means if the production is increasing or decreasing or constant the cost will be there. For example recent strike or Lockout in Maruti-Suzuki's Manesar (Haryana state) plant the production process stands still. Even when the plant is not operating the Firm still has to bear such expenditures which are indirect in nature. For Example Rent of the factory premises, Wages of administrative employees etc. In other Fixed cost is not related direct production/manufacturing expenses. The shape of Average cost curve shows downward shpe when production is increasing and it will never become zero whatever amount of goods and services will be produced.

Check your progress 3

1. As the production is increasing per unit fix cost is decreasing. (True / False)

3.2.5 Variable cost.

Variable Cost on the Other hand is directly proportional to the production operations. As the size of production at any business grows, along with that grow the variable expenses. As the name suggests, the variable expenses vary with the business operations. When the firm is not operating on account of Strike/Lockout etc, then the variable cost of the firm is Zero.

Check your progress 4

1. Variable cost will be more if the production is more and it will be less if the production is less. (True / False)

3.2.6 Average cost.

Average Cost is the cost that is obtained after dividing Total Cost with the number of units produced.

- Total Cost = Fixed Cost + Variable Cost
- Average Cost = Total Cost / Units of Good produced

3.2.7 Marginal cost.

Marginal Cost is the change in the Total cost when an additional unit of good is produced. In other words Marginal Cost is difference between total Cost of producing 'N + 1' units of good and 'N' units of good.

- Marginal Cost = TC (n+1) - TC(n)

Following table can help in understanding the cost concepts like Total Cost (TC), Average Cost (AC), and Marginal Cost (MC) etc.

Understanding Fixed, Variable, Total, Average and Marginal Cost					
Number of Units Produced	**Fixed Cost**	**Variable Cost**	**Total Cost**	**Average Cost**	**Marginal Cost**
1	10	5	15	15	15
2	10	10	20	10	5
3	10	17	27	9	7
4	10	30	40	10	13
5	10	45	55	11	15

In the above table, it is clearly visible that Fixed cost (which is 10) remains same irrespective of the number of units of the good being produced. On the other hand the Variable Cost is increasing as the number of units of good being produced is increasing. Thus, Variable Cost is going up from 5 to 10 and from 10 to 17 etc as the number of units of good being produced is increasing.

Again it can be seen from the above table that Total Cost is the sum total of Fixed Cost and Variable Cost. Thus Total Cost is 15 for the first unit (where 10 is Fixed Cost and 5 is Variable Cost). Again for producing 2 units, the Total Cost is 20 (where 10 is Fixed Cost and remaining 10 is the Variable Cost).

Above Table also clearly indicates that the Average Cost is being obtained by dividing Total Cost with the number of units of good being produced. Thus for the first unit of good being produced it is 15. This value has been obtained by dividing Total Cost (15) with the number of units of good produced (1). Similarly, the Average Cost of producing two units is 10, which is obtained by dividing Total Cost (20) with number of units produced (2).

On the other hand Marginal Cost is the change in the total cost when an additional unit of good is being produced. Thus for the first unit of good being produced, it is 15. This value is obtained by deducting from the Total Cost of producing 'One' unit of good (15) the Total Cost of producing 'Zero' units of good. For producing the second unit, the marginal cost is 5. This is obtained by deducting from the Total Cost of producing 'two' units of good (20) the Total Cost of producing 'one' unit of good (15).

Check Your Progress 5

1. If the marginal cost increasing at increasing rate total cost is decreasing faster. (True / False)

3.2.8 Opportunity cost.

The resources of any firm operating in the market are limited and investment options are many. The firm therefore has to decide or select only those investment opportunities/options which provide the firm with the best return or best income on investment. This means that if a firm can invest money/ resources only in one investment option then the firm will select that investment option which promises best return on investment to the firm. In other words while doing so the firm gives up/rejects the next best option for investing the funds. The opportunity cost of a company is thus this income/ return which the firm could have earned on the next best investment alternative.

This can also be understood by a simple example - Let us assume that an individual has two job offers in hand. One job offer is promising him a salary of Rs. 30, 000 per month while the other job offer will ensure salary of Rs. 25, 000 per month. If the job profile and other factors related to the job offers are more or less same then it can be easily expected that the individual will select the job offer which will provide him with higher salary that is salary of Rs. 30, 000 per month. Thus, in this case, the opportunity cost is the return involved in the next best alternative i.e; Salary of Rs. 25, 000 in the next best job offer.

Concept of opportunity cost is closely related to the concept of Economic profit or Economic Rent. A firm earns or makes Economic profit only when besides covering various costs of operation, a firm is also able to earn more than its opportunity cost (or its possible earnings under the next best investment alternative). Opportunity Cost is also termed as Implicit Cost.

Economic Profit is thus earned only when following is true for the Firm:

Income of a Firm > Various Costs of Operations + Opportunity Cost

OR Economic Profit = Earnings or Revenue of Firm - Economic Costs. Here Economic Cost is various expenses of the business plus the opportunity cost

Some simple examples of Opportunity Cost and Economic Profit are discussed in following three brief case studies.

3.2.9 Sunk cost.

Sunk costs cannot be recovered if a business decides to leave an industry.

Examples include:

* Capital inputs that are specific to an industry and which have little or no resale value.

* Money spent on advertising, marketing and research and development projects which cannot be carried forward into another market or industry.

When sunk costs are high, a market becomes less contestable. High sunk costs act as a barrier to entry of new firms because they risk making huge losses if they decide to leave a market. In contrast, markets such as fast-food restaurants, sandwich bars, hairdressing salons and local antiques markets have low sunk costs so the barriers to exit are low.

Asset-write-offs – e.g. the expense associated with writing-off items of plant and machinery, stocks and the good will of a brand Closure or project cancellation costs including redundancy costs, contract contingencies with suppliers and the penalty costs from ending leasing arrangements for property.

The loss of business reputation and good will - a decision to leave a market can seriously affect good will among previous customers, not least those who

have bought a product which is then withdrawn and for which replacement parts become difficult or impossible to obtain.

A market downturn may be perceived as temporary and could be overcome when the economic or business cycle turns and conditions become more favorable.

3.2.10 Public goods.

Most economic arguments for government intervention are based on the idea that the marketplace cannot provide public goods or handle externalities. Public health and welfare programs, education, roads, research and development, national and domestic security, and a clean environment all have been labelled public goods.

Public goods have two distinct aspects—"non-excludability" and "non-rivalrous consumption." Non-excludability means that nonpayers cannot be excluded from the benefits of the good or service. If an entrepreneur stages a fireworks show, for example, people can watch the show from their windows or backyards. Because the entrepreneur cannot charge a fee for consumption, the fireworks show may go unproduced, even if demand for the show is strong.

The fireworks example illustrates the "free-rider" problem. Even if the fireworks show is worth ten dollars to each person, no one will pay ten dollars to the entrepreneur. Each person will seek to "free-ride" by allowing others to pay for the show, and then watch for free from his or her backyard. If the free-rider problem cannot be solved, valuable goods and services, ones that people want and otherwise would be willing to pay for, will remain unproduced.

The second aspect of public goods is what economists call non-rivalrous consumption. Assume the entrepreneur manages to exclude noncontributory from watching the show (perhaps one can see the show only from a private field). A price will be charged for entrance to the field, and people who are unwilling to pay this price will be excluded. If the field is large enough, however, exclusion is inefficient because even nonpayers could watch the show without increasing the show's cost or diminishing anyone else's enjoyment. That is non-rivalrous competition to watch the show.

Public goods can also be provided by being tied to purchases of private goods. Shopping malls, for instance, provide shoppers with a variety of services that are traditionally considered public goods: lighting, protection services, benches, and rest-rooms, for example. Charging directly for each of these services would be impractical. Therefore, the shopping mall finances the services through receipts from the sale of private goods in the mall. The public and private goods are "tied" together. Private condominiums and retirement communities also are examples of market institutions that tie public goods to private services. Monthly membership dues are used to provide a variety of public services.

Public goods problems can be solved by explaining individual property rights clearly for economic resources. Cleaning up a polluted lake or river for example includes a free-rider difficulty if no one retains the lake. The welfares of a clean lake are appreciated by many people, and no one can be charged for these welfares. Once there is an owner, however, that person can charge

money to fishermen, boaters, recreational users, and others who benefit from the lake. “Privately owned bodies of water are common in the British Isles, where, not surprisingly, lake owners maintain quality.”

Clearly defined property rights can resolve public goods problems in other environmental areas, such as land use and species preservation. The buffalo neared extinction and the cow did not because cows could be privately owned and husbanded for profit. Today, private property rights in elephants, whales, and other species could solve the tragedy of their near extinction.

In Africa, for instance, elephant populations are growing in Zimbabwe, Malawi, Namibia, and Botswana, all of which allow commercial harvesting of elephants. Since 1979 Zimbabwe's elephant population rose from 30,000 to almost 70,000 today, and Botswana's went from 20,000 to 68,000. OR the other hand, in countries that ban elephant hunting—Kenya, Tanzania, and Uganda, for example—there is little incentive to breed elephants but great incentive to poach them. In those countries elephants are disappearing. The result is that Kenya has only 16,000 elephants today versus 140,000 when its government banned hunting. Since 1970, Tanzania's elephant herd has shrunk from 250,000 to 61,000; Uganda's from 20,000 to only 1,600.

Property rights are a less effective solution for environmental problems involving the air, however, because rights to the air cannot be defined and enforced easily. It is hard to imagine, for instance, how market mechanisms alone could prevent depletion of the earth's ozone layer. In such cases economists recognize the likely necessity of a regulatory or governmental solution.

Check your progress 6

1. Non-excludability and Non-rivalry are the characteristics of this good.

    a) Inferior goods.

    b) Merit goods.

    c) Private goods.

    d) Public goods.

3.2.11 Private goods.

Private goods also have both the characteristics which public goods possess, however inversely. Private goods have well defined property rights and so they have Rivalrous and excludable consumptions. If the owner of the private property or any goods wants to and have favorable situations also to charge for the goods and services, he/she can exclude somebody who has not paid for the same and those who have paid can enjoy the same.

There is also rivalry in the use of private goods as use of other person decreasing the chances of other person using the same facility, goods and services. e.g. any particular goods from the online shopping site has limited stock and it will be limited on the bases of come early and get early even in the cheaper sale situation so as the orders are increasing chances are less for late comers to get these goods. This gives the perfect solution to the free rider problem.

3.2.12 Merit goods.

Merit goods are those goods which have higher opportunity cost and higher positive spillover effects and can by less consumed by people so as provided

by government also by taking very less or no price and can be provided by private players taking higher prices by increasing quality.

Merit goods have some similarities with the public goods but some differences also. Education, health are merit goods because they have positive spillover effects and have higher opportunity cost also. Education has time and money both opportunity cost. The educated person can help many other person it changes the social status and even the consumption pattern as it increases the income and living standard of literate person.

There are many examples of merit goods such as education, health services, training programs, public library etc.

3.2.13 Production function.

Production is the result of co-operation of four factors of production viz., land, labour, capital and organization.

This is evident from the fact that no single commodity can be produced without the help of any one of these four factors of production.

Therefore, the producer combines all the four factors of production in a technical proportion. The aim of the producer is to maximize his profit. For this sake, he decides to maximize the production at minimum cost by means of the best combination of factors of production.

The producer secures the best combination by applying the principles of equi-marginal returns and substitution. According to the principle of equi-marginal returns, any producer can have maximum production only when the marginal returns of all the factors of production are equal to one another. For instance, when the marginal product of the land is equal to that of labour, capital and organisation, the production becomes maximum.

Meaning of Production Function:

In simple words, production function refers to the functional relationship between the quantity of a good produced (output) and factors of production (inputs).

"The production function is purely a technical relation which connects factor inputs and output." Prof. Koutsoyiannis

Defined production function as "the relation between a firm's physical production (output) and the material factors of production (inputs)." Prof. Watson

In this way, production function reflects how much output we can expect if we have so much of labour and so much of capital as well as of labour etc. In other words, we can say that production function is an indicator of the physical relationship between the inputs and output of a firm.

The reason behind physical relationship is that money prices do not appear in it. However, here one thing that becomes most important to quote is that like demand function a production function is for a definite period.

It shows the flow of inputs resulting into a flow of output during some time. The production function of a firm depends on the state of technology. With every development in technology the production function of the firm undergoes a change.

The new production function brought about by developing technology displays same inputs and more output or the same output with lesser inputs.

Sometimes a new production function of the firm may be adverse as it takes more inputs to produce the same output.

Mathematically, such a basic relationship between inputs and outputs may be expressed as:

Q = f (L, C, N)

Where Q = Quantity of output

L = Labour

C = Capital

N = Land.

Hence, the level of output (Q), depends on the quantities of different inputs (L, C, N) available to the firm. In the simplest case, where there are only two inputs, labour (L) and capital (C) and one output (Q), the production function becomes.

Q =f (L, C)

Definitions:

"The production function is a technical or engineering relation between input and output. As long as the natural laws of technology remain unchanged, the production function remains unchanged." Prof. L.R. Klein

"Production function is the relationship between inputs of productive services per unit of time and outputs of product per unit of time." Prof. George J. Stigler

"The relationship between inputs and outputs is summarized in what is called the production function. This is a technological relation showing for a given state of technological knowledge how much can be produced with given amounts of inputs." Prof. Richard J. Lipsey

Thus, from the above definitions, we can conclude that production function shows for a given state of technological knowledge, the relation between physical quantities of inputs and outputs achieved per period of time.

Features of Production Function:

Following are the main features of production function:

1. Substitutability:

The factors of production or inputs are substitutes of one another which make it possible to vary the total output by changing the quantity of one or a few inputs, while the quantities of all other inputs are held constant. It is the substitutability of the factors of production that gives rise to the laws of variable proportions. The substitution can not be complete substitution it can be up to certain maximum limits. For e.g. a firm may label itself fully automatic firm or factory but it can not be because there is nothing like fully automatic thing, there is always behind somebody who is reducing the need of people at maximum possible level.

2. Complementarity:

The factors of production are also complementary to one another, that is, the two or more inputs are to be used together as nothing will be produced if the quantity of either of the inputs used in the production process is zero.

The principles of returns to scale is another manifestation of complementarity

of inputs as it reveals that the quantity of all inputs are to be increased simultaneously in order to attain a higher scale of total output.

3. Specificity:

It reveals that the inputs are specific to the production of a particular product. Machines and equipment's, specialized workers and raw materials are a few examples of the specificity of factors of production. The specificity may not be complete as factors may be used for production of other commodities too. This reveals that in the production process none of the factors can be ignored and in some cases ignorance to even slightest extent is not possible if the factors are perfectly specific.

Production involves time; hence, the way the inputs are combined is determined to a large extent by the time period under consideration. The greater the time period, the greater the freedom the producer has to vary the quantities of various inputs used in the production process.

In the production function, variation in total output by varying the quantities of all inputs is possible only in the long run whereas the variation in total output by varying the quantity of single input may be possible even in the short run.

Check your progress 7

1. Long run production function says _____.

   a) Change in only one variable in the production function.

   b) Change in some variable in the production function.

   c) Change in all variables in the production function.

3.2.14 Stock and Flow concept.

Stock and flow concept generally used by both Microeconomics and Macroeconomics but extensively in Macroeconomics.

Stock means a quantity of commodity acquired at particular time while flow means some particular amount of quantity from current production going for sale in the market. In Macroeconomics there are two types of aggregates, some are stocks some are flows. For e.g. stock of capital "K" is a stock concept because it is related to the some particular time while investment is flow concept.

So we can say stock concept are timeless concepts while flow concepts have time dimension. Such as income, output, investment, consumption always specified per unit of time.

Money is a stock variable while the spending of money is a flow variable. Mostly in macroeconomics the concept of stock and flow is used such as in the theory of income, employment and output. Wealth is a stock while income is a flow, saving by any individual in a month is a flow while saving of the same individual in a day is stock. The government debt is a stock while government deficit is a flow.

Some macro variables like income, import, export, wages, and social welfare are always flow concept. One can ask about the price, is that a stock or flowi The answer is price is neither flow nor stock because it is a ratio which measures stock and flows.

Stocks and flows both affect each other but stocks only affects flows only in a long run. For e.g. investment is flow while stock of capital goods is stock. Capital goods largely affected by investment and investment itself affected by stock of capital but investment is strong driving force compare to the stock of capital.

3.2.15 Normative / Positive Economics

Economics that tries to change the world, by suggesting policies for increasing economic welfare. The opposite of positive economics, which is content to try to describe the world as it is, rather than prescribe ways to make it better".

The Positive Economics is just a statement which explain what it is There is no value judgement in It., while in the case of normative economics there is value judgement which says "what ought to be". This suggest what should be done and what should not to be.

That is why normative economics is also called proscriptive economics as it not only shows what it is but also suggest now what should be. The positive statement can be analysed for further testing while normative itself is a suggestion to do something.

For example: - A person is smoking, smoking is injurious to the health so that person should not smoke. The first half of this sentence is positive statement just showing what other person is doing while the latter half of the sentence comprises value judgement that because smoking is injurious to health so a person should not smoke. The positive statement has scope of further analysis but normative statement does not have scope of further analysis because either it is conclusion of analysis or it is forcefully applied or it is a subjective matter which differs from person to person.

Check your progress 8

1. Normative Economic is a _____ in nature.

   a) Desceiptive. b) Preceiptive. c) Value judgement. d) B and C both.

3.3 Let Us Sum Up

This block is dedicated to the basics of economics mainly to the Micro Econmics. The biggest difference between other sciences and economics is "study of human" which makes tasks of economics much harder compare to other natural sciences. Economics is trying to solve the biggest market problems of Choice and efficiency with sustainability. This block will also explain about the various types of costs so that these basic terms will make task of students to understand harder topics easier. The production function gives the operational clarity of anything we are planning to do in the market.

3.4 Answers for Check Your Progress

Check your progress 1

Answers: TRUE

Check your progress 2

Answers: False.

Check your progress 3

Answers: True.

Check your progress 4

Answers: True.

Check your progress 5

Answers: False.

Check your progress 6

Answers: D

Check your progress 7

Answers: C

Check your progress 8

Answers: D

3.5 Glossary

1. Function: a functional relationship between two or more variables.

3.6 Assignment

1. Define Micro and Macro Economics and state the difference between these two.
2. Give one case example of sunk cost.

3.7 Activities

1. Explain criteria upon which standard of living depends.

3.8 Case Study

1. Read about economic condition of germany after World War I and II and make short notes on each. (On economic conditions)

3.9 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 Microeconomics, Mankiew N.G. 4th edition, Thomson Publication. 2007.
6. Micro Economics for business, Das S.P , Sage publication, 2007.
7. Basic Economics, Sowell T, Rev. Ed. 2004.
8. Principals of Micro Economics by Mankiew N.G 4th Ed, 2007.
9. Microeconomic theory by M L Jhingan, 7th Ed, Vrinda publication PVT. LTD.
10. Managerial Economics by D N Dwivedi, 6th Ed, Vikas publishing house

Block Summary

in this block we have studied the topics such as nature of economics and its scope. The second unit covered the important topics such as economy and various problems related. in the last unit some of the basic concepts of economics were discussed which are very important for studying and understanding the subject.

Block Assignment

Short Answer Questions

1. Growth oriented definition of economics
2. Marshall's definition of economics Market Mechanism
3. Failure of marketing system
4. importance of macroeconomics
5. Explain opportunity cost with examples.

Long Answer Questions

1. Do you agree that economics is social science Explain
2. 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
3. Explain the production function in detail.
4. Explain the concept of public goods and problems associated with it.

Enrolment No. ☐

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

Unit No	1	2	3
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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Dr. Babasaheb
Ambedkar
OpenUniversity

BBAR-104/DBAR-104

BUSINESS ECONOMICS

BLOCK-2 DEMAND AND SUPPLY ANALYSIS, TECHNIQUE OF INDIFFERENCE CURVES PRICE, INCOME AND SUBSTITUTION EFFECTS WITH DEMAND FORECASTING

UNIT 1

DEMAND AND SUPPLY ANALYSIS

UNIT 2

TECHNIQUE OF INDIFFERENCE CURVES : CONSUMER'S EQUILIBRIUM

UNIT 3

PRICE, INCOME AND SUBSTITUTION EFFECTS ON CONSUMER'S EQUILIBRIUM.

UNIT 4

DEMAND FORECASTING

BLOCK 2 : DEMAND AND SUPPLY ANALYSIS, TECHNIQUE OF INDIFFERENCE CURVES PRICE, INCOME AND SUBSTITUTION EFFECTS WITH DEMAND FORECASTING.

Block Introduction

in this block we will be discussing the demand and supply functions. We will also be discussing their laws, determinants and factors on which they are dependent. We will also be discussing the Indifference curve analysis in detail.

In this block we will also be studying few of the very important topics such as price, income and substitutions effects on consumer's equilibrium. Apart from this in the second unit the topic demand forecasting shall also be discussed in detail. Every effort has been made by the writer to explain the above topics in very easy language.

Block Objective

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

- Law of demand and supply
- Determining factors of demand
- Various types of demand concept
- Law of demand
- Elasticity of demand
- Importance of elasticity of demand
- Assess elasticity of demand and supply
- Indifference curve techniques
- Indifference map
- Property of Indifference map
- Marginal rate of substitution
- Price-income line
- Concept of consumer equilibrium point
- Income consumption curve
- Price effect
- Income effect
- Substitute effect
- How various factors affect consumer's equilibrium
- Concept of Demand Forecasting
- Short-term and long-term objective of Demand Forecasting
- Method of Demand Forecasting
- Steps in demand forecasting

Block Structure

Unit 1 Demand and Supply Analysis

Unit 2 Technique of Indifference Curves: Consumer's Equilibrium

Unit 3: Price, Incomeand Substitution Effects on Consumer's Equilibrium

Unit 4: Demand Forecasting

Unit 1

DEMAND AND SUPPLY ANALYSIS

: UNIT STRUCTURE :

1.0 Learning Objectives

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

- Law of demand and supply
- Determining factors of demand

Demand and Supply Analysis, Technique of Indifference Curves Price, Income and Substitution Effects With Demand Forecasting

- Various types of demand concept
- Law of demand
- Elasticity of demand
- importance of elasticity of demand
- Assess 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 demand thatimplies 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 demand 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 person‘s 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 a Maruti 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 be-

tween price and demand is called the Law of Demand. it is not only the existing price but also the expected changes in price, which affect demand

2. income of the Consumer: The second most important factor influencing demand is consumer‘s income. in fact, we can establish a relation 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 are 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 go 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, woollen 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, 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, which 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 rela-

tive 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 Vespais 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.

1.2.5. Consumer goods and capital goods

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.

Check your progress 1

1. ..... are those, which are jointly demanded.
   a. Complimentary goods
   b. Substitutes

1.3 Law of Demand

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 bookThe 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.

A. Demand Schedule

It is the table showing how much will be demand at different price levels. Table 4.1

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

B. 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.

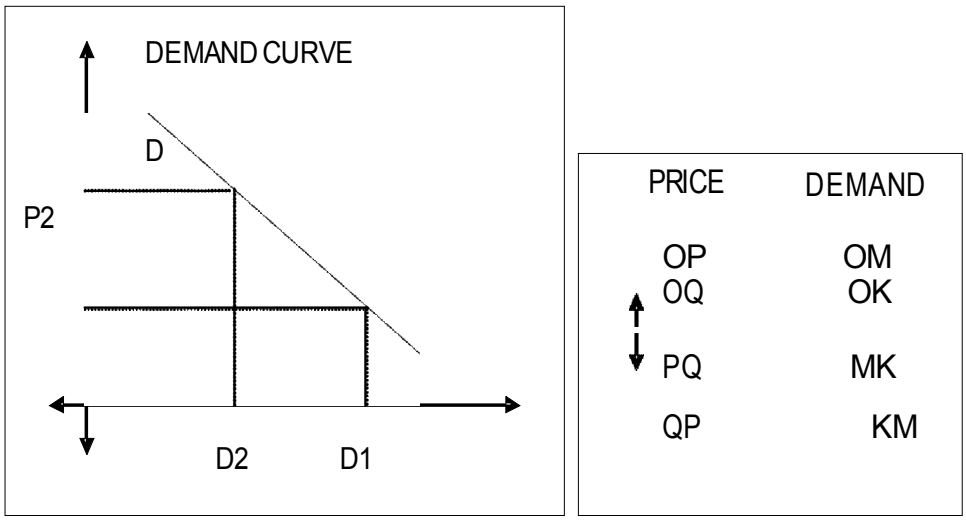


Fig 1.1 Demand Curve

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.

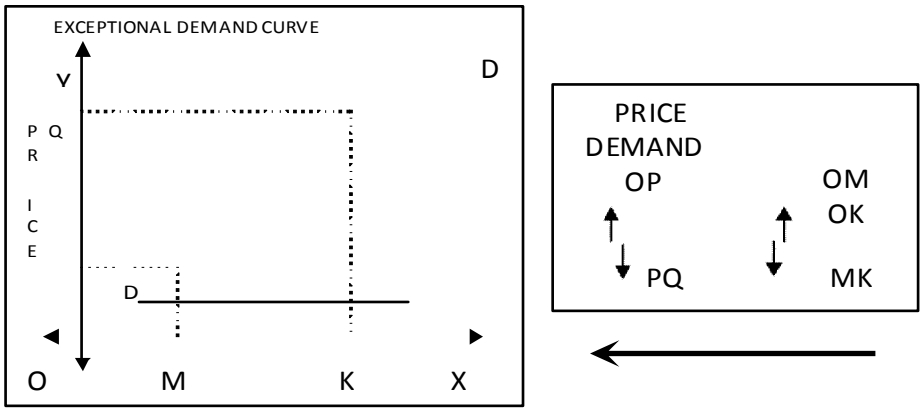


Fig 1.2 Exceptional demand curve

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.

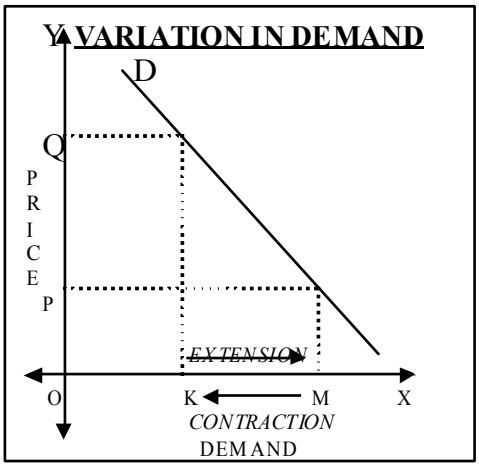


Fig 1.3 Variation in demand

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.

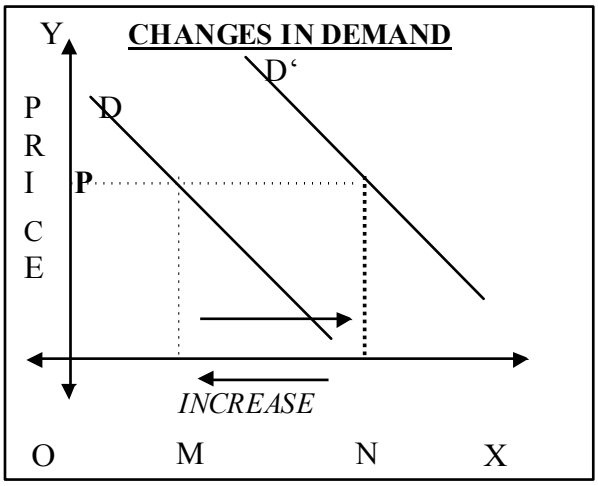


Fig 1.4 Changes in demand

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; &if demand rises, it is called increase in demand.

Check your progress 2

1. if the price of the good ..... the quantity demanded decreases, while if price of the good ....., its quantity demanded increases.
   a. Increase, decreases
   b. Decreases, increases
   c. Decreases, decreases
   d. Increases, increases

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 decide 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

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

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

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

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

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.

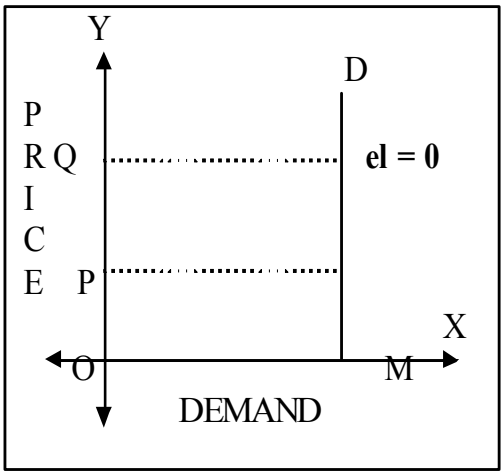


Fig 1.5 inelastic demand

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 iless elastic demand‘, which can be explained with the help of following diagram.

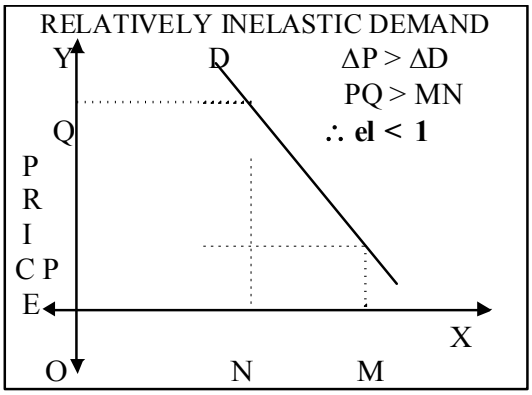


Fig 1.6 Less Elastic Demand

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.

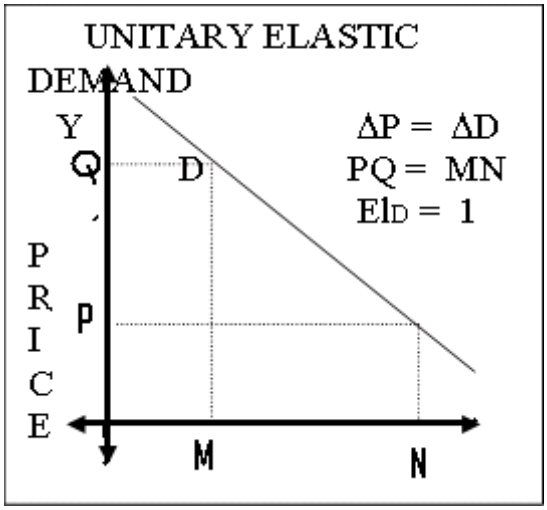


Fig 1.7 Unitary elastic demand

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.

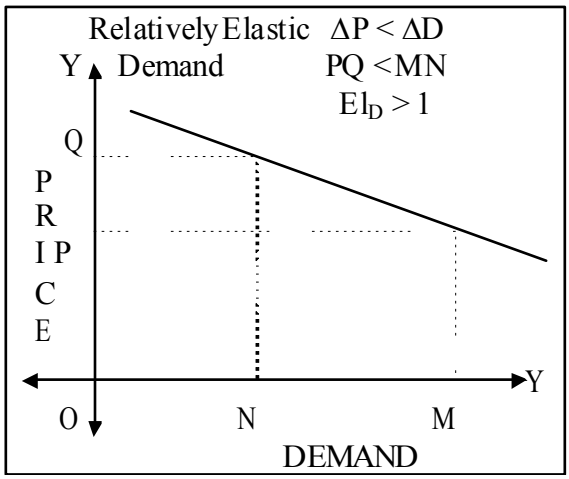


Fig 1.8 More elastic demand

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.

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:

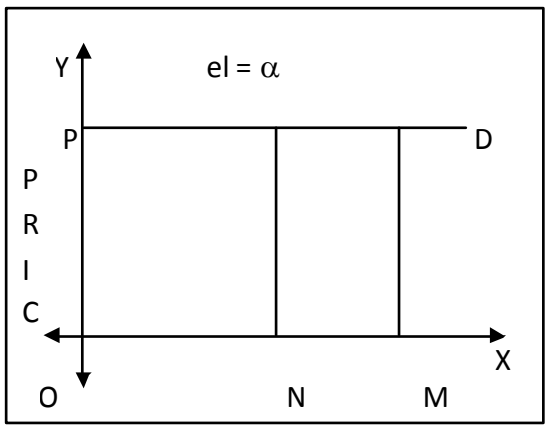


Fig 1.9 Perfectly elastic demand

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. teaand coffee.

d) 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.

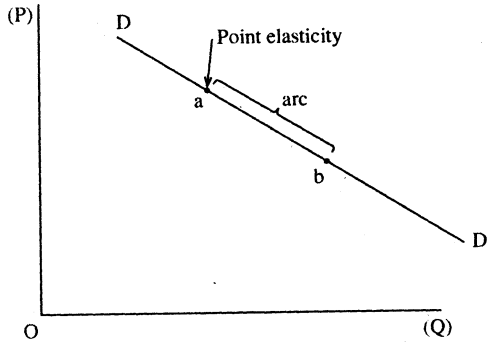


Fig 1.10 Price Elasticity of Demand

Price Elasticity is measured as:

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

Where, P_1 is initial price, P_2 is new price, Q_1 is initial demand and Q_2 represent new demand.

$DP = P_1 - P_2$

$DQ = Q_1 - Q_2$

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

$P_1 = 15$ $Q_1 = 100$

$P_2 = 25$ $Q_2 = 80$

$\Delta P = 10$ $\Delta Q = -20$

$$e_{arc} = \frac{-20}{10} \times \frac{15+25}{100+80}$$

$$= -0.44$$

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.

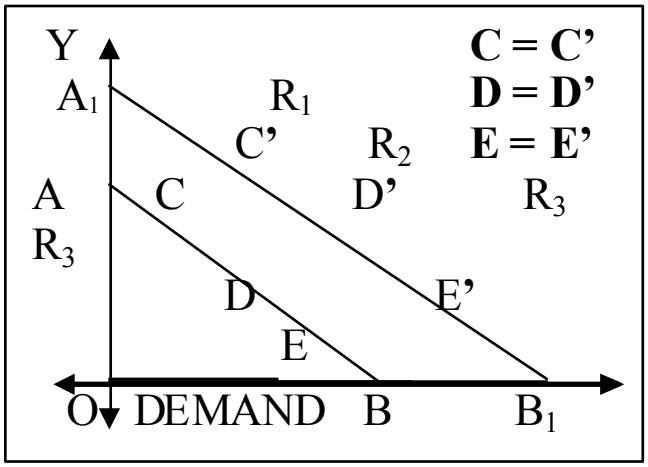


Fig 1.11 Relatively inelastic demand

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.

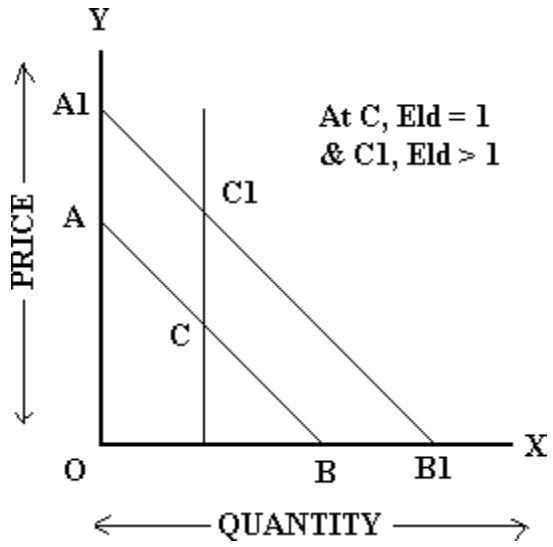


Fig 1.12 Price Elasticity of Demand

In the diagram above, it can be shown that on the two demand curves Aand A1, the Eld at 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.

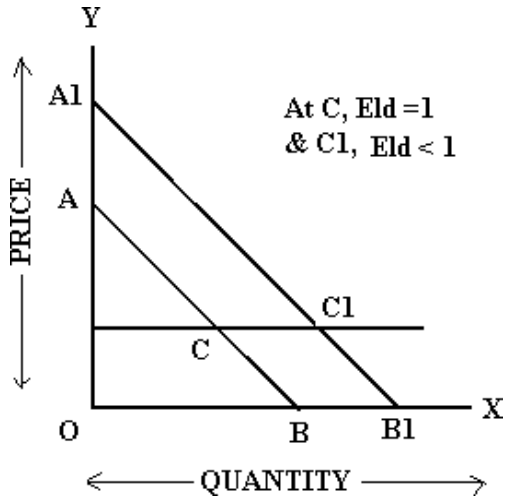


Fig 1.13 Price Elasticity of Demand

The Eld at points C and C1 are not the same; since Eld at 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

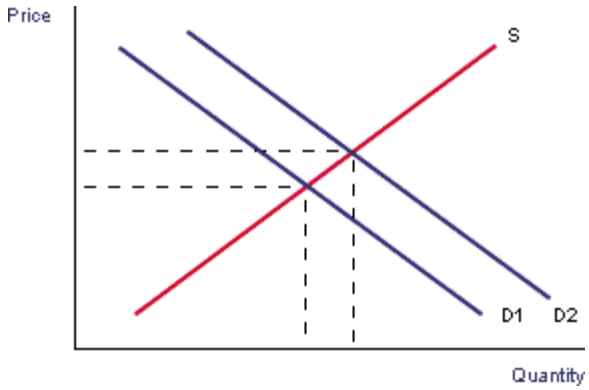


Fig 1.14 income Elasticity of Demand

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 commod-

ity 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.

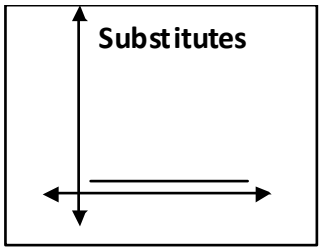


Fig 1.15 Cross Elasticity of Demand forsubstitute

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.

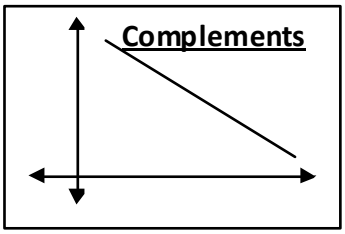


Fig 1.16 Cross Elasticity of Demand for complements

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.

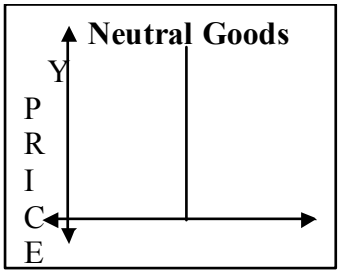


Fig 1.17 Cross Elasticity of Demand for neutral

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

Check your progress 3

1. Demand for the commodity is said to be ..... when even though price of the commodity changes, demand for the commodity does not change.
   a. Inelastic
   b. Elastic

1.5 Methods of calculating elasticity of demand

Elasticity of demand means the degree of responsiveness of demand to 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 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, then also we can 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:

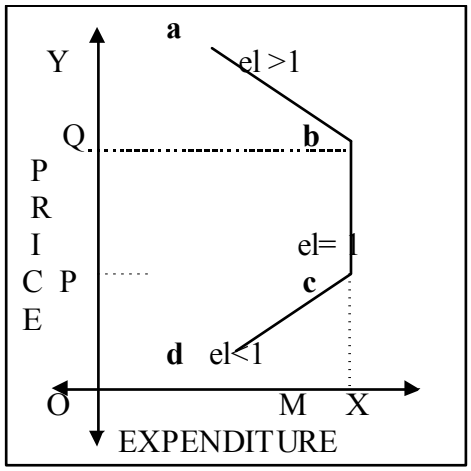


Fig 1.18 Price expenditure

In the diagram, iX‘ axis represents expenditure on the commodity and iY‘ 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.

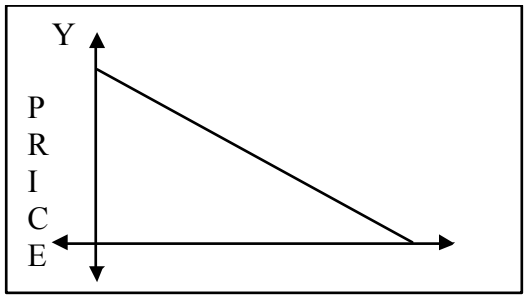


Fig 1.19 Point method for calculating elasticity of demand

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 iA‘ is the midpoint representing same distance from both axes. At point iA‘, elasticity of demand is equal to one, which means it is unitary elastic demand. Every point on iAM‘ part of the demand curve represents 'less elastic demand' while every point on IAP‘ part of the demand curve represents 'more elastic demand'.

Check your progress 4

1. ..... of demand means the degree of responsiveness of demand to given change in price.

a. Elasticity

b. Inelasticity

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 if 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. The ..... 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.

   a. elasticity of demand

   b. inelasticity of demand

1.7 Some analytical cost concepts, Law of Supply and supply curve

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 costsare 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.

2) 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. ..... costs, on the other hand, are the cost, which are incurred on the fixed assets like plant, building, machinery etc.
   a. Long–run
   b. Short 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.

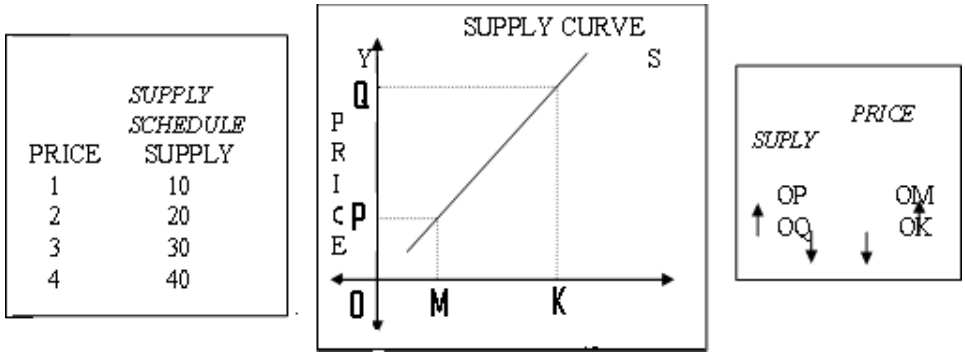


Fig 1.20 Supply curve

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 exist 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 followingassumptions:

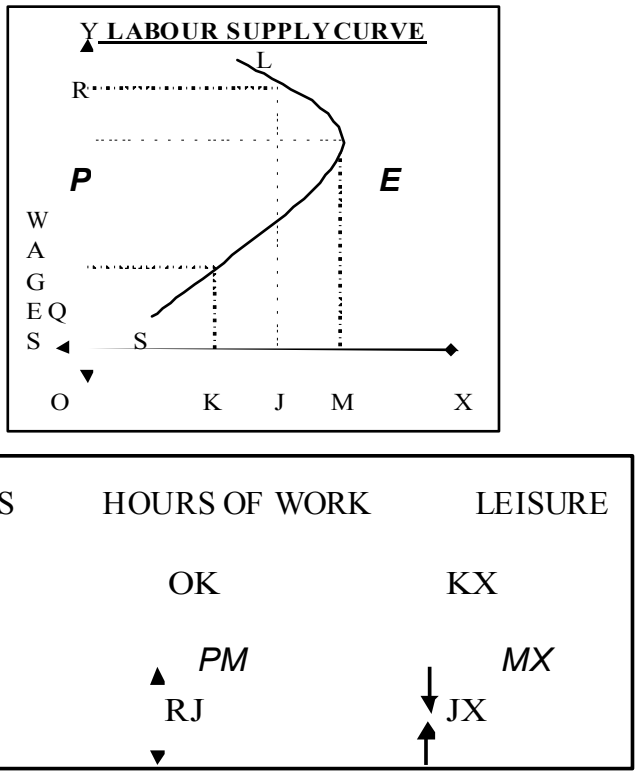
- The cost of production remains constant.
- The technology remains constant.
- Government policies do not change.
- The prices of substitutes and complementary good and services are constant.
- Geographical conditions remain constant.
- Tastes and habits of the people do not change. Exceptions to Law 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 account for increase or decrease in supply, we have to discover the factors, which bring 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 influ-

enced 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, higher import duty will restrict the supply and a lower duty will stimulate it.

Check your progress 7

1. If price of the commodity rises, supply of the commodity also rises because with rising price the seller enjoys more and more profits.
   a. Law of demand
   b. Law of supply

1.9 Let Us Sum Up

Meaning of Demand: in economics, demand has a particular meaning distinct from its ordinary usage. in common language, we treat idemand‘ and idesire‘ 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.

Definition of Demand: Prof. Benham- iThe demand for anything, at a given price is the amount of it which will be bought per unit of time at the price.

Essentials of Demand: Following are the essentials of demand: 1) An effective desire 2) A particular price 3) A particular time 4) A definite place.

Determinants of Demand: Determinants of Demand are as follows: 1)Price of the commodity 2)Income of the consumer 3) Price of related goods 4) Change in tastes of the consumers 5) Amount of wealth 6) Increase in population 7) Government policy 8) Consumers expectations regarding the future

9) Climate and weather of area 10) Business Conditions

Derived Demand: When a product is demanded due to the demand of any parent product, it is called derived demand.

Autonomous Demand: When demand of a product is independent and not associated with the demand of any other product, it is called autonomous demand.

Industry Demand: Industry demand means the total demand for the products of all the units of a particular industry.

Company Demand: Company demand means the demand for the products of a particular firm. Market share of demand is the part of the total demand of a product or service product by anindustry that has been captured by a particular company or enterprise of that industry.

Total Market Demand: Total market demand means the total demand of a particular product in the whole market.

Market Segment Demand: 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.

Short 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.

Long Term Demand: Long-term demand of a product or service is the expected demand of that product or service in future.

Consumer Goods: Consumers‘ 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.

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.

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.

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 'goods' has a close substitute such as chicken substituted for steak the steak is 'elastic'.

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

Determination Factors of Demand: The following are the determining factors: 1) Urgency of wants 2) Nature of commodity 3) Availability of substitutes 4) Number of uses 5) Proportion of income spent 6) Price level of the

commodity 7) Durability of the commodity 8) Element of time

Price Elasticity of Demand: Price elasticity of demand measures the percentage change in quantity demanded caused by a percent change in price.

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 as a result of the changes in his income.

Cross Elasticity of Demand: The relationship between two commodities can either be substitutive or complementary or even of neutrality.

Methods of Measuring Elasticity of Demand: By using three different methods, elasticity of demand is measured: 1) Ratio Method 2) Expenditure Method 3) Point Method.

Importance of Elasticity of Demand: The importance of the study of Elasticity of demand can be discussed into two parts:

- Theoretical importance -From theoretical point of view by studying the Elasticity of demand, we know that various changes in price at different occasions or time
- Practical importance-From practical point of view the study of Elasticity of demand is important for the Monopolists, Traders and industrialists and Finance Minister.

Fixed Cost: Fixed costs are those, which are fixed in volume for a certain given output.

Variable Cost: Variable costs are those, which vary with the variation in total output.

Total Cost: Total cost (TC) is the total expenditure incurred on the production of goods and service.

Average Cost: Average cost (AC) is of statistical ratio it is not actual cost.

Marginal Cost: Marginal Cost (MC) is the addition to the total cost because of producing one additional unit of the product.

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.

Law of Supply: The law of supply states that supply means the quantities that a seller is willing and able to sell at different price.

1.10 Answers for Check Your Progress

Check your progress 1

Answers: (1 - a)

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)

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

1. Define demand and differentiate demand from want and desire
2. Explain the law of demand with its exceptions
3. Explain the meaning and types of elasticity of demand.

1.13 Activities

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

1.14 Case Study

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

Demand and Supply Analysis, Technique of Indifference Curves Price, Income and Substitution Effects With Demand Forecasting

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,Lakshmi Narain Agarwal, 2009

Unit 2

TECHNIQUE OF INDIFFERENCE CURVES : CONSUMER'S EQUILIBRIUM

: UNIT STRUCTURE :

2.0 Learning Objectives

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

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

2.1 Introduction: 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.

2.2 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.

2.2.1 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 says 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 stocks 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 2.1.

Table 2.1: 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.

2.2.2 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.

2.2.3 Indifference Schedule

An Indifference curve is based on an Indifference schedule. 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 constitutesa 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

Table 2.2: 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.

2.2.4 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.

Table 2.3: 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.

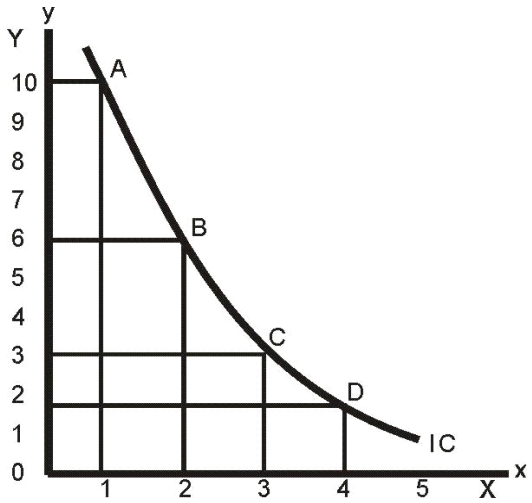


Fig 2.1 Indifference curve

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.

2.2.5 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.

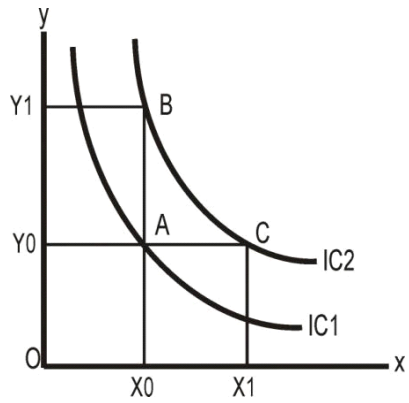


Fig 2.2 Indifference curves

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.

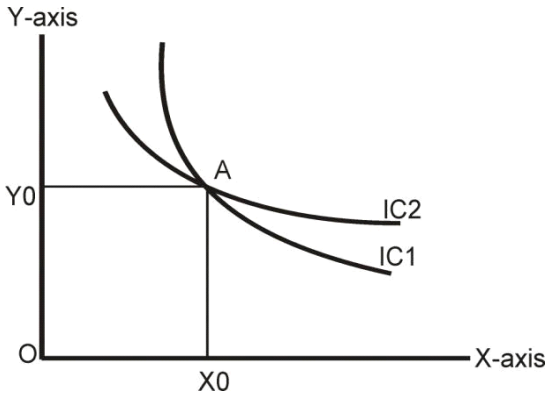


Fig 2.3 Indifference curves

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 anIC always has negative slope. This is shownin the diagram below.

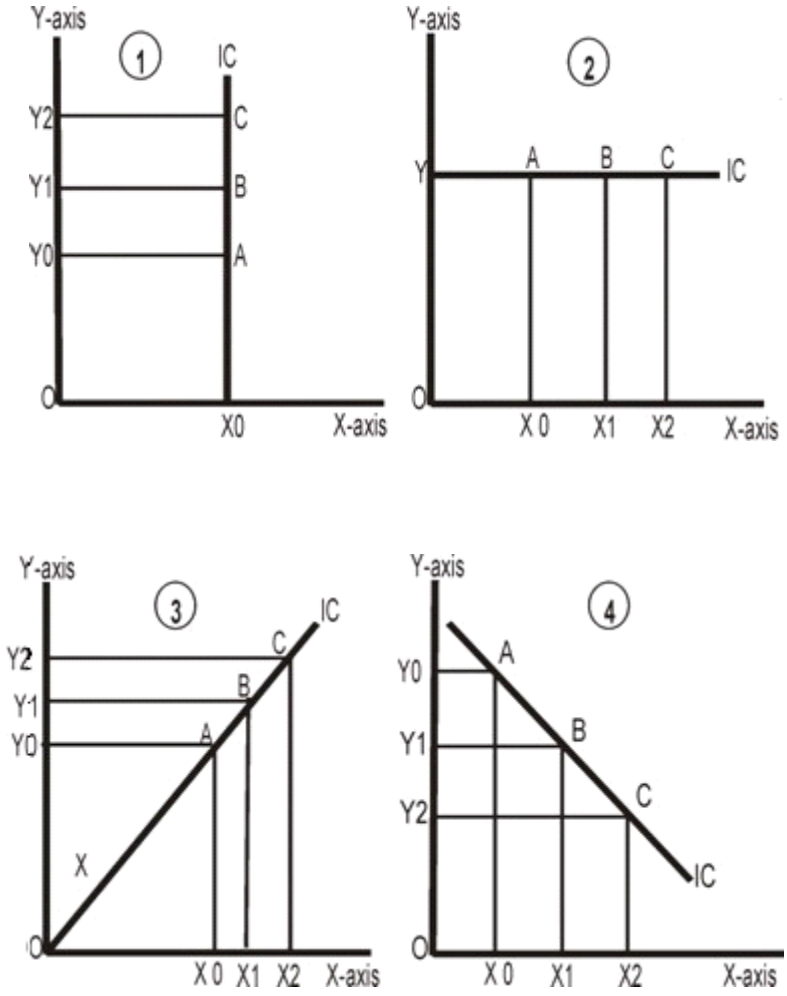


Fig 2.4 Indifference Curves

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 Aand 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.

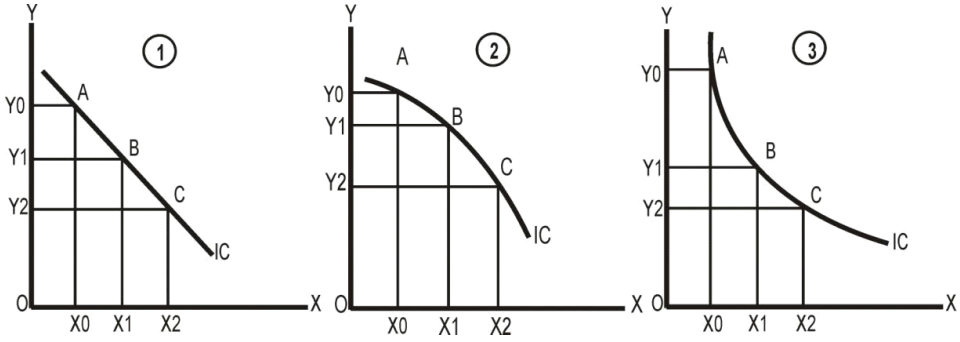


Fig 2.5 Indifference Curves

If an IC is straight line as in diagram 1, it shows constant MRS xy which is not true. if an IC is concave then MRS xy 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.

2.2.6 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 ain

the Indifference map to combination b and b to 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 1

1. The technique of Indifference curves was created by ..... in 1881.
   a. Pareto
   b. Edgeworth

2.3 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 substitutionis 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 = Dy/Dx, 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, Dy/Dx measures the slope of the difference curve which is negative, suggesting that if X increase, Y decreases and vice versa.

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

Table 2.4: Marginal rate of substitution

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 concepts, 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 anincrease 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, so 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 = D X / D Y)

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

Technique of Indifference Curves: Consumer's Equilibrium

Check your progress 2

1. The concept of ..... or the law of diminishing marginal rate of substitution forms the core of the Indifference curve analysis
   a. marginal rate of substitution
   b. law of demand
   c. law of supply

2.4 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 anincome 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.

Table 2.5: 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, 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 a budget line.

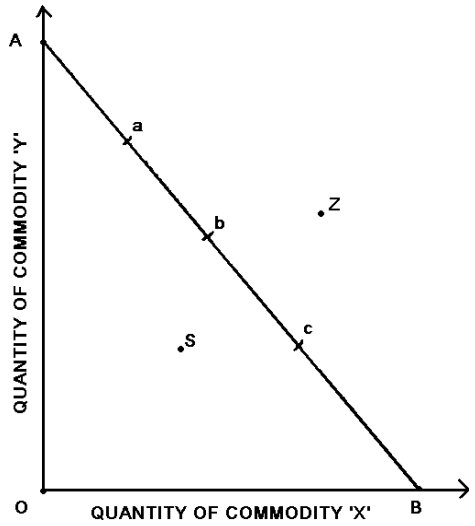


Fig 2.6 Purchase combinations

In Fig 5.6, 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 his/her 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.

2.4.1 Slope of Price line

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

$M = Px \cdot Qx + Py \cdot Qy$ 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;

$M = Py \cdot Qy$

Technique of Indifference Curves: Consumer's Equilibrium

$Qy = M/Py$

Similarly,

$Qy = 0,$

Hence, $M = Px \cdot Qx$

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

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

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

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

2.4.2 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.

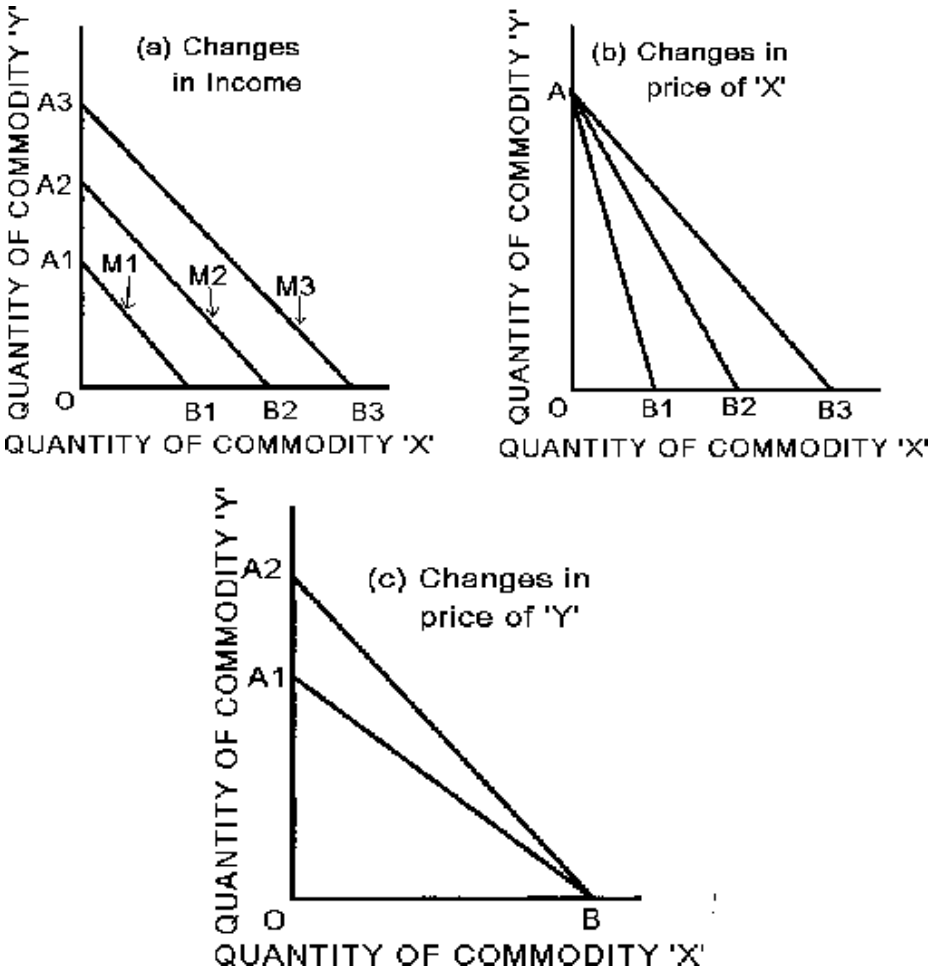


Fig 2.7 income line

In Fig.2.7 (a), the income line shifts upwards as A1B1, A2B2, A3B3 etc. as

money income increases from M1 to M2, M3 etc. Since $\frac{Px}{Py}$ Px 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.

2.4.3 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 3

1. What a consumer can actually buy depends on the ..... and the prices of goods he wants to buy.
   a. income at his disposal
   b. demand of that good
   c. willingness to buy

2.5 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 iproportionality rule' $\frac{MUx}{Px}=\frac{MUy}{Py}$ and so on, in his marginal utility analysis of the consumer' 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 anIndifference 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 a budget 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 utils, 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.

Table 2.6: 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 i 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.

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

Check your progress 4

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) Consumer behaviour

2.6 Let Us Sum Up

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.

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

Indifference Curve: 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 prefer-

ence and so on. If all the combinations having equal utility for consumer are plotted on a curve, that curve will be called anIndifference curve.

Properties of Indifference Curve: Following are the important properties of Indifference curve:

- Higher Indifference curves show higher utility.
- Indifference curves do not intersect each other.
- Indifference curves have negative slope.
- Indifference curves are convex to the origin.

Marginal Rate of Substitution: 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: 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.

Consumer Equilibrium: 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.

Check your progress 5

1. Indifference curve is _____ to the origin.

   a. Convex

   b. Concave.

2.7 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 - b)

Check your progress 5

Answers: (1 - a)

2.8 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

2.9 Assignment

What are the properties of Indifference curvei Explain

2.10 Activities

Distinguish between Indifference curve and budget line

2.11 Case Study

Tangency between the price line and anIndifference curve is the necessary conditions of the consumer‘s equilibrium, but not the sufficient condition. Discuss

2.12 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 3

PRICE, INCOME AND SUBSTITUTION EFFECTS ON CONSUMER'S EQUILIBRIUM

: UNIT STRUCTURE :

3.0 Learning Objectives

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

- Income consumption curve
- Price effect
- Income effect
- Substitute effect
- How various factors affect consumer's equilibrium

3.1 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 make 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, real income remaining constant. Although when the price of a good falls the real income increases but it is held constant by reducing the money 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:

3.2 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 1.1).

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 1.1, the budget lines areA1B1 // 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 super imposed on the customer‘s

scale of preferences, for each level of income there will bean 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 likea, b, c etc., from which we may derivea curve called iincome- consumption curve‘ (ICC).

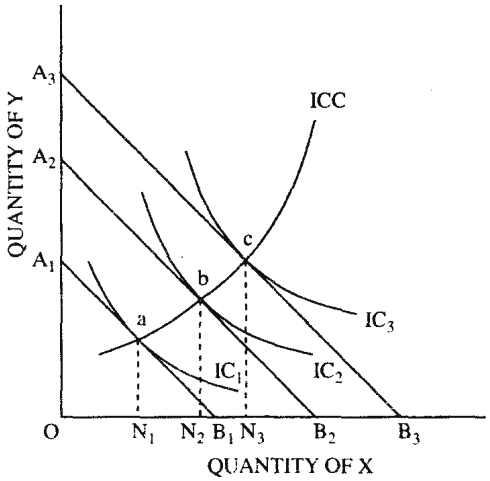


Fig 3.1 Income Consumption Curve

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 pair 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.

Price, Income and Substitution Effects on Consumer‘s Equilibrium 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 risein 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.

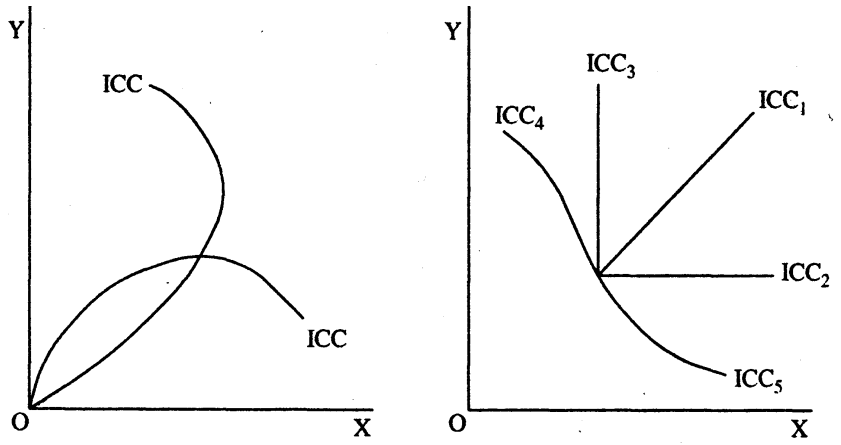


Fig 3.2 Income-consumption curve

Check your progress 1

1. In the case of a negative income effect, the income-consumption curve will have either a backward slope or a .
   a. Downward slope
   b. upward slope
2. ..... is curve measuring the income effect.
   a. ICC
   b. DCC

3.3 The Substitution Effect

Whenever there is a change in the relative prices of goods, a rational consumer will be induced to substitutea 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 substituteit 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, thereis a risein the real income to the consumer, as his given money income can now buy more than before. To eliminate the effect of a risein 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 Price, Incomeand Substítutíon Effects on Consumer‘s Equílíbríum 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 pricefalls, he can reallocate his income spending to produce a pure substitution effect. This is diagrammatically illustrated in fig. 3.3

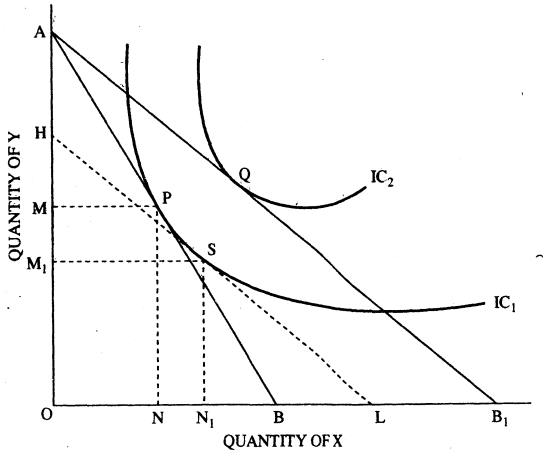


Fig 3.3 Substitution effect curve

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 AB1 and tangential to the original IC1 so that the consumer is placed back on the ordinal level of satisfaction, maintaining the same real incomeas before. However, with respect to the HL price line, though the consumer is brought back on the same Indifference curveIC1, 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 incomeis 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.

Price, Income and Substitution Effects on Consumer‘s Equilibrium

Check your progress 2

1. Whenever there is a change in the relative prices of goods, a rational consumer will be induced to substitute a relatively commodity for the dearer one.
   a. Cheaper
   b. Costlier
2. The effect is measured by movement from one point to another point on the same Indifference curve.
   a. Substitution
   b. Complimentary

3.4 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 3.4 below, this corresponds to an imaginary budget constraint denoted SC being tangent to the Indifference curveI1.

If the good in question is a normal good, then the income effect from the risein 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).

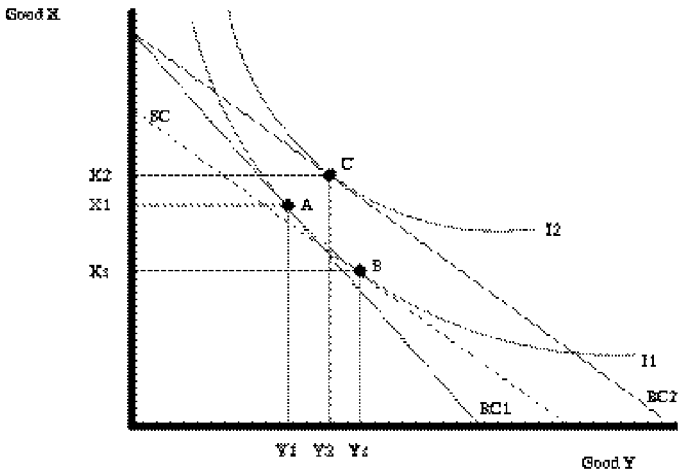


Fig 1.4 Price Consumption Curve

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) and at the same time, the money income falls from m to m' to keep the consumer at the same level of utility on :

$$\Delta y_1^s = y_1(p_1', m') - y_1(p_1, m).$$

The substitution effect increases the amount demanded of good from to

In the example, the income effect of the price fall in partly offsets the substitution effect as the amount demanded of goes from to . 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 lies between the income positions. Its economic significance is that analytically we first measure income effect and then consider the substitution effect.

Price, Income and Substitution Effects on Consumer's Equilibrium

Check your progress 3

1. The ..... is the sum of substitution and income effects.
   a. price effect
   b. income effect
   c. substitution effect
2. If the good in question is a ..... good, then the income effect from the rise in purchasing power from a price fall reinforces the substitution effect.
   a. Normal
   b. complimentary

3.5 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 (Ie) + 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.

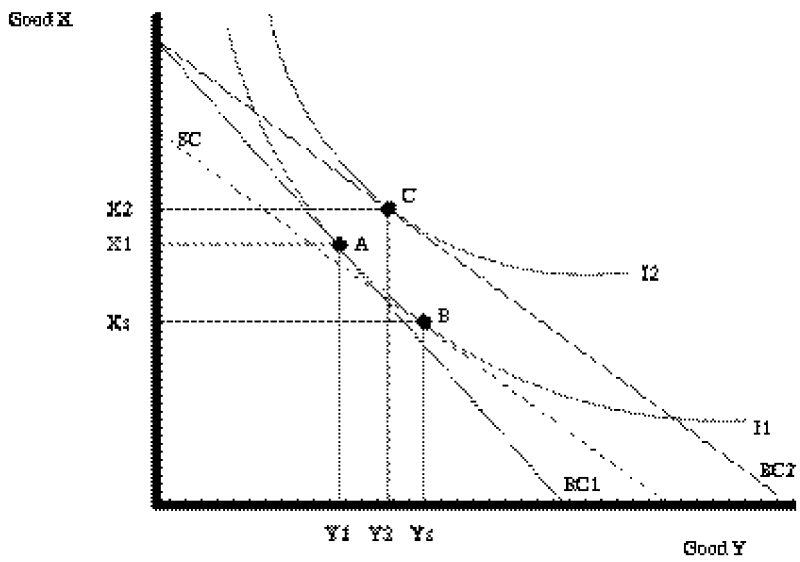


Fig 3.5 Income Consumption Curve

In the figure 3.5, the substitution effect, is the change in theamount demanded for when the price of good falls from to (increasing purchasing power for) and at the same time, the money income falls from m to m' to keep the consumer at the same level of utility on :

$$\Delta y_1^s = y_1(p_1', m') - y_1(p_1, m).$$

The substitution effect increases the amount demanded of good from to In the example, the income effect of the price fall in partly offsets the substitution effect as the amount demanded of goes from to . 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. The change in the real income or the purchasing power of consumer's money income makes him, either better off or worse off.
   a. Income effect
   b. Substitution effect
2. The price effect is the of the substitution effect and the income effect.
   a. algebraic sum
   b. sum total

3.6 Price effect in Case of 'Inferior' Goods

Income effect tends to be negativein 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 +veSe> - vele, Pe = Se + le = +ve net effect.

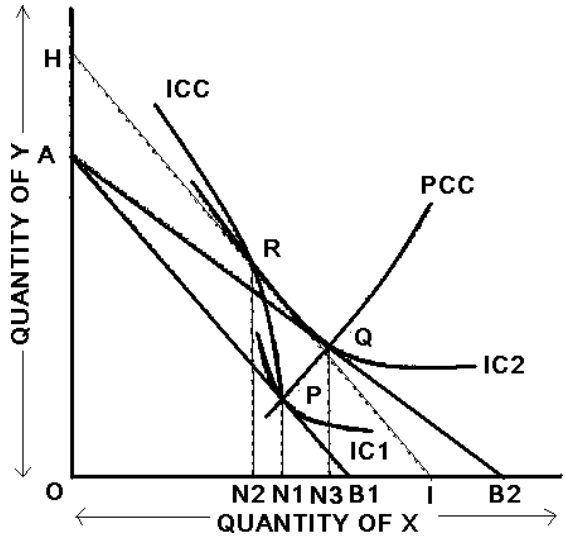


Fig 3.6 Income effect on inferior goods

In fig 3.6, AB1is theinitial 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 N1N3is +ve

(+ N2N3) > (- N1N2)

Check your progress 5

1. Income effect tends to be in the case of inferior goods.
   a. Negative
   b. Positive
2. ..... effect is always positive whether the good is superior or inferior.
   a. Substitution
   b. Income

3.7 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 refferred 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 a better and more varied diet. In order to honour Sir Giffen, such typical inferior commodities that have a predominantly negative income effect are called Giffen Goods'.

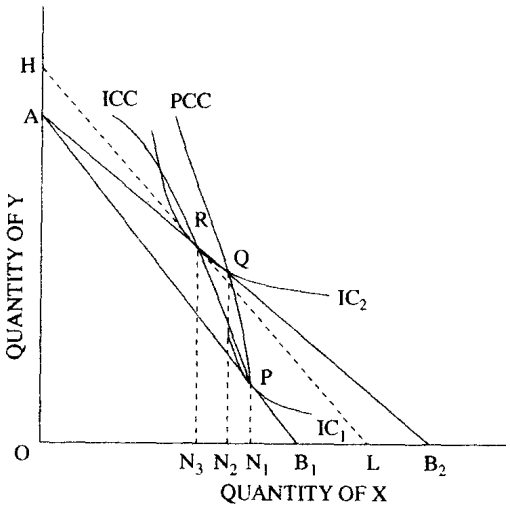


Fig 3.7 Income effect curve

In fig. 3.7, 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, heis induced to buy more of X by N3N2 because of substitution effect. However, N3N2 being 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 N1N3is +ve

(- N1N2) > (+ N2N3).....Here N1N3is -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 rareand 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 havea 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 incomeis 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 ....., after a point, even if their prices fall.
   a. Giffen goods
   b. Complementary goods
   c. Substitute goods
2. To become a ..... good, it should be an inferior good, but this is a necessary but not a sufficient condition.
   a. Giffen
   b. complimentory

3.8 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 curveis 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 Xchanges, $\frac{px}{py}$ changes and the demand for X changes

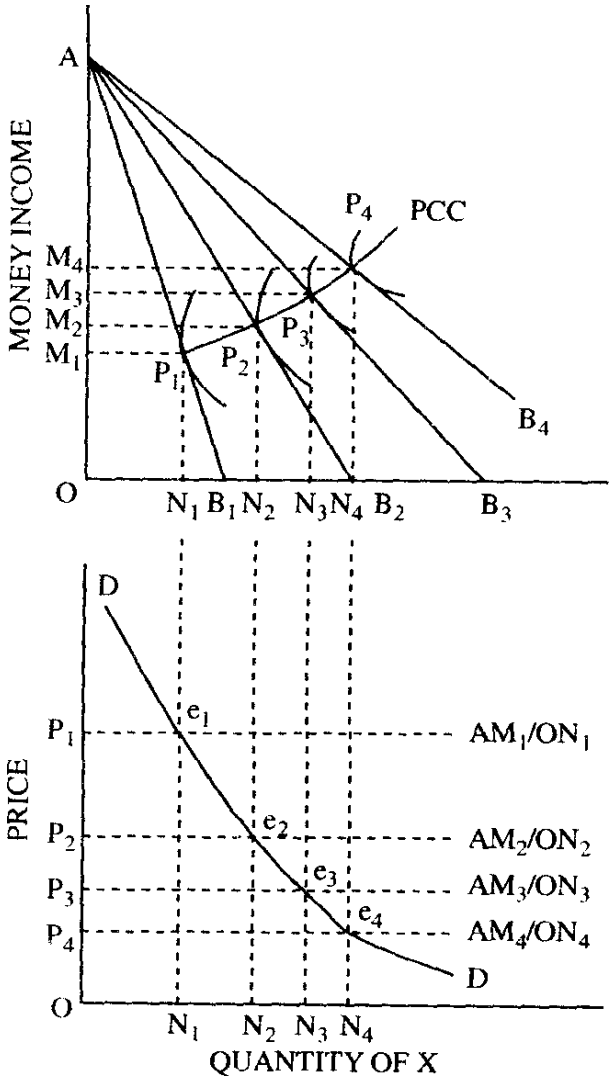


Fig 3.8 Price Consumption Curve and Derived Demand Curve

In figure 3.8, AB1, AB2, AB3and AB4 represents the prices lines when the price of X falls from P1 to P2 P3 and 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.

$$\text{Thus, unit price of X, } P_1 = \frac{AM_1}{ON_1}$$

$$\text{Likewise, } P_1 = \frac{AM_2}{ON_2}, P_2 = \frac{AM_3}{ON_3} \text{ and } P_3 = \frac{AM_4}{ON_4}$$

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 beextended to the lower part of the diagram by drawing perpendiculars. We, thus, get points, e1, e2, e3 and e4. Joining these points, the demand curve DD is drawn. It is downward-sloping curve expressing inverse functional relation-ship between price and demand.

Check your progress 7

1. The demand curve assumes ..... marginal utility of money. The price- consumption curveis free from any such assumption.
   a. Constant
   b. Increasing
   c. diminishing
2. The ..... demand curve does not reveal the size of a consumer's given income.
   a. Marshallian
   b. Income

3.9 Superiority of Indifference CurveApproach

The Indifference curve approach is considered superior to the Marshallian utility analysis of consumer demand in the following respects:

- More Realistic: Marshall assumes 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 about level of satisfaction gained but it aims only at knowing whether aconsumer'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 Hicksian analysis, the equilibrium condition is expressed as $MRSxy = \frac{Px}{Py}$

This is a measurable phenomenon. Again, it is more comprehensiveas 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. The Indifference curve approach is considered ..... to the Marshallian utility analysis of consumer demand.
   a. Superior
   b. Inferior
2. Marshall views ..... as an exception to the law of demand.
   a. Giffen paradox
   b. Income paradox

3.10 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 subjectiveand 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, in actual 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 curveis not perceptible to the consumer. This may be true with very close points on an Indifference curve.

  In Fig.3.9, 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 makea demand analysis as has been seen in the previous sections.

TransitiveIC **Non-transitiveIC**

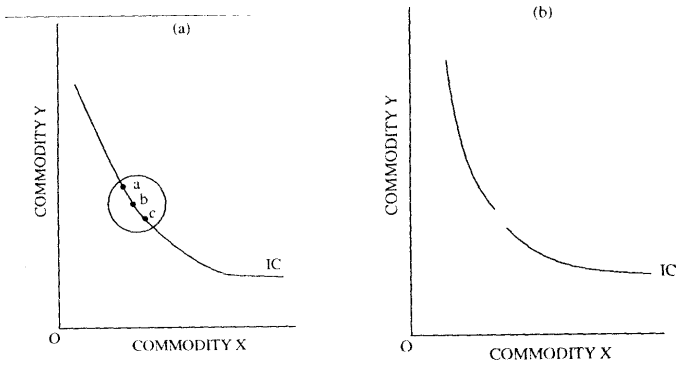


Fig 3.9 TransitiveIC and Non-transitiveIC

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. The Hicksian principle of diminishing marginal rate of substitution is based on the law of .....
   a. diminishing utility
   b. law of demand
2. The ..... of diminishing marginal rate of substitution is based on the law of diminishing utility.
   a. Hicksian principle
   b. Giffen principle

3.11 Let Us Sum Up

Income effect: 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.

Income Compensation Curve: 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.

Substitution Effect: 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.

Compensation Variation: 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.

Superiority of Indifference Curve: The Indifference curve approach is considered superior to the Marshallian utility analysis of consumer demand in the following respects:

- It is more realistic.
- It uses the concept of scale of preferences with lesser assumptions than the Marshallian concept of utility.
- It dispenses with the assumption of constant marginal utility of money.
- It is wider in scope.
- It uses concept of MRS, which is scientific and measurable.
- It exposes the conditions of consumer equilibrium in a better way.
- It analyses the price effect in a better way.
- It examines the phenomenon of Giffen paradox.

Drawbacks of Indifference Curve: Many critics have observed several drawbacks in the Indifference curve analysis as well. The main shortcomings are as follows:

- It does not provide any positive change in the utility analysis.
- It retains Marshall's assumption of diminishing marginal utility.
- It unrealistically assumes perfect knowledge of utility with the consumer.
- It is weak in structure.
- It has limited scope.
- It is introspective.
- It is not applicable to indivisible goods.
- It assumes transitivity condition.

3.12 Answers for Check Your Progress

Check your progress 1

Answers: (1 - a), (2 - a)

Check your progress 2

Answers: (1 - a), (2 - a)

Check your progress 3

Answers: (1 - a), (2 - a)

Check your progress 4

Answers: (1 - a), (2 - a)

Check your progress 5

Answers: (1 - a), (2 - a)

Check your progress 6

Answers: (1 - a), (2 - a)

Check your progress 7

Answers: (1 - a), (2 - a)

Check your progress 8

Answers: (1 - a), (2 - a)

Check your progress 9

Answers: (1 - a), (2 - a)

3.13 Glossary

1. Job Description - A careful description of a job and what it involves, enabling the qualifications and qualities required for it to be defined
2. Job Enlargement - Broadening the scope of a particular job so that the worker performing it can see some relation between it and the end product

3.14 Assignment

Discuss the effect of changes in an individual' income on his consumption

3.15 Activities

Explain how price effect is made up of income effect and substitution effect.

3.16 Case Study

The price effect is the net result of income effect and substitution effect.

3.17 Further Readings

1. Development Theories and Growth model, P. Sen.,S Chand and 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

DEMAND FORECASTING

: UNIT STRUCTURE :

4.0 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

4.1 Introduction

Demand Forecasting

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 forecastingis 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.

4.2 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-estimateis made.

4.2.1 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 estimateand 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.

4.2.2 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 neces-

sary 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 being 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.

4.2.3 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.

4.2.4 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 is 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 India also 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 idoes not expose and measure the variables under management's controli.

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 moreaccurate than from unstructured groups or individuals. The technique can be adapted for usein 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 a plausible algebraic relation (linear, quadratic, logarithmic, etc.) between sales and the independent variable, time. The trend lineis 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 exhibit a persistent growth trend. Its basic assumption is that the past rate of change of the variable under study will continuein the future. It yields acceptable results so long as the time series shows a persistent tendency to movein 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 cycleis 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 thereis 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 exists between 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.

1. 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 areused, 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 whileit 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.

4.2.5 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 continueas 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 more 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.

4.2.6 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 pur-

chasers, either by the use of samples or on a full scale.

- Offer the new product for salein 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.

4.2.7 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 beable 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. ..... sales forecast helps the management to take some policy decisions.
   a. Long-term
   b. Short term
2. Statistical forecasts are more reliable for ..... levels of aggregations.
   a. Larger
   b. smaller

4.3 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, especially durable consumer goods. Likewise, rising population indicates that the market for various commodities is in general expanding.

2.3.1 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 af-

fected 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. 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., present a reasonable basis for good forecasts.

Check your progress 2

1. Macro-level forecasting ..... micro-level demand forecasting.
   a. Precedes
   b. Follows
2. Taxation ..... also influence demand pattern.
   a. Can
   b. Cannot

4.4 Let Us Sum Up

Demand Forecasting: 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". 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.

Objectives of Demand Forecasting: Following are the objectives:

- Short Term Objectives: (a) Formulation of production policy (b) Price policy formulation (c) Proper control of sales (d) Arrangement of finance.
- Long Term Objectives: (a) To decideabout the production capacity (b) Labour requirements (c) Production planning.

Importance of Demand Forecasting: Demand forecasting is of importance in the following areas: (1) Management decisions (2) Evaluation (3) Quality and quantity controls (4) Financial Estimates (5) Avoiding under and over production (6) Guideline for future (7) Importance for the government.

Methods of Demand Forecasting: Following are the methods of demand forecasting: (1) Survey of buyers‘ intentions (2) Delphi method (3) Collective Opinion (4) Analysis of time series and trend projections (5) Use of economic indicators (6) Controlled Experiments (7) Judgmental approach

Demand and Supply Analysis, Technique of Indifference Curves Price, Income and Substitution Effects With Demand Forecasting

Criteria of a Good Forecasting Method: Criteria for a good forecasting system: (1) Accuracy (2) Simplicity and ease of comprehension (3) Economy (4) Availability (5) Maintenance of timeliness

Macro-parameters Useful for Demand Forecasting: These are as follows: (1) National income and per capita income (2) Savings (3) Investment (4) Population growth (5) Government expenditure (6) Taxation (7) Credit policy

Check your progress 3

1. Higher level of public expenditure promotes _____.
   a. Private consumption.
   b. Foreign consumption.

4.5 Answers for Check Your Progress

Check your progress 1

Answers: (1 - a), (2 - a)

Check your progress 2

Answers: (1 - a), (2 - a)

Check your progress 3

Answers: (1 - a).

4.6 Glossary

1. Realization -
   1. The conversion of any asset into cash
   2. The earning of a return, either through selling goods or services or profiting from an investment
2. Real Wage -The amount of a worker‘s earnings (the so-called money wage) adjusted to take purchasing power into account

4.7 Assignment

What are the important methods of demand forecasting

4.8 Activities

What is the general approach to demand forecasting

4.9 Case Study

Forecast demand of any one commodity in the market by using several methods.

4.10 Further Readings

Business Economic, Micro and Macro, H.L Ahuja, S Chand & Company Ltd, 1999

Development Theories and Growth Model, P. Sen, S Chand & Company Ltd. 1995

Financial Management, M.Y.Khan, P.K. Jain Tata McGraw –Hill Publishing Company Ltd. New Delhi, 1999

Managerial Economics, R. Cauvers, S. Chand, 2009

Principles of Economics, Seth, M.L, Lakshmi Narain Agarwal, 2009

Block Summary

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.

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

Indifference Curve: 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 an Indifference curve.

Properties of Indifference Curve: Following are the important properties of Indifference curve:

- Higher Indifference curves show higher utility.
- Indifference curves do not intersect each other.
- Indifference curves have negative slope.
- Indifference curves are convex to the origin.

Marginal Rate of Substitution: 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: 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.

Consumer Equilibrium: 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.

Block Assignment

Short Answer Questions

1. Supply curve
2. Variation and changes in demand
3. Limitations of Marshallian Approach to Demand Theory
4. Properties of Indifference Curves
5. Consumer Equilibrium

Long Answer Questions

1. What is elasticity of demand explain it with suitable example.
2. 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 unitsi

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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Dr. Babasaheb
Ambedkar
OpenUniversity

BBAR-104/DBAR-104

BUSINESS ECONOMICS

BLOCK-3 MARKET STRUCTURE, PRODUCT AND THEORY OF RENT

UNIT 1

MARKET STRUCTURE

UNIT 2

MARKET STRUCTURE PART II

UNIT 3

MARKET STRUCTURE PART III (OLIGOPOLY)

BLOCK 3 : MARKET STRUCTURE, PRODUCT AND THEORY OF RENT

Block Introduction

The whole content of this block is divided into three units of market structure. All these topics have been discussed here in this blocks in very detail, sufficient examples, illustrations and diagrams have been provided wherever requiredin order to make the reader easily understand the topics. The language of the content has also been kept very simple by the writer so as to help reader's in grasping the topics.

Block Objective

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

- 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

Block Structure

: UNIT STRUCTURE :

1.0 Learning Objectives

After reading this Unit, you will be able to:

- 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 communities and in the types of goods and services traded. Some examples include local farmers' markets heldin 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 main stream 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

   b. Buyer

   c. Seller

1.3 Classification of market

Markets can be classified on several bases 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 weare going to learn, classification of market based on competition criterion. Markets are classified based on competition among buyers and sellers.

- Pure Competition: It exists when thereare 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. ..... exists when there are large number of buyers and sellers; the commodity is homogeneous or uniform in quality.

a. Pure competiton

b. Perfect competition

c. Monopoly

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 a buyer) 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 in substantial 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 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 chargeda 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

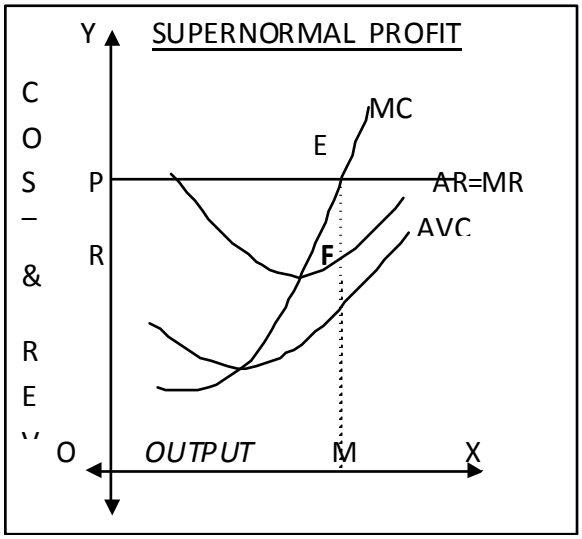
it earns normal profits in the long run.

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: Eis the point of stable equilibrium as MC = MR and the MC cuts the MR from below.



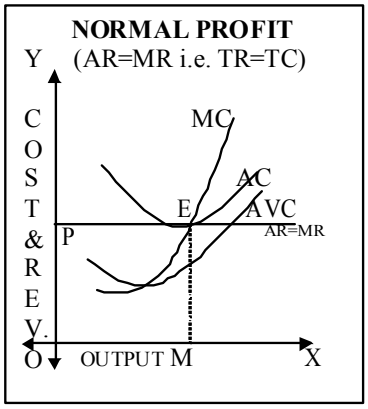
SUPERNORMAL PROFIT

AR > AC	*TR > TC*
AR – AC = Av. Profit	TR - TC = Total Profit
ME – MF = EF	OPEM - ORFM = RPEF

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.

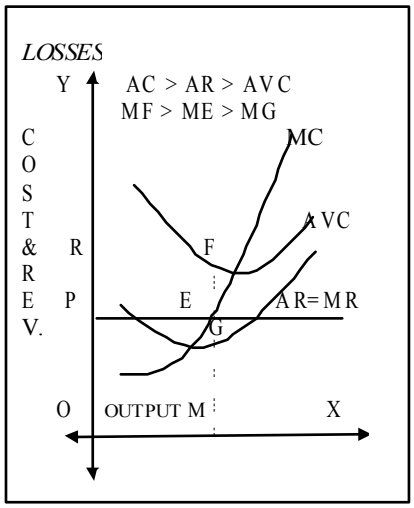


NORMAL PROFIT

- AR = AC
  AR – AC = Av. Profit
  ME – ME = ZERO
- TR = TC
  TR - TC = Total 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 soldis 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, whileit 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 curveis 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.

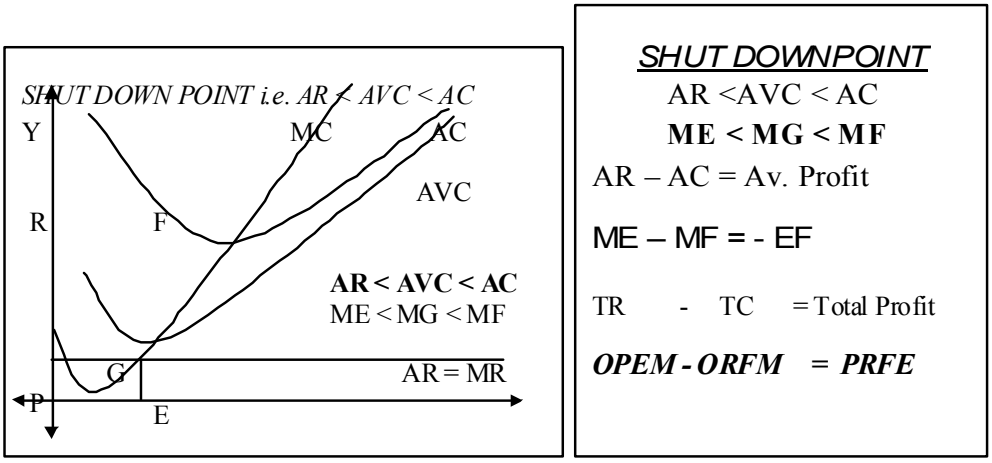


Fig 1.4 shut down point

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.

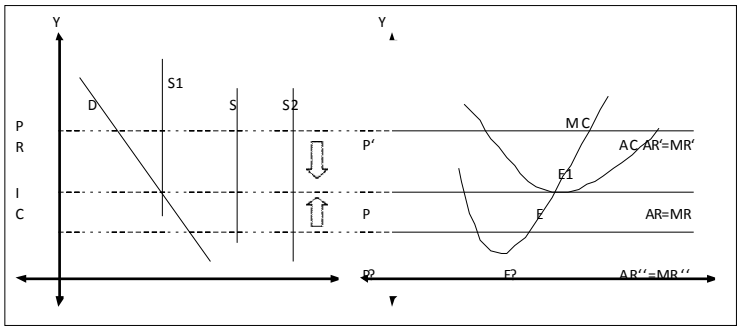


Fig 1.5 Long Run Equilibrium under Perfect Competition

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. competition refers to the market structure where competition among the sellers and buyers prevails in perfect form.

a. Perfect

b. Pure

c. Monopoly

2. Price under is ..... determined by the forces of demand and supply of the industry.

a. perfect competition

b. monopoly

c. pure

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.

1.5.1 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

Market Structure

Check your progress 4

1. ..... competition is an ideal concept‘ of market rather than an actual market reality.
   a. Perfect
   b. Pure
2. ..... competition’ is traditionally used by British economists while discussing price theory.
   a. Perfect
   b. pure

1.6 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.

1.6.1 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.

1.6.2 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 heis 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.

1.6.3 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.

1.6.4 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 Maginal 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 units add more to revenue than 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 figure1.6 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).

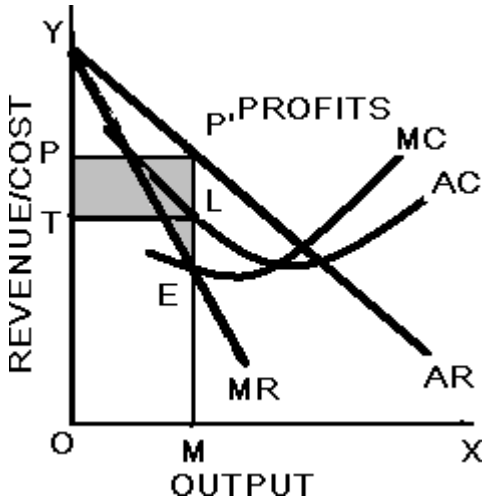


Fig 1.6 Price-output equilibrium

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 figure1.6.

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 5

1. ..... has been derived from Greek term that means a single seller.
   a. Monopoly
   b. Perfect competition
   c. Pure competition

2. ..... price is not necessarily a high price.
   a. Monopoly
   b. perfect competition

1.7 Monopolistic Competition

1.7.1 Meaning of 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.

1.7.2 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.

1.7.3 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.

Quantity of Production

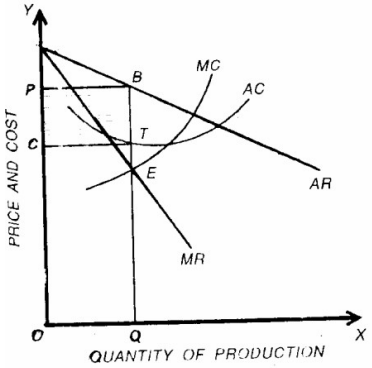


Fig 1.7 Quantity of Production

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.

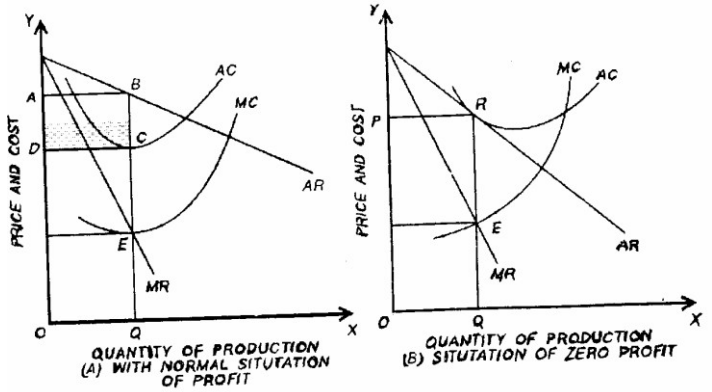


Fig 1.8 Quantity of Production a With Normal Situation of Profit

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, ‗OP^1 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, hi this case, average revenue of the firm is less than its average cost. It can be illustrated with the help of diagram 3.

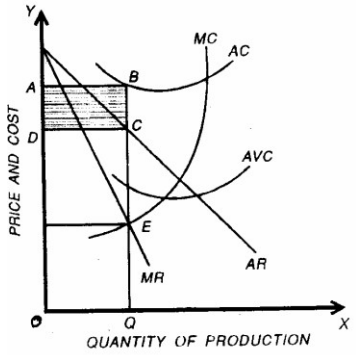


Fig 1.9 Quantity of Production

In diagram 3.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

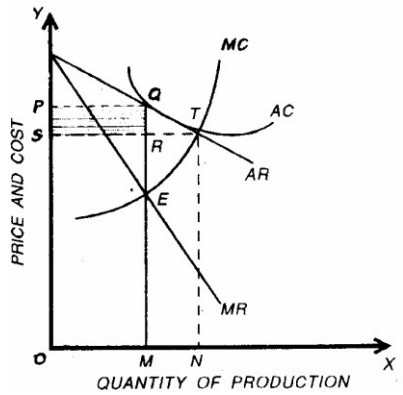


Fig 1.10 Quantity of Production

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)

Market Structure

Check your progress 6

1. ..... is a situation of market in which the number of producers and sellers is large though not so largeas to create the situation of perfect competition.

a. Monopolistic competition

b. Monopoly

c. Pure competition

2. ..... is the period in which a firm can adjust supply of its product according to its demand.
   a. Long-term
   b. Short term

1.8 Oligopoly

1.8.1 Oligopoly definition

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. Stoneur and 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.

Check your progress 7

1. ..... is market situation in between monopoly and perfect competition in which the number of sellers is more than one.
   a. Oligopoly
   b. Monopoly
   c. Pure competition
2. Oligopoly is a market situation in which a ..... firms producing an identical product or the products which are close substitutes to each other.
   a. Few
   b. Large

1.9 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 cutthroat 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.

Check your progress 8

1. ..... is a market situation in which there are only two producers or sellers of a product.
   a. Duopoly
   b. Monopoly

1.10 Let Us Sum Up

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.

Classification of Market: Markets can be classified on several bases as under: 1) Pure Competition 2) Perfect Competition 3) Monopoly 4) Monopsony 5) Bilateral Monopoly 6) Duopoly 7) Oligopoly.

Perfect Competition: Perfect competition refers to the market structure where competition among the sellers and buyers prevails in its 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.

Price determination under Perfect Competition: Price under perfect competition is determined by the forces of demand and supply of the industry. The 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.

Monopoly: 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.

Price determination under Monopoly: Under monopoly conditions, too, there is bound to be interaction between the forces of demand and supply. However, there the difference is that supply is not free to adjust itself to demand. It is under the control of the monopolist.

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 this, 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 prod-

uct homogeneity. Thus, monopolistic competition is a combination of both the perfect competition and monopoly.

Price determination under Monopolistic Competition: Under monopolistic competition, price is determined based on same principles under which it is determined under perfect competition and monopoly.

Oligopoly: According to 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".

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".

1.11 Answers for Check Your Progress

Check your progress 1

Answers: (1 - a)

Check your progress 2

Answers: (1 - a)

Check your progress 3

Answers: (1 - a), (2 - a)

Check your progress 4

Answers: (1 - a), (2 - a)

Check your progress 5

Answers: (1 - a), (2 - a)

Check your progress 6

Answers: (1 - a), (2 - a)

Check your progress 7

Answers: (1 - a), (2 - a)

Check your progress 8

Answers: (1 - a),

1.12 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 organized 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 labour by a body of workers because they do not choose to work for less than a certain real reward‘

1.13 Assignment

What is market? Classify market into various forms and explain them

1.14 Activities

Discuss concept of monopoly and monopolistic competition

1.15 Case Study

1. Study present market and find out whether it is a monopoly, duopoly or oligopoly
2. Study your local market and collect information about various aspects of market.

1.16 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

Unit 2

MARKET STRUCTURE PART II

: UNIT STRUCTURE :

2.0 Learning Objectives

After reading this Unit, you will be able to:

- The concept of Excess capacity in monopolistic competition.
- Introduction, meaning and examples of the concept of Selling Cost.

2.1 Introduction

We have studied many basic market structure from the consumer side. We started with the perfect competition and monopoly, we also discussed about the basics of monopolistic competition. Now in this chapter we are going to discuss the two important phenomenon which mostly occur in the monopolistic market structure. That is occurrence of Excess capacity and the concept of selling cost, both constitute important place in the monopolistic competition. The biggest difference between perfect competition and monopolistic competition is the Availability of many choices in the goods or heterogonous goods which is one of the main reason of excess capacity. The important aspect of monopolistic market structure is the sellers do not operate on the lowest portion of the cost curves but they remain on the falling portion of long run cost curves which clearly shows the excess capacity.

The selling cost is a universal concept but in Monopolistic competition the selling cost have special place as the goods differentiation, many players takes place, this can be explained with the concept of selling cost which also guides the producers and sellers as well as consumers.

2.2 Excess Capacity in Monopolistic competition

Meaning:

Theories of Chamberlin's monopolistic competition and Joan Robinson's imperfect competition have revealed that a firm under monopolistic compe-

tition or imperfect competition in long-run equilibrium produces an output which is less than socially optimum or ideal output.

This means that firms operate at the point on the falling portion of long-run average cost curve that is, they do not produce the level of output at which long-run average cost is minimum. Long-run equilibrium of a firm under monopolistic competition is achieved when the demand curve (or average revenue curve) facing a firm becomes tangential to the long-run average cost curve so that it earns only normal profits.

Under such circumstances a firm can reduce average cost (and hence price) by expanding output to the minimum level of long-run average cost, but it will not do so because its profits are maximized (equality of marginal revenue with marginal cost is attained) at the level of output smaller than that at which its long-run average cost is minimum.

Society's productive resources are fully utilized when they are used to produce the level of output which renders long-run average cost minimum. Thus a monopolistically competitive firm produces less than the socially optimum or ideal output, that is, the output corresponding to the lowest point of long-run average cost curve. This is in sharp contrast to the position of the firm in long-run equilibrium under perfect competition, which operates at the minimum point of the long-run average cost curve.

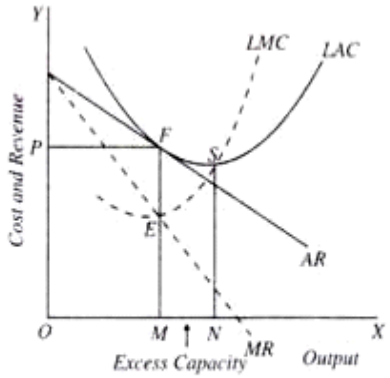


Fig. 28.11. *Excess Capacity under Monopolistic Competition*

Figure 2.1 Excess Capacity

The amount by which the actual long-run output of the firm under monopolistic competition falls short of the socially ideal output is a measure of excess capacity which means un-utilized capacity. The existence of excess-capacity under imperfect or monopolistic competition can be understood from Figure 2.1. This Figure depicts the long-run position of a perfectly competitive firm which is in long-run equilibrium at the level of output ON corresponding to which long-run average cost is minimum.

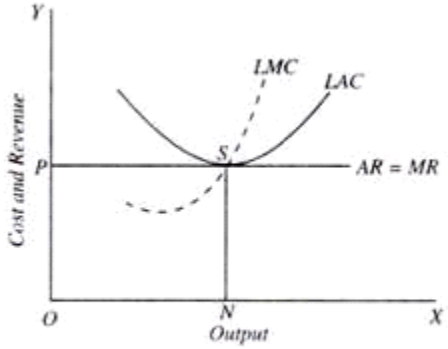


Fig. 28.12. *Ideal or Socially Optimum Output under Perfect Competition*

Figure 2.2

It is at output ON that the double condition of long-run equilibrium, namely Price = MC = AC is fulfilled. It is thus clear that firms under perfect competition produce socially ideal output. On the other hand, a firm under monopolistic competition depicted in Fig. 2.2 is in long-run equilibrium at output OM at which its marginal revenue is equal to marginal cost and price is equal to average cost (Average revenue curve AR is tangential to average cost curve LAC at point F corresponding to output OM).

It will be noticed that at output OM long-run average cost is still falling and goes on falling up to output ON. This means that the firm can expand its production up to ON and reduce his long-run average cost to the minimum. Ideal output is the output at which long-run average cost is minimum.

Therefore, the firm is producing MN less than the ideal output. Thus MN output represents the excess capacity which emerges under monopolistic competition. It is worth to note that the concept of excess capacity refers only to the long run. This is because in the short run under any type of market structure (including perfect competition) there can be all sorts of departures from the ideal reflecting incomplete adjustment to the existing market conditions.

Causes of Excess Capacity:

What factors are responsible for the existence of excess capacity under monopolistic competition? It is due to the existence of excess capacity that average cost of production and price of product are higher and output smaller monopolistic competition than under perfect competition.

There are three main causes of the emergence of excess capacity under monopolistic competition. First, the most important cause of the existence of excess capacity under monopolistic competition is downward-sloping demand curve (or average revenue curve) of the firm.

A downward-sloping curve can be tangent to a U-shaped average cost curve only at the latter's falling portion. It is only the horizontal demand curve or average revenue curve (as is actually found under perfect competition) which can be tangent to a U-shaped average cost curve at the latter's minimum point.

From this, it also follows that the greater the elasticity of average revenue (or demand) curve confronting a monopolistically competitive firm, the less the excess capacity and vice versa. When the demand curve facing a firm is perfectly elastic, there is no excess capacity, this is in the case under perfect competition.

Now, demand curve facing individual firms under monopolistic competition slopes downward due to product differentiation found in it. Various firms produce different varieties and brands of product and each has a certain degree of monopoly power over the variety or brand it produces for fixing price and output.

If products were homogeneous the demand curve would not have been downward sloping and equilibrium would have been established at the minimum point of LAC without there being any excess capacity.

The second reason for the emergence of excess capacity under monopolistic competition, as has been emphasized by economist Chamberlin, is the entry of a very large a number of firms in the industry in the long run. Lured by excess profits in the short run new firms enter the industry in the long run. This results in sharing of market demand among many firms so that each firm produces a smaller output than its full or optimum capacity.

There are too many grocery shops, too many cloth manufacturing firms, too many automobile parts producing firms, too many barber shops each operating with excess capacity. In fact, under monopolistic competition, given the same demand and cost conditions, number of firms will be larger than even under perfect competition. This is because by expanding output to the minimum point of LAC, fewer firms will be required to meet the given demand for industry's product.

The conception and the measure of excess capacity as said above is based upon a particular notion of ideal output. Marshall, Kahn, Harrod, Cassel' and Joan Robinson have regarded ideal output or optimum size of the firm as that output at which its long-run average cost is minimum.

To, quote Joan Robinson, "In a perfectly competitive industry each firm in full equilibrium will produce that output at which its average costs are minimum.

Each firm will then be of the optimum size. If competition is imperfect, the demand curve for the output of the individual firm will be falling and the double condition of equilibrium can only be fulfilled for some output at which average cost if falling. The firms will, therefore, be of less than optimum size when profits are normal… It is only if conditions of perfect competition prevail that firms will be of the optimum size and there is no reason to expect that they will be of optimum size in the real world since in the real world competition is not perfect."

Benefits of Excess Capacity:

Many modern economists are of the view that excess capacity under monopolistic competition is desirable in some times. According to them, excess

capacity under monopolistic competition provides some benefits which increase consumer welfare. Welfare economics also have been discussed in this subject in the last block of this subject.

As mentioned above, the excess capacity comes into existence mainly due to product differentiation under monopolistic competition. Now, this product differentiation leads to product variety which is highly beneficial to the consumers.

The ability to choose among a wide variety of clothes, furniture, restaurant meals and other types of styles of product designs add greatly to the satisfaction or welfare of the consumers. Therefore, according to this view, social benefits of excess capacity should be weighed against the cost to the society of excess capacity.

Check Your Progress 1

1) Imperfect competition produces less output than the socially desirable output. (True/ False)

2) Profit of seller is maximum when it is producing on lowest portion of cost in monopolistic competition. (True / False)

3) Excess capacity can arise only in _____.

   A) Long run. b) Short run. c) Both.

2.3 The concept of selling cost for Monopolistic Competition

Selling Costs: Definitions, Assumptions, and Equilibrium.

Selling costs play the key role in monopolistic competition and oligopoly. Under these market forms, the firms have to compete to promote their sale by spending on advertisements and publicity.

Moreover, producer has not to decide about price and output and he also keeps in mind how to maximize the profit.

So, cost on advertisement publicity and salesmanship ads to the demand of the product. We do not find perfect competition or monopoly in the real world but monopolistic competition or oligopoly. In short, selling costs is a broader concept than the advertisement expenditures. Advertisement expenditures are part of selling costs.

In selling costs we include the salaries of sales persons, allowances to retailers to display the products etc. besides the advertisements. Advertisement expenditure includes costs incurred for advertising in newspapers and magazines, televisions, radio, cinema slides etc. It was Chamberlin who introduced the analysis of selling costs and distinguished it from the production costs. The production costs include all those expenses which are spent on the manufacturing of the commodity, its transportation cost of handling, storing and delivering of the commodity to actual customers because these add utilities to a commodity.

On the other hand, all selling costs include all expenditures in order to raise demand for a commodity. In short, selling costs are those which are made to create the demand for the product. Transport costs should not be included in

selling costs; rather these should be included in the production costs. Transport costs actually do not increase the demand; it only helps in meeting the demand of the consumers.

In the same fashion, high rents are not the part of selling costs. High rents are paid so as to meet the already existing demand of the people. According to Edward H. Chamberlin, "Those costs which are made to adopt the product to the demand are costs of production; those made to adopt the demand to product are costs of selling."

Definitions:

"Selling costs are costs incurred in order to alter the position or shape of the demand curve for the product." E.H. Chamberlin

"Selling costs may be defined as costs necessary to persuade a buyer to buy one product rather than another or to pay from one seller rather than another." Meyers.

Assumptions:

Basically, the concept of selling cost is based on the following two assumptions:

1. Buyers do not have any perfect knowledge about the different types of product.
2. Buyers demand and tastes can be changed.

Difference between Selling Costs and Production Costs:

There is a fundamental difference between selling costs and production costs. Production cost includes all the expenses incurred in making particular product and transporting it to the consumers. They include, outlays incurred on services engaged in the manufacturing of the product like land, labor and capital etc. On the other hand, selling costs include all the costs incurred to change the consumer's preference from one product to another. These are generally intended to raise the demand of one product at any given price.

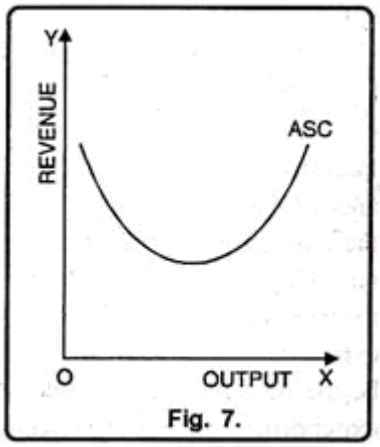


Figure 2.3

According to E.H. Chamberlin, "Production costs create utilities in order that demands may be satisfied while selling costs create and shift the demand curves themselves." In short, we cannot make a clear cut distinction between

the selling cost and production cost. In fact, both the costs are inter-related throughout the price system, so that at no point it can be said that one has ended and the other is to begin

Average Selling Cost:

The curve of selling cost is a tool of economic analysis. It is a curve of average selling cost per unit of product. It is akin to the average cost curves. In other words, like the cost curves, selling costs are also of U-shape. Moreover, there are two terms according to which the curve of selling cost is drawn. But, in both the cases, the shape of selling cost differs from one another. This has been illustrated with the help of a Fig. 3.

In Fig.2.3. ASC is the average selling cost. In the initial stage, the curve falls and later it starts rising. It means in the beginning proportionate increase in sale is more than the increase in selling costs, but after a point proportionate increase in sale is less than the selling cost.

It signifies the fact that up to a certain level per unit selling cost go on to diminish but after that the same tend to increase. But, the ASC neither will touch the X-axis nor it will be zero. In other words, the ASC will form the shape of rectangular hyperbola.

Equilibrium with Selling Costs (Variable Costs):

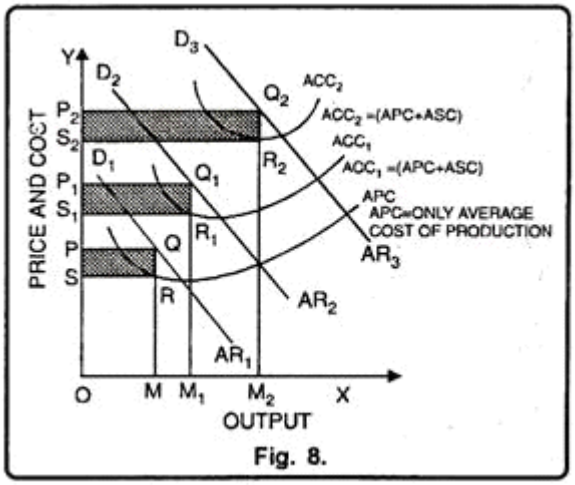


Figure 2.4

Selling costs influence equilibrium price-output adjustment of a firm under monopolistic competition. In the Fig. 2.4 APC is the initial average production cost. AR_1 is the initial average revenue curve or initial demand curve. The initial price is OP and the firm earns profits shown by the first shaded rectangle PQRS.

ACC_1 is the average composite costs curve, which includes the average selling cost (ASC). Average selling cost is equal to the vertical distance between APC and ACQ. The new demand curve is AR_2. It is obtained after incurring selling costs or after making advertisements.

It is, obvious, that the demand for the product has increased as a result of selling costs. The profits have also increased as a result of selling costs. The profits after incurring selling costs at OM_1 level of output become equal to

the shaded area $P_1Q_1R_1S_1$. Now these profits are greater than the initial level of profits when no selling cost is incurred, i.e., $P_1\ Q_1\ R_1\ S_1 > PQRS$.

ACC_2 is the average composite cost when more additional cost is incurred, as a result of which the demand for the product further increases. The new demand curve is AR3 which indicates a higher demand for the product. The profits are also greater than before since the shaded area $P_2Q_2R_2S_2 > P_1Q_1R_1S$.

It is, thus, obvious that the demand for the product is increasing as a result of the selling costs. Since selling costs are included in the cost of production, therefore price of the product is also increasing as a result of selling costs. Profits are also increasing as a result of higher selling costs and increased demand. In the above diagram, the effect of selling outlay on competitive advertisement has been indicated. Before selling costs are incurred, the firm's average revenue or demand curve is AR_1 and APC is the basic initial cost of production.

So, the firm earns maximum profits as shown by the shaded area PQRS. Here, question arises, how long a firm may go on incurring expenditure on selling costs? It will continue to make expenditure on selling costs as long as any addition to the revenue is greater than the addition to the selling costs. The firm will stop incurring expenditure on selling costs when the total profits are at the highest possible level.

This would be the point at which the additional revenue due to advertising expenditure equals the extra expenditure on advertisement. It should, however, be noted clearly that the effects of advertisement on prices and output are uncertain. Advertisement by a firm may be considered successful if the elasticity of demand for its product falls.

Equilibrium with Selling Costs (Fixed Costs):

In modern times, a lot of money is spent on selling costs. Of course, it becomes difficult to determine the most profitable output. At the same time, we also know that selling costs create a new demand curve. However, here equilibrium is determined when there are fixed selling costs as shown in Figure 9.

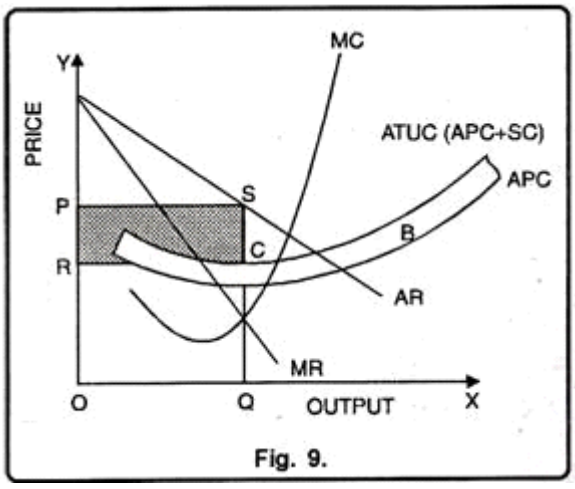


Figure 2.5

In Fig. 2.5, AR is the average revenue or demand curve. MR is the marginal revenue curve. The average production cost (APC), the shaded area B shows the selling cost. This shows that by adding selling cost in average production cost, we get average total cost. (ATUC = APC + SC) SC is the net return per unit while SQ is the price minus SC – the average total unit cost and OQ is the level of output. Thus shaded area PRCS is the maximum net return and OQSP is the total revenue minus total cost OQCR.

Product Differentiation:

According to Chamberlin product differentiation is one of the most important feature of monopolistic competition. Product differentiation indicates that goods are close substitutes but are not homogeneous. They differ in colour, name, packing, size etc. For instance, you may get a variety of soaps in the market like Moti, Sandal, Lux, Hamam, Rexona, Lifebouy etc. All these are close substitutes but at the same time, they differ from each other.

Main Peculiarities of Product Differentiation:

The main peculiarities of product differentiation are as under:

1. Due to product differentiation, goods are not homogeneous.
2. Product differentiation aims at to control price and increase profits.
3. Product differentiation satisfies people's urge for variety.
4. Product differentiation may be real or artificial.
5. Product differentiation provides the producer name and brand legally patented.

Demand Curve under Product Differentiation:

The credit goes to Prof. Saraffa to introduce the concept of product differentiation under monopolistic competition on the basis of downward sloping demand curve. But Chamberlin introduced it on the basis of price and output determination.

Chamberlin opined that demand for product is influenced not by price only but also the style of the product and selling costs. It is so because aim of product differentiation is to inspire the consumer to demand a particular product. The producer is no longer entirely price taker; he becomes partially a price maker. As a result demand curve assumes negative slope. It indicates that when price falls demand will be more and vice-versa.

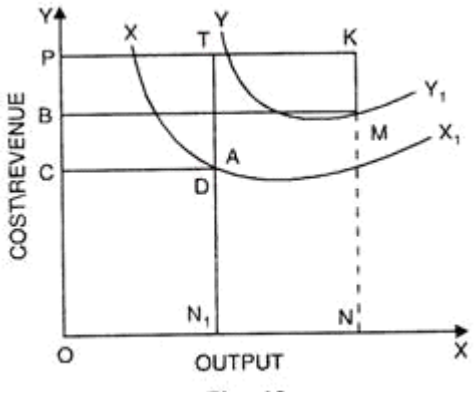


Figure 2.6

Equilibrium and Product Differentiation:

Product differentiation also affects the equilibrium of the firm under monopolistic competition. It has been shown in Fig. 2.6, supposing there are two types of products X and Y and no selling costs are incurred for the sale of these products.

The producer has to decide about the quality of the product so as to maximize his profit. If the price of the product is already fixed, then the firm has to choose the product which has larger sales and will bring maximum profits.

In Fig. 2.6, XX_1 and YY_1 are the cost curves for products X and Y. The cost curve of Y is highest which shows that Y product is of a better quality. Both the products can be sold at price OP. At price OP, ON_1 amount of X commodity can be sold and the profit is CDTP. At price OP, ON_1 amount of Y commodity can be sold and the profit is BMKP which is higher than the profit which can be earned by sale of X commodity. Hence, the producer will choose to produce Y commodity.

Check Your Progress 2

1) Advertisement Expenditure is a part of selling cost. (True / False)

2) Who introduced first the analysis of selling cost?

   a) Adam smith b) chamberlain c) pigue d) Karl Marx.

3) Selling cost includes all the expenditures to _____.

   a) To increase revenue b) to increase tax c) to increase demand d) to increase value.

4) Production cost does not include the cost of transportation cost. (True/ False)

2.4 Let Us Sum Up

The imperfect market structure and Chamberlin's views with the concept of excess capacity tries to explains the situation under monopolistic competition. This concept explains the reasons of why a produces has an excess capacity? The first reason is downward sloping demand curve which is not a new thing but a downward sloping demand curve touches U shaped average cost curve on the falling portion which turns out to be more costly. The second reason is free entry so as many as firms can enter into the market and

every new entry reduces the role of older firms which again creates excess capacity.

The third reason can be the level of verities of goods and their shelf life in the market and increases the waiting time on the shelf which again create excess capacity.

Selling cost is important concept for the produces to remain competitive, gain more profits and managing cost in market.

2.5 Answers for Check Your Progress

Check Your Progress 1

1) True.

2) True.

3) (A) Long run.

Check Your Progress 2

1) True.

2) (B) Chamberlain

3) (C) to increase demand

4) False.

2.6 Glossary

Equilibrium: - a level of satisfaction after achieving that consumer don't want to change its position for that particular period of time or till the more best situation is achieved.

2) Homogeneous goods: - Goods with no difference in terms of any characteristics, even in their own category.

2.7 Assignment

1) Explain reasons of excess capacity.

2) Explain how important is selling cost?

2.8 Activities

Discuss which goods you used daily are coming from monopolistic type of market?

2.9 Case Study

Discuss any one small case of excess capacity from any book of managerial economics.

2.10 Further Readings and Bibliography

1) Managerial Economics – A Problem Solving Approach by Luke M Froeb and Brian T MacCann. 2nd ed. 2008.

2) Managerial Economics by D N Dwivedi, 6th Ed, Vikas publishing house.

Unit 3

MARKET STRUCTURE PART III

: UNIT STRUCTURE :

3.0 Learning Objectives

After reading this Unit, you will be able to:

- To understand Oligopoly Market structure
- To understand concept of cartels.
- To know Kinky demand curve model

3.1 Introduction

There are many types of markets structures from the consumer side we usually talk about perfect competition, monopoly, Oligopoly, Duopoly, Monopolistic etc and from the seller side also there are market structures like Monopsony, Oligopsony etc. where buyers are more less or in some case only one. For e.g. there only one buyer of weapon systems in India and hat is government. There is only one buyer of drugs in India and that is also only government. Previously we discussed the concept of Oligopoly with definition but now we will study the concept of Oligopoly in detail. The main characteristic of the oligopoly market is it is competition among few, the simple or sometimes tricky question somebody can ask, what you mean by few sellers. So we can answer that few means that many as if somebody comes in and goes out from the market affects all other firm remaining in the market. That means there must be interdependency, so if one firm takes decision in the market all other firms are going to be affected. This is called game of moves and coun-

termoves. As you may have seen in the advertisement in Television that if one company changes a rapper or selling process or little price or any scheme the other rival firms are bound to change or reply to the challenging companies. So there can be price war or non-price competition. In the real world Monopoly, Oligopoly and Monopolistic competitions or market structures are prevailing.

3.2 Characteristics of Oligopoly Market

Meaning:

Oligopoly is competition among few. That means there are few firms in the market selling homogenous or heterogonous types of goods or we can say in other words that there are few firms selling similar goods or non-similar goods in the market.

So the first one is called homogenous (Perfect) oligopoly and the later one is called heterogeneous (Imperfect) oligopoly. Actions of every seller affects each competition in the market. For e.g. there are few sellers of Aero engines or Jet engines in the world market and even less when it comes to successfully selling their products to other nations. There only two famous passenger series plane manufacturing companies one is Boeing and another is Airbus, this doesn't mean others are not making it they are trying it. For e.g. Russia, Brazil, France, China, India they all have small or big projects, but again it will be called few.

Characteristics of Oligopoly Market

1) **Few Sellers: -** there are few sellers in the market. Few means action of each other affects the every participant in the market.
2) **Restrictions of new entry: -** New entry is sometime restricted legally by government for public interest and sometimes by the tactics of the already existing firms. There are many ways new entry can be restricted but if there is huge firm coming in it will follow the predatory prices and will easily make a way for it.
3) **Non Price competition: -** Most of the time competition among the few firms remain only non-price competitions, because price competition hurt the profits of firms and benefits to consumers. So the firms usually change the rapper, advertisement, some extra benefits but they do not much change the price.
4) **Interdependency: -** Every firm is interdependent because action of single firms affects the other firm so to nullify the initial firm's action other firm's also take actions, and this continuous till the time firms think that this is it. Cournot's duopoly model is the best model to understand this concept.
5) **Collusion or non-collusion :** firms can make group against the firms coming in or against consumers to remain highly profitable in the market or to take higher price and profits from the consumers, for this they can make cartels. Making cartel is illegal in most of the countries.

Check Your Progress 1

1) Competition among few means_____.

a) Everyone affects no one b) everyone affects everyone c) all are independent.

2) Price war will be beneficial for _____.

a) Seller b) consumers c) Government d) foreign nations.

3.3 Types of Oligopoly, (Collusive Oligopoly)

A cartel or Collusion is an association of independent firms within the same industry.

The cartel follows common policies relating to prices, outputs, sales and profit maximization and distribution of products.

Cartels may be voluntary or compulsory and open or secret depending upon the policy of the government with regard to their formation. They are of many forms and use many devices in order to follow varied common policies depending upon the type of the cartel.

We will discuss two most common types of cartels:

(1) Joint profit maximization or perfect cartel; and

(2) Market-sharing cartel.

1. Joint Profit Maximisation Cartel under Perfect Collusion:

The uncertainty is found in an oligopoly market which provides an incentive to rival firms to form a perfect cartel. Perfect cartel is an extreme form of perfect collusion. Under it, firms producing a homogeneous product form a centralized cartel board in the industry.

The individual firms surrender their price-output decisions to this central board. The board determines for its members the output, quotes the price to be charged and the distribution of industry profits. The central board acts like a single monopoly whose main aim is to maximize the joint profits of the oligopolistic industry.

Assumptions:

The analysis of joint profit maximisation cartel is based on the following assumptions:

1. Only two firms A and B are assumed in the oligopolistic industry that form the cartel.
2. Each firm produces and sells a homogeneous product that is a perfect substitute for each other.
3. The market demand curve for the product is given and is known to the cartel.
4. The number of buyers is large.
5. The price of the product determines the policy of the cartel.
6. The cost curves of the firms are different but are known to the cartel.
7. The cartel aims at joint profit maximization.

Joint Profit Maximization Solution:

Given these assumptions, and given the market demand curve and its corresponding MR curve, joint profits will be maximized when the industry MR equals the industry's MC. Figure 3.1 shows the situation where D is the market (or cartel) demand curve and MR is its corresponding marginal revenue curve. The aggregate marginal cost curve of the industry EMC is drawn by the lateral summation of the MC curves of firms A and B, so the EMC = MCa + MCb.

The cartel solution-that maximizes joint profit is determined at point ? where the ? MC curve intersects the industry MR curve. Consequently, the total output is OQ which will be sold at OP = (QF) price. As under monopoly, the cartel board will allocate the industry output by equating the industry MR to the marginal cost of each firm. The share of each firm in the industry output is obtained by drawing a straight line from E0 to the vertical axis which passes through the curves MCb, and MCa of firms B and A at points Eb, and Ea respectively.

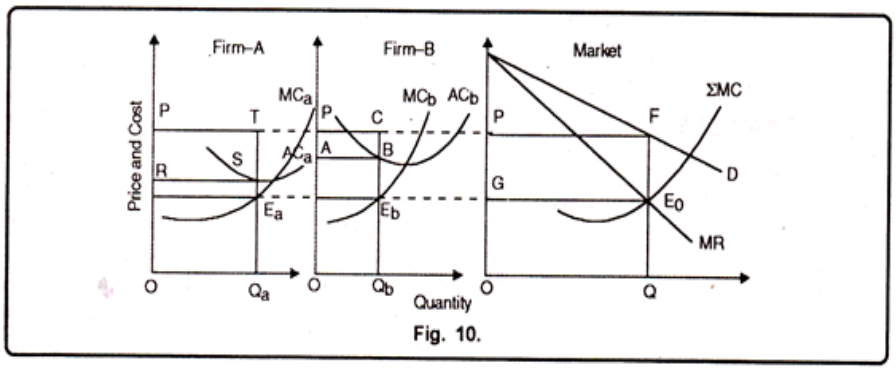


Figure 3.1

Thus the share of firm A is OQ_a and that of firm B is OQ_b which equal the total output OQ (= OQ_b + OQ_A). The price OP and the output OQ distributed between A and B firms in the ratio of OQ_a: OQ_b, is the monopoly solution.

Firm A with the lower costs sells a larger output OQ_b than the firm B with higher costs so that $OQ_a > OQ_b$,. But this does not mean that A will be getting more profit than B. The joint maximum profit is the sum of RSTP and ABCP earned by A and B respectively. It will be pooled into a fund and distributed by the cartel board according to the agreement arrived at by the two firms at the time of the formation of the cartel.

Advantages:

Perfect collusion by oligopolistic firms in the form of a cartel has many advantages. It avoids price wars among rivals. The firms forming a cartel gain at the expense of customers who are charged a high price for the product. The cartel operates like a monopoly organization which maximizes the joint profit of firms. Generally, joint profits are high than the total profits earned by them if they were to work independently.

Problems of a Cartel :

The problems of cartels are stated below:

1. It is difficult to make an accurate estimate of the market demand curve.
2. The estimation of the market MC curve may be inaccurate because of the supply of wrong data about their MC by individual firms to the cartel.
3. The formation of a cartel is a slow process which takes a long time for the agreement to arrive at by firms especially if their number is very large.
4. The larger the number of firms in a cartel, the less is its chances of survival for long because of the distrust. The cartel will, therefore, break down.
5. In theory, the cartel-members agree on joint profit maximisation. But in practice, the seldom agree on profit distribution.
6. The price of the product fixed by the cartel cannot be changed even if the market conditions require it to be changed. This is because it takes a long time for the members to arrive at an agreed price.
7. Prices tackiness gives rise to 'chislers' who scarcely cut the price or violate the quota agreement.
8. Unless all member firms in the cartel are strongly committed to cooperation, outside disturbances, such as a sharp fall in demand, may lead to the breakdown of the cartel.
9. Some high-cost uneconomic firms may refuse to shut down or leave the cartel despite the cartel board's request.

2. Market-Sharing Cartel:

Another type of perfect collusion in an oligopolistic market is found in practice which relates to market-sharing by the member firms of a cartel.

There are two main methods of market-sharing:

(a) Non-price competition; and

(b) Quota system.

They are discussed as under:

(a) Non-Price Competition Cartel :

The non-price competition agreement among oligopolistic firms is a loose form of cartel. Under this type of cartel, the low-cost firms press for a low price and the high-cost firms for a high price. But ultimately, they agree upon a common price below which they will not sell. Such a price must allow them some profits. The firms can compete with one another on a non-price basis by varying the color, design, shape packing etc. of their product and having their own different advertising and other selling activities. Thus each firm shares the market on a non-prices basis while selling the product at the agreed common price.

(b) Market Sharing on Quota Agreement:

The second method of market sharing is the quota agreement among firms. (All firms in an oligopolistic industry enter into collusion for charging an agreed uniform price. But the main agreement relates to the sharing of the market equally among member firms so that each firm gets profits on its sales.)

Assumptions :

This analysis is based on the understated assumptions:

1. Only two firms can enter into market-sharing agreement on the basis of the quota system.
2. Each firm produces and sells a homogeneous product.
3. The number of buyers is large.
4. The market demand curve for the product is given and known to the cartel.
5. Each firm has its own demand curve having the same elasticity as that of the market demand curve.
6. Both firms share the market equally.
7. Cost curves of the two firms are identical.
8. There is no threat of entry by new firms.
9. Each sells the product at the agreed uniform price.

Market-Sharing Solution:

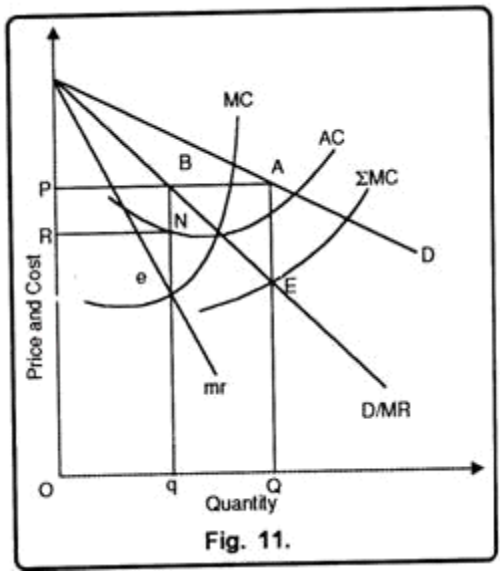


Figure 3.2

With these assumptions, the equal market sharing between the two firms is explained in Figure 3.2 where D is the market demand curve and rf/MR is its corresponding MR curve. ZMC is the aggregate MC curve of the industry. The ZMC curve intersects the rf/MR curve at point E which determines QA (= OP) price and total output OQ for the industry. This is the monopoly solution in the market-sharing cartel.

How will the industry output be shared equally between the two firms? Let us assume that the d/MR is the demand curve of each firm and *mr* is its corresponding MR curve. AC and MC are their identical cost curves. The MC curve intersects the mr curve at point e so that the profit maximization output of each firm is Oq. Since the total output of the industry is OQ which is equal to 2 x O_q = (OQ = 20q), it is equally shared by the two firms as per the quota agreement. Thus each sells O_q output at the same price qB (= OP) and earns RP per unit profit. The total profit earned by each firm is RP x Oq and by both is RP x 20q or RP x OQ.

Practically , there are more than two firms in an oligopolistic industry which do not share the market equally. Moreover, their cost curves are also not identical. In case their cost curves differ, their market shares will also differ. Each firm will charge an independent price in accordance with its own MC and MR curves.

They may not sell the same quantity at the agreed common price. They may be charging a price slightly above or below the profit maximization price depending upon its cost conditions. But each will try to be nearest the profit maximization price. This will lead to the breaking up of the market sharing agreement.

Price leadership. (Low cost price leadership, barometric price leadership and dominant price leadership)

Another form of collusion is price leadership. In this form of coordinated behaviour of oligopolists one firm sets the price and the others follow it because it is advantageous to them or because they prefer to avoid uncertainty about their competitors' reactions even if this implies departure of the followers from their profit-maximizing position.

Price leadership is much more practiced in the business world. It may be practiced either by explicit agreement or informally. In nearly all cases price leadership is tacit since open collusive agreements are illegal in most countries.

Price leadership is more widespread than cartels, because it allows the members complete freedom regarding their product and selling activities and thus is more acceptable to the followers than a complete cartel, which requires the surrendering of all freedom of action to the central agency. If the product is homogeneous and the firms are highly concentrated in a location the price will be identical. However, if the product is differentiated prices will differ, but the direction of their change will be the same, while the same price differentials will broadly be kept.

There are various forms of price leadership.

The most common types of leadership are:

(a) Price leadership by a low-cost firm.

(b) Price leadership by a large (dominant) firm.

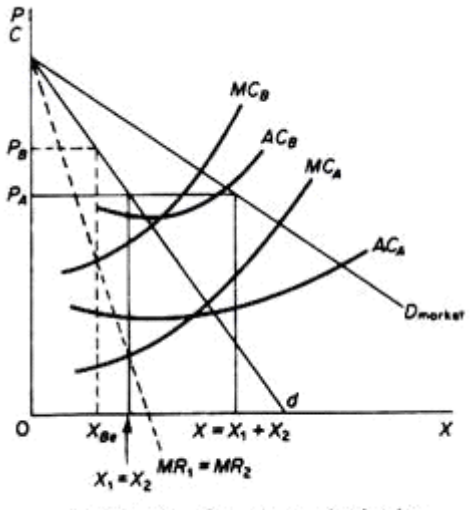


Figure 3.3

(c) Barometric price leadership.

The characteristic of the traditional price leader is that he sets his price on marginality rules, that is, at the level defined by the intersection of his MC and MR curves. For the leader the behavioral rule is MC = MR. The other firms are price-takers who will not normally maximize their profit by adopting the price of the leader. If they do, it will be by accident rather than by their own independent decision.

A. the Model of the Low-cost Price Leader:

We will illustrate this model with an example of duopoly. It is assumed that there are two firms which produce a homogeneous product at different costs, which clearly must be sold at the same price. The firms may have equal markets (or they may come to an agreement to share the market equally) as in figure 9, or they may have unequal markets (or agree to share the market with unequal shares), as in figure 3.4. The important condition for this model is that the firms have unequal costs.

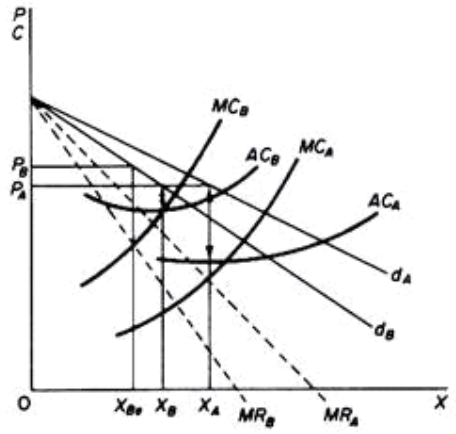


Figure 3.4

The firm with the lowest cost will charge a lower price (P_A) and this price will be followed by the high-cost firm, although at this price firm B (the follower) does not maximize its profits. The follower would obtain a higher

profit by producing a lower output (X_{Be}) and selling it at a higher price (P_B). However, it prefers to follow the leader, sacrificing some of its profits in order to avoid a price war, which would eliminate it if price fell sufficiently low as not to cover its LAC. It should be stressed that for the leader to maximize his profit price must be retained at the level P_A and he should sell X_A. This implies that the follower must supply a quantity ($0X_B$ in figure 10, or $OX_1 = OX_2$ in figure 3.3) sufficient to maintain the price set by the leader.

Although the price- leadership model stresses the fact that the leader sets the price and the follower adopts it, it is clear that the firms must also enter a share-of-the-market agreement, formally or informally, otherwise the follower could adopt the price of the leader but produce a lower quantity than the level required to maintain the price (set by the leader) in the market, and thus push (indirectly, by not producing enough output) the leader to a non-profit-maximizing position.

In this respect the price follower is not completely passive he may be coerced to adopt the leader's price, but, unless tied by a quota-share agreement (formal or informal) he can push the leader to a non-maximizing position.

B. The Dominant-firm Price Leader:

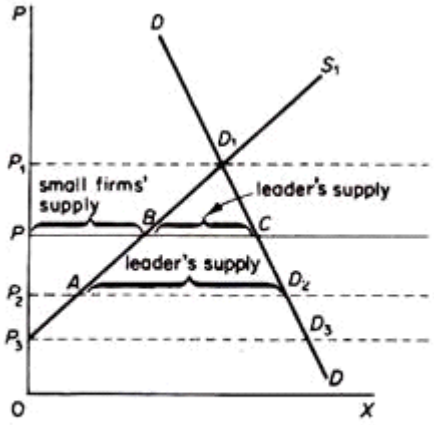


Figure 3.5

In this model it is assumed that there is a large dominant firm which has a considerable share of the total market, and some smaller firms, each of them having a small market share. The market demand (DD in figure 3.5) is assumed known to the dominant firm.

It is also assumed that the dominant leader knows the MC curves of the smaller firms, which he can add horizontally and find the total supply by the small firms at each price; or at best that he has a fair estimate, from past experience, of the likely total output from this source at various prices. With this knowledge the leader can obtain his own demand curve as follows.

At each price the larger firm will be able to supply the section of the total market not supplied by the smaller firms. That is, at each price the demand for the product of the leader will be the difference between total D (at that price) and the total S_1. For example, at price P_1 the demand for the product of the leader will be zero, because the total quantity demanded (D_1) is supplied by the smaller firms.

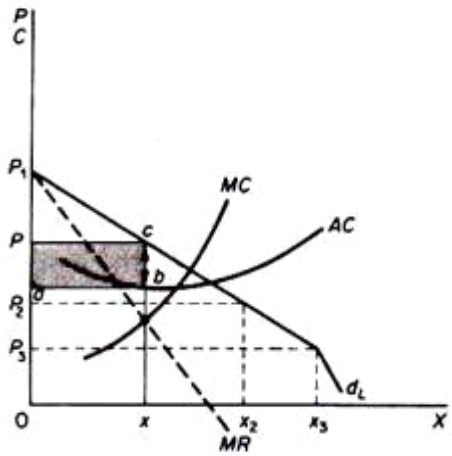


Figure 3.6

As price falls below P_1 the demand for the leader's product increases. At P_2 the total demand is D_2; the part P_2 A is supplied by the small firms and the remaining AD_2 is supplied by the leader. At P_3 total demand is D_3 and the total quantity is supplied by the leader since at that price the small firms do not supply any quantity. Below P_3 the market demand coincides with the leader's demand curve.

Now we have derived his demand curve (d_L in figure 3.6) and given his MC curve, the dominant firm will set the price "P" at which his MR = MC and his output is 0x. At price P the total market demand is PC, and the part PB is supplied by the small firms followers while quantity BC = 0x is supplied by the leader.

The dominant firm leader maximizes his profit by equating his MC to his MR, while the smaller firms are price-takers, and may or may not maximize their profit, depending on their cost structure. It is assumed that the small firms cannot sell more (at each price) than the quantity denoted by S_1, But if the leader is to maximize his profit, he must make sure that the small firms will not only follow his price, but that they will also produce the right quantity (PB, at price P). Thus, if there is no tight sharing-the- market agreement, the small firms may produce less output than PB and thus force the leader to a non-maximizing position.

C. Barometric Price Leadership:

In this model it is formally or informally agreed that all firms will follow (exactly or approximately) the changes of the price of a firm which is considered to have a good knowledge of the prevailing conditions in the market and can forecast better than the others the future developments in the market. In short, the firm chosen as the leader is considered as a barometer, reflecting the changes in economic environment.

The barometric firm may be neither a low-cost nor a large firm. Usually it is a firm which from past behavior has established the reputation of a good forecaster of economic changes. A firm belonging to another industry may also be chosen as the barometric leader. For example, a firm in the steel industry may be agreed as the (barometric) leader for price changes in the

motor-car industry. Barometric price leadership may be established for various reasons.

Firstly, rivalry between several large firms in an industry may make it impossible to accept one among them as the leader. Secondly, followers avoid the continuous recalculation of costs, as economic conditions change. Thirdly, the barometric firm usually has proved itself as a 'reasonably' good forecaster of changes in cost and demand conditions in the particular industry and the economy as a whole, and by following it the other firms can be 'reasonably' sure that they choose the correct price policy.

Check Your Progress 2

1) A cartel is legal and can be practiced in India. (True / False)
2) Cartel central board is ultimate authority in Profit maximization cartel. (True / False)
3) More production share is given to efficient firm and less to inefficient firm in the joint maximization cartel. (True / False)
4) A Firm should be bigger to become barometric price leadership firm. (True / False)

Sweezy's Kinked Demand Curve Model:

The kinked demand curve of oligopoly was developed by Paul M. Sweezy in 1939. Instead of laying emphasis on price-output determination, the model explains the behaviour of oligopolistic organizations. The model advocates that the behaviour of oligopolistic organizations remain stable when the price and output are determined.

This implies that an oligopolistic market is characterized by a certain degree of price rigidity or stability, especially when there is a change in prices in downward direction. For example, if an organization under oligopoly reduces price of products, the competitor organizations would also follow it and neutralize the expected gain from the price reduction.

On the other hand, if the organization increases the price, the competitor organizations would also cut down their prices. In such a case, the organization that has raised its prices would lose some part of its market share.

The kinked demand curve model seeks to explain the reason of price rigidity under oligopolistic market situations. Therefore, to understand the kinked demand curve model, it is important to note the reactions of rival organizations on the price changes made by respective oligopolistic organizations.

There can be two possible reactions of rival organizations when there are changes in the price of a particular oligopolistic organization. The rival organizations would either follow price cuts, but not price hikes or they may not follow changes in prices at all.

A kinked demand curve represents the behavior pattern of oligopolistic organizations in which rival organizations lower down the prices to secure their market share, but restrict an increase in the prices.

Following are the assumption of a kinked demand curve:

i. Assumes that if one oligopolistic organization reduces the prices, then other organizations would also cut their prices

ii. Assumes that if one oligopolistic organization increases the prices, then other organizations would not follow increase in prices

iii. Assumes that there is always a prevailing price

A kinked demand curve model is explained with the help of Figure-13:

A kink in the demand curve at point P.

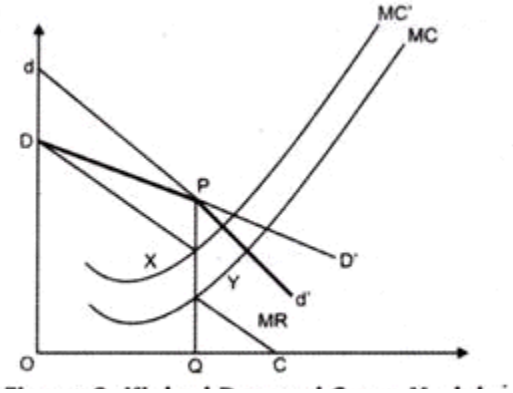


Figure 3.7

The slope of a kinked demand curve differs in different conditions, such as price increase and price decrease. In this model, every organization faces two demand curves. In case of high prices, an oligopolistic organization faces highly elastic demand curve, which is dd' in Figure-3.7.

On the other hand, in case of low prices, the oligopolistic organization faces inelastic demand curve, which is DD' (Figure-3.7). Suppose the prevailing price of a product is PQ, as shown in Figure-13. If one of the oligopolistic organizations makes changes in its prices, then there can be three reactions of rival organizations.

Firstly, when the oligopolistic organization would increase its prices, its demand curve would shift to dd' from DD'. In such a case, consumers would switch to rivals, which would lead to fall in the sales of the oligopolistic organization. In addition, the dP portion of dd' would be more elastic, which lies above the prevailing price.

On the other hand, if price falls, the rivals would also reduce their prices, thus, the sales of the oligopolistic organization would be less. In such a case, the demand curve faced by the oligopolistic organization is PD', which lies below the prevailing price.

Secondly, rival organizations will not react with respect to changes in the price of the oligopolistic organization. In such a case, the oligopolistic organization would face DD' demand curve.

Thirdly, the competing organizations may follow price cut, but not price hike. If the oligopolistic organization increases the price and competitors do not follow it, then consumers may switch to competitors. Thus, the competitors would gain control over the market. Thus, the oligopolistic organization

would be forced from dP(small) demand curve to DP demand curve, so that it can prevent losing its customers.

This would result in producing the kinked demand curve. On the other hand, if the oligopolistic organization reduces the price, the rival organizations would also reduce prices for securing their customers. Here, the relevant demand curve is Pd'. The two parts of the demand curve are DP and Pd', which is DPd' with a kink at point P.

Let us draw the MR curve of the oligopolistic organization. The MR curve would take the discontinuous shape, which is DXYC, where DX and YC correspond directly to DP and Pd' segments of the kinked demand curve. The equilibrium point is attained when MR = MC. In Figure-3.7, the MC curve intersects MR at point Y where at output OQ.

At point Y, the organization would achieve maximum profit. Now, if cost increases, the MC curve would move upwards to MC. In such a case, the oligopolistic organization cannot increase the prices. This is because if the organization would increase the prices, the rival organizations would decrease their prices and gain the market share. Moreover, the profits would remain same between point X and Y. Thus, there is no motivation for increasing or decreasing prices. Therefore, price and output would remain stable.

However, kinked demand curve model is criticized by various economists.

Some of the major points of criticism are as follows:

I. Lays emphasis on price rigidity, but does not explain price itself.

ii. Assumes that rival organizations only follow price decrease, which does not hold true empirically.

iii. Ignores non-price competition among organizations. Non-price competition can be in terms of product differentiation, advertising, and other tools used by organizations to promote their sales.

Check Your Progress 3

1) Everybody will follow you when you increase the price and nobody will follow you when you will decrease the price. (True/ False)

iv. Ignores the application of price leadership and cartels, which account for larger share of the oligopolistic market.

3.4 Let Us Sum Up

The concept of Oligopoly has been explained in detail in this unit, the concept of cartel or collusion, types of cartels with diagrams have been explained. Price leadership model is also explain with detail. In the last kinky demand curve model is also explained.

3.5 Answers for Check Your Progress

Check Your Progress 1

1) (A) Every one affects everyone.

2) (B) Consumers

Check Your Progress 2

1) False

2) True.

3) True.

4) False.

Check Your Progress 3

1) False.

3.6 Glossary

1) Price leader: - A Firm in the market who sets the common price and all have to follow more or less the same price.

2) Entry restrictions: - there can be many types of entry restrictions created artificially by firms for e.g. if already existing firms don't want to increase the competition by allowing another players in the market they can decrease the price so much that the new comer cannot enter in the market and finds market non contestable. Firms or a single firms can purchase the source of raw material then also new firms cannot enter into the market. Patents and IPRs also serves the same function sometimes.

3.7 Assignment

1) Explain collusive oligopoly.

2) Explain the kinky demand curve model.

3.8 Activities

Study and discuss with your friends about the goods you use and the market types they come from.

3.9 Case Study

Discuss the Oil cartel of OPEC. (Oil and Petroleum exporting countries)

3.10 Further Readings and Bibliography

1) Managerial Economics – A Problem Solving Approach by Luke M Froeb and Brian T MacCann. 2nd ed. 2008.

2) Managerial Economics by D N Dwivedi, 6th Ed, Vikas publishing house.

3) The Prize – The epic quest for oil, Money & Power by Daniel Yergin. Simon & Schuster Rockefeller Centre Publication.

Block Summary

This block contained the topics such as market structure, product and factor pricing and theory of rent, interest and profit. All these topics were covered in very detail and every effort has been made by the writer to make these topics simple and concise. Even the efforts have been made by the writer to keep the language of the content simple and easily understandable.

Block Assignment

Short Answer Questions

1. Short-term equilibrium of a firm.
2. Long-term equilibrium of a firm.
3. What is monopoly?
4. Give one real example from the economic history for Monopoly.
5. Give on real example from the economic history for Oligopoly.

Long Answer Questions

1. Study your local market and prepare a list of products which has monopoly in the market.
2. Explain collusive oligopoly with examples.
3. Explain Kinky demand curve model.
4. Explain Joint profit Maximization cartel.

Enrolment No. ☐

1. How many hours did you need for studying the unitsi

Unit No	1	2	3
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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MARKET STRUCTURE, PRODUCT AND THEORY OF RENT

Dr. Babasaheb
Ambedkar
OpenUniversity

BBAR-104/DBAR-104

BUSINESS ECONOMICS

BLOCK-4 PRODUCT, RENT, PROFIT THEORIES WITH WELFARE, INFORMATION AND POLITICAL ECONOMICS

BLOCK 4 : PRODUCT, RENT, PROFIT THEORIES WITH WELFARE, INFORMATION AND POLITICAL ECONOMICS.

Block Introduction

The whole content of this block is divided into four units namely Product and factor planning, Theory of rent, interest and profit, Welfare Economics and Market Failure and Information and Political Economics. All these topics have been discussed here in this blocks in very detail, sufficient examples, illustrations and diagrams have been provided wherever required in order to make the reader easily understand the topics. The language of the content has also been kept very simple by the writer so as to help reader's in grasping the topics.

Block Objective

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

- The role of factor price
- The theory of distribution
- The concepts of wages
- Residual Claimant Theory
- 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
- Meaning of welfare economics.
- Concept of Consumer surplus.
- What is market failure?
- The concept Externality.
- The concept of asymmetric information.
- Understanding effects of government policies on business.
- Political Economics.
- The effects of political economics on Economics.

Block Structure

Unit 1: Product and Factory Pricing.

Unit 2: Theory of Rent, Interest and Profit.

Unit 3: Welfare Economics and Market Failure.

Unit 4: Information and Political Economics.

: UNIT STRUCTURE :

1.0 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

1.1 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 rolein 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.

1.2 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. ..... Covers both products pricing and factor pricing.
   a. Price theory
   b. Product pricing
   c. Factor pricing

1.3 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.

1.3.1 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.

1.3.2 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.

1.3.3 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 a business. This means that other things being equal, a disproportionate increase in the supply of any factor increases total production at diminishing rate. We know, however, that in manufac-

turing 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. The ..... buys the services of various factors of production.
   a. Entrepreneur
   b. Company
   c. Consumer
2. ..... simply explains how factors of production are hired by the firm.
   a. marginal productivity theory
   b. income theory

1.4 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 rewardis 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. A ..... may be defined as a sum of money paid under contract by an employer to a worker for services rendered.
   a. Wage
   b. Rent
   c. Salary

2. ..... is a payment/remuneration for work done.
   a. Wage
   b. Income

1.5 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, 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. ..... is one of the theory of wages
   a. Wages fund theory
   b. Wages payment theory
   c. Wages determination theory

1.6 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. It was believed that wages, in the long run, would tend to equal just enough of food, clothing and shelter to maintain existence.
   a. Subsistence Theory of Wages
   b. Wages fund theory
   c. Residual claimant theory

1.7 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 remained constant and the supply of labour increased, 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 so 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 ..... was developed by J. S. Mill
   a. Wages fund theory
   b. Residual Claimant Theory

1.8 Residual Claimant 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 replaced the wages fund theory.

   a. residual claimant theory

   b. subsistence theory

1.9 Let Us Sum Up

Role of Factor Prices: The factor prices play an important role in the economy: (1) Employment level decided (2) Allocation of the productive resources (3) Allocation of recourses to community (4) Decide income.

Marginal Productivity: 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.

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.

Theories of Wage: Following are various wage theories: Subsistence theory, Wage fund theory, Residual claimant theory, Standard of living theory, Bargaining theory, Marginal productivity theory.

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.

Wages Fund Theory: The wages fund theory was put forth 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.

Residual Claimant 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.

1.10 Answers for Check Your Progress

Check your progress 1

Answers: (1 - a)

Check your progress 2

Answers: (1 - a), (2 - a)

Check your progress 3

Answers: (1 - a), (2 - a)

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. Realization - 1. The conversion of any asset into cash. The earning of a return, either through selling goods or services or profiting from an investment
2. Real Wage – The amount of a worker‘s earnings (the so-called money wage) adjusted to take purchasing power into account. Real wages depend on the general price level, since purchasing power increases with low prices and declines with high prices. Thus a real wage can change while the money wage remains the same. A real wage is calculated by dividing an index number of general prices into the money wage,

1.12 Assignment

Explain the theory of distribution. What were the criticisms of the theory?

1.13 Activities

Explain any two theories of Wages.

1.14 Case Study

Point out / List down various factors of distribution in a departmental store.

Study the present wages system employed there.

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., 1999
4. Managerial Economics, R. Cauvers, S. Chand, 2009
5. Principles of Economics, Seth, M.L,Lakshmi Narain Agarwal, 2009

Unit 2

THEORY OF RENT, INTEREST AND PROFIT

: UNIT STRUCTURE :

2.0 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

2.1 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.

2.2 Ricardian Theory of Rent

2.2.1 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

2.2.2 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)

2.2.3 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.
- Landis 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.

2.2.4 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.

2.2.5 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. ..... is surplus over the Minimum Supply Price.
   a. Rent
   b. Interest
   c. Wages
2. ..... was of the opinion that rent is surplus over cost of production.
   a. Ricardo
   b. Marshall

2.3 Interest

2.3.1 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.

2.3.2 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 times and in the case of different individuals.

2.3.3 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.

2.3.4 Theories of Interest

Why interest is paid at all is a baffling 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 rateis 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

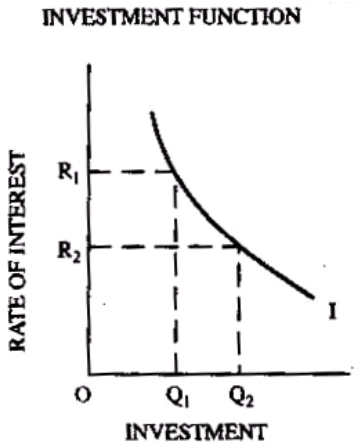
1. ..... is used in two senses: (i) as a price or compensation paid by the borrowers to the lenders of loanable funds.
   a. interest‘
   b. Rent
2. Accourding to ..... true classical theory of interest rate is the savings investment theory.
   a. Keynes
   b. Ricardo

2.4 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 curveis, 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:



Where,

I = investment demand r = rate of interest

And f = functional relationship

The above-mentioned is in fig 2.1 an investment demand schedule in graphical terms.

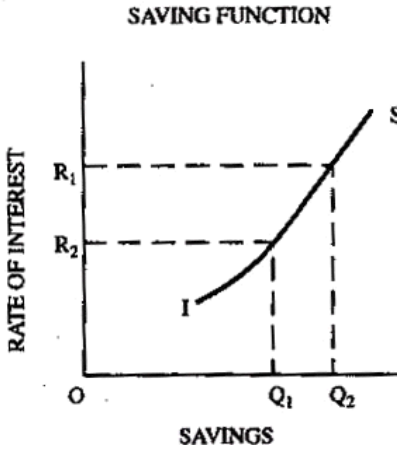
It can be seen that when the rate of interest is OR1, the investment volume is OQ1. When the interest rate falls to OR2, investment volume rises to OQ2. It follows that the investment demand curve is a downward-sloping curve.

2.4.1 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.



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, OQ2is 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.

2.4.2 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.

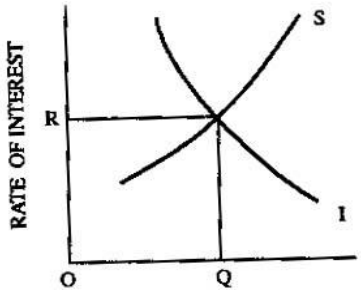


Fig 2.3 Determination of interest rate

In Fig. 2.3, 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.

2.4.3 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 in determinate 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 in applicable 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. Demand for capital comes from ..... who wish to invest capital for business
   a. Entrepreneurs
   b. Consumers
   c. creditors
2. ..... Theory ignores the vital role played by the supply of money for determination of the rate of interest for bank credit.
   a. Classical
   b. Keynes

2.5 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 motiveand (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 risein 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.

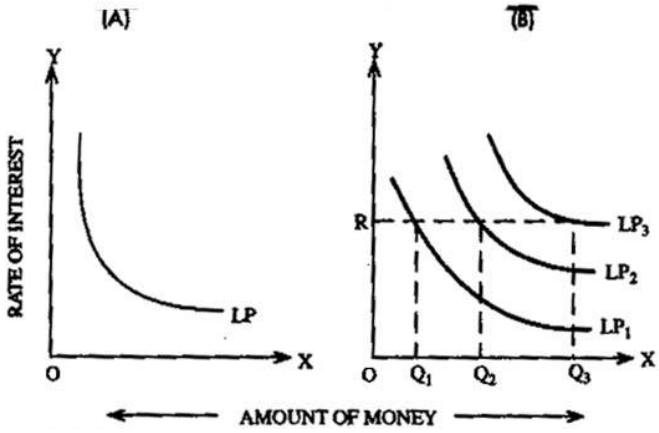


Fig 2.4 Liquidity Preference

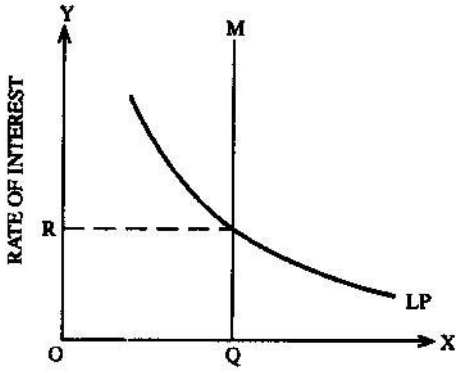
In Fig 2.4, the liquidity function is generally downward-sloping, indicating that the amount of money demanded for liquidity purposes is a decreasing function of the rate of interest. The reason is that the community is ordinarily willing to hold more money at a low rate of interest than at a high rote 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. The demand for ..... is a demand for liquidity.
   a. Money
   b. Goods
   c. Supply
2. The demand for money, according to ....., is a demand to hold money/ cash balances.
   a. Keynes
   b. Marshall

2.6 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 3.3: Liquidity Preference Theory of Interest

The theory further states that any change in the liquidity preference function (LP) or changein money supply or changes in both lead to changes in the rate of interest. Thus, as shown in Fig. 2.5, 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. 3.4, when the money supply increases from Q1 to Q2, the rate of interest falls from R1 to R2

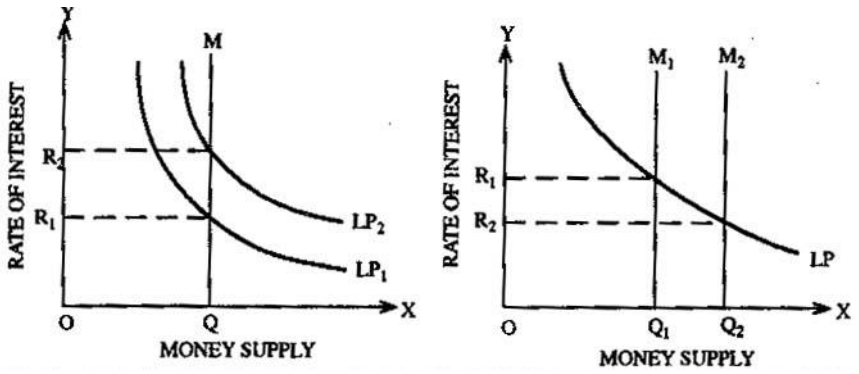


Fig 2.6 Liquidity-preference function

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 in determinate. 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 falling 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. According to the ....., the equilibrium rate of interest is determined by the interaction between the liquidity preference function and the supply of money.
   a. liquidity preference theory
   b. rent theory
2. According to Keynes, the rate of interest is of the demand.
   a. Independent
   b. Dependent

2.7 Profit

2.7.1. 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, expenses on raw materials, fuel and power, rents and interest. To these inputs, costs of depreciation charges are 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 is realised. 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.

2.7.2 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. So it 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. He may 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.

2.7.3 Sources of Profit

Sources of economic profit are many. There exists a lack of agreement among economists about 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".

2.7.4 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 incur 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.

2.7.5 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 levelled against 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 them are 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. ..... is the earning of an entrepreneur.
   a. Profit
   b. Rent
   c. Interest
2. True ..... lies in bearing non-insurable risks and uncertainties.
   a. Entrepreneurship
   b. power

2.8 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, where 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 sensei.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. When ..... fluctuates, the firm's revenue also changes.
   a. Demand
   b. Profit
   c. Rent
2. ..... are the reward for bearing risks and uncertainties.
   a. Pure profits
   b. Income

2.9 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. Innovation and 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 revenuedatain a profitable manner. Thereare, thus, two types of innovation: (i) product innovation and (ii) market innovation. Under product innovations, thereare 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 competedaway 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 exist 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 con notation 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. Any form of innovation leads to .....
   a. Profit
   b. Benefit
   c. Income
2. ..... innovation theory of profit is a functional theory.
   a. Schumpeter'
   b. Marshall
   c. Keynes

2.10 Concept of Theories

Several theories have been put forward by way of explanation of profit. Let us examine some of the well known among 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 employer, who will leave the business with a slight unfavourable turn of events, is 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 adynamic 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. Dynamic Theory is associated with the name of .....
   a. J. B. Clark
   b. Knight
2. ....., 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.
   a. Prof. Knight
   b. J.B.Clark

2.11 Let Us Sum Up

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".

Ricardian Theory of Rent: 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. Land that is more fertile gets more rent and 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 called the Differential Rent Theory.

Interest: The term ?interest‘ is usedin 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 to be an income to capital just as rent is to land.

Net and Gross Interest: 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

Theories of Interest: Why interest is paid at all is a very baffling 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 theory (5) Investment Theory of Interest

Liquidity Preference Theory: 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.

Profit: Profit 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 conditions and definitions 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.

Gross and Net Profit: Gross Profit = Net Profit + Implicit Rent + Implicit Wages + Implicit Interest + Normal Profit + Depreciation and Maintenance Charges + Non-entrepreneurial Profit, Net Profit = Gross Profit – (Implicit Rent + Implicit Wages + Implicit Interest + Normal Profit + Depreciation and Maintenance Charges + Non-entrepreneurial Profit)

Modern 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.

Non-Insurable Risk: There are risks which are uncertain and in calculable. Such risks being unpredictable, no insurance company would be willing to cover them. Such non-insurable risks are: a) Demand Fluctuations b) Trade Cycles c) Technological changes d) Competition e) Structural changes f) Changes in Government's policies g) Outbreak of war

2.12 Answers for Check Your Progress

Check your progress 1

Answers: (1 - a), (2 - a)

Check your progress 2

Answers: (1 - a), (2 - a)

Check your progress 3

Answers: (1 - a), (2 - a)

Check your progress 4

Answers: (1 - a), (2 - a)

Check your progress 5

Answers: (1 - a), (2 - a)

Check your progress 6

Answers: (1 - a), (2 - a)

Check your progress 7

Answers: (1 - a), (2 - a)

Check your progress 8

Answers: (1 - a), (2 - a)

Check your progress 9

Answers: (1 - a), (2 - a)

2.13 Glossary

1. Hard Currency - Currency which enjoys a relatively stable value in international exchange and tends to maintain its value, at least in comparison with other currencies
2. Hard Goods - 1. Same as durable goods Also, hardware. Consumer durable goods made principally from metal, such as most electrical appliances, cutlery and tools

2.14 Assignment

1. Explain Ricardian concept in details.
2. What do you understand by profit? What are the main sources of profit?

2.15 Activities

Profits are a reward for risks and uncertainly-bearing.

Discuss.

2.16 Case Study

Study interest and profit in pure competitions

2.17 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

WELFARE ECONOMICS AND MARKET FAILURE

: UNIT STRUCTURE :

3.0 Learning Objectives

After reading this Unit, you will be able to:

- Meaning of welfare economics
- The concept of consumer surplus.
- What is Market failure?
- The concept of Externality.

3.1 Introduction

Welfare economics is a new comer in the modern economics while in the Indian Historical book Kautilya's Economics was dominantly based on the welfare economics, all the works of the state were concentrated to the welfare of the citizens of the particular country. The harmful activities was prohibited by king and that was the Rajdharma of the ruler class. In modern economics the understanding is there is no possibility of doing everybody's welfare without making somebody worse off which was not the concept of ancient India. Today value judgments and ethical thoughts dominates the functions of state in each of their policy making and I think the roots are in the past.

The concept of consumer surplus explains the actual amount paid by the consumer and higher amount he/she was ready to pay for it instead losing that good or services. So this is difference between what more consumer was ready to pay what less consumer actually paid and how much welfare consumer really got?

The market fails when it cannot function properly and cannot distribute or

allocate resources properly in the market. There can be many reasons of market failure which is discussed in this unit.

The externality is the concept which says that when acts of a person affects somebody else which is not the direct party of that action. This is called externality.

3.2 Welfare Economics

There is always a debate between material V/s non material needs and satisfaction. In economics mostly we discuss what we see just as in other natural sciences but the reason is different in the natural sciences what they see and prove with evidences they believe in that but in economics many things cannot be studied practically or say physically because here the study subject is human and society which is extremely unpredictable and dynamic. Most of the economists have stressed on the material welfare while there another aspect of non-material happiness also and it is not possible to divide the material welfare with non-material welfare because both are necessary for the society and humans. The welfare economics is thus a normative field of economics predominately and very little with positive nature because welfare economics includes the Value judgment.

Today all the countries except few discuss about the GDP growth, infrastructure built up and many other things but country like Bhutan discuss the happiness index as how much of our population is happy. There can many arguments like being a small country with much less ambitions this suits to Bhutan but not to the Big nations but for what everybody is working? What is the ultimate goal for a person? The answer will be the same. So all is about what do you understand with your welfare concept? And how do you make your policies to achieve that?

Earlier economists have discusses how money and goods and services can change the life of people and can increase the living standard of people but it is misconception to measure the welfare of people with the materialistic view because today we have achieved many strides in terms of production but not in terms of distribution of those goods and services equally. This explains that welfare depends on economic and noneconomic both policies. The problem is no body will go to ask each and every person in the society about his/her state of welfare and the society does not have the reputation of being self-explaining like an individual because every person in the society thinks, works differently.

The Pereto optimality is famous in the welfare economics which says it is not possible to better off every one without making somebody worse off, even the resource reallocation cannot reverse this thing. Many economists do not want value judgment to be included in the economics but without value judgment even Pereto optimality cannot work.

So this can be said that ethics, value judgment and welfare economics cannot separated from each other. All the countries which want to safeguard the interest of their own people want to be a Welfare countries by providing

many services free of cost and heavy taxes on the luxurious goods and hazardous goods which shows there is a value judgment in many or most of the actions of government.

There are many cases when pure economics interests cannot be given priority over the welfare of people. E.g. there are many cases when government has taken initiation against many companies and corporations, even the judicial system has taken actions against economic profits in favor of public welfare. E.g. US Government and Judicial system took actions against monopoly power of many US well known business families like Rock feller, braking of biggest and singles most telephonic company A&T and making ant trust law itself shows that welfare economics based on ethics and value judgment cannot be separable.

Question 1 (Check Your Progress)

Value judgment is the main characteristics of welfare economics. (True/False)

3.3 Consumer Surplus

Meaning of Consumer's Surplus:

Consumer's Surplus is one of the most important concepts in Economics. It was expounded by Alfred Marshall. It needs careful study. In our daily expenditure, we often find that the price we pay for a commodity is usually less than the satisfaction we derive from its consumption.

In our own mind, sometimes we are prepared to pay much more for a commodity than we actually have to pay. People are often heard saying, "I would have paid much more for it rather than go without it." This means that he has made a saving or derived extra satisfaction over and above the money he has paid.

In some cases, the idea of consumer's surprise is quite obvious, e.g., a packet of salt, a post-card, a newspaper, a match-box, etc. These things are very useful, but they are also very cheap. We are, therefore, prepared to pay much more for them, if need be, than we actually have to pay. From their purchase, therefore, we derive a good deal of surplus or extra satisfaction over and above the price that we pay for them. This is consumer's surplus.

Consumer's surplus is the excess of what we are prepared to pay over what we actually pay for a commodity. It is the difference between what we are prepared to pay and what we actually pay. Thus, Consumer's surplus = what one is prepared to pay minus what one actually pays.

We can put it in the form of an equation thus:

Consumer's Surplus = Total Utility – Total Amount Spent.

Explanation:

We can illustrate the concept of consumer's surplus with the help of the table given below:

1	2	3	4
Units (Oranges)	*Marginal utility*	*Price (P.)*	*Consumer's surplus*
1	200	50	150
2	180	50	130
3	150	50	100
4	110	50	60
5	50	50	0
Total units purchased = 5	Total utility = 690	Total money spent = Rs. 2.50P	440

It is assumed in the above table 3.1 that the price of oranges in the market is 50 P per orange. The consumer will purchase as many oranges as make his marginal utility equal to the price. Thus he will purchase 5 oranges and pay for each 50 P. In this way he will spend in all Rs. 2.50P. But the total utility of the 5 organs is equal to 690 P He thus gets a consumer's surplus equal to (690 – 250) =440P.

The consumer's surplus can also be found from the fourth column of the table. The utility of the first unit of oranges to the consumer is equal to 200 P.; therefore he would be prepared to pay 200 P. for it rather than go without it. But he pays for the first orange only 50 p. because the price of an orange in the market is 50 p.

Therefore, from the first unit, the consumer gets consumer's surplus equal to (200 —50) = 150P, which is written in the fourth column. Similarly, the utility of the second orange is equal to ISO, while the consumer pays 50P. For it and therefore obtains (180 — 50) = 130P. as consumer's surplus. From the fifth unit the consumer derives satisfaction equal to 50 and he

also pays 50P for it. Thus there is no consumer's surplus from the fifth unit. Now if we add the figures in the 4th column, we shall get the total consumer's surplus equal to 440P.

Diagrammatic Representation:

We can represent consumer surplus with the help of the following diagram. Along OX are measured the units of the Commodity and along OY is measured Marginal utility in terms of money, which means the price that the consumers willing to pay, rather than go without a particular unit of the commodity.

If the market price is PM, the consumer will extend his purchase up to the M'th unit: That is, he will purchase OM quantity. This is so because for this amount his marginal utility is equal to the price. But his marginal utility for the earlier units is more than PM. For M'th unit, for instance, his marginal utility is P'M', but he only pays the market price PM (= P"M') for this unit as for others. He thus obtains an excess of utility for the M 'th unit equal to P'P". This is consumer's surplus from this unit.

Similar surplus arises from the purchase of other units. The total consumer's surplus thus derived by him when OM units are purchased at PM Price is

shown by the shaded area UAP. If the market price rises to 'M' he will purchase only OM' quantity and the consumer's surplus will fall to the smaller triangle UA 'P'.

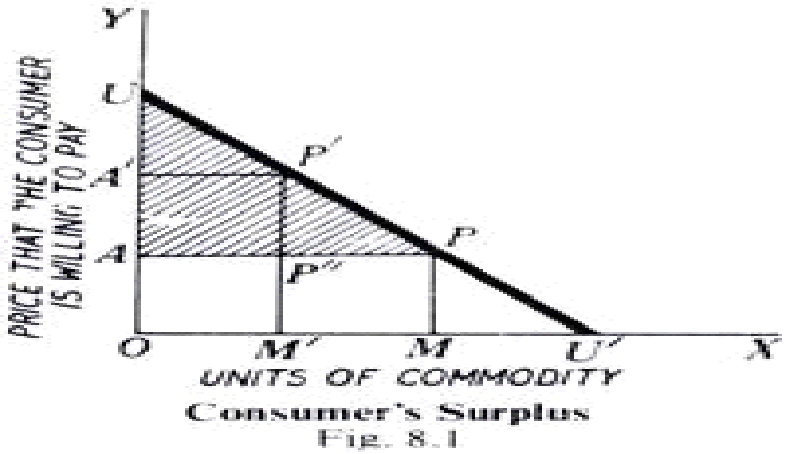


Fig. 3.1

Can Consumer's Surplus be measured?

It looks as if consumer's surplus can be measured. The measurement of consumer's surplus, however, is not as simple as that. There are numerous difficulties which stand in the way of the precise measurement of consumer's surplus, as

(I) A Complete list of demand prices is not available:

We are aware only of a part of the demand schedule. What we may be prepared to pay for certain units is all a guess-work.

(ii) Consumer's surplus in the case of necessaries of life and conventional necessaries is indefinite and immeasurable.

(iii) The incomes of the consumers differ:

Some consumers are rich, while others are poor. They all pay the same price. Thus, the poor consumer makes a greater sacrifice to get a commodity. This difference in the consumer's circumstances makes the measurement of consumer's surplus difficult and inexact.

(iv) Consumers differ in sensibilities:

Every consumer has his own tastes and sensibilities, and is therefore prepared to offer different amounts for the same commodities.

(v) Marginal utility of money changes:

As we go on buying a commodity, less and less amount of money is left with us. Hence marginal utility of each unit of money increases with every successive purchase of a commodity. If we ignore this change in the utility of money, our calculations of the consumer's surplus cannot be scientifically accurate.

(vi) The utility of the earlier units of a commodity decreases and this decrease is not taken into account when calculating the consumer's surplus.

(vii) Then, there is the difficulty arising out of the presence of substitutes. If there were no tea, the utility of coffee would have been much greater, and

vice versa.

Conclusion:

We may conclude by admitting that the exact measurement of consumer's surplus in a market is impossible. But on that account we cannot say that the concept of consumer's surplus is of no value. We can have some estimate of consumer's surplus, rough as it may be. Even this is of very great practical value.

Question 2 (Check Your Progress)

If consumer's marginal utility is more compare to the price it can not be called consumer surplus. (True / False).

3.4 Market Failure and externality

The famous concept of "Invisible hand" and "Free Market" reminds us that normally market works properly and every person is best known of his own interests in the market. The concept of invisible hand says that market knows how to balance? But still some time market fails and people become casualty of such phenomenon. So we will know this concept and concept related to Market failure and will also try to know why and how market fails with role of government.

So what is Market failure? The Market failure is a situation when market is left on its own fails to allocate resources efficiently.

The invisible hand of market mostly allocated resources among the participants efficiently but sometimes this invisible hand does not work properly and does not allocate resources properly in the market among the people and we called this as Market failure.

The one possible reason of market failure is Externality. What is it?

Externality is the result of somebody else action on somebody else. This means actions of other person/institution/firm/industry or anyone else has direct or indirect, positive or negative effect is called externality.

It is externality because it originated from the external sources which does not related to the person who is directly or indirectly is not involved in the process. The externality has two types.

A) Positive Externality.

B) Negative Externality.

A) Positive externality: - The positive externality says when a person get benefits from other's actions is called positive externality. The bigger industry gets the benefits of having many small industry around it gets the positive benefits when they launch new product and distributes the job work to small industries. Both the industries are getting benefits of having each other besides.

Many times we discuss the FDI benefits and benefits of having foreign companies in the host countries. There is some positive externality also. People who are directly attached to such companies seemingly gets benefits but local population also get positive externality benefits from such companies

can be called positive externality.

There are many economic and non-economic activities which have positive externality effects.

B) Negative Externality: - The negative externality explains when a person or group of person get negative effect or loses is called negative externality. There are many examples near us to explain such phenomenon. For e.g. the power producing company emits pollution in the area with residential population. So the population which is getting benefits of electricity by the company and paying for that but the negative externality which is causing health issues to the nearby population and extra expenditure of those people on their health is not given by the company. This is called negative externality.

The biggest case of such kind is 1984 Union carbide gas leak scam. This factory was making pesticides for farmers and for that raw material was Mithael iso gas which got leaked and unofficially thousands of people died in Bhopal in that night.

The other possible factor causing market failure is monopoly power. These both situations externality and monopoly power does not allow the invisible hand to work and so as resulting in market failure.

Check Your Progress 3

1. Market failure causes equal distribution of resources. (True / False)
2. Externality is the result of somebody else action. (True / False)
3. The concept of invisible hand says market correct itself. (True / False)

3.5 Let Us Sum Up

The welfare economics is increasingly and more and more preferable for research these days. More and more government policies are framed on the base of welfare economics which have value judgment and normative science. Consumer surplus also shows the material welfare of the buying consumer. Externality is one of the biggest potential reason of market failure and when market cannot function properly government has to come into the picture and help market to distribute resource correctly.

3.6 Answers for Check Your Progress

Check your progress 1

Answer: True.

Check your progress 2

Answer: False.

Check your progress 3

Answer: 1. False.

2. True.

3. True.

3.7 Glossary

2. Positive Externality – beneficial effect of other's action on other people.
3. Negative Externality – negative and harmful effects of other's action on other people.

3.8 Assignment

What is market failure? Write short not with few examples.

3.9 Activities

Discuss concept of externalities with historical examples.

3.10 Case Study

1. Discuss 2007 to 2009 recession in the world. Was that a type of market failure? Analyze the reasons behind it.

3.11 Further Readings and Bibliography

1) Mankiw N.G Principles of Economics. 4th ed. 2007.

2) Das S.P Micro Economics for business. Sage publication. 2007.

Unit 4

INFORMATION AND POLITICAL ECONOMICS

: UNIT STRUCTURE :

4.0 Learning Objectives

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

- The concept of Asymmetric Information.
- The impact of changing government policies on business.
- How does political economy affect Economics?

4.1 Introduction

In this Unit we will discuss some basic and some deep learnings about the Asymmetric information, in today's world the person with good information or has access to information's which other people don't have is considered to be powerful or at least producing economic benefits for the person who knows about it. In the famous market structure form of perfect competition which says there is perfect information about the market and among the players which is not so in the real world.

In real word information costs a lot and many people base their employment just on the base of employment. What if the information is not reaching to the correct place? The result can be of small significance of higher significance it can be positive but mostly negative in the nature, the most important outcome can be the distribution of economic resources will not be efficient. So it is very important for all the economic and even non-economic stockholders.

The government policies are very important for the business community and most of the time government policies frame according to the fine line of industrial sector and agriculture sector etc. so this topic will discuss basic concept of it.

The political economy is at the center point of any nation's policy building. The sole economic policies does not rule the nation or the world. There are many factors which runs by the politics and economics both but the in reality many times come from the political reasons. The relation between countries and states have many political inputs. The political relation between US and India, and US and western countries have developed much which gave the advantage to India as she had joined the various technological and military technological beneficiary groups which were formed to keep Indian at bay from these technologies, the ultimate result will be more independency in terms of making weapon systems and critical aero engine technologies which will gives economic benefits as a whole. This is how political economy works.

4.2 Asymmetric Information and Moral Hazards.

Information failure is another, significant, market failure and can occur in two basic situations. Firstly, information failure exists when some, or all, of the participants in an economic exchange do not have perfect knowledge. Secondly, information failure exists when one participant in an economic exchange knows more than the other, a situation referred to as the problem of asymmetric, or unbalanced, information.

In both cases there is likely to be a misallocation of scarce resources, with consumers paying too much or too little, and firms producing too much or too little. Information failure is common and appears to exist in numerous market exchanges.

It can be argued that markets work best, that is they are at their most efficient, when knowledge is perfect and is evenly shared by all the parties in a transaction. Hence, asymmetric knowledge is an economic problem because one party can exploit their greater knowledge.

There are many examples of information failure linked with economic dealings, including the following cases:

1. The job candidate, who fails to disclose at a job interview that they do not have a particular skill for the job.
2. The estate agent, who exploits the fact that a potential buyer of a property has very little knowledge about the property, and any possible problems.
3. The cigarette manufacturer, who does not inform smokers of the true health risk of smoking.
4. The buyer of a financial product, who is unaware of the true level of risk, as in the case of derivative products.
5. The seller of a pension, who misleads purchasers about the financial value of the pension. Indeed, widespread pension 'miss-selling' by large UK insurance companies, occurred at the end of the 1990s.

Decision-making bias

Anchoring

Behavioral economists argue that individuals may be subject to anchoring

bias when making simple and complex decisions, which acts as a constraint on the exercise of rational choice. Anchors can be visual images or sounds that individuals become focused on and use to compare options and make decisions. They may create a bias in favor of a particular decision, and perhaps against the best interests of the individual. For example, research by Warwick University revealed that credit card users focused more on the minimum payment required when looking at their credit card statement than the total sum owed, and this might cause them to run up higher debts that they would do without this 'low fee' anchor.

Framing

Individual choices also seem highly sensitive to the process of framing, which also provides a bias in favor of a particular decision. How a choice, or how a new piece of information is 'framed' is likely to affect the choice, even when two options have identical outcomes.

For example, number of research have revealed that when faced with either winning a given amount of money or losing it, individuals are rather more averse to the loss. For example, individuals are likely to fear a loss, of say Rs50, rather more than they feel they have gained from being offered Rs50.

The Lemons Problem

When parties to a transaction are ignorant of certain aspects of the transaction, such as the quality of the product they are buying, they are forced to make assumptions, often based on price. For example, a buyer may assume that goods are of poor quality if their price is low and that goods are of high quality if their price is high.

In some markets, only low quality products will be sold - the so-called lemons problem. The lemons problem was first explored and propounded by American economist George Akerlof in 1970. Akerlof explored the problem linked with pricing second hand cars in the USA, which he called a lemons market – a 'lemon' is an offensive term for a poor quality second-hand car. However, the lemon's problem has many wider implications in terms of understanding information failure in general.

For example, in terms of second hand cars, buyers may be suspicious of the motives of seller, and wonder whether the car is a 'lemon'. If an individual buys a new car for Rs 30,000 and tries to sell on the second-hand market shortly after, they may be forced to accept a much lower price, given that buyers will be suspicious of the seller's motive. Not having all the facts, potential buyers are likely to assume the worst and expect the car to have a problem - in other words, it is a 'lemon'. Therefore, given that second hand cars will generally attract a low price, only those sellers who actually have poor quality cars will use this market. After a short period, it can be predicted that all cars sold on the second hand car market will be lemons.

When applying this concept to other markets it can be suggested that, whenever there is information failure, there is the possibility that markets will become lemons markets. If so, the supply of good quality products will fall and the supply of poor quality will products rise.

The principal-agent problem

Asymmetric information is also associated with the principal-agent problem. In an increasingly complex world, individual decision making often depend on the guidance given by experts, and a potential principal-agent problem can occur whenever decision makers rely on advice from others with more knowledge than they have. For example, the shareholders of firms, the principals, usually delegate responsibility for day-to-day decision making to appointed managers, the agents. This creates a situation of asymmetric knowledge, with managers knowing much more than the shareholders, and raises the possibility of inefficiencies, especially when shareholders and managers have different objectives.

Examples of these inefficiencies include situations when managers decide to 'take the easy life', knowing that shareholders will not find out, and managers deciding to 'cheat' and not reveal information to shareholders. This may occur in situations involving insider dealing, where managers can exploit their knowledge of a business's prospects to buy or sell shares and make a personal gain.

Extra costs

From a firm's perspective, the principal-agent problem can increase costs, and make the firm less efficient than it could be. These inefficiencies include the costs associated with monitoring the performance of the managers and having to pay a premium to attract the 'best' managers.

Moral hazard

Moral hazard occurs when people's behavior is much less careful than it should have, either because they believe that their carelessness will not be found out, or because they are stimulated to behave like that. This happens because there is cover shielding them from the adverse effects of their uncaring decision. For example, a pupil at school can 'idle' along because they believe, either that their parents will provide insurance against their idling, or that the State will provide them with an income if they fail to get a job.

There are many other examples of information failure, including the following situations:

1. Consumers may under-estimate the net private and external benefit of merit goods.
2. Consumers may over-estimate the net private and external cost of demerit goods. '
3. Fishermen may not know the size of fish stocks and, as a result, overfishing current stocks.
4. Firms may provide misleading information about products, such as producers of cosmetics claiming to make people beautiful, holiday brochures making resorts appear more attractive, and car drivers not knowing how much pollution they are creating.

Remedies for information failure

Clearly, government has a substantial role in trying to ensure that some of these information failures are reduced or eliminated. The two basic strategies are to increase both the supply of, and demand for, information.

Increasing the supply of information:

Options to increase the supply of knowledge include:

1. Government may force producers to provide accurate information about products through accurate labelling. For example, requiring that the alcoholic content of drinks is printed on alcoholic drinks, and stating the 'E' numbers found in a product – 'E' numbers are the European system for indicating chemical additives in food and drink.
2. Public broadcasts to improve knowledge may also be made, such as informing smokers and drinkers of the true cost of their habit. To help inform the public, a government can subsidies public service TV and radio broadcasting, as in the case of BBC TV and radio.
3. Laws may be passed to force public limited companies to be more transparent, and publish their financial accounts, as well as have them audited to ensure accuracy.
4. Government may also regulate advertising standards to make advertising more informative, and less persuasive.
5. Employers may be forced to request that job applicants disclose information about themselves, such as whether they have a criminal record.

   Government may force car owners to have their vehicles regularly checked by a Ministry of Transport (MOT) test, which provides some basic information to potential buyers. All cars over 3 years old must be tested each year, and this gives some assurance to potential buyers that the car is road worthy.

Check your progress 1

1. Managers know more than the shareholders and this can lead to inefficiency specially when the goals of both stockholders are different. (True / False)

4.3 Impact of Government policies on business

The federal government uses fiscal policy — taxation and government spending — to steer the economy in the right direction by increasing or decreasing the demand and availability of goods and services. Fiscal policy can encourage investment, create jobs and pave the way for long-term economic growth. For retail businesses, fiscal policy affects consumer demand, the cost of doing business, investment decisions and the ability to compete.

Consumer Demand

Tax-related fiscal policy affects retail businesses by changing the amount of disposable income people have to spend. Higher taxes, or an expansion of taxable items, lowers consumers' net income, making them more budget conscious and apt to limit expenditures to necessities. Lower taxes leave more

money in consumers' pockets to spend on goods and services retailers offer. Fiscal policy that involves government spending and adds to the federal deficit can lead to higher interest rates. This can increase the cost of credit and mortgages that may make consumers think twice about purchases. It also may encourage them to save, leaving less of their take-home pay for trips to the store.

Cost of Doing Business

When fiscal policy results in higher interest rates, retailers pay more for lines of credit. Higher interest rates, when they attract foreign investors, raise the value of the U.S. dollar, which gives retailers more purchasing power when buying merchandise from foreign suppliers in their local currency. Because the retail industry imports nearly 98 percent of clothing sold in the U.S., fiscal policy can influence a retailer's operating costs. Taxes also affect retail business expenses. Fiscal policy that increases the employer portion of wage taxes for Social Security and Medicare add to the cost of doing business.

Investment Decisions

Fiscal policy influences how much risk a retailer takes. When US Congress introduces tax credits for investing in business expansion, or tax incentives to hire and train employees, retailers may feel confident in hiring workers or opening new locations. Lower corporate tax rates also allowed cash to reinvest in facilities and merchandise selection.

Competitiveness

Uncertainty about the economy keeps shoppers out of stores; uncertainty about fiscal policy makes retailers, like other business professionals, wary. As long as customers delay major purchases and reduce their number of store visits, retail businesses must keep prices low and cut costs, including hiring, in order to remain competitive.

Expansionary Fiscal Policy

Expansionary fiscal policies are laws passed by the legislative and executive branches to increase government spending or lower taxes, often intending to relieve the economy from a recession. When taxes decrease for individuals, the government is hoping that now higher consumerism will help big business and the overall economy. Government expenditure help increase in the country's growth rate, or gross domestic product. Less obstructive legislation on business operations adds to increased cost savings. Legislation passed to fund job growth, stimulus packages, and business grants aids business growth because of a resulting increase in consumer spending and business investment.

Contracting Fiscal Policy

Contracting fiscal policies are enacted by congress and the president to increase government income while the economy is doing well and to prevent an economic bubble by stabilizing the peak of a booming economy. When taxes are increased, people have less money to spend on consumer goods. When government spending is reduced, programs and jobs are cut. The un-

employed will seek jobs from businesses. Sales will decline because of unemployment and higher taxes on consumers. Corporations will also experience less government sales for military equipment and other government goods.

Increasing Monetary Policy

Expansionary monetary policy is another government tool to boost the economy through lower interest rates and a larger money supply. The Federal Reserve can directly decrease interest rates or purchase U.S. bonds from the Treasury to increase the money supply. As the money supply rises, the government accumulates more money without increasing taxes. As interest rates decrease, businesses and individuals can take advantage of cheaper loans and credit rates to help pay for expensive items. Inflation would raise the price of goods, but the overall effect would be a boost in consumer activity from business investment, government projects, and individual purchases.

Decreasing Monetary Policy

Monetary policy contractions are used to prevent an economic bubble. The Federal Reserve raises the interest rate to control the rate of money being lent, sells U.S. bonds for Federal Reserve notes and decreases the overall money supply. This will reduce inflation but will cut spending. As the bank's ability to lend money declines, businesses and people will find it harder to get a loan. People will make less major purchases and spend less using credit cards. Government and business investment will also decline.

Check Your Progress 2

1. Government should do more _____ in terms of recession.

   a) Tax cut, expenditure, b) tax increase with less expenditure.

4.4 Political Economy

Political Economy or Economics is a study of mankind in the ordinary business of life: it examines that part of individual and social action which is most closely connected with the attainment and the use of the material requisites of wellbeing. Alfred Marshall, 1890.

The modern world has opened doors of much prosperity for the common man. Materially, politically and culturally people are better of which they were never before. People today have better house, better education facility, better medical facility, the level of access of information was never before which today a common man enjoys. The world has become a village, people can contact each other in the friction of seconds. Research in many fields has expanded in much more advanced phases which was never before or known to the modern mankind.

The production aspect of this world has taken new strides but the distribution side of this world has not reached to that level where it could have achieved or should have achieved. This forces us to study the political Economics also, because there are four pillars of this modern world, one is market with the means of production, politics based on the majority ruling, rule based public administration, and independent judiciary. All these systems are important to flourish the economic systems, thriving new manufacturing, formulating right

policies for agriculture and industrial as well as service policy, respect of patents, property rights, intellectual property rights, all this is possible if these four pillars are proper and if not then there are many examples in the past and in the present where country fails to achieve what others have achieved in the same duration or with less time.

Economists must not only know their economic models, but also understand politics, interests, conflicts, passions the essence of collective life. For a brief period of time you could make changes by ruling; but to let them persist, you have to build coalitions and bring people around. You have to be a politician. (Alejandro Foxley, Chilean Minister of Finance (quoted in Williamson and Haggard [1994]))

There are many examples of political reasons of failure of these four system. There are many examples of political people taking whole narrative to-gather. For e.g. Narsimha Rao prime minister of India in 1991 brought economic reforms in the same year even the political party which was against the legacy economic policies established by inception of India, but still in the year 1991 he did the reforms. This was an example of how political leaders can take the nations to the right track even if there are many forces to dialogue the right process.

There are some other example when state fails because of many different types interventions. For e.g. in the case of Pakistan which was became free in the same year of India with thriving agriculture sector but not with the thriving industrial sector. India instead of that had basic base of industrial sector but after independency planning commission and government did expansion of industrial sector, this was not in the case of Pakistan. In the matter of infrastructure Indian government considered many big projects such as Dams for agriculture irrigation while Pakistan only made one big dam that also in the in the time of a Military Dictator.

The political system failed a country, there are many other factors which inversely affected the growth and Development of Pakistan but the instability of political system is the biggest one.

The market failure is a phenomenon which can be cured by the economics but economics can't do anything if the judiciary system fails which can also hurt the economic progress. For example Bajaj CD 100 was a famous bike in India manufactured by Bajaj Company which was copied in China with almost same features and structures, when Bajaj Company files a law suit against the Chinese company court favoured Bajaj and ordered not to produce the same copied bikes but, Chinese fined very small amount. After some months the very same company was making the copied bikes of Bajaj Company. This gives a simple idea that if your judicial system will favour unlawful activities in commercial terms foreign investors this will not go well in the market.

Many western cars have been copied in China with little change in the design in far less price but they failed miserably in the safety tests. Economics is also related with this and most of the companies have taken a lesson from this as

they should not reveal or launch their new products in China first, but later on.

When law does not support the copy rights or intellectual property rights that also cost economically but that is a problem of government policy also. For e.g. there is very famous book names "TOTO Chan" written by famous writer Tetsuko Kuroyanagi from Japan once visiting China also saw the book written by her, printed in china and freely circulated in China but she did not get any royalty or even information that her book was much famous in China.

How does politics affect economic outcomes? This question has been asked probably as long as people have been interested in economics itself. From Adam Smith's Wealth of Nations in 1776 (or perhaps the Physiocrats even earlier) until at least John Stuart Mill's Principles of Political Economy in 1848, what we now call ''economics" was in fact generally referred to as ''political economy."1 This terminology in large part reflected the belief that economics was not really separable from politics.

There are some external forces which takes the advantage of the failure of internal politics or then political leader to exploit their own self-interest or their own national interests. Such as internal instability of Gulf countries has given space to western world to come and interfere in the internal matters of their country and they have now dependent on the USA for their own security. There are many small countries which have become the victims of the pressure or the self-interest of bigger nations.

The public system fails, the political people and system takes wrong decisions. For e.g. for the very wrong reasons and enmity with India Pakistan did all wrong decisions from joining NATO type military group or cozying up with USA and again for USA launching terror groups in Afghanistan just to keep out Russia from Afghanistan and especially everything after 9/11 disaster, all the economic aids were used in the terror financing, no notable infrastructure was made in the nation.

The land reforms in India was made and much efforts were made to distribute land much equality but there were no efforts were made to dismantle the "Amir" system in Pakistan so today notably only 22-30 families are running the whole country economically and politically.

The Army which must remain apolitical institution is most politicized institution in that country and no big business can be done without the permission of so called Deep state or establishment. This shows the failure of democratic institutions, administrative institutions and even in this case judiciary system.

Check your progress 3

1. Economics is usually affected by politics. (True / False)
2. Pakistan removed the Amir system. (True / False)
3. Market is one of the pillars of modern world. (True / Fasle)

4.5 Let Us Sum Up

The information is very important and as the means of spreading information will advance it will be very helpful to reach to the beneficiary people for the

government, for the business houses it will be beneficial to develop new product and to market it. The equal are the dangers of the asymmetric information because many decisions decide the future of many people.

The fiscal, monetary policies are very important as it affects the consumption, savings and other aspects of the people as well as condition of market.

Political economy is relatively new science which is taking strides now a days. The political economy is truth and it runs the world. Many time economic problems causes political problems or some time political problems causing economical problem. Let me complete this with a very important small case, There is an island in the south China sea which Japan purchased in 2012 from the private party, it is called Senkaku island in Japan and Diaoyu island in People's Republic of China. Both the countries claim their own sovereignty on this island. When Japan did not budge by the demand of assertive China, China stopped the supply of Rare earth material to Japan which was the breathing line for the Japanese industry. China owns more than 90% of the rare earth material in the known world. The political dispute brought economic problems for the country. Japan requested to India and India started supplied the rare earth material.

4.6 Answers for Check Your Progress

Check your progress 1

Answers: True.

Check your progress 2

Answers: a

Check your progress 3

Answers: 1. True. 2. False 3. True

4.7 Glossary

1. Fiscal policy: a policy related to taxation and public debt. A reduction in tax and public debt is called expansionary fiscal policy and vice versa.
2. Monetary policy: a policy related to liquidity managed by RBI in India.

4.8 Assignment

Explain the asymmetric information and moral hazards with some new examples.

4.9 Activities

Read about the political economy and cite some small cases on it.

4.10 Case Study

Read a brief history of China since 1991 and what changes china did in 1971 and Afterwards which kept Chinese ruling system socialist and made market oriented Economy?

4.11 Further Readings and Bibliography

1. Political Economy by Dan Usher, published by Black well Publishers, 2003.
2. The oxford handbook of Political Economy edited by Barry R Weighast and Donald A Wittman., Oxford university press , 2006.
3. Principles of Microeconomics by Mankiew N.G. 4th ed, 2007.
4. Microeconomics Principles and Analysis by Cowell F.A. London school of economics 2004

BLOCK SUMMARY

This block contains the topics such as welfare economics, consumer surplus, Market failure and externalities, Asymmetric information has been discussed in detail, impact of government policies on economy as well as business, political economy is totally new topic has been coined and discussed with examples.

BLOCK ASSIGNMENT

Short Answer Questions

1. Role of factor pricing
2. Subsistence Theory of wages
3. Liquidity Preference theory
4. Determination of interest rate
5. Uncertainty Bearing Theory of Profit
6. What is welfare economics?
7. What is consumer surplus?
8. State any one reason of market failure.
9. What is externalities?
10. What is principle agent problem?
11. What is expansionary fiscal policy?
12. What is Contractionary fiscal policy?

Long Answer Questions

1. Explain in brief theories of interest. Why is interest paid?
2. Explain the liquidity preference theory of intrest of Keynes. What are its short comings?
3. Explain welfare economics with some small cases.
4. Explain consumer surplus in detail?
5. Explain the concept of Asymmetric information in detail?
6. Explain political economy with any two small cases.

Bibliography

1. Principals of Micro Economics by Mankiew N.G 4th ed, 2007.
2. Political Economics by Dan Usher, Publishes by Black well Publishers, 2003.
3. The Oxford handbook of Political Economy, edited by Barry R Weighast & Donald A Wittman. Oxford University Press, 2006.
4. Microeconomic theory by M L Jhingan, 7th ed, Vrinda publication PVT. LTD

Enrolment No. | |

1. How many hours did you need for studying the unitsi

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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DR.BABASAHEB AMBEDKAR
OPEN UNIVERSITY

'Jyotirmay' Parisar,
Sarkhej-Gandhinagar Highway, Chharodi, Ahmedabad-382 481.
Website : www.baou.edu.in