ECONOMICS

STANDARD TWELVE

MICRO & MACRO

SEBI

Consumer

DEMAND

UTILITY GST SUPPLY

MONOPOLY

COST

PRICE INDEX

TAXES

GDP

EXPORT

COMPETITION

IMPORT

RBI

BOP

VALUE

INDEX

REVENUE

The Coordination Committee formed by GR No. Abhyas - 2116/(Pra.Kra.43/16) SD - 4 Dated 25.04.2016 has given approval to prescribe this textbook in its meeting held on 30.01.2020 and it has been decided to implement it from academic year 2020-21.

ECONOMICS

STANDARD TWELVE

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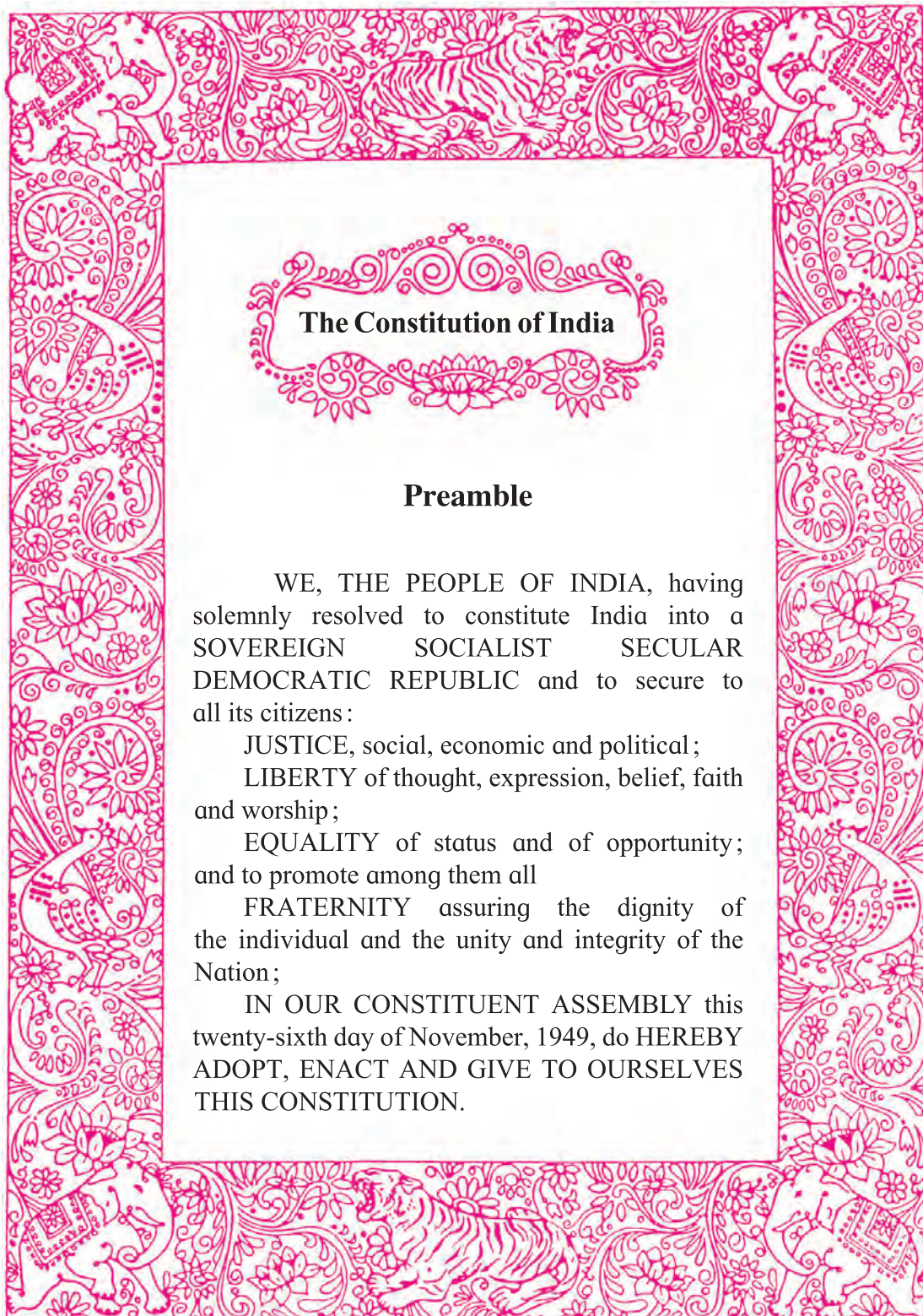**Shri Sachchitanand Aphale**
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The Constitution of India

Preamble

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC and to secure to all its citizens :

JUSTICE, social, economic and political ;

LIBERTY of thought, expression, belief, faith and worship ;

EQUALITY of status and of opportunity ; and to promote among them all

FRATERNITY assuring the dignity of the individual and the unity and integrity of the Nation ;

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.

NATIONAL ANTHEM

Jana-gana-mana-adhināyaka jaya hē
    Bhārata-bhāgya-vidhātā,

Panjāba-Sindhu-Gujarāta-Marāthā
    Drāvida-Utkala-Banga

Vindhya-Himāchala-Yamunā-Gangā
    uchchala-jaladhi-taranga

Tava subha nāmē jāgē, tava subha āsisa māgē,
    gāhē tava jaya-gāthā,

Jana-gana-mangala-dāyaka jaya hē
    Bhārata-bhāgya-vidhātā,

Jaya hē, Jaya hē, Jaya hē,
    Jaya jaya jaya, jaya hē.

PLEDGE

India is my country. All Indians are my brothers and sisters.

I love my country, and I am proud of its rich and varied heritage. I shall always strive to be worthy of it.

I shall give my parents, teachers and all elders respect, and treat everyone with courtesy.

To my country and my people, I pledge my devotion. In their well-being and prosperity alone lies my happiness.

Preface

Dear Students,

We welcome you to Std. XII. You have already been acquainted with the subject of Economics as a separate discipline in Std. XI.

The textbook of Std. XI includes various important changes that have taken place in Indian economy in the recent times. This textbook has also introduced many terms and concepts in Economics. The revised syllabus of Std. XII is also based on the maxims of teaching such as simple to complex, concrete to abstract etc. with 'constructivism' as the most important goal of education.
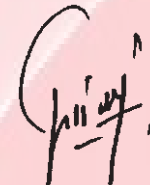
This book prepared by the Maharashtra State Bureau of Textbook Production and Curriculum Research, incorporates both Micro and Macro approach to the study of Economics. It covers a detailed explanation of micro-economic concepts such as utility, laws of demand and supply, different market structures etc. For the first time, macro-economic concepts such as public finance, money market and capital market in India, foreign trade etc. have been introduced to the students. Index Numbers from Statistics have been included as a remarkable change in the revised syllabus. This will significantly benefit the students to pursue their advanced studies. Statistics has been introduced intentionally, to prepare the students to face new challenges in this competitive age based on Information and Technology.

The study of Economics is of utmost importance to understand the process of development of a country. Units in this book are logically arranged with the purposeful intention of providing comprehensive introduction as well as developing interest for the subject among the students of Std. XI and XII. Following the practice similar to Std. XI, no compromise has been made whatsoever with respect to the use of economic language. A list of abbreviations and glossary of economic terms is provided towards the end of the textbook. Use QR code given in the text book for extra information and reference.

The units in the syllabus are innovative and have practical application. They are selected without hindering the basic principles and goals of education. This will enable the students to be alert and capable to face the challenges of 21st century. Innovative exercises at the end of each unit will motivate the students to prepare for the competitive examinations in future.

We look forward to a positive response from the teachers and students.

Our best wishes to all!

Vivek Gosavi
Director
Maharashtra State Bureau of
Textbook Production and
Curriculum Research, Pune

Pune
Date : 21 February 2020
Bharatiya Saur : 2 Phalguna 1941

Class 12 Economics

Competency Statement

- Explains the subject matter of Micro and Macro Economics.
- Explains the features of Micro and Macro Economics.
- Explains the importance of the study of Micro and Macro Economics in practice.
- Defines Total utility and Marginal utility.
- Explains the Law of Diminishing Marginal Utility with the help of a table and diagram.
- Examines cardinal approach to the measurement of utility.
- Defines the concept of Demand.
- Explains the Law of Demand with the help of a demand schedule and a demand curve.
- Defines the concepts of Price, Income and Cross-elasticity of demand.
- Analyses the various types of price elasticity of demand with illustrations.
- Applies quantitative skills to measure price elasticity of demand.
- Defines the concept of Supply.
- Explains the Law of Supply with the help of a supply schedule and a supply curve.
- Defines various Revenue and Cost concepts and derives their calculations.
- Defines Market.
- Defines Perfect Competition, Monopoly, Oligopoly and Monopolistic Competition.
- Explains the features of different market structures.
- Explains Equilibrium Price with the help of a suitable illustration.
- Defines Index Numbers and examines its features.
- Differentiates between Simple and Weighted Index Numbers.
- Explains the steps in the construction of Index Numbers.
- Applies quantitative skills to calculate Simple and Weighted Index Numbers.
- Defines National Income.
- Explains the concepts of GDP, GNP, NDP and NNP.
- Explains the Output, Income and Expenditure methods of computing National Income.
- Examines the structure of Public Finance.
- Defines Public Revenue, Public Expenditure and Public Debt.
- Analyzes the Tax and Non-Tax Sources of Public Revenue.
- Examines the causes of rising Public Expenditure in India.
- Defines Fiscal policy and Budget.
- Explains the meaning and classification of Financial Markets.
- Explains the structure of Money market and Capital market in India.
- Defines Central Bank and Commercial Bank.
- Explains the functions of Central Bank and Commercial Bank.
- Examines the role and problems of Money market and Capital market in India.
- Explains the reforms introduced in the Money and Capital markets in India.
- Explains the role of Foreign Trade with reference to India.
- Explains the Composition and Direction of India's foreign trade.
- Defines the concepts of Balance of Payments and Balance of Trade.

- For Teachers -

Dear Teachers,

We are happy to introduce the revised textbook of Economics for Std. XII. This book is a sincere attempt to follow the maxims of teaching as well as develop a 'constructivist' approach to enhance the quality of learning. Demand for more activity based, experiential and innovative learning opportunities is the need of the hour. The present curriculum has been restructured so as to bridge the credibility gap that exists between what is taught and what students learn from direct experience in the outside world. Guidelines provided below will help to enrich the teaching-learning process and achieve the desired learning outcomes.

✓ To begin with, get familiar with the textbook yourself.

✓ The present book has been prepared for constructivist and activity-based teaching.

✓ Teachers must skillfully plan and organize the activities provided in each chapter to develop interest as well as to stimulate the thought process among the students.

✓ Always teach with proper planning.

✓ Use teaching aids as required for the proper understanding of the subject.

✓ Follow the tentative number of periods mentioned in the page of 'Contents' to give due justice to the topic.

✓ Follow the order of the chapters strictly as listed in the contents because the units are introduced in a graded manner to facilitate knowledge building.

✓ Statistics is placed as the sixth unit to facilitate integrative learning through interdisciplinary approach.

✓ Ask questions on statistical information related to trends and patterns. Efforts have been made to provide the latest data available. Teachers must explain to the students the importance of data collection and data analysis.

✓ Major concepts of economics have a scientific base and they deal with abstractions. Encourage group work, learning through each other's help etc. Facilitate peer learning as much as possible by reorganizing the class structure frequently.

✓ Teaching-learning interactions, processes and participation of all students are very necessary and so is your active guidance.

✓ Do not use the boxes titled **'Do you know?'** for evaluation. However, teachers must ensure that students read this extra information.

✓ Information provided in boxes with the title **'You Should Know'** should be considered for evaluation.

✓ Exercises provided after each unit are prepared using different parameters such as observation, co-relation, critical thinking, analytical reasoning etc. Evaluation pattern should be based on the given parameters. Equal weightage should be assigned to all the topics. Use different combinations of questions. Stereotype questions should be avoided.

✓ Use QR Code given in the textbook. Keep checking the QR Code for updated information.

✓ Certain important links, websites have been given for references. Teachers as well as the students can use these references for extra reading and in-depth understanding of the subject.

✓ Economic terms included in the Glossary are highlighted in blue colour in each chapter.

✓ List of abbreviations is provided towards the end of the textbook for further clarification. Best wishes for a wonderful teaching experience!

Contents

DISCLAIMER Note : All attempts have been made to contact copy right/s (©) but we have not heard from them. We will be pleased to acknowledge the copy right holder (s) in our next edition if we learn from them.

Front Page : Students of Std. XI have now come to Std. XII. They are going to study Economics as an independent subject. The front cover is a visual presentation of different economic concepts discussed in the textbook.

Back Page : It shows various economic activities and symbolic representation of different financial institutions.

# 1 Introduction to Micro Economics and Macro Economics

Fig. 1.1

Introduction :

Micro economics and Macro economics are the two main branches of modern economics. The term 'micro' is derived from the Greek word, 'Mikros' which means small or a millionth part. The term 'macro' is derived from the Greek word, 'Makros' which means large. These terms were coined by Norwegian Economist Ragnar Frisch of Oslo University in 1933.

Main Branches of Economics

Micro Economics   Macro Economics
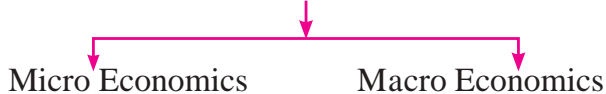
Do you know?

Ragnar Anton Kittil Frisch (1895-1973), a Norwegian econometrician and economist was a joint winner with Jan Tinbergen of the first Nobel Prize for Economics in 1969. He was a pioneer of econometrics- the application of mathematical models and statistical techniques to economic data and theories. He coined many economic terms. In an article on business cycles, Frisch was

likely the first person to have referred to the study of individual firm and producer as "Microeconomics." Moreover, he referred to the study of the aggregate economy as "Macroeconomics."

You should know :

Historical review of Micro Economics :
Micro Economic analysis was developed first. It is a traditional approach. Origin of this approach can be traced back to the era of Classical Economists- Adam Smith, David Ricardo, J. S. Mill etc.

It was popularized by Neo-Classical Economist, Prof. Alfred Marshall in his book, 'Principles of Economics', published in 1890. Other economists like Prof. Pigou, J. R. Hicks, Prof. Samuelson, Mrs. Joan Robinson, etc. have also contributed to the development of Micro Economics.

Historical Review of Macro Economics :
Macro Economics did exist in the past before the evolution of Micro Economics. In the 16th and 17th century, followers of Mercantilists (a group of English merchants) advocated policies to the government which were based on macro approach. In the 18th century, Physiocrats (French Thinkers) tried to analyse the concept of national income and wealth. Even the Classical Economic theories of Prof. Adam Smith, Prof. Ricardo and Prof. J. S. Mill discussed the determination of national income and wealth. But their macro analysis was combined with micro analysis. Thus, micro analysis ruled the world of economics till the Great Depression of 1930s.

After the Great Depression, Lord John

1

Maynard Keynes published his famous book the "General Theory of Employment, Interest and Money" in 1936. Keynes used macro economic approch to analyse economic problems. The credit for the development of macro economic approach goes to Lord Keynes. Besides Keynes, Malthus, Wicksell, Walras, Irving Fisher are other economists who have contributed to the development of macro economics.
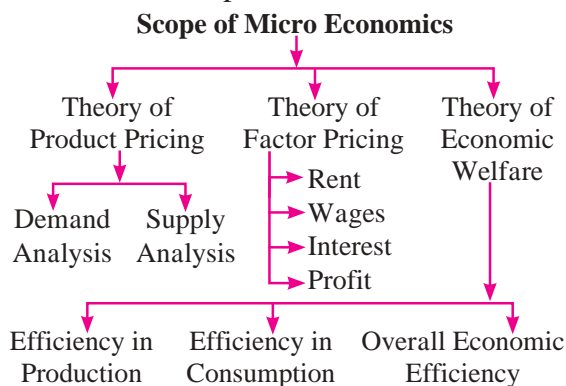
Meaning of Micro Economics :

Micro means a small part of a thing. Micro economics thus deals with a small part of the national economy. It studies the economic actions and behaviour of individual units such as an individual consumer, individual producer or a firm, the price of a particular commodity or a factor etc.

Definitions of Micro Economics :

You have already studied some important definitions of micro economics, let us review some more definitions :

1) Maurice Dobb - "Micro economics is in fact a microscopic study of the economy."

2) Prof A. P. Lerner - "Micro economics consists of looking at the economy through a microscope, as it were, to see how the millions of cells in the body of economy – the individuals or households as consumers and individuals or firms as producers play their part in the working of the whole economic organism." The following chart gives an idea of the scope of micro economics.

Scope of Micro Economics

Theory of Product Pricing — Demand Analysis, Supply Analysis

Theory of Factor Pricing — Rent, Wages, Interest, Profit

Theory of Economic Welfare — Efficiency in Production, Efficiency in Consumption, Overall Economic Efficiency

(a) Theory of Product Pricing : The price of an individual commodity is determined by the market forces of demand and supply. Micro economics is concerned with demand analysis i.e. individual consumer behaviour, and supply analysis i.e. individual producer behaviour.

(b) Theory of Factor Pricing : In Micro economics, land, labour, capital and entrepreneur are the factors that contribute to the production process. Micro economics helps in determining the factor rewards for land, labour, capital, and entrepreneur in the form of rent, wages, interest, and profit respectively.

(c) Theory of Economic Welfare : Theory of Welfare basically deals with efficiency in the allocation of resources. Efficiency in the allocation of resources is attained when it results in maximization of satisfaction of the people. Economic efficiency involves three efficiencies :

• Efficiency in production : Efficiency in production means producing maximum possible amount of goods and services from the given amount of resources.

• Efficiency in consumption : Efficiency in consumption means distribution of produced goods and services among the people for consumption in such a way as to maximize total satisfaction of the society.

• Overall economic efficiency : It means the production of those goods which are most desired by the people.

Micro economic theory shows under what conditions these efficiencies are achieved.

Thus, the focus of micro economics is mainly confined to price theory and resource allocation. It does not study the aggregates relating to the whole economy. This approach does not study national economic problems such as unemployment,

poverty, inequality of income etc. Theory of growth, theory of business cycles, monetary and fiscal policies etc. are beyond the limits of micro economics.

Features of Micro Economics :

1) **Study of Individual Units :** Micro economics is the study of the behaviour of small individual economic units, like individual firm, individual price, individual household etc.

2) **Price Theory :** Micro economics deals with determination of the prices of goods and services as well as factors of production. Hence, it is known as price theory.

3) **Partial Equilibrium :** Equilibrium is the balance between two factors. Micro economic analysis deals with partial equilibrium which analyses equilibrium position of an individual economic unit i.e. individual consumer, individual firm, individual industry etc. It isolates an individual unit from other forces and studies its equilibrium independently.

4) **Based on Certain Assumptions :** Micro economics begins with the fundamental assumption, "Other things remaining constant" (Ceteris Paribus) such as perfect competition, laissez-faire policy, pure capitalism, full employment etc. These assumptions make the analysis simple.

5) **Slicing Method :** Micro economics uses slicing method. It splits or divides the whole economy into small individual units and then studies each unit separately in detail. For example, study of individual income out of national income, study of individual demand out of aggregate demand etc.

6) **Use of Marginalism Principle :** The concept of Marginalism is the key tool of micro economic analysis. The term 'marginal' means change brought in total by

an additional unit. Marginal analysis helps to study a variable through the changes. Producers and consumers take economic decisions using this principle.

7) **Analysis of Market Structure :** Micro economics analyses different market structures such as Perfect Competition, Monopoly, Monopolistic Competition, Oligopoly etc.

8) **Limited Scope :** The scope of micro economics is limited to only individual units. It doesn't deal with the nationwide economic problems such as inflation, deflation, balance of payments, poverty, unemployment, population, economic growth etc.

Importance of Micro Economics :

1) **Price Determination :** Micro economics explains how the prices of different products and various factors of production are determined.

2) **Free Market Economy :** Micro economics helps in understanding the working of a free market economy. A free market economy is that economy where the economic decisions regarding production of goods, such as 'What to produce?, How much to produce?, How to produce? etc.' are taken at individual levels. There is no intervention by the Government or any other agency.

3) **Foreign Trade :** Micro economics helps in explaining various aspects of foreign trade like effects of tariff on a particular commodity, determination of currency exchange rates of any two countries, gains from international trade to a particular country etc.

4) **Economic Model Building :** Micro economics helps in understanding various complex economic situations with the help

of economic models. It has made a valuable contribution to economics by developing various terms, concepts, terminologies, tools of economic analysis etc. Economic models are built using various economic variables.

5) **Business Decisions :** Micro economic theories are helpful to businessmen for taking crucial business decisions. These decisions are related to the determination of cost of production, determination of prices of goods, maximization of output and profit, etc.

6) **Useful to Government :** It is useful to government in framing economic policies such as taxation policy, public expenditure policy, price policy etc. These policies help the government to attain its goals of efficient allocation of resources and promoting economic welfare of the society.

7) **Basis of Welfare Economics :** Micro economics explains how best results can be obtained through optimum utilization of resources and its best allocation. It also studies how taxes affect social welfare.
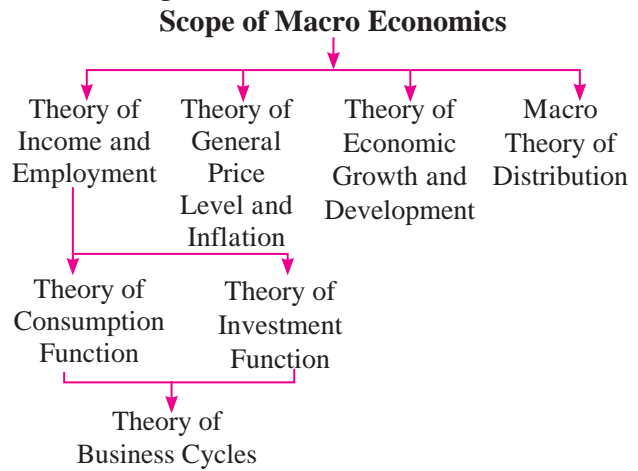
Meaning of Macro Economics :

Macro economics is the branch of economics which analyses the entire economy. It deals with the total employment, national income, national output, total investment, total consumption, total savings, general price level interest rates, inflation, trade cycles, business fluctuations etc. Thus, macro economics is the study of aggregates.

Definitions of Macro Economics :

1) J. L. Hansen - "Macro economics is that branch of economics which considers the relationship between large aggregates such as the volume of employment, total amount of savings, investment, national income etc."

2) Prof Carl Shapiro - "Macro economics deals with the functioning of the economy as a whole."

The following chart gives an idea about the scope of macro economics.

Scope of Macro Economics

Theory of Income and Employment | Theory of General Price Level and Inflation | Theory of Economic Growth and Development | Macro Theory of Distribution

Theory of Consumption Function | Theory of Investment Function

Theory of Business Cycles

i) **Theory of Income and Employment :** Macro economic analysis explains which factors determine the level of national income and employment and what causes fluctuations in the level of income, output and employment. To understand, how the level of employment is determined, we have to study the consumption function and investment function. Theory of Business Cycles is also a part and parcel of the Theory of Income and Employment.

ii) **Theory of General Price Level and Inflation :** Macro economic analysis shows how the general price level is determined and further explains what causes fluctuations in it. The study of general price level is significant on account of the problems created by inflation and deflation.

iii) **Theory of Growth and Development :** Macro economics consists of the theory of economic growth and development. It explains the causes of underdevelopment and poverty. It also suggests strategies for accelerating growth and development.

iv) **Macro Theory of Distribution :** Macro theory of distribution deals with the relative

4

shares of rent, wages, interest and profit in the total national income.

Features of Macro Economics :

1) **Study of Aggregates :** Macro economics deals with the study of economy as a whole. It is concerned with the aggregate concepts such as national income, national output, national employment, general price level, business cycles etc.

2) **Income Theory :** Macro economics studies the concept of national income, its different elements, methods of measurement and social accounting. Macro economics deals with aggregate demand and aggregate supply. It explains the causes of fluctuations in the national income that lead to business cycles i.e. inflation and deflation.

3) **General Equilibrium Analysis :** Macro economics deals with the behaviour of large aggregates and their functional relationship. General Equilibrium deals with the behaviour of demand, supply and prices in the whole economy.

4) **Interdependence :** Macro analysis takes into account interdependence between aggregate economic variables, such as income, output, employment, investments, price level etc. For example, changes in the level of investment will finally result into changes in the levels of income, levels of output, employment and eventually the level of economic growth.

5) **Lumping Method :** Lumping method is the study of the whole economy rather than its part. According to Prof. Boulding, "Forest is an aggregation of trees but it does not reveal the properties of an individual tree." This reveals the difference between micro economics and macro economics.

6) **Growth Models :** Macro economics studies various factors that contribute to economic growth and development. It is useful in developing growth models. These growth models are used for studying economic development. For example, Mahalanobis growth model emphasized on basic heavy industries.

7) **General Price Level :** Determination and changes in general price level are studied in macroeconomics. General price level is the average of all prices of goods and services currently being produced in the economy.

8) **Policy-oriented :** According to Keynes, macro economics is a policy oriented science. It suggests suitable economic policies to promote economic growth, generate employment, control of inflation, and depression etc.

Importance of Macroeconomics :

1) **Functioning of an Economy :** Macro economic analysis gives us an idea of the functioning of an economic system. It helps us to understand the behaviour pattern of aggregative variables in a large and complex economic system.

2) **Economic Fluctuations :** Macro economics helps to analyse the causes of fluctuations in income, output and employment and makes an attempt to control them or reduce their severity.

3) **National Income :** Study of macro economics has brought forward the immense importance of the study of national income and social accounts. Without a study of national income, it is not possible to formulate correct economic policies.

4) **Economic Development :** Advanced studies in macro economics help to understand the problems of developing countries such as poverty, inequalities of income and wealth, differences in the standards of living of the

people etc. It suggests important steps to achieve economic development.

5) Performance of an Economy : Macro economics helps us to analyse the performance of an economy. National Income (NI) estimates are used to measure the performance of an economy over time by comparing the production of goods and services in one period with that of the other period.

6) Study of Macro economic Variables : To understand the working of the economy, study of macro economic variables are important. Main economic problems are related to the economic variables such as behaviour of total income, output, employment and general price level in the economy.

7) Level of Employment : Macro economics helps to analyse the general level of employment and output in an economy.

You should know :

Micro Economics and Macro Economics at a glance		
Basis for comparison	**Micro economics**	**Macro economics**
Meaning	Micro economics studies the behaviour of individual unit of an economy	Macro economics studies the behaviour of aggregates of the economy as a whole
Tools	Individual Demand and Individual Supply	Aggregate Demand and Aggregate Supply
Scope	Demand, supply, product pricing, factor pricing, production, consumption, economic welfare, etc.	National income, general price level, employment, money etc.
Importance	Price determination, Model building, Business decisions etc.	Economic fluctuations, Study of national income, Economic development etc.
Theory	Price Theory	Income and Employment Theory
Examples	Individual income, Individual output etc.	National income, National output etc.

Try this :

1) Visit the vegetable market in the nearest area and try to get information about income and expenditure items of a particular seller

EXERCISE

Q. 1. Choose the correct option :

1) The branch of economics that deals with the allocation of resources.

   a) Micro economics   b) Macro economics

   c) Econometrics   d) None of these

   Options : 1) a, b and c   2) a and b

   3) only a   4) None of these

2) Concepts studied under Micro economics.

   a) National income   b) General price level

   c) Factor pricing   d) Product pricing

   Options : 1) b and c   2) b, c and d

   3) a, b and c   4) c and d

3) Method adopted in micro economic analysis.

   a) Lumping method   b) Aggregative method

   c) Slicing method   d) Inclusive method

   Options : 1) a, c and d   2) a, b and d

   3) only c   4) only a

4) Concepts studied under Macro economics.

   a) Whole economy   b) Economic development

   c) Aggregate supply   d) Product pricing

   Options : 1) a, b and c   2) b, c and d

   3) only d   4) a, b, c and d

Q. 2. Complete the correlation :

1) Micro economics : Slicing method : : Macro economics : ☐

2) Micro economics : Tree : : Macro economics : ☐

3) Macro economic theory : Income and employment : : Micro economics : ☐

4) Makros : Macro economics : : Mikros : ☐

5) General equilibrium : Macro economics :: ☐ : Micro economics

Q. 3. Identify and explain the concepts from the given illustrations :

1) Gauri collected the information about the income of a particular firm.

2) Ramesh decided to take all decisions related to production, such as what and how to produce?

3) Shabana paid wages to workers in her factory and interest on her bank loan.

Q. 4. Answer the following :

1) Explain the features of Micro economics.

2) Explain the importance of Macro economics.

3) Explain the scope of Macro economics.

Q. 5. State with reasons whether you agree or disagree with the following statements :

1) The scope of micro economics is unlimited.

2) Macro economics deals with the study of individual behaviour.

3) Macro economics is different from micro economics.

4) Micro economics uses slicing method.

5) Micro economics is known as Income theory.

Q. 6. Answer in detail :

1) Explain the importance of Micro economics.

2) Explain the concept of Macro economics and its features.

○○○

2 Utility Analysis

Introduction :

You have been already introduced to the concept of utility in class XI. This unit gives a detailed explanation of consumer's behaviour.

In practice, every individual tries to satisfy his wants with available resources. It is true that all human wants cannot be satisfied fully at a specific time. Utility analysis explains a consumer's behaviour in relation to maximization of satisfaction.

Try this :

1) Make a list of 10 commodities which satisfy your wants.

2) Make a list of 10 commodities which satisfy the wants of particular individuals performing specific activities. For example, A chalk has utility for a teacher.

Features of Utility :

Following are the features of utility :

1) **Relative concept :** Utility is related to time and place. It varies from time to time and place to place. For example, (i) woollen clothes have a greater utility in the winter. (ii) sand has greater utility at the construction site than at the sea shore.

2) **Subjective concept :** It is a psychological concept. Utility differs from person to person. This is due to differences in taste, preferences, likes, dislikes, nature, habits, profession etc. For example, stethoscope has utility to a doctor but not to a layman.

3) **Ethically neutral concept :** The concept of utility has no ethical consideration. It is a morally colourless concept. The commodity should satisfy any want of a person without consideration of what is good or bad, desirable or undesirable. For example, a knife has utility to cut fruits and vegetables as well as it can be used to harm someone. Both wants are of different nature but are satisfied by the same commodity. Thus, utility is ethically neutral.

4) **Utility differs from usefulness :** Utility is the capacity of a commodity to satisfy human wants, whereas usefulness indicates value in use of the commodity. For example, milk has both utility as well as usefulness to a consumer, while liquor has utility only to an addict, but has no usefulness.

5) **Utility differs from pleasure :** A commodity may possess utility but it may not give any pleasure to the consumer. For example, injection for a patient has utility because it cures the ailment but it hardly gives any enjoyment or pleasure to him.

6) **Utility differs from satisfaction :** Utility is a cause of consumption, satisfaction is the end result of consumption. They are interrelated but still different concepts. For example, a thirsty person drinks a glass of water since water has the capacity to satisfy thirst. Utility of water is the cause of consumption and the satisfaction derived is the end result of consumption.

7) **Measurement of utility is hypothetical :** Utility is an abstract concept. Cardinal or numerical measurement of utility is not possible. For example, a thirsty person after drinking water, may derive higher or lower level of utility. Thus, utility can only be experienced and found either positive, zero or negative. Negative utility is called disutility.

8) **Utility is multi-purpose :** A commodity can satisfy the want of more than one person, it can also be put to several uses. For example, electricity can be used to serve many purposes and for many people at some point of time.

9) **Utility depends on the intensity of want :** Utility depends on the intensity of a want. More intense the want, greater will be the utility. As and when the urgency of want declines, utility diminishes. For example, a hungry person finds more utility in food, than a person who is not hungry.

10) **Utility is the basis of demand :** A person will demand a commodity only if it gives utility to him. For example, a sick person has utility in medicines hence, he demands medicines.

Types of Utility :

Following are some of the different types of utility

1) **Form utility :** When utility is created due to a change in the shape or structure of an existing material, it is called form utility. For example, toys made of clay, furniture from wood etc.

Fig. 2.1

2) **Place utility :** When utility of a commodity increases due to a change in its place, it is called place utilities. For example, woollen clothes have more utility at cold places than at warm places. Transport creates place utility.

Fig. 2.2

3) **Service utility :** Service utility arises when personal services are rendered by various professionals. For example, services of doctors, teachers, lawyers etc.

Fig. 2.3

4) **Knowledge utility :** When a consumer acquires knowledge about a particular product, it is called knowled uitility. For example, utility of a mobile phone or a computer increases when a person knows about its various functions.

Fig. 2.4

5) Possession utility : Possession utility arises when the ownership of goods is transferred from one person to another. For example, transfer of goods from the sellers to the buyers.

Fig. 2.5

6) Time utility : When the utility of a commodity increases with a change in its time of utilization, it is called time utility. For example, a student has more utility for text books during examinations than in the vacations. Time utility is also observed when goods are stored and used at the time of scarcity. For example, Blood bank.

Fig. 2.6 A

Try this :
   Following are the various types of utility and their respective examples. Arrange the information in the form of pairs:

Types of utility : Time utility, possession utility, service utility and place utility.

Examples : 1) A dentist giving dental treatment to a patient.

 2) A mountaineer using oxygen cylinder at a high altitude.

 3) A farmer selling rice stored in the warehouse at the end of the season.

 4) A retail trader purchasing 100 chairs from the wholesale trader.

Concepts of Utility :
   Following are the two main concepts of utility :

1) Total Utility (TU) : Total utility refers to the aggregate of utility derived by the consumer from all units of a commodity consumed. It is an aggregate of utilities from all successive units of a commodity consumed.

2) Marginal Utility (MU) : Marginal utility refers to the additional utility derived by a consumer from an additional unit of a commodity consumed. In other words, it is the addition made by the last unit of a commodity consumed.

| Fig. 2.6 B | Fig. 2.6 C | Fig. 2.6 D |

Formulae explaining the relationship between total utility and marginal utility :

$TU = \Sigma MU$ or

$TU = MU_1 + MU_2 + MU_3 \ldots\ldots.. + MU_n$

$MU_n = TU_n - TU_{(n-1)}$

Where TU = Total Utility

MU = Marginal Utility

MU_1, MU_2, MU_3 = Marginal Utility of each unit.

MU_n = Marginal Utility of nth unit.

TU_n = Total Utility at n^{th} level.

$TU_{(n-1)}$ = Total Utility at previous level.

Relationship between Total Utility and Marginal Utility :

Marginal utility derived from various units of a commodity and its total utility are interrelated. This can be easily followed from the hypothetical example given in the table 2.1

Table 2.1 Utility Schedule

Units of x	Total utility	Marginal utility
1	10	10
2	18	8
3	24	6
4	28	4
5	30	2
6	30	0
7	28	−2

Table 2.1 explains the relationship between total utility and marginal utility.

On the basis of Table 2.1 Total utility and Marginal Utility curves (TU and MU) can be derived with the following diagram.
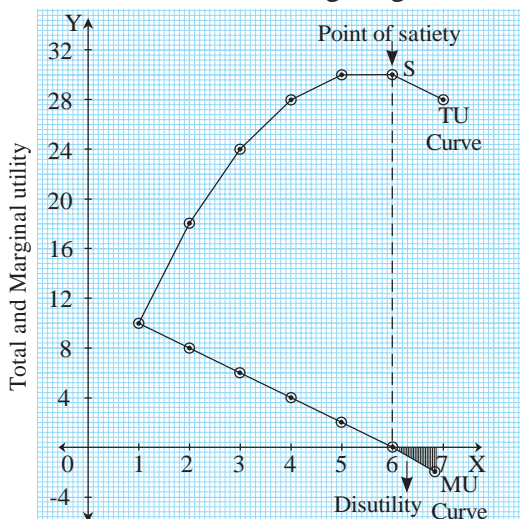

Units of Commodity x **Fig. 2.7**

TU Curve = Total Utility Curve

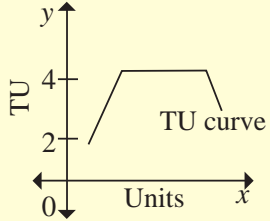MU Curve = Marginal Utility Curve

X axis measures the units of the commodity consumed while Y axis indicates the figures of total and marginal utility.

Fig. 2.7 shows that total utility curve slopes upwards whereas marginal utility curve slopes downwards. Marginal utility curve shows zero and negative levels of marginal utility whereas total utility curve shows maximum and constant total utility level.

1) Total utility and marginal utility of the very first unit of x consumed, are the same.

2) As the consumer consumes further units of x, the total utility increases at a diminishing rate and marginal utility goes on diminishing. (TU↑ MU↓)

3) At a particular stage, total utility reaches to its maximum and remains constant whereas marginal utility becomes zero. This is called the point of satiety. (TU highest, MU = 0)

4) After this point, any additional unit consumed further results in a decline in the total utility, while marginal utility becomes negative. (TU↓ MU negative)

5) After reaching the point of satiety, a rational consumer should stop his consumption since the maximum limit of satisfaction is reached and there is no addition to total utility by any further increase in the stock of a commodity.

6) Consumption beyond the point of satiety transforms satisfaction into dissatisfaction. In other words, a consumer starts experiencing ill effects of consumption.

Try this :

Complete the following chart with proper statement and bring about the difference between the two concepts i.e total utility and marginal utility.

Total Utility	Marginal Utility
1) Total utility is the sum total of the individual utilities derived from the consumption of a single unit of good.	1) Marginal utility is the addition made to the total utility from every additional unit consumed.
2) Total utility increases at a diminishing rate.	2)
3)	3) At the point of satiety MU = O
4) Total utility declines if consumption continues.	4)
5) Total utility determines value in use of a commodity.	5)
6)	6) Marginal utility can be positive, negative, zero.
7) Diagram :	7) Diagram :

(Diagram under 7 left: y-axis labelled TU with values 4 and 2, x-axis labelled Units, origin 0, showing TU curve)

Law of Diminishing Marginal Utility :
Introduction :

This law was first proposed by Prof. Gossen but was discussed in detail by Prof. Alfred Marshall in his book 'Principles of Economics' published in 1890.

The law of diminishing marginal utility is universal in character. It is based on the common consumer behaviour that utility derived diminishes with the reduction in the intensity of a want.

Statement of the Law :

According to Prof. Alfred Marshall, "Other things remaining constant, the additional benefit which a person derives from a given increase in his stock of a thing, diminishes with every increase in the stock that he already has."

In other words, marginal utility that any consumer derives from successive units of a particular commodity goes on diminishing as his or her total consumption of that commodity increases. In short, the more of a thing you have, the less you want to have more of it.

Assumptions :

Following are the assumptions of the law of diminishing marginal utility :

1) **Rationality :** Consumer is assumed to be rational. It means that his behaviour is normal and he tries to maximize his satisfaction.

2) **Cardinal measurement :** The law assumes that utility can be cardinally or numerically measured. Hence, mathematical operations are easily possible to know and compare the utility derived from each unit of a commodity.

3) **Homogeneity :** All units of a commodity consumed are exactly homogeneous or identical in size, shape, colour, taste etc.

4) **Continuity :** All units of commodity are consumed in quick succession without any lapse of time.

5) **Reasonability :** All the units of a commodity consumed are of reasonable size. They are neither too big nor too small.

6) **Constancy :** All the related factors like income, tastes, habits, choices, likes, dislikes of a consumer should remain constant. Marginal utility of money is also assumed to be constant.

7) **Divisibility :** The law assumes that the commodity consumed by the consumer is divisible so that it can be acquired in small quantities.

8) **Single want :** A given commodity can satisfy a single want of a person. The law

assumes an experience of a single want which is completely satiable at a given point of time.

Table 2.2 explains the Law of Diminishing Marginal Utility.

Table : 2.2

Units of x	Marginal Utility (MU)
1	10
2	8
3	6
4	4
5	2
6	0
7	–2

The table shows that marginal utility keeps on diminishing with increase in consumption, further it becomes zero and then negative.
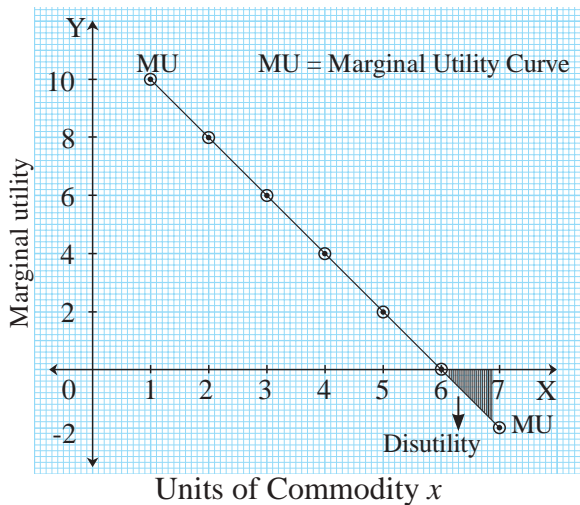

Fig. 2.8

Explanation of the Diagram :

In the above diagram, units of commodity x are measured on X axis and marginal utility is measured on Y axis. Various points of MU are plotted on the graph as per the given schedule. When the locus of all the points is joined, MU curve is derived.

MU curve slopes downwards from left to right which shows that MU goes on diminishing with every successive increase in the consumption of a commodity.

When MU becomes zero, MU curve intercepts the X axis. Further consumption of a commodity

brings disutility (negative utility) which is shown by the shaded portion in the diagram.

Exceptions to the Law of Diminishing Marginal Utility :

Following are the exceptions to the law of diminishing marginal utility :

1) **Hobbies :** In certain hobbies like collection of various stamps and coins, rare paintings, music, reading etc., the law does not hold true because every additional increase in the stock gives more pleasure. This increases marginal utility. However, this violates the assumption of homogeneity and continuity.

2) **Miser :** In the case of a miser, every additional rupee gives him more and more satisfaction. Marginal utility of money tends to increase with an increase in his stock of money. However, this situation ignores the assumption of rationality.

3) **Addictions :** It is observed in case of a drunkard that the level of intoxication increases with every additional unit of liquor consumed. So MU received by drunkard may increase. Actually it is only an illusion. This condition is similar to almost all addictions. However, this violates the assumption of rationality.

4) **Power :** This is an exception to the law because when a person acquires power, his lust for power increases. He desires to have more and more of it. However, this again violates the rationality assumption.

5) **Money :** It is said that the MU of money never becomes zero. It increases when the stock of money increases. This is because money is a medium of exchange which is used to satisfy various wants. However, according to some economists, this law is applicable to money too. For example, marginal utility of money is more to a poor person than to a rich person.

However, these, exceptions are only apparent. Since they violate some or the other assumptions of the law and hence, they are not real exceptions.

Criticisms of the Law :

The law of diminishing marginal utility is criticised on the following grounds.

1) **Unrealistic assumptions :** The law of diminishing marginal utility is based upon various assumptions like homogeneity, continuity, constancy, rationality etc. but in reality it is difficult to fulfil all these conditions at a point of time.

2) **Cardinal measurement :** The law assumes that utility can be expressed cardinally so it can be added, compared and presented through a schedule. In reality cardinal measurement of utility is not possible because utility is a psychological concept.

3) **Indivisible goods :** The law is not applicable to indivisible and bulky goods like refrigerator, car, TV sets etc. which are normally purchased in single unit at a time.

4) **Constant marginal utility of money :** The law assumes that MU of each unit of money remains constant. However, critics argue that MU of money differs from person to person. It is influenced by changes in prices, stock of money etc.

5) **A single want :** The law is restricted to the satisfaction of a single want at a point of time. However, in reality, a man has to satisfy many wants at a point of time.

Significance of the Law :

In spite of the criticisms, the law of diminishing marginal utility is a very popular and an important law in Economics because of its universal application.

1) **Usefulness to the consumers :** This law creates awareness among the consumers. To obtain maximum utility from the limited resources, it is necessary to 'diversify' the consumption.

2) **Useful to the government :** The law is useful to the government in framing various policies such as progressive tax policy, trade policy, pricing policy etc.

3) **Basis of paradox of values :** The law of diminishing marginal utility helps us to understand the paradox of values. It includes goods that have more value-in-use and zero or less value-in-exchange such as air, water, sunshine etc. as well as goods that have more value-in-exchange and less value-in-use such as gold, diamonds etc.

4) **Basis of law of demand :** The law of demand is based on the law of diminishing marginal utility. According to the law of demand, the quantity demanded of a good rises with a fall in price and falls with an increase in price. When a consumer purchases more and more units of a good, its marginal utility steadily declines. Hence, he would buy additional units of a commodity only at a lower price.

Try this :

Write an informative note on paradox of values along with examples.

Relationship between Marginal Utility and Price :

Let us discuss the relationship between marginal utility and price in order to understand how the law of diminishing marginal utility forms the basis of law of demand. It is a perfect example of practical application of the law of Diminishing Marginal Utility (DMU).

To understand the relation, it is essential to convert marginal utility in terms of money so that it can be compared with market price.

Let us assume : One unit of marginal utility = ₹ 10.

Market price per unit of x = ₹ 50.

Table 2.3

No of units	MU/ units of x	MU in terms of money 1 unit = ₹ 10	Market price/unit of x = ₹ 50	Comparison between MU and price
1	10	100 (10 × ₹10)	₹ 50	100 MU> ₹50
2	8	80 (8 × ₹ 10)	₹ 50	80 MU> ₹50
3	7	70 (7 × ₹ 10)	₹ 50	70 MU> ₹50
4	5	50 (5 × ₹ 10)	₹ 50	50 MU = ₹50
5	3	30 (3 × ₹ 10)	₹ 50	30 MU< ₹50
6	1	10 (1 × ₹ 10)	₹ 50	10 MU< ₹50

Table 2.3 explains the relationship between marginal utility (MU) and price.

The table shows that a consumer starts buying units of commodity x for his consumption, one after the other. Marginal utility which is added to his stock goes on diminishing with every further unit consumed. When MU is converted in terms of money, one can easily compare it with market price which is shown in the column 5 of the table 2.3

For the first three units consumed, it is found that marginal utility in terms of money is greater than the price paid. A rational consumer will willingly buy these units since the benefit derived is more than the price paid. At the 4th unit marginal utility and price become equal. So the consumer can also think of buying the 4th unit. In the case of 5th and 6th units, marginal utility derived is less than the market price paid. A rational consumer will not buy further once the equality between marginal utility and price is established.

From the given table 2.3, following inferences can be made with reference to marginal utility and price :

1) Units which a consumer willingly buys because MU is greater than price are called "Intra-marginal units" ($MU_x > P_x$)

2) Unit at which MU becomes equal with market price is "marginal unit". ($MU_x = P_x$) = Consumer's equilibrium

3) Units which a rational consumer is not willing to buy and consume where he has to pay more than the MU are called "Extra-marginal units." ($MU_x < P_x$)

Thus, a rational consumer attains equilibrium where $MU_x = P_x$. This relationship between marginal utility and price paved way for law of demand.

Do you know?

Two English Economists, J. R. Hicks and R. G. D. Allen were the main exponents of 'Indifference Method'. It was evolved to supersede cardinal utility analysis given by Prof. Alfred Marshall. Indifference curve analysis adopts the concept of ordinal utility.
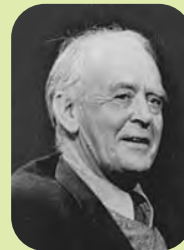
J R Hicks
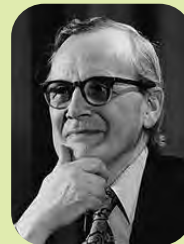
R.G.D Allen

An indifference curve is the locus of points indicating particular combinations of two goods from which the consumer derives the same level of satisfaction. As a result, he is indifferent to the particular combination that he consumes.

EXERCISE

Q. 1. A) Complete the following statements by choosing the correct alternatives.

1) In the law of diminishing marginal utility, Alfred Marshall assumes that marginal utility of money……….
   a) increases   b) remains constant
   c) decreases   d) rises and then falls

2) As per the law of diminishing marginal utility, measurement of utility is assumed to be ……….
   a) ordinal
   b) cardinal
   c) both ordinal and cardinal
   d) none of the above

3) MU of the commodity becomes negative when TU of a commodity is ………
   a) rising   b) constant   c) falling   d) zero

4) Point of Satiety means ……….
   a) TU is rising and MU is falling
   b) TU is falling and MU is negative
   c) TU is maximum and MU is zero
   d) MU is falling and TU is rising.

5) When MU is falling, TU is……….
   a) rising   b) falling
   c) not changing   d) maximum

Q. 2. Choose the correct option :

1)   A   B
   1) Time utility   a) Transport
   2) Place utility   b) Blood Bank
   3) Service utility   c) Mobile phone
   4) Knowledge utility   d) Doctor

Options :
   i) 1-d, 2-b, 3-a, 4-c   ii) 1-b, 2-a, 3-d, 4-c
   iii) 1-a, 2-b, 3-c, 4-d   iv) 1-b, 2-c, 3-d, 4-a

2) Statments indicating consumer equilibrium :
   a) MU is greater than price
   b) MU is equal to price
   c) MU is less than price
   d) Price is less than one

Options :
   i) a and b   ii) a, b, c and d
   iii) a, b and c   iv) only b

Q. 3. Identify and explain the concepts from the given illustration :

1) Salma purchased sweater for her father in winter season.
2) Nilesh purchased ornaments for his sister.
3) Kavita consumed five units of oranges one after the other.
4) Bhushan refused to eat fifth chapati after eating four chapatis.
5) Lalita satisfied her want of writing on essay by using pen and notebook.

Q. 4. Observe the given table and answer the questions:

Unit of a commodity	TU units	MU units
1	6	6
2	11	5
3	15	4
4	15	0
5	14	−1

1) Draw total utility curve and marginal utility curve.

2) a) When total utility is maximum marginal utility is ☐
   b) When total utility falls, marginal utility becomes ☐

Q. 5. Answer in detail :

1) State and explain the law of diminishing marginal utility with exceptions.

○○○

16

3A Demand Analysis

Introduction :

You have already studied the concept of utility in the previous chapter. Utility is the basis of demand. Utility may generate a desire or a need to have a particular commodity, but utility on its own cannot generate demand for the commodity. This chapter is an effort to analyse the concept of demand. Demand analysis is concerned with consumer behaviour.

Meaning of Demand :

In ordinary language, demand means a desire. Desire means an urge to have something. In Economics, demand means a desire which is backed by willingness and ability to pay.

For example, if a person has the desire to purchase a television set but does not have the adequate purchasing power then it will be simply a desire and not a demand.

Thus, demand is an effective desire. All desires are not demand.

In short,

> Demand = Desire + willingness to purchase + Ability to pay.

Try this :

Identify the concepts :

1) A poor person wants to have a car ……

2) A rich person bought a car ……

Definition of Demand :

According to Benham, "the demand for anything at a given price is the amount of it, which will be bought per unit of time at that price."

Thus, following are the features of demand :

1) Demand is a relative concept.

2) Demand is essentially expressed with reference to time and price.

Demand Schedule :

Demand schedule is a tabular representation of the functional relationship between price and quantity demanded for a particular commodity.

A demand schedule may be either individual demand schedule or market demand schedule.

Individual Demand Schedule :

Individual demand is the quantity of a commodity demanded by a consumer at a given price during a given period of time.

Individual demand schedule is a tabular representation showing different quantities of commodities that an individual consumer is prepared to buy at various prices over a given period of time.

This can be explained with the help of the following individual demand schedule.

Individual demand schedule :

Table 3.1

Price of commodity 'x' (₹)	Quantity demanded of commodity 'x' (in kgs)
10	1
8	2
6	3
4	4
2	5

Table 3.1 shows different quantities of commodity 'x' purchased by an individual consumer at various prices. It can be observed that less quantity of commodity is demanded at rising prices and more quantity of commodity is demanded at falling prices. It indicates an inverse relationship between price and quantity demanded.

Individual Demand Curve :

Individual demand curve is a graphical representation of the individual demand schedule.

Fig. 3.1 represents an individual demand curve

17

which is based on table 3.1

Individual Demand Curve
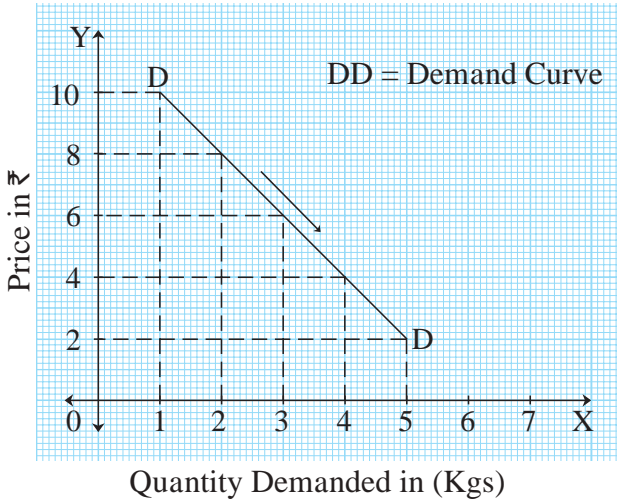

Quantity Demanded in (Kgs)

Fig. 3.1

In figure 3.1, X axis represents quantity demanded and Y axis represents the price of the commodity. The demand curve DD slopes downward from left to right, indicating an inverse relationship between price and quantity demanded.

Fig. 3.2 Individual Demand

Market Demand Schedule :

Market demand is total demand for a commodity from all the consumers at a given price during a given period of time.

Market demand schedule is a tabular representation showing different quantities of commodity which all consumers are prepared to buy at various prices over a given period of time.

It is obtained by a horizontal summation of

the demand of all consumers at various prices. It also indicates an inverse relationship between price and quantity demanded.

This can be explained with the help of following market demand schedule.

Market demand schedule :

Table. 3.2

Price of commodity	Quantity of 'x' demanded Kgs.			Market demand
'x' ($\overline{\mathbb{R}}$)	Con-sumer	Con-sumer	Con-sumer	A + B + C
	A	B	C	
10	5	10	15	30
8	10	15	20	45
6	15	20	25	60
4	20	25	30	75
2	25	30	35	90

Table 3.2 shows different quantities of commodity x purchased by different consumers (A, B, C) at various prices. It can be observed that less quantity of commodity is demanded at rising prices and more quantity of commodity is demanded at falling prices. Thus, there is an inverse relationship between price and quantity demanded.

Market Demand Curve :

Graphically, the market demand curve is a horizontal summation of individual demand curves. It is based on the market demand schedule. Fig. 3.3 represents the market demand curve

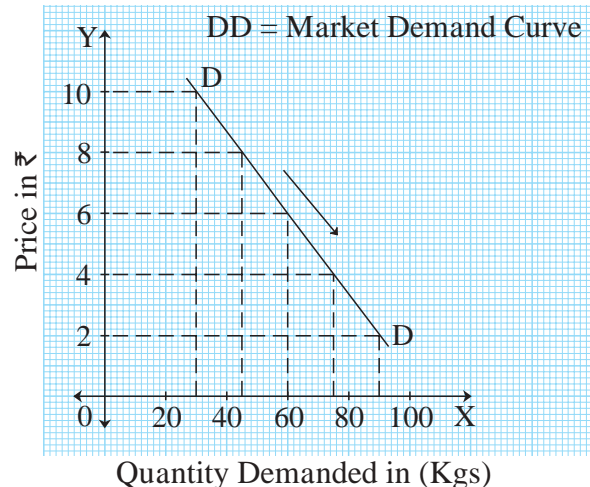**Market Demand Curve**

Quantity Demanded in (Kgs)

Fig. 3.3

In figure 3.3, X axis represents market demand and Y axis represents the price of the commodity. The market demand curve 'DD' slopes downward from left to right, indicating an inverse relationship between price and market demand.
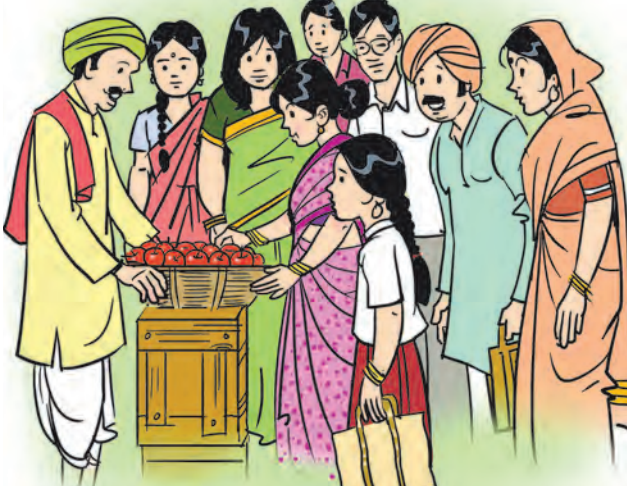

Fig. 3.4 Market Demand

Try this :
Prepare a monthly demand schedule of your family for various commodities. For example, vegetables, fruits, medicines etc.

Reasons justifying downward sloping demand curve are as follows :

1) **Law of Diminishing Marginal Utility :** We have seen that marginal utility goes on diminishing with an increase in the stock of a commodity and vice-versa. Therefore, a consumer tends to buy more when price falls and vice-versa. This implies that demand curve is downward sloping.

2) **Income effect :** In the case of normal goods, when price falls, purchasing power (real income) of a consumer increases which enables him to buy more of that commodity. This is known as income effect.

3) **Substitution effect :** In case of substitute goods, when the price of a commodity rises, the consumer tends to buy more of its substitute and less of that commodity whose price has increased. This is known as substitution effect.

4) **Multi-purpose uses :** When a commodity can be used for satisfying several needs, its demand will rise with a fall in its price and fall with a rise in its price.

5) **New Consumers :** When the price of a commodity falls, a new consumer class appears who can now afford the commodity. Thus, total demand for commodity increases with fall in price.

Try this :
Complete the following hypothetical demand schedule.

Price of commodity 'x' (₹)	Qty. Demanded kgs
350	3
300	
250	10
200	
150	
100	30

Types of Demand :

Types of Demand	1) Direct demand
	2) Indirect demand
	3) Complementary/Joint demand
	4) Composite demand
	5) Competitive demand
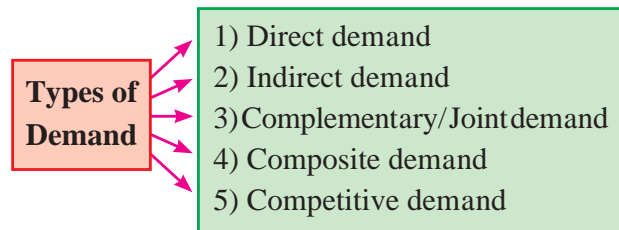
1) **Direct demand :** It is the demand by the consumer for goods which satisfy their wants directly. They serve direct consumption needs of the consumers. Thus, it is the demand for consumer goods. For example, demand for cloth, sugar, etc.

2) **Indirect demand :** Indirect demand is also known as derived demand. It refers to demand for goods which are needed for further production. It is the demand for producer's goods. Hence, all factors of production have indirect or derived demand. For example, demand for workers in a sugar factory is derived or indirect demand.

3) **Complementary/Joint demand :** When two or more goods are demanded jointly to satisfy a single want, it is known as joint or complementary demand. For example, car and fuel etc.

4) **Composite demand :** The demand for a commodity which can be put to several uses is known as composite demand. For example, electricity is demanded for several uses such as light, fan, washing machine etc.

5) **Competitive demand :** It is demand for those goods which are substitute for each other. For example, tea or coffee, sugar or jaggery etc.

Try this :

Complete the table

Type of demand	Example
Direct demand	☐ ☐
☐	Workers in cotton textile industry
Joint demand	**For preparing Coffee** → Coffee Powder, ☐, ☐, ☐
☐	CNG and petrol, pen and pencil
☐	**Milk** → Tea, Curd, Direct consumption, Sweets

Determinants of Demand :

The demand for goods is determined by the following factors :

1) **Price :** Price determines the demand for a commodity to a large extent. Consumers prefer to purchase a product in large quantities when price of a product is less and they purchase a product in small quantities when price of a product is high.

2) **Income :** Income of a consumer decides purchasing power which in turn influences the demand for the product. Rise in income will lead to a rise in demand for the commodity and a fall in income will lead to a fall in demand for the commodity.

3) **Prices of Substitute Goods :** If a substitute good is available at a lower price then people will demand cheaper substitute good than costly good. For example, if the price of sugar rises then demand for jaggery will rise.

4) **Price of Complementary Goods :** Change in the price of one commodity would also affect the demand for other commodity. For example, car and fuel. If the price of fuel rises, then demand for cars will fall.

5) **Nature of product :** If a commodity is a necessity and its use is unavoidable, then its demand will continue to be the same irrespective of the corresponding price. For example, medicine to control blood pressure.

6) **Size of population :** Larger the size of population, greater will be the demand for a commodity and smaller the size of population smaller will be the demand for a commodity.

7) **Expectations about future prices :** If the consumer expects the price to fall in future, he will buy less in the present at the prevailing price. Similarly, if he expects the price to rise in future, he will buy more in the present at the prevailing price.

8) **Advertisement :** Advertisement, sales promotion scheme and effective sales-manship tend to change the preferences of the consumers and lead to demand for many products. For example, cosmetics, tooth brush etc.

9) **Tastes, Habits and Fashions :** Taste and habits of a consumer influence the demand for a commodity. If a consumer likes to

eat chocolates or consume tea, he will demand more of them. Similarly, when a new fashion hits the market, the consumer demands that particular type of commodity. If a commodity goes out of fashion then suddenly the demand for that product tends to fall.

10) **Level of Taxation :** High rates of taxes on goods or services would increase the price of the goods or services. This, in turn would result in a decrease in demand for goods or services and vice-versa.

11) **Other factors :**

   1) Climatic conditions

   2) Changes in technology

   3) Government policy

   4) Customs and traditions etc.

Law of Demand :

Introduction :

The law of demand was introduced by Prof. Alfred Marshall in his book, 'Principles of Economics', which was published in 1890. The law explains the functional relationship between price and quantity demanded.

Statement of the Law :

According to Prof. Alfred Marshall, "Other things being equal, higher the price of a commodity, smaller is the quantity demanded and lower the price of a commodity, larger is the quantity demanded."

In other words, other factors remaining constant, if the price of a commodity rises, demand for it falls and when price of a commodity falls demand for the commodity rises. Thus, there is an inverse relationship between price and quantity demanded.

Symbolically, the functional relationship between demand and price is expressed as :

$$Dx = f(Px)$$

Where D = Demand for a commodity

x = Commodity

f = Function

Px = Price of a commodity

Assumptions :

Law of demand is based on the following assumptions :

1) **Constant level of income :** If the law of demand is to find true operate then, consumers' income should remain constant. If there is a rise in income, people may demand more at a given price.

2) **No change in size of population :** It is assumed that the size of population remains unchanged. Any change in the size and composition of population of a country affects the total demand for the product.

3) **Prices of substitute goods remain constant :** It is assumed that the prices of substitutes remain unchanged. Any change in the price of the substitute will affect the demand for the commodity.

4) **Prices of complementary goods remain constant :** It is assumed that the prices of complementary goods remain unchanged because a change in the price of one good will affect the demand for the other.

5) **No expectations about future changes in prices :** It is assumed that consumers do not expect any further change in price in the near future. If consumers expect a rise in prices in future, they may demand more in the present even at existing high price.

6) **No change in tastes, habits, preferences, fashions etc. :** It is assumed that consumers' tastes, habits, preferences, fashions etc. should remain unchanged. Any change in these factors will lead to a change in demand.

7) **No change in taxation policy :** Taxation policy of the government has a great impact on demand for various goods and services.

Therefore, it is assumed that there is no change in the policy of taxation declared by Government.

The law of demand is explained with the help of the following demand schedule and diagram.

Demand schedule :

Table. 3.3

Price of commodity 'x' (₹)	Quantity demanded of commodity 'x' (in kgs.)
50	1
40	2
30	3
20	4
10	5

As shown in Table 3.3 when price of commodity 'x' is ₹ 50, quantity demanded is 1 kg. When price falls from ₹ 50 to ₹ 40, quantity demanded rises from 1 kg to 2 kgs. Similarly, at price ₹ 30, quantity demanded is 3 kgs and when price falls from ₹ 20 to ₹ 10, quantity demanded rises from 4 kg sto 5 kgs

Thus, as the price of a commodity falls, quantity demanded rises and when price of commodity rises, quantity demanded falls. This shows an inverse relationship between price and quantity demanded.

Demand Curve
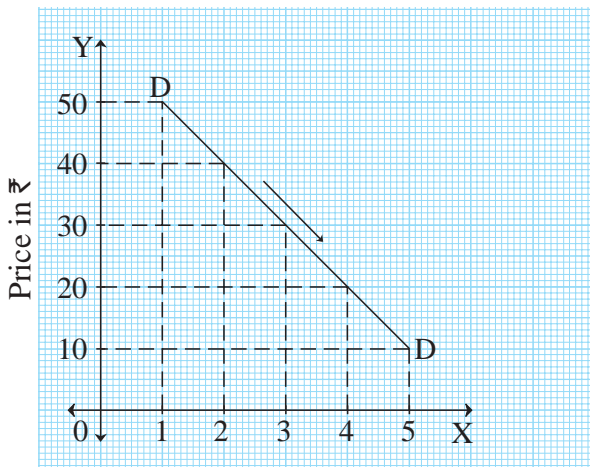
Quantity Demanded in kgs

Fig. 3.5

In fig. 3.5, X axis represents the demand for the commodity and Y axis represents the price of commodity *x.* DD is the demand curve which slopes downward from left to right due to an inverse relationship between price and quantity demanded.

Try this :

Draw a demand curve from the following demand schedule :

Price of Apple (₹) per kg	Quantity demanded (in kgs.)
40	5
50	4
60	3
70	2
80	1

Exceptions to the Law of Demand :

There are certain exceptions to the law of demand. It means that under exceptional circumstances, consumer buys more when the price of commodity rises and buys less when price of commodity falls. In such cases, demand curve slopes upwards from left to right. i.e. the demand curve has a positive slope as shown in fig. 3.6.

Exceptional Demand Curve
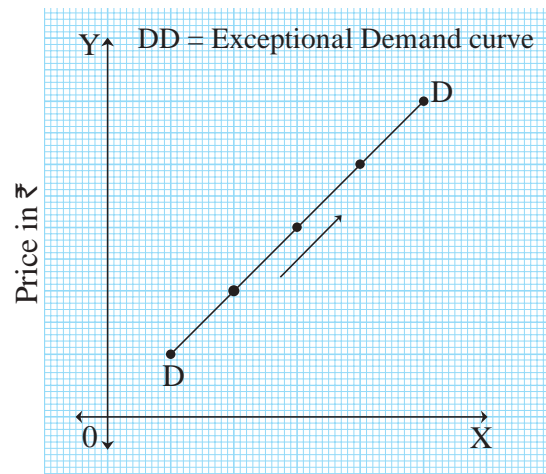
Quantity Demanded in kgs

Fig. 3.6

22

Following are the exceptions to the law of demand:

1) **Giffen's paradox :** Inferior goods or low quality goods are those goods whose demand does not rise even if their price falls. At times, demand decreases when the price of such commodities fall.

Sir Robert Giffen observed this behaviour in England in relation to bread. He noted that, when the price of bread declined, people did not buy more because of an increase in their real income or purchasing power. They preferred to buy superior good like meat. This is known as Giffen's paradox.

2) **Prestige goods :** Expensive goods like diamond, gold etc. are status symbol. So rich people buy more of it, even when their prices are high.

3) **Speculation :** The law of demand does not hold true when people expect prices to rise still further. In this case, although the prices have risen today, consumers will demand more in anticipation of further rise in price. For example, prices of oil, sugar etc. tend to rise before Diwali. So people go on purchasing more at a high price as they anticipate that prices may rise during Diwali.

4) **Price illusion :** Consumers have an illusion that high priced goods are of a better quality. Therefore, the demand for such goods tend to increase with a rise in their prices. For example, branded products which are expensive are demanded even at a high price.

5) **Ignorance :** Sometimes, due to ignorance people buy more of a commodity at high price. This may happen when consumer is ignorant about the price of that commodity at other places.

6) **Habitual goods :** Due to habit of consumption, certain goods like tea is purchased in required quantities even at a higher price.

Find out :

Examples of the given exceptions to the law of demand.

1) Prestigious goods – ☐ ☐

2) Habitual goods – ☐ ☐

3) Branded goods – ☐ ☐

Variations in Demand :

When the demand for a commodity falls or rises due to a change in price alone and other factors remain constant, it is called variations in demand. It is of two types :

1) **Expansion of demand :** Expansion of demand refers to rise in quantity demanded due to fall in price alone while other factors like tastes, income of the consumer, size of population etc. remain unchanged.

Demand moves in downward direction on the same demand curve.

This is explained with the help of following fig. 3.7

Expansion of Demand
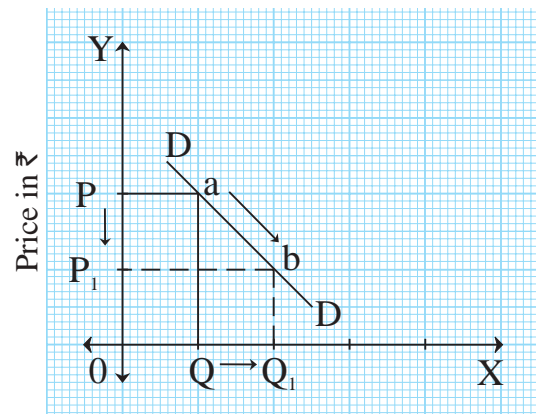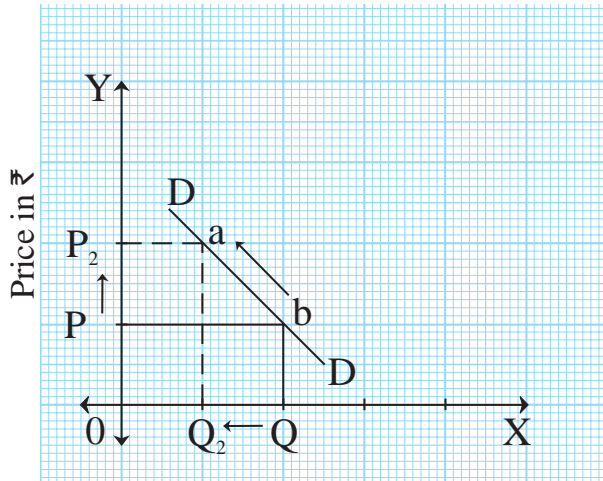

Quantity Demanded in kgs

Fig. 3.7

As shown in fig. 3.7, DD is demand curve. A downward movement on the same demand curve from point a to point b indicates an expansion of demand.

2) Contraction of Demand : Contraction of demand refers to a fall in demand due to rise in price alone. Other factors like tastes, income of the consumer, size of population etc. remain unchanged.

Demand curve moves in the upward direction on the same demand curve.

This can be explained with the help of following fig. 3.8

Contraction of Demand

Quantity Demanded in kgs

Fig. 3.8

As shown in fig. 3.8, DD is a demand curve. An upward movement on the same demand curve from point b to point a shows contraction of demand.

Changes in Demand :

When demand for a commodity increases or decreases due to changes in other factors and price remains constant, it is known as changes in demand. It is of two types :

1) Increase in demand : It refers to increase in quantity demanded due to favourable changes in other factors like tastes, income of the consumer, climatic conditions etc. and price remains constant.

Demand curve shifts to the right hand side of the original demand curve. This can be explained with the help of fig. 3.9

Increase in Demand
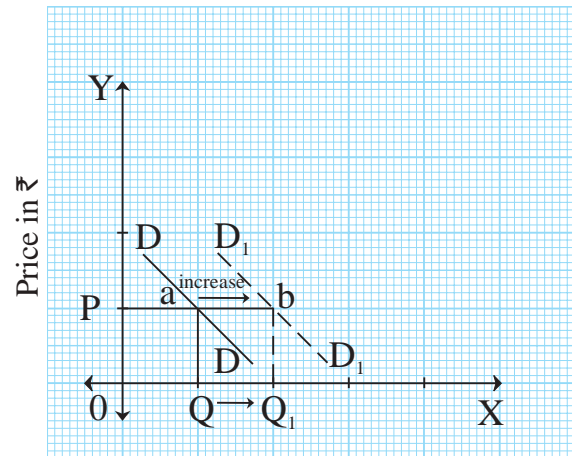
Quantity Demanded in kgs

Fig. 3.9

As shown in fig. 3.9, DD is the original demand curve. Demand curve shifts outward to the right from DD to D_1D_1 which indicates increase in demand.

2) Decrease in demand : It refers to decrease in quantity demanded due to unfavourable changes in other factors like tastes, income of the consumer, climatic conditions etc. and price remains constant.

Demand curve shifts to left hand side of the original demand curve. This can be explained with the help of fig. 3.10

Decrease in Demand
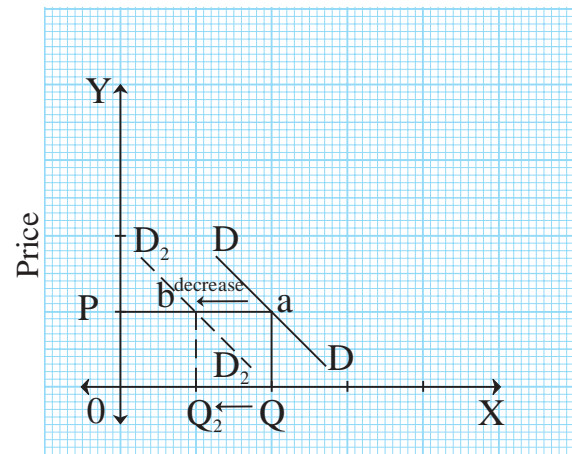
Quantity Demanded

Fig. 3.10

As show in fig. 3.10, DD is the original demand curve. It shifts inward to the left from DD to D_2D_2 which indicates decrease in demand.

24

You should know :

1) Demand is a micro economic concept. Demand is that quantity of a commodity which a person is ready to buy at a particular price and during a specific period of time.

2) Aggregate demand is a macro economic concept. It refers to the total amount of sales proceeds which an entrepreneur actually expects from the sale of output produced at a given level of employment during the year.

EXERCISE

Q. 1. Complete the following statments :

1) The relationship between demand for a good and price of its substitute is……..
   a) direct
   b) inverse
   c) no effect
   d) can be direct and inverse

2) The relationship between income and demand for inferior goods is…….
   a) direct
   b) inverse
   c) no effect
   d) can be direct and inverse

3) Symbolically, the functional relationship between Demand and Price can be expressed as ....
   a) $Dx = f(Px)$
   b) $Dx = f(Pz)$
   c) $Dx = f(y)$
   d) $Dx = f(T)$

4) When less units are demanded at high price it shows ....
   a) increase in demand
   b) expansion of demand
   c) decrease in demand
   d) contraction in demand

Q. 2. Give economic terms :

1) A situation where more quantity is demanded at lower price ………

2) Graphical representation of demand schedule ………

3) A commodity which can be put to several uses ………

4) More quantity is demanded due to changes in the factors determining demand other than price ………

5) A desire which is backed by willingness to purchase and ability to pay ………

Q. 3. Distinguish between :

1) Desire and Demand

2) Expansion of demand and Contraction of demand

3) Increase in demand and Decrease in demand

Q. 4. State with reasons whether you agree or disagree with the following statements :

1) Demand curve slopes downward from left to right.

2) Price is the only determinant of demand.

3) When price of Giffen goods fall, the demand for it increases.

Q. 5. Observe the following table and answer the following questions :

Quantity demanded				
Price per kg. in ₹	Consumer A	Consumer B	Consumer C	Market demand (in kgs) (A+B+C)
25	16	15	12	☐
30	12	11	10	☐
35	10	09	08	☐
40	08	06	04	☐

a) Complete the market demand schedule.

b) Draw market demand carve based on above market demand schedule.

2) Observe the given diagram and answer the following questions :
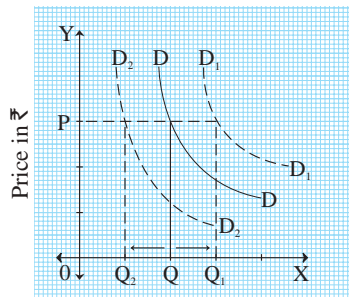
Quantity Demanded in kgs

1) Rightward shift in demand curve ....

2) Leftward shift in demand curve ....

3) Price remains ....

4) Increase and decrease in demand comes under..........

3) Explain the diagrams :

A) Quantity Demanded in kgs   B) Quantity Demanded in kgs

A)
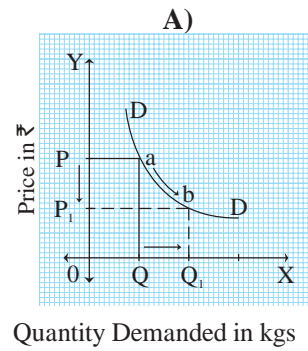
1) Diagram A represents ...... in demand

2) In diagram A movement of demand curve is in ...... direction

B)
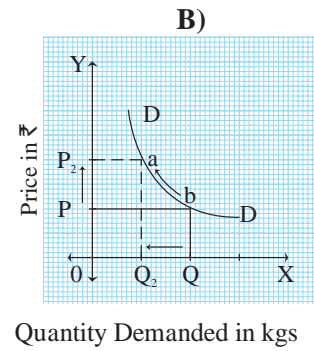
1) Diagram B represents .... in demand

2) In diagram B movement of demand curve is in ...... direction

Q. 6. Answer in detail :

1) State and explain the law of demand with exceptions.

2) Explain in detail the determinants of demand.

○○○

3B Elasticity of Demand

Introduction :

In the previous chapter you have already studied the law of demand which shows the inverse relationship between quantity demanded and price of a commodity. The law of demand does not explain the extent of a change in demand due to a change in the price. Thus, law of demand fails to explain the quantitative relationship between price and quantity demanded. Therefore, Prof. Alfred Marshall explained the concept of elasticity of demand.

Concept of Elasticity of Demand :

The term elasticity indicates responsiveness of one variable to a change in the other variable. Elasticity of demand refers to the degree of responsiveness of quanity demanded to a change in its price or any other factor.

According to Prof. Marshall, "Elasticity of demand is great or small according to the amount demanded which rises much or little for a given fall in price and quantity demanded falls much or little for a given rise in price."

It is clear from the above definition that elasticity of demand is a technical term which describes the responsiveness of change in quantity demanded to fall or rise in its price. In other words, it is the ratio of percentage change in quantity demanded of a commodity to a percentage change in price.

Types of Elasticity of Demand :

1) Income elasticity
2) Cross elasticity
3) Price elasticity

1) **Income elasticity :** It refers to the degree of responsiveness of a change in quantity demanded to a change in the income only, other factors including price remain unchanged. It is expressed as :

$$Ey = \frac{\text{Percentage change in Qty. Demanded}}{\text{Percentage change in Income}}$$

Symbolically,

$$Ey = \frac{\% \triangle Q}{\% \triangle Y}$$

$$= \frac{\triangle Q}{Q} \div \frac{\triangle Y}{Y}$$

$$= \frac{\triangle Q}{Q} \times \frac{Y}{\triangle Y}$$

Where,

$\triangle$ = Represents change

Q = Orignal demand

Y = Orignal income

$\triangle$Q = Change in quantity demanded

$\triangle$Y = Change in income of a consumer

You should know :

- **Positive income elasticity**
  Normal goods for which demand increases with increase in income.

- **Negative income elasticity**
  Inferior or goods for which demand decreases with increase in income of consumer.

- **Zero income elasticity**
  Necessary goods for which demand remains constant with increase in income of the consumer.

2) **Cross elasticity :** It refers to a change in quantity demanded of one commodity due to a change in the price of other commodity. (Complementary goods or substitutes)

$$Ec = \frac{\text{Percentage change in Qty. demanded of A}}{\text{Percentage change in Price of B}}$$

(A = Original commodity, B = Other commodity)

Symbolically, $Ec = \dfrac{\% \triangle Q_A}{\% \triangle P_B}$

$$= \dfrac{\triangle Q_A}{Q_A} \div \dfrac{\triangle P_B}{P_B}$$

$$= \dfrac{\triangle Q_A}{Q_A} \times \dfrac{P_B}{\triangle P_B}$$

Where,

Q_A = Original quantity demanded of commodity A

$\triangle Q_A$ = Change in quantity demanded of commodity A

P_B = Original price of commodity B

$\triangle P_B$ = Change in price of commodity B

You should know :

- Positive cross elasticity : Substitute goods. Example, tea and coffee.
- Negative cross elasticity : Complementary goods. Example, tea and sugar.
- Zero cross elasticity : Non-related goods. Example, tea and books.

3) **Price elasticity :** According to Prof. Alfred Marshall, price elasticity of demand is a ratio of proportionate change in the quantity demanded of a commodity to a given proportionate change in its price.

$$Ed = \dfrac{\text{Percentage change in Quantity Demanded}}{\text{Percentage change in Price}}$$

Symbolically, $Ed = \dfrac{\% \triangle Q}{\% \triangle P}$,

$$Ed = \dfrac{\triangle Q}{Q} \div \dfrac{\triangle P}{P}$$

$$Ed = \dfrac{\triangle Q}{Q} \times \dfrac{P}{\triangle P}$$

Where,

Q = Original quantity demanded

$\triangle Q$ = Difference between the new quantity and original quantity demanded

P = Original price

$\triangle P$ = Difference between new price and original price

Types of Price Elasticity of Demand :

1) **Perfectly Elastic Demand (Ed = ∞) :**

When a slight or zero change in the price brings about an infinite change in the quantity demanded of that commodity, it is called perfectly elastic demand. It is only a theoretical concept. For example, 10% fall in price may lead to an infinite rise in demand.

$$Ed = \dfrac{\text{Percentage change in Quantity Demanded}}{\text{Percentage change in Price}} = \infty$$

$Ed = \infty$

Perfectly elastic demand
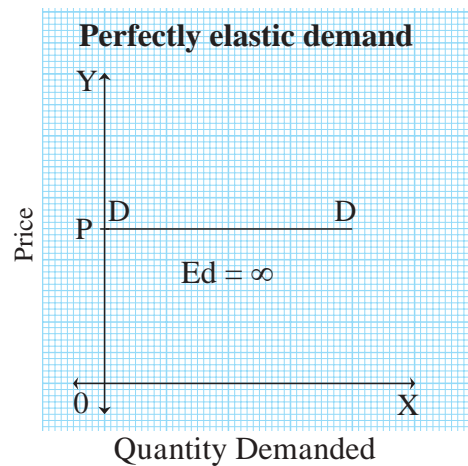
Fig. 3.11

In figure 3.11, the demand curve is a horizontal line parallel to the X axis indicating perfectly elastic demand.

2) **Perfectly inelastic demand (Ed = 0) :**

When a percentage change in price has no effect on the quantity demanded of a commodity it is called perfectly inelastic demand. For example, 20% fall in price will have no effect on quantity demanded.

$$Ed = \dfrac{\% \triangle Q}{\% \triangle P}$$

$$Ed = \dfrac{0}{20} = 0$$

$Ed = 0$

In practice, such a situation rarely occurs. For example, demand for salt, milk.

Perfectly inelastic demand Ed = 0

Quantity Demanded
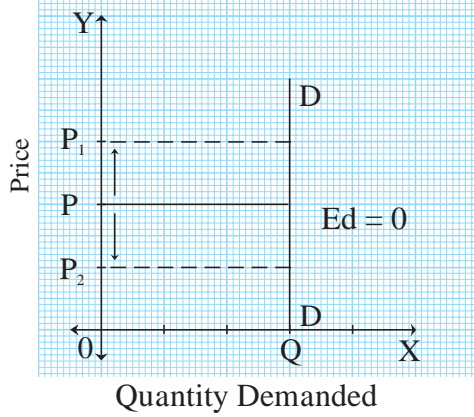
Fig. 3.12

In figure 3.12, when price rises from OP to OP$_1$ or when price falls from OP to OP$_2$, demand remains unchanged at OQ. Therefore, the demand curve is a vertical straight line parallel to the Y axis, indicating perfectly inelastic demand.

3) Unitary elastic demand (Ed = 1) :

When a percentage change in price leads to a proportionate change in quantity demanded then demand is said to be unitary elastic. For example, 50% fall in price of a commodity leads to 50% rise in quantity demanded.

$$Ed = \frac{\% \triangle Q}{\% \triangle P} = \frac{50}{50} = 1 \qquad \therefore Ed = 1$$

Unitary elastic demand

Quantity Demanded
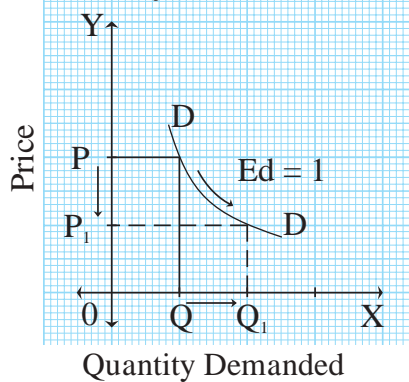
Fig. 3.13

In figure 3.13, when price falls from OP to OP$_1$ (50%), demand rises from OQ to OQ$_1$ (50%). Therefore, the slope of the demand curve is a 'rectangular hyperbola'.

4) Relatively elastic demand (Ed >1) :

When a percentage change in price leads to

more than proportionate change in quantity demanded, the demand is said to be relatively elastic. For example, 50% fall in price leads to 100% rise in quantity demanded.

$$Ed = \frac{\% \triangle Q}{\% \triangle P}$$

$$Ed = \frac{100}{50} \qquad \therefore Ed = 2$$

$$Ed > 1$$

Relatively elastic demand

Quantity Demanded
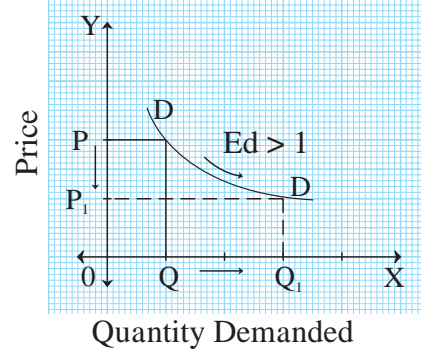
Fig. 3.14

In figure 3.14, when price falls from OP to OP$_1$ (50%), demand rises from OQ to OQ$_1$ (100%). Therefore, the demand curve has a flatter slope.

5) Relatively inelastic demand (Ed < 1) :

When a percentage change in price leads to less than proportionate change in the quantity demanded, demand is said to be relatively inelastic. For example, 50% fall in price leads to 25% rise in quantity demanded.

$$Ed = \frac{\% \triangle Q}{\% \triangle P} = \frac{25}{50} = 0.5$$

$$Ed = 0.5 \qquad \therefore Ed < 1$$

Relatively inelastic demand. Ed < 1

Quantity Demanded
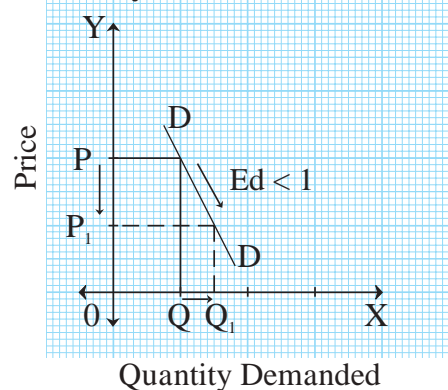
Fig. 3.15

In figure 3.15, when price falls from OP to OP_1 (50%), demand rises from OQ to OQ_1 (25%). Therefore, the demand curve has a steeper slope.

Find out :

Identify the type of price elasticity of demand for the following goods.

1) Cosmetics 2) Medicine

3) School uniform 4) Air conditioners

Try this :

Complete the table

| Sr. No.	Degree of elasticity of demand	Types of elasticity of demand	Description Percentage
1		Perfectly inelastic	Change in price does not affect demand at all.
2	Ed = 1		Change in demand is equal to change in price
3	Ed > 1	Relatively elastic	
4		Relatively inelastic	Change in demand is less than change in price
5	$Ed = \infty$		Slight change in price brings infinite change in demand.

Methods of Measuring Price Elasticity of Demand :

1) **Ratio or Percentage method :** Ratio method is developed by Prof. Marshall. According to this method, elasticity of demand is measured by dividing the percentage change in demand by the percentage change

in price. Percentage method is also known as Arithmetic method. Price elasticity is measured as :

$$Ed = \frac{\text{Percentage change in Quantity demanded}}{\text{Percentage change in Price}}$$

$$Ed = \frac{\% \triangle Q}{\% \triangle P}$$

Mathematically, the above formula can be presented as under.

$$Ed = \frac{\triangle Q}{Q} \div \frac{\triangle P}{P} \quad \therefore Ed = \frac{\triangle Q}{Q} \times \frac{P}{\triangle P}$$

Numerical example :

Price (₹)	Qty. Demanded (in Kg)	Formula
20	10	$Ed = \frac{\triangle Q}{Q} \times \frac{P}{\triangle P}$
25	09	

Original Price, P = 20, New price P = 25

$\triangle P = 5$ (Difference between new and original price)

Original Quantity Demanded, Q = 10, New demand = 9

$\triangle Q = 1$ (Difference between new and original quantity demanded)

$$Ed = \frac{\triangle Q}{Q} \times \frac{P}{\triangle P}$$

$$Ed = \frac{1}{10} \times \frac{20}{5}$$

$$Ed = 0.4$$

$$Ed < 1$$

It means elasticity of demand is relatively inelastic.

Do you know?

While using percentage method of measuring price elasticity of demand we must keep following points in our mind :

1) Value of elasticity of demand is negative because of the negative slope of demand curve but for the sake of simplicity we ignore negative sign.

2) Price elasticity of demand is a pure number. It does not depend upon units in which price of the commodity and its quantity are measured.

2) Total Expenditure Method : This method was developed by Prof. Marshall. In this method, total amount of expenditure before and after the price change is compared.

Here the total expenditure refers to the product of price and quantity demanded.

Total expenditure = Price × Quantity demanded

In this connection, Marshall has given the following propositions :

A) Relatively elastic demand (Ed >1) :
When with a given change in the price of a commodity total outlay increases, elasticity of demand is greater than one.

B) Unitary elastic demand (Ed = 1) :
When price falls or rises, total outlay does not change or remains constant, elasticity of demand is equal to one.

C) Relatively inelastic demand (Ed <1) :
When with a given change in price of a commodity total outlay decreases, elasticity of demand is less than one.

This can be explained with the help of the following example.

Table 3.4 : Total outlay method

Price in ₹ (P)		Quantity demanded in units (Q)	Total outlay (P×Q) ₹	Elasticity of demand
A	10	6	60	Ed >1
	20	5	100	
B	30	4	120	Ed = 1
	40	3	120	
C	50	2	100	Ed <1
	60	1	60	

In table 3.4 in example 'A' original price is

₹ 10 per unit and quantity demanded is 6 units. Therefore, total expenditure incurred is ₹ 60. When price rises to ₹ 20 quantity demanded falls to 5 units, the total expenditure incurred is ₹ 100. In this case, total outlay is greater than original expenditure. Hence, in this example elasticity of demand is greater than one. (Ed >1) that is relatively elastic demand.

In example 'B', original price is ₹ 30 per unit and quantity demanded is 4 units. Therefore total expenditure is ₹ 120. When price rises to ₹ 40 quantity demanded falls to '3' units. Total expenditure incurred is ₹ 120. In this case total outlay is same (equal) to original expenditure. Hence, in this example, elasticity of demand is equal to one (Ed = 1) that is unitary elastic demand.

In example 'C', original price is ₹ 50 per unit and quantity demanded is 2 units. Therefore total expenditure is ₹ 100. When price rises to ₹ 60, quantity demand falls to 1 unit and total expenditure incurred is ₹ 60. In this case total outlay is less than original expenditure. Hence, elasticity of demand is less than one (Ed <1) that is relatively inelastic demand.

Find out :

As the price of peanut packets increases by 5% the demand for number of peanut packets falls by 8%. What is the elasticity of demand for peanut packets?

Apply the formula, $Ed = \dfrac{\% \triangle Q}{\% \triangle P}$

3) Point method or Geometric Method : Prof. Marshall has developed another method to measure elasticity of demand, which is known as point method or geometric method. The ratio method and total outlay methods are unable to measure elasticity of demand at a given point on the demand curve.

At any point on the demand curve, elasticity of demand is measured with the help of the following formula :

$$\text{Point elasticity of demand (Ed)} = \frac{\text{Lower segment of demand curve below a given point (L)}}{\text{Upper segment of demand curve above a given point (U)}}$$

Demand curve may be either linear or non-linear as shown below :

A) Linear Demand Curve : When the demand curve is linear i.e. a straight line, we extend the demand curve to meet the Y axis at 'A' and X axis at 'B'. Price elasticity of demand at 'X' axis is zero and 'Y' axis is infinite. Elasticity of demand will be different at each point.

Point method (Linear demand curve)

Quantity Demanded
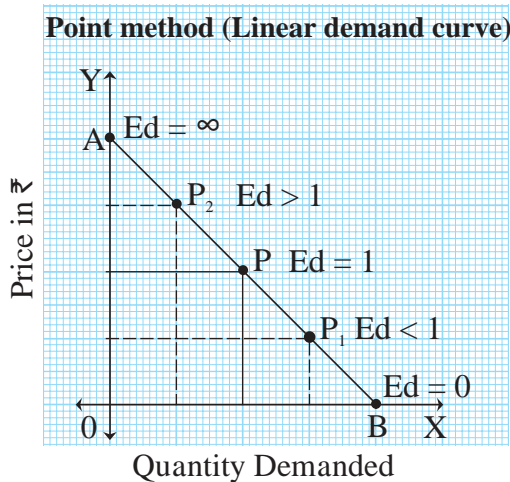
Fig. 3.16

Let us assume that AB is a demand curve and its length is 8 cm. Point elasticity at various points on a linear demand curve can be measured as follows :

1) At point P, the point elasticity is measured as :
$$P = \frac{PB}{PA} = \frac{4}{4} = 1$$
Thus, at point P, demand is unitary elastic (ed = 1)

2) At point P_1, the point elasticity is measured as :
$$P_1 = \frac{P_1B}{P_1A} = \frac{2}{6} = 0.33$$

Thus, at point P_1, demand is relatively inelastic (ed < 1)

3) At point P_2, the point elasticity is measured as :
$$P_2 = \frac{P_2B}{P_2A} = \frac{6}{2} = 3$$
Thus, at point P_2, demand is relatively elastic (ed > 1)

4) At point A, the point elasticity is ∞ because upper segment is zero. (perfectly elastic demand)

5) At point B, the point elasticity is zero because lower segment is zero (perfectly inelastic demand.)

B) Non-linear demand curve : When the demand curve is non-linear i.e. convex to origin, to measure price elasticity of demand we have to draw a tangent 'AB' touching the given point on the demand curve and extending it to meet 'Y' axis at point 'A' and 'X' axis at point 'B'.

$$Ed = \frac{\text{Lower segment of the tangent below a given point}}{\text{Upper segment of the tangent above a given point}} = \frac{L}{U}$$

Point method - Non-linear demand curve

Quantity Demanded
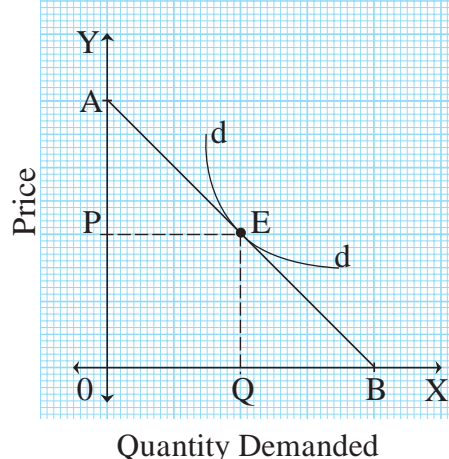
Fig. 3.17

If EB = EA (Ed = 1) - Unitary elastic demand

EB > EA (Ed >1) - Relatively elastic demand

EB < EA (Ed <1) - Relatively inelastic demand

Factors influencing the elasticity of demand :

Elasticity of demand depends upon several factors which are discussed below :

1) **Nature of commodity :** By nature we can classify commodities as necessaries, comforts and luxury goods. Demand for necessaries like foodgrains, medicines, textbooks etc. is relatively inelastic and for comforts and luxury goods like cars, perfumes, furniture etc. demand is relatively elastic.

2) **Availability of substitutes :** Demand for a commodity will be more elastic, if its close substitutes are available in the market. For example, lemon juice, sugarcane juice etc. But commodities having no close substitutes like salt the demand will be inelastic.

3) **Number of uses :** Single use goods have a less elastic demand. Multi-use goods have more elastic demand, For example, coal, electricity etc.

4) **Habits :** Habits make demand for certain goods relatively inelastic. For example, addicted goods, drugs etc.

5) **Durability :** The demand for durable goods is relatively elastic. For example, furniture, washing machine etc. Demand for perishable goods is inelastic. For example, milk, vegetables etc.

6) **Complementary goods :** The demand for a commodity which is used in conjunction with other commodities to satisfy a single want is relatively inelastic. For example, a fall in the price of mobile handsets may lead to rise in the demand for sim cards.

7) **Income of the consumer :** Demand for goods is usually inelastic, if the consumer has high income. The demand pattern of a very rich and an extremely poor person is rarely affected by significant changes in the price.

8) **Urgency of needs :** Goods which are urgently needed will have relatively inelastic demand. For example, medicines. Luxury goods which are less urgent have relatively elastic demand.

9) **Time period :** Elasticity of demand is always related to period of time. It varies with the length of time period. Generally speaking, longer the duration of period greater will be the elasticity of demand and vice-versa. This is because a consumer can change the consumption habits in the long run in favour of cheaper substitutes of the commodities.

You should know :

Determinants	Nature	Price elasticity of demand
1) Availability of factors	a) Abundant	a) Relatively elastic
	b) Few	b) Relatively inelastic
2) Nature of commodity	a) Necessary goods	a) Relatively inelastic
	b) Luxury goods	b) Relatively elastic
3) Habits	a) Habituated	a) Relatively inelastic
	b) Not Habituated	b) Relatively elastic
4) Time period	a) Short-run	a) Relatively inelastic
	b) Long-run	b) Relatively elastic
5) Postponement of consumption	a) Possibility of Postponement	a) Relatively elastic
	b) Impossible to Postpone	b) Relatively inelastic
6) Number of uses of a commodity	a) Several	a) Relatively elastic
	b) Specific	b) Relatively inelastic

Importance of Elasticity of Demand :

The concept of elasticity of demand is of great importance to producers, farmers, workers and the Government. Lord Keynes considered this concept to be the most important contribution of Alfred Marshall. Significance of the concept becomes clear from the following applications :

1) **Importance to a Producer :** Every producer has to decide the price of his product at which he has to sell it. For this purpose, elasticity of demand becomes important. If the demand for a product is relatively inelastic, he will fix up a higher price and vice-versa. The concept of elasticity of demand is also useful to a monopolist to practice price discrimination.

2) **Importance to Government :** Taxation policy of the Government is based on the concept of elasticity of demand. Those commodities whose demand is relatively inelastic will be taxed more because it will not affect their demand much and vice-versa.

3) **Important in Factor Pricing :** The concept of elasticity of demand is useful in determination of factor prices. The factor of production for which demand is relatively inelastic can command a higher price as compared to those having elastic demand. For example, workers can ask for higher wages, if the demand for the product produced by them is relatively inelastic.

4) **Importance in Foreign Trade :** The concept of elasticity of demand is useful to determine terms and conditions in foreign trade. The countries exporting commodities for which demand is relatively inelastic can raise their prices. For example, Organization of Petroleum Exporting Countries (OPEC) have increased the price of oil several times. The concept is also useful in formulating export and import policy of a country.

5) **Public Utilities :** In case of public utilities like railways which have an inelastic demand, Government can either subsidise or nationalise them to avoid consumers exploitation.

6) **Proportion of expenditure :** If the proportion of expenditure in a person's income is small, then demand for the product is relatively inelastic. For example, news papers. If the proportion of expenditure is large, then demand for the product is relatively elastic.

EXERCISE

Q. 1. Complete the following statements :

1) Price elasticity of demand on a linear demand curve at the X axis is ....
   a) zero
   b) one
   c) infinity
   d) less than one

2) Price elasticity of demand on a linear demand curve at the Y-axis is equal to ....
   a) zero
   b) one
   c) infinity
   d) greater than one

3) Demand curve is parallel to X axis, in case of ....
   a) perfectly elastic demand
   b) perfectly inelastic demand
   c) relatively elastic demand
   d) relatively inelastic demand

4) When percentage change in quantity demanded is more than the percentage change in price, the demand curve is ....
   a) flatter
   b) steeper
   c) rectangular
   d) horizontal

5) Ed = 0 in case of ....
   a) luxuries
   b) normal goods
   c) necessities
   d) comforts

Q. 2. Give economic terms :

1) Degree of responsiveness of quantity demanded to change in income only.

2) Degree of responsiveness of a change in quantity demanded of one commodity due to change in the price of another commodity.

3) Degree of responsiveness of a change of quantity demanded of a good to a change in its price.

4) Elasticity resulting from infinite change in quantity demanded.

5) Elasticity resulting from a proportionate change in quantity demanded due to a proportionate change in price.

Q. 3. Complete the correlation :

1) Perfectly elastic demand : Ed = ∞ :: [   ] : Ed = 0

2) Rectangular hyperbola : [   ] : Steeper demand curve : Relatively inelastic demand.

3) Straight line demand curve : Linear demand curve :: [   ] : non linear demand curve.

4) Pen and ink : [   ] :: Tea and Coffee: Substitutes.

5) Ratio method : Ed = $\frac{\%\triangle Q}{\%\triangle P}$ :: [   ] : Ed = $\frac{\text{Lower segment}}{\text{Upper segment}}$

Q. 4. Assertion and Reasoning type questions :

1) **Assertion (A) :** Elasticity of demand explains that one variable is influenced by another variable.

   Reasoning (R) : The concept of elasticity of demand indicates the effect of price and changes in other factors on demand.

Options : 1) (A) is True, but (R) is False

2) (A) is False, but (R) is True

3) Both (A) and (R) are True and (R) is the correct explanation of (A)

4) Both (A) and (R) are True and (R) is not the correct explanation of (A)

2) **Assertion (A) :** A change in quantity demanded of one commodity due to a change in the price of other commodity is cross elasticity.

   Reasoning (R) : Changes in consumers income leads to a change in the quantity demanded.

Options : 1) (A) is True, but (R) is False

2) (A) is False, but (R) is True

3) Both (A) and (R) are True and (R) is the correct explanation of (A)

4) Both (A) and (R) are True and (R) is not the correct explanation of (A)

3) **Assertion (A) :** Degree of price elasticity is less than one in case of relatively inelastic demand.

   Reasoning (R) : Change in demand is less then the change in price.

Options : 1) (A) is True, but (R) is False

2) (A) is False, but (R) is True

3) Both (A) and (R) are True and (R) is the correct explanation of (A)

4) Both (A) and (R) are True and (R) is not the correct explanation of (A)

Q. 5. Distinguish between :

1) Relatively elastic and Relatively inelastic demand.

2) Perfectly elastic demand and Perfectly inelastic demand.

Q. 6. Answer the following questions :

1) Explain the factors influencing elasticity of demand.

2) Explain the total outlay method of measuring elasticity of demand?

3) Explain importance of elasticity of demand.

Q. 7. Observe the following figure and answer the questions :

1) Identify and define the degrees of elasticity of demand from the following demand curves.

a)

Quantity Demanded

b)

Quantity Demanded

c)

Quantity Demanded

d)

Quantity Demanded
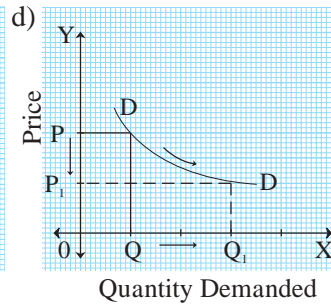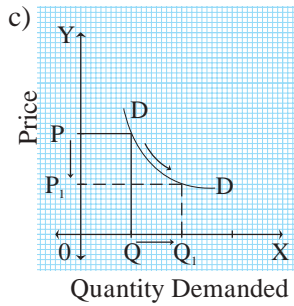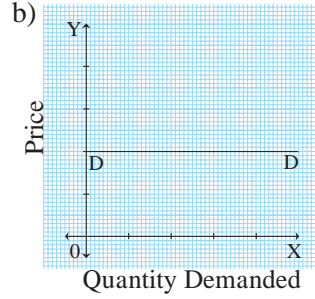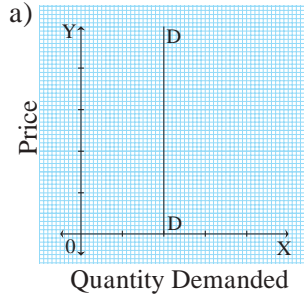
2) In the following diagram AE is the linear demand curve of a commodity. On the basis of the given diagram state whether the following statements are True or False. Give reasons to your answer.

Quantity Demanded
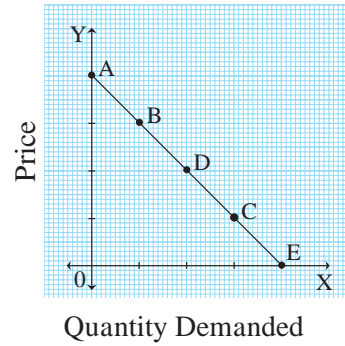
1) Demand at point 'C' is relatively elastic demand.

2) Demand at point 'B' is unitary elastic demand.

3) Demand at point 'D' is perfectly inelastic demand.

4) Demand at point 'A' is perfectly elastic demand.

⊃○○

4 Supply Analysis

Introduction :

The study of supply is as important as the study of demand. Supply is a fundamental economic concept that describes the total amount of a specific good or service that is available to a seller. The total amount of goods or services available for sale at any specified price is known as supply.

Concept of Total Output, Stock and Supply :

Total Output :

Output is produced in the process of production. "Total output can be defined as the sum total of the quantity of the commodity produced at a given period of time in the economy." Production leads to consumption. In the process of production inputs are converted into output or final goods.

Stock :

Stock is the total quantity of commodity available for sale with a seller at a particular point of time. It is the source of supply. It is potential supply. By increasing production, stock can be increased. Without stock, supply is not possible. Normally, stock exceeds supply and it is fixed and inelastic. In case of perishable goods such as milk, fish etc. stock may be equal to supply. On the other hand, for durable goods such as furniture, garments etc. stock can exceed the supply.

Supply :

Supply is a relative term. It is always expressed in relation to price, time and quantity.

Meaning of Supply :

The word 'supply' implies the various quantities of a commodity offered for sale by producers during a given period of time at a given price. It is related to time and price.

Supply is a flow concept. It refers to the amount of a commodity that the firms produce and offer for sale in the market over a period of time, say a day, a week, a month or a year.
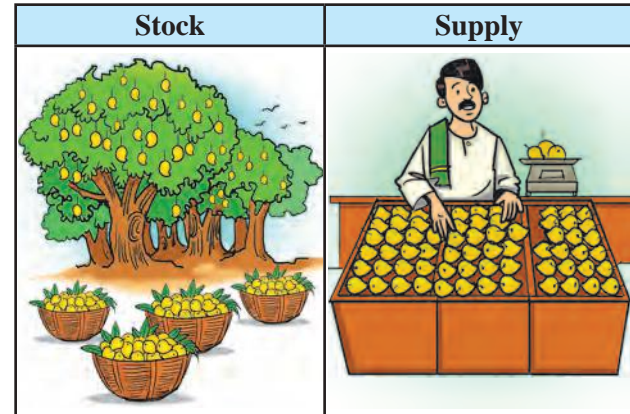
Stock	Supply

Fig. 4.1

Try this :
Distinguish between stock and supply.

Definition of Supply :

According to Paul Samuelson, "Supply refers to the relation between market prices and the amount of goods that producers are willing to supply."

Supply refers to the quantity of a commodity that a seller is willing and able to offer for sale at a given price, during a certain period of time. For example, a farmer's total output of rice is 4000 kgs. This is the total stock. If the price is ₹ 40 per kg, he offers 1000 kgs for sale. This is the actual supply.

Supply schedule :

A supply schedule is a tabular representation of the functional relationship between price and quantity supplied of a particular commodity.

1) **Individual Supply Schedule :** Individual supply schedule refers to a tabular representation showing various quantities of a commodity that a producer is willing to

sell at various prices, during a given period of time.

Table 4.1

Individual Supply Schedule

Price of a commodity x (in ₹ per kgs.)	Supply of a commodity x (in kgs.)
10	100
20	200
30	300
40	400
50	500

Table 4.1 explains the functional relationship between price and quantity supplied of a commodity. Lower the price, lower the quantity of a commodity supplied and vice versa. At the lowest price of ₹ 10, supply is also lowest at 100 kgs. At the highest price of ₹ 50, quantity supplied is highest at 500 kgs.

Individual Supply Curve : It is a graphical presentation of individual supply schedule.

Individual Supply Curve
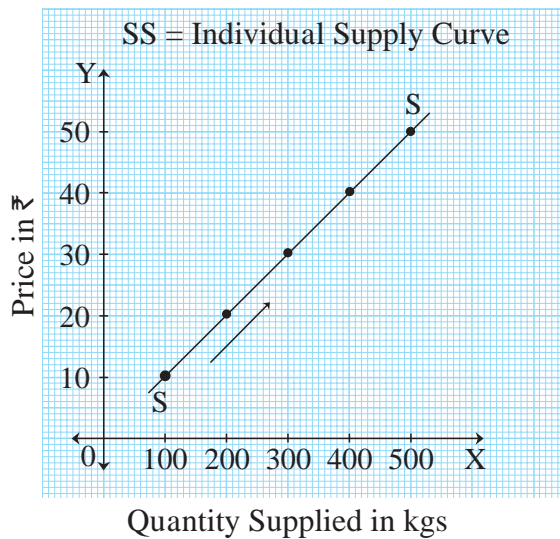
Fig. 4.2

In figure 4.2, quantity supplied is shown on the X axis and price on the Y axis. Supply curve SS slopes upwards from left to right, indicating a direct relationship between price and quantity supplied.

2) Market Supply Schedule : Market supply schedule refers to a tabular representation showing different quantities of commodity which all producers are prepared to sell at different prices at a given period of time.

Table 4.2

Market Supply Schedule

Price of commodity (in ₹)	Quantity supplied (in kgs.)			Market supply (in kgs.) (A+B+C)
	Seller A	Seller B	Seller C	
10	100	200	300	600
20	200	300	400	900
30	300	400	500	1200
40	400	500	600	1500
50	500	600	700	1800

In Table 4.2, market supply is obtained by adding the supply of sellers A, B and C at different prices. At a highest price of ₹ 50, market supply is the highest at 1800 kgs. At a lowest price of ₹ 10 market supply is lowest at 600 kgs.

Market Supply Curve : It is a graphical presentation of market supply schedule.

Market Supply Curve
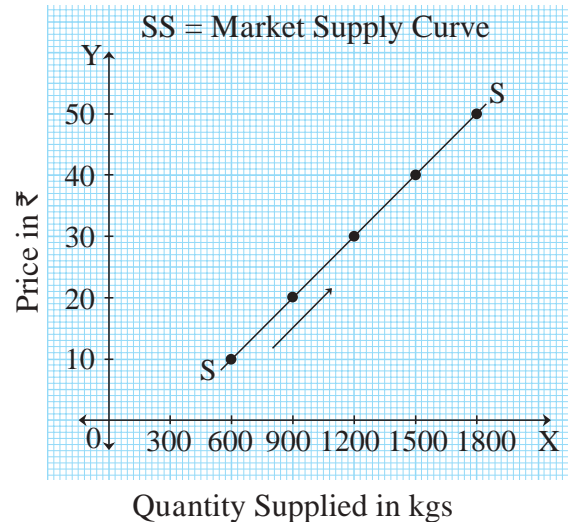
Fig. 4.3

In figure 4.3, quantity supplied is shown on the X axis and price on the Y axis. Supply curve SS slopes upwards from left to right, indicating a direct relationship between price and market supply.

Try this :

Draw a supply curve with the help of a hypothetical supply schedule.

Determinants of Supply :

1) **Price of commodity :** Price is an important factor influencing the supply of a commodity. More quantities are supplied at a higher price and less quantities are supplied at a lower price. Thus, there is a direct relationship between price and quantity supplied.

2) **State of technology :** Technological improvements reduce the cost of production which lead to an increase in production and supply.

3) **Cost of Production :** If the factor price increases, the cost of production also increases, as a result, supply decreases.

4) **Infrastructural facility :** Infrastructure in the form of transport, communication, power, etc. influences the production process as well as supply. Shortage of these facilities decreases the supply and vice versa.

5) **Government policy :** Favourable Government policies may encourage supply and unfavourable government policies may discourage the supply. Government policies like taxation, subsidies, industrial policies, etc. may encourage or discourage production and supply, depending upon government policy measures.

6) **Natural conditions :** The supply of agricultural products depends on the natural conditions. For example, a good monsoon and favourable climatic condition will produce a good harvest, so the supply of agricultural products will increase and unfavourable climatic conditions will lead to a decrease in supply.

7) **Future expectations about price :** If the prices are expected to rise in the near future, the producer may withhold the stock. This will reduce the supply and vice versa

8) **Other factors :** It includes,
   • nature of the market,
   • relative prices of other goods,
   • export and imports,
   • industrial relations,
   • availability of factors of production etc.

   If all factors are favourable, supply of a commodity will be more and vice versa.

Law of Supply
Introduction :

The law of supply is also a fundamental principle of economic theory like law of demand. It was introduced by Prof. Alfred Marshall in his book, 'Principles of Economics' which was published in 1890. The law explains the functional relationship between price and quantity supplied.

Statement of the Law :

"Other things being constant, higher the price of a commodity, more is the quantity supplied and lower the price of a commodity less is the quantity supplied"

In simple words, "other factors remaining constant, a rise in price results in a rise in the quantity supplied and vice-versa. Thus, there is a direct relationship between price and quantity supplied.

Symbolically,

$$S_x = f(P_x)$$

S = Supply

x = Commodity

f = Function

P = Price of commodity

Assumptions of the law :

The law of supply is based on the following assumptions :

1) **Constant cost of production :** It is assumed that there is no change in the cost of production .A change in cost of production will affect the profits of the seller. Therefore less quantity will be supplied at the same price.

2) **Constant technique of production :** It is also assumed that technique of production does not change. Improved technique of production may lead to an increase in production. This in turn may lead to an increase in the supply at the same price.

3) **No change in weather conditions :** It is assumed that there is no change in the weather conditions. Natural calamities like floods, earthquakes etc. may decrease supply.

4) **No change in Government policy :** It is also assumed that government policies like taxation policy, trade policy etc. remain unchanged.

5) **No change in transport cost :** It is assumed that there is no change in the condition of transport facilities and transport cost. For example, better transport facility increases supply at the same price.

6) **Prices of other goods remain constant :** Prices of other goods are assumed to remain constant. If they change, the law of supply may not hold true because producer may transfer resources to other products.

7) **No future expectations :** The law also assumes that the sellers do not expect future changes in the price of the product.

Law of supply is explained with the help of the following schedule and diagram :

Table 4.3

Supply Schedule

Price of commodity x (in ₹)	Supply of commodity x (in kgs.)
10	100
20	200
30	300
40	400
50	500

Table 4.3 explains the direct relationship between price and quantity of commodity supplied. When price rises from ₹ 10 to 20, 30, 40 and 50, the supply also rises from 100 to 200, 300, 400 and 500 units respectively. It means,

when price rises supply also rises and when price falls supply also falls. Thus, there is direct relationship between price and quantity supplied which is shown in following figure 4.4 :

Supply Curve
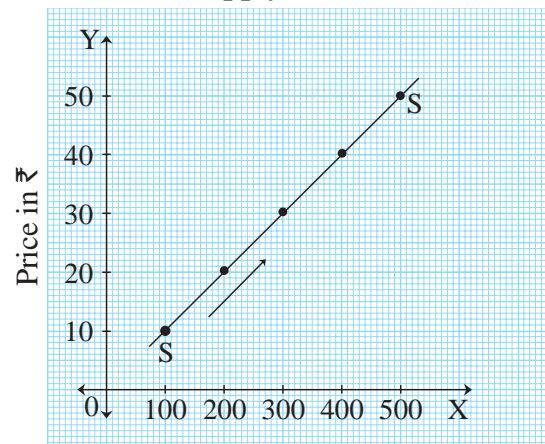
Quantity Supplied in kgs
Fig. 4.4

In the figure 4.4, X axis represents quantity supplied and Y axis represents the price of the commodity. Supply curve 'SS' slopes upwards from left to right which has a positive slope. It indicates a direct relationship between price and quantity supplied.

Exceptions to the Law of Supply :

Following are the exceptions to the law of supply:

1) **Supply of labour :** Labour supply is the total number of hours that workers to work at a given wage rate. It is represented graphically by a supply curve. In case of labour, as the wage rate rises the supply of labour (hours of work) would increase. So supply curve slopes upward. Supply of labour (hours of work) falls with a further rise in wage rate and supply curve of labour bends backward. This is because the worker would prefer leisure to work after receiving higher amount of wages. Thus, after a certain point when wage rate rises the supply of labour tends to fall.

It can be explained with the help of a backward bending supply curve. Table no. 4.4 and fig. no 4.5 explains the backward bending supply curve of labour.

Table. 4.4
Labour Supply Schedule

Wage rate (₹) per hour	Hours of work per day	Total amount of wages (₹)
100	5	500
200	7	1400
300	6	1800

SAS₁ = Backward bending labour supply curve
SA = Increasing supply curve
AS = Leisure time
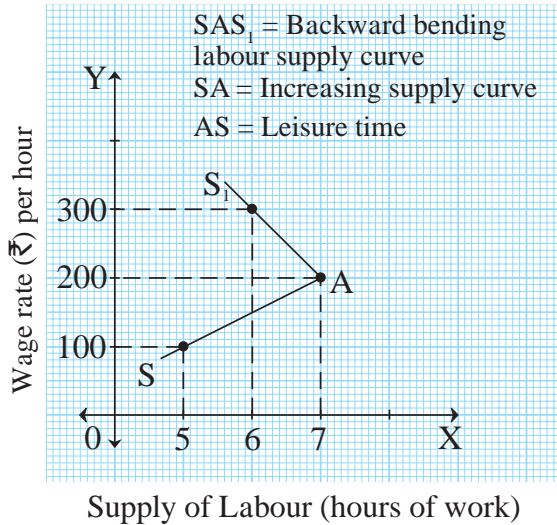
Supply of Labour (hours of work)
Fig. 4.5

In fig. 4.5, supply of labour (hours of work) is shown on X axis and wage rate per hour is shown on the Y axis. The curve SAS represents backward bending supply curve of labour. Initially, when the wage rate is ₹ 100 per hour, the hours of work is 5. The total amount of wages received is ₹ 500. When wage rate rises from ₹ 100 to ₹ 200, hours of work will also rise from 5 hours to 7 hours and total amount of wages would also rise from ₹ 500 to ₹ 1400. At this point, labourer enjoys the highest amount i.e. ₹ 1400, and works for 7 hours. If wage rate rises further from ₹ 200 to ₹ 300, total amount of wages may rise, but the labourer will prefer leisure time and denies to work for extra hours. Thus, he is ready to work only for 6 hours. At the point A, the supply curve bends backward, which becomes an exception to the law of supply.

2) **Agricultural goods :** The law of supply does not apply to agricultural goods as they are produced in a specific season and their production depends on weather conditions.

Due to unfavourable changes in weather, if the agricultural production is low, their supply cannot be increased even at a higher price.

3) **Urgent need for cash :** If the seller is in urgent need for hard cash, he may sell his product at which may even be below the market price.

4) **Perishable goods :** In case of perishable goods, the supplier would offer to sell more quantities at lower prices to avoid losses. For example, vegetables, eggs etc.

5) **Rare goods :** The supply of rare goods cannot be increased or decreased according to its demand. Even if the price rises, supply remains unchanged. For example, rare paintings, old coins, antique goods etc.

Variations in Supply :

When quantity supplied of a commodity varies due to change in its price, other factors remaining constant, it is known as variations in supply. There are two types of variations in supply :

1) **Expansion of supply :** Expansion of supply refers to a rise in the quantity supplied due to a rise in the price of a commodity, other factors remaining constant. Expansion in supply leads to an upward movement on the same supply curve due to a rise in price. It is shown in figure 4.6

Expansion of supply

SS = Supply Curve
MN = Extension of supply
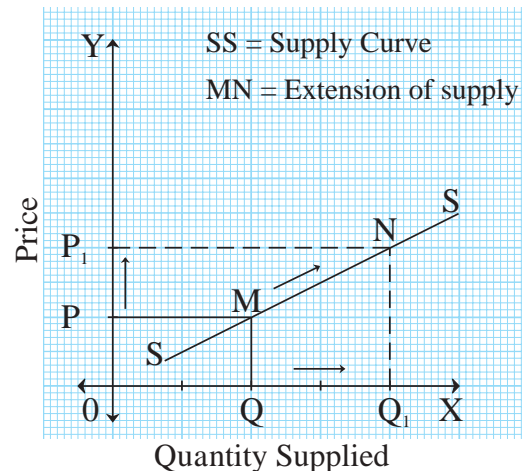
Quantity Supplied
Fig. 4.6

In figure 4.6, quantity supplied is shown on the X axis and price on the Y axis. Quantity supplied rises from OQ to OQ_1, with a rise in price from OP to OP_1, resulting in an upward movement from M to N along the same supply curve SS. It is known as Expansion of supply.

2) **Contraction of supply :** Contraction of supply refers to a fall in the quantity supplied, due to fall in the price of a commodity, other factors remaining constant. In case of contraction of supply, there is a downward movement on the same supply curve. It is shown in figure 4.7

Contraction of supply
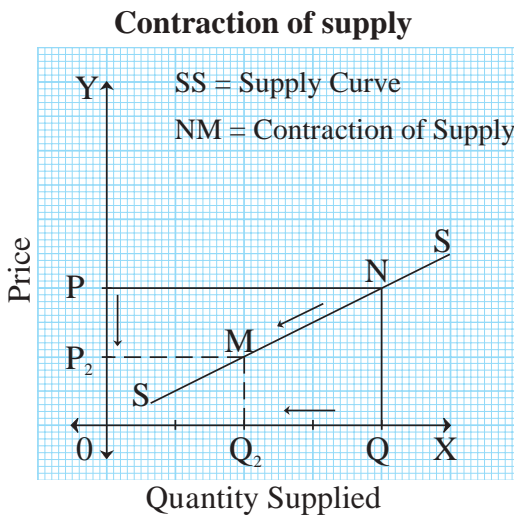
Fig. 4.7

In figure 4.7, quantity supplied is shown on the X axis and price on the Y axis. Quantity supplied falls from OQ to OQ_2 with a fall in price from OP to OP_2, resulting in a downward movement from N to M on the same supply curve SS. It is known as Contraction of supply.

Changes in Supply :

When other factors change and price remains constant, it is known as changes in supply. There are two types of changes in supply :

1) **Increase in supply :** Increase in supply refers to rise in the supply of a given commodity due to favourable changes in other factors such as fall in the price of inputs, fall in tax rates, technological upgradation etc., while price remains constant. The supply curve

shifts to the right of the original supply curve. It is shown in figure 4.8
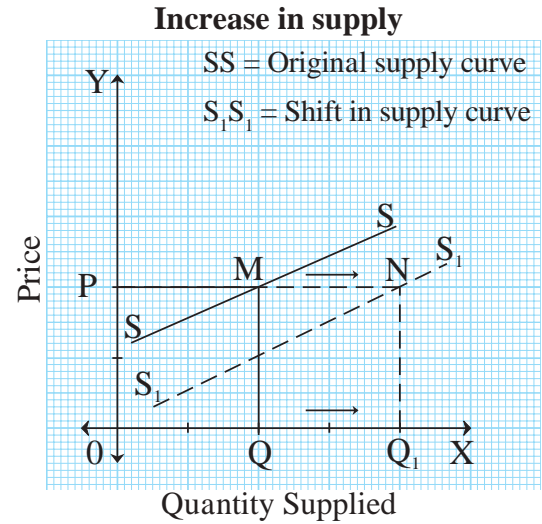
Increase in supply

Fig. 4.8

In figure 4.8, quantity supplied is shown on the X axis and price on the Y axis. Supply rises from OQ to OQ_1 at the same price OP, resulting in an outward shift of the original supply curve to the right from SS to S_1S_1. It is known as Increase in supply.

2) **Decrease in supply :** Decrease in supply refers to a fall in the supply of a given commodity due to unfavourable changes in other factors such as increase in the prices of inputs, increase in tax rate, outdated technology, strikes by worker, while price remains constant. The supply curve shifts to the left of the original supply curve. It is shown in figure 4.9

Decrease in supply

**Fig. 4.9**

42
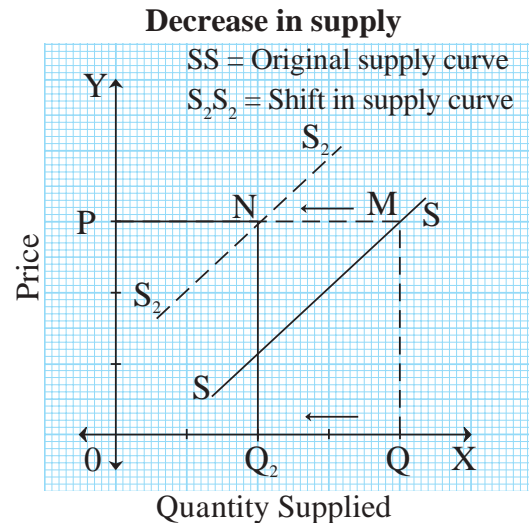
In figure 4.9, quantity supplied is shown on the X axis and price on the Y axis. Supply falls from OQ to OQ_2 at the same price OP, resulting in an inward shift of the original supply curve to the left from SS to S_2S_2. It is known as Decrease in supply.

Concepts of Cost and Revenue :

A) Cost Concepts :

When an entrepreneur undertakes an act of production, he has to use various inputs like raw material, labour, capital etc. He has to make payments for such inputs. The expenditure incurred on these inputs is known as the cost of production. Cost of production increases with an increase in need of output. There are three types of costs which are as follows :

1) **Total Cost (TC) :** Total cost is the total expenditure incurred by a firm on the factors of production required for the production of goods and services. Total cost is the sum of total fixed cost and total variable cost at various levels of output.

$$TC = TFC + TVC$$

TC = Total cost

TFC = Total Fixed Cost

TVC = Total Variable Cost

Total Fixed Cost (TFC) : Total fixed costs are those expenses of production which are incurred on fixed factors such as land,

machinery etc.

Total Variable Cost (TVC) : Total variable costs are those expenses of production which are incurred on variable factors such as labour, raw material, power, fuel etc.

2) **Average Cost (AC) :** Average cost refers to cost of production per unit. It is calculated by dividing total cost by total quantity of production.

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

AC = Average cost

TC = Total cost

TQ = Total quantity

For example, If the total cost of production of 40 units of commodity is ₹ 800 then the average cost is :

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

$$= \frac{800}{40}$$

$$= ₹ 20 \text{ per unit}$$

3) **Marginal cost (MC) :** Marginal cost is the net addition made to total cost by producing one more unit of output.

$$MCn = TC_n - TC_{n-1}$$

n = Number of units produced

MC_n = Marginal cost of the nth unit

TC_n = Total cost of nth unit

TC_{n-1} = Total cost of previous units

If previous total cost of producing 4 units is ₹ 200 and total cost of producing 5 units is ₹ 250, then :

$$MC_n = TC_n - TC_{n-1}$$

$$= ₹ 250 - ₹ 200$$

$$= ₹ 50$$

Find out :

If a firm produces 600 units of a commodity in a day and incurs a total cost of ₹ 30,000. Calculate the Average Cost.

B) Revenue Concepts :

The term 'revenue' refers to the receipts obtained by a firm from the sale of certain quantities of a commodity at given price in the market. The concept of revenue relates to total revenue, average revenue and marginal revenue.

1) Total Revenue (TR) : Total revenue is the total sales proceeds of a firm by selling a commodity at a given price. It is the total income of a firm. Total revenue is calculated as follows :

Total revenue = Price × Quantity

For example, if a firm sells 15 units of a commodity at ₹ 200 per unit TR is calculated as :

$TR = P \times Q$

$= ₹ 200 \times 15$

$= ₹ 3000$

2) Average Revenue (AR) : Average revenue is the revenue per unit of output sold. It is obtained by dividing the total revenue by the number of units sold.

$$AR = \frac{TR}{TQ}$$

AR = Average Revenue
TR= Total Revenue
TQ =Total Quantity

For example, if the total revenue of 15 units, is ₹ 3000, then average revenue is calculated as :

$$AR = \frac{TR}{TQ}$$

$$= \frac{3000}{15}$$

$$= ₹ 200$$

3) Marginal Revenue : Marginal revenue is the net addition made to total revenue by selling an extra unit of the commodity.

$MR_n = TR_n - TR_{n-1}$

MR_n = Marginal revenue of nth unit

TR_n = Total revenue of nth unit

TR_{n-1} = Total Revenue of previous units

n = Number of units sold

For example, if the previous total revenue from the sale of 20 tables is ₹ 4000 and that from the sale of 21 tables is ₹ 4200, marginal revenue is calculated as :

$MR_n = TR_n - TR_{n-1}$

$= 4200 - 4000$

$= ₹ 200$ per table

Find out :

If a firm sells 400 units of a commodity at ₹ 10 unit. Calculate the TR and AR.

EXERCISE

Q. 1. Complete the following statements :

1) When supply curve is upward sloping, it's slope is ....
   a) positive
   b) negative
   c) first positive then negative
   d) zero

2) An upward movement along the same supply curve shows ....
   a) contraction of supply
   b) decrease in supply
   c) expansion of supply
   d) increase in supply

3) A rightward shift in supply curve shows ....
   a) contraction of supply
   b) decrease in supply
   c) expansion of supply
   d) increase in supply

4) Other factors remaining constant, when less

quantity is supplied only due to a fall in price, it shows ....

a) contraction of supply

b) decrease in supply

c) expansion of supply

d) increase in supply

5) Net addition made to the total revenue by selling an extra unit of a commodity is ....

a) total Revenue

b) marginal Revenue

c) average Revenue

d) marginal Cost

Q. 2. Complete the Correlation :

1) Expansion of supply : Price rises :: Contraction of supply : ☐

2) Total revenue : ☐ :: Average revenue : TR/TQ

3) Total cost : TFC + TVC :: Average cost : ☐

4) Demand curve : ☐ :: Supply curve : Upward

5) ☐ : Change in supply :: Other factors constant : Variation of supply

Q. 3. Give economic terms :

1) Cost incurred on fixed factor.

2) Cost incurred per unit of output.

3) Net addition made to total cost of production.

4) Revenue per unit of output sold.

Q. 4. Distinguish between :

1) Stock and Supply.

2) Expansion of Supply and Increase in Supply.

3) Contraction of Supply and Decrease in Supply.

4) Average Revenue and Average Cost.

Q. 5. Observe the following table and answer the questions :

A) Supply schedule of chocolates

Price in ₹	Quantity supplied in units
10	200
15	☐
20	300
25	350
30	☐
35	☐
40	☐

1) Complete the above supply schedule.

2) Draw a diagram for the above supply schedule.

3) State the relationship between price and quantity supplied.

B) Observe the market supply schedule of potatoes and answer the following questions.

Price in ₹	Firms			Market supply (kg)
	"A"	"B"	"C"	
1	☐	20	45	100
2	37	30	45	☐
3	40	☐	55	155
4	44	50	☐	154

1) Complete the quantity of potato supplied by the firms to the market in the above table.

2) Draw the market supply curve from the schedule and explain it.

Q. 6. Answer the following questions :

1) Explain the concept of total cost and total revenue.

2) Explain determinants of supply.

Q. 7. Answer in detail :

1) State and explain law of supply with exceptions.

○○○

5 Forms of Market

Introduction :

Market is generally understood as a particular place or locality where goods are sold and purchased. But, in economics, market refers to an arrangement through which buyers and sellers come in contact with each other directly or indirectly and exchange of goods and services takes place among them.

Definition of Market :

According to Augustin Cournot, "Economists understand the term market, not any particular market place in which things are bought and sold, but the whole of any region in which buyers and sellers are in such a close contact with one another that the prices of the same goods tend to equality easily and quickly."

Thus, market is a network of dealings between potential buyers and potential sellers. At any point of time, a market will exist if there are :

1) Buyers and sellers
2) A product or service to be bought and sold
3) Price of the product
4) Close contact between buyers and sellers
5) Knowledge about market

Classification of Market :

Market can be classified on the basis of various criteria. This is shown in following fig. 5.1.

I) On the basis of place :

1) **Local market :** Local market is a market in which sellers sell and customers buy a product in the region or area in which it is produced.

2) **National market :** National market is a domestic market in a given country. Each national market is governed by the regulation of its own country.

3) **International market :** International market is a worldwide market in which buyers and sellers trade in goods and services across the national borders.

II) On the basis of time :

1) **Very short period :** Very short period is a period in which supply is fixed and price is determined by the demand. The time period is for a few days or weeks in which the supply of commodity cannot be increased.

2) **Short period :** Short period is a period of less than one year. In this period, firms can only make adjustments in inputs like labour to increase the supply of goods and services.

3) **Long period :** Long run is a period of time in which all factors of production and costs

Classification of Market on the basis of

I) Place	II) Time	III) Competition
A) Local	A) Very short period	A) Perfect competition
B) National	B) Short period	B) Imperfect competition
C) International	C) Long period	
	D) Very long period	

i) Monopoly   ii) Oligopoly   iii) Monopolistic competition

Fig. 5.1

46
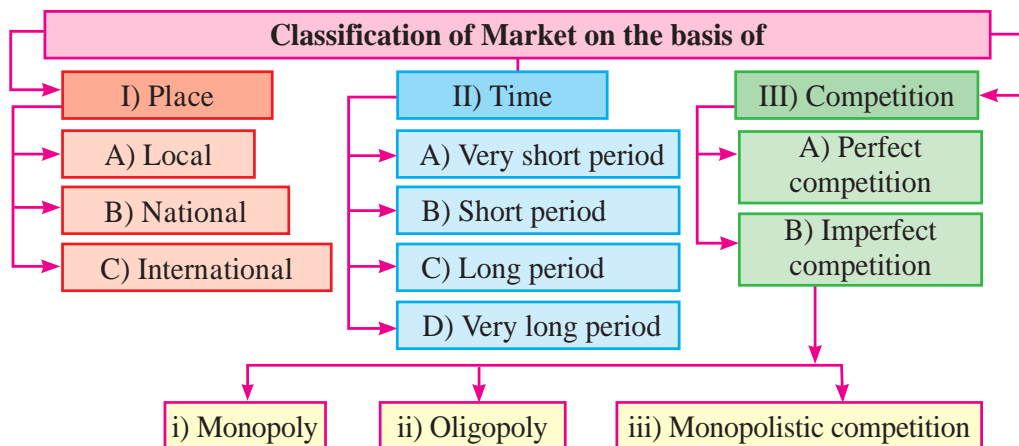
are variable. In the long run, firms are able to adjust all costs. It is for a few years, generally up to five years.

4) **Very long period :** Very long period is a production time that is so long that all inputs are variable. It is of more than five years.

III) On the basis of Competition :

Competition among the sellers and buyers is the most important criteria for classification of markets in economics. Let us study the various types of markets on the basis of competition among the sellers :

A) Perfect Competition :

Meaning and Definition : Perfect competition is an ideal and imaginary concept of market rather than an actual market. According to Mrs. Joan Robinson, "Perfect competition prevails when the demand for the output of each producer is perfectly elastic."

A perfectly competitive market is one in which the number of buyers and sellers is very large. All the buyers and sellers are engaged in buying and selling a homogeneous product without any restrictions. Moreover both buyers and sellers possess perfect knowledge of market conditions.

Following are the features of Perfect Competition :

1) **Large number of sellers and buyers :** Under perfect competitions, there are large number of sellers and buyers. As mentioned earlier, each seller forms a negligible part in the total market. Hence, none of them is in a position to influence the price and supply in the market. Thus, sellers are price takers under perfect competition.

The number of buyers is also large. The share of each buyer is so negligible that none of them is in a position to influence the price in the market.

2) **Homogeneous product :** An important feature of a perfectly competitive market is that the product sold is homogeneous or identical in respect of size, design, colour, taste etc. All the products are perfect substitutes to each other.

3) **Free entry and exit :** There are no barriers to the entry and exit of firms. Any firm can enter or quit the industry at its own will. If there is hope of profit, the firm will enter the market and if there is possibility of loss the firm will leave the market.

4) **Single price :** A single uniform price prevails under perfect competition which is determined by the interaction of demand and supply.

5) **Perfect knowledge of market :** The buyers and sellers possess a perfect knowledge about the market conditions. Every seller and buyer has the knowledge about price, quality, source of supply of products etc.

6) **Perfect mobility of factors of production :** There is perfect mobility of factors of production under perfect competition. Labour and capital are mobile not only geographically but also occupationally.

7) **Absence of transport cost :** In perfect competition, price is uniform because we assume that transport cost does not exist. This assumption will lead to uniformity in price.

8) **No government intervention :** Laissez-faire policy is an important feature of perfect competition. It means there is absence of Government intervention in economic activities.

Price determination under Perfect Competition:

The interaction of demand and supply

determine price of the commodity in perfect competition. This is known as 'equilibrium price.' Marshall has compared the process of price determination to the cutting of cloth with a pair of scissors. Just as both the blades of scissors are required to cut the cloth, both the forces of demand and supply are essential to determine the equilibrium price in the market. This is explained with the help of the following schedule and diagram.

Table no 5.1   Demand and Supply Schedule

Price per Kg. of Apples (in ₹)	Quantity demanded (in Kg.)	Quantity supplied (in Kg.)	Relationship between DD and SS
100	5000	1000	DD > SS
200	4000	2000	DD > SS
300	**3000**	**3000**	**DD = SS**
400	2000	4000	DD < SS
500	1000	5000	DD < SS

From the table no 5.1, following conclusions can be drawn :

1) When price rises from ₹ 100 to ₹ 200 quantity demanded falls from 5000 kgs. to 4000 kgs. whereas supply increases from 1000 kgs. to 2000 kgs. This is because demand falls with rise in price and supply rises with a rise in price. This is the stage where demand is greater than supply (DD > SS).

2) When price rises to ₹ 300, quantity demanded and quantity supplied become equal that is 3000 kg. This is the stage of equilibrium where demand and supply become equal (DD = SS). Hence, ₹ 300 becomes the equilibrium price.

3) When price further rises from ₹ 400 to ₹ 500, demand falls from 2000 kgs. to 1000 kgs. and supply rises from 4000 kgs. to 5000 kgs. Thus, supply is greater than demand. (SS > DD).

The process of price determination is explained in the following figure 5.2. In this diagram, X axis represents quantity demanded and quantity supplied, whereas Y axis represents the price. DD is the downward sloping demand curve which shows inverse relationship between price and quantity demanded. SS is the upward sloping supply curve which shows direct relationship between price and quantity supplied. E is the equilibrium point where DD and SS curve intersect each other. Accordingly ₹ 300 is the equilibrium price and 3000 kgs. is the equilibrium quantity demanded and supplied. This equilibrium price is determined by market demand and market supply.
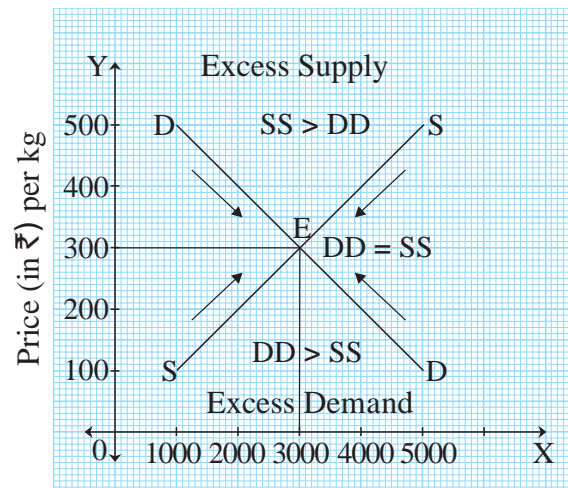
Quantity Demanded and Quantity Supplied (in kgs.)

Fig. 5.2

B) Imperfect Competition :

Imperfect competition is a type of market showing some but not all the features of a competitive market. Following are some of the types of imperfect market.

I) Monopoly :

Meaning and Definition : The term monopoly is derived from the Greek word 'Mono' which means single and 'poly' which means seller. Monopoly is a market in which there is only one seller who controls the entire market supply for a product which has no close substitute.

According to E. H. Chamberlin, "Monopoly refers to a single firm which has control over the supply of a product which has no close substitute."

Following are the main features of monopoly market :

1) **Single seller :** In monopoly, there is no competition as there is only one single producer or seller of the product. But, the number of buyers is large.

2) **No close substitute :** There are no close substitutes for the product of the monopolist. Therefore, the buyers have no choice. They have to either buy the product from the monopolist or go without it. The cross elasticity of demand for his product is either zero or negative.

3) **Barriers to entry :** Entry of the rivals is restricted due to legal, natural, technological barriers which do not allow the competitors to enter the market.

4) **Complete control over the market supply:** The monopolist has complete hold over the market. He is the sole producer or seller of the product.

5) **Price maker :** A monopolist can fix the price of his own product as he controls the whole market supply. Monopolist is a price maker.

6) **Price discrimination :** Monopolist being a price maker, he can charge different prices to different consumers for the same product, on the basis of time, place etc. Thus, price discrimination is an important feature of monopoly market. For example, students and senior citizens are provided railway tickets at concessional rates.

7) **No distinction between firm and industry:** A monopolist is the sole seller and producer of the product. A monopoly firm itself is an industry.

Types of monopoly :

Following are some of the types of monopoly :

1) **Private monopoly :** When an individual or private body controls a monopoly firm it is known as private monopoly. For example, Tata Group.

2) **Public monopoly :** When the production is solely owned, controlled and operated by the Government, it is known as public monopoly. It is usually welfare oriented. For example, Indian Railways.

3) **Legal monopoly :** This monopoly emerges on account of legal provisions like patents, trade mark, copyrights etc. The law forbids the potential competitors to imitate the design or form of the product registered under given branded names. For example, Amul products.

4) **Natural monopoly :** The monopoly created on the basis of natural conditions like climate, rainfall, specific location etc. is known as natural monopoly. For example, wheat from Punjab.

5) **Simple monopoly :** In simple monopoly, seller or a firm charges a uniform price for its product to all the buyers.

6) **Discriminating monopoly :** In discriminating monopoly, firm charges different prices to different buyers for the same product. For example, doctor charges different fees to different patients.

7) **Voluntary monopoly :** To avoid cut throat competition, some monopolists voluntarily come together and form a group of monopolists. This facilitates them to maximise the profit. For example, Organisation of Petroleum Exporting Countries (OPEC).

You should know :

Price descrimination under monopoly			
Personal	Place wise	Time wise	Use
Doctors charge different fees to different patients	Differences in house rent in rural and urban areas	ST bus fare differs for over night and day time travels	Electricity charges are different for domestic and commercial uses
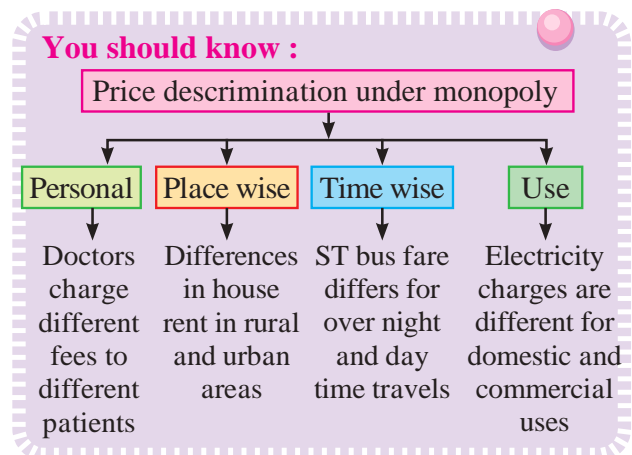
Find out :

Types of monopoly for the following products/services :

1) Tea in Assam ☐
2) Atomic energy ☐
3) Logo of a commercial bank ☐

Do you know?

Monopsony is the converse of monopoly. It exists when there are many sellers but only one buyer. Buyer's monopoly is rarely found. A monopsonist can exploit the sellers just as a monopolist may exploit the buyers. In the labour market, a particular kind of labour is used by one employer only.

II) Oligopoly :

The term oligopoly is derived from the Greek words 'Oligo' which means few and 'poly' which means sellers. It is that market where there are a few firms (sellers) in the market producing either a homogeneous product or a differentiated product. For example, mobile service providers, cement companies etc.

Features of oligopoly :

1) **Few firms or sellers :** Under oligopoly market, there are few firms or sellers. These few firms dominate the market and enjoy a considerable control over the price of a product.

2) **Interdependence :** The seller has to be cautious with respect to any action taken by the competing firms. Since there are few sellers in the market, if any firm makes the change in the price, all other firms in the industry also try to follow the same to remain in the competition.

3) **Advertising :** Advertising is a powerful instrument in the hands of oligopolist. A firm under oligopoly can start an aggressive and attractive advertising campaign with the intention of capturing a large part of market.

4) **Entry barriers :** The firm can easily exit from the industry whenever it wants. But has to face certain entry barriers such as Government licence, patents etc.

5) **Lack of uniformity :** There is a lack of uniformity among the firms in terms of their size. Some firms may be small while others may be of bigger size.

6) **Uncertainty :** There is a considerable element of uncertainty in this type of market due to different behaviour patterns. Rivals may join hands and co-operate or may try to fight each other.

III) Monopolistic competition :

Different brands of liquid cleaners :

Fig. 5.3

Meaning and Definition : Monopolistic competition is very realistic in nature. In this market there are some features of perfect competition and some features of monopoly acting together. Prof. E. H. Chamberlin coined this concept in his book "Theory of Monopolistic Competition" which was published in 1933.

According to Chamberlin, "Monopolistic competition refers to competition among a large number of sellers producing close but not perfect substitutes."

Following are the main features of monopolistic competition :

1) **Fairly large number of sellers :** In monopolistic competition, the number of sellers is large but comparatively it is less than that of perfect competition. Due to this reason sellers' behaviour is like monopoly.

2) **Fairly large number of buyers :** In this market there are fairly large number of buyers. Consequently, no single buyer can influence the price of the product by changing his individual demand.

3) **Product differentiation :** Product differentiation is the main feature of monopolistic competition. In this market, there are many firms producing a particular product, but the product of each firm is in some way differentiated from the product of every other firm in the market. This is known as product differentiation. Product differentiation may take the form of brand names, trade marks, peculiarity of package or container, shape, quality, cover, design, colour etc. This means that the product of a firm may find close substitutes and its cross elasticity of demand is very high. For example, mobile handsets, cold drinks etc.

4) **Free entry and exit :** Under monopolistic competition there is freedom of entry and exit, that is new firms are free to enter the market if there is profit. Similarly, they can leave the market, if they find it difficult to survive.

5) **Selling Cost :** Selling cost are peculiar to monopolistic competition only. It refers to the cost incurred by the firm to create more demand for its product and thus increase the volume of sales. It includes expenditure on advertisements, readio and television broadcasts, hoardings, exhibitions, window display, free gifts, free samples etc.

6) **Close substitutes :** In monopolistic competition, goods have close substitutes to each other. For example, different brands of soaps, toothpastes etc.

7) **Concept of group :** Under monopolistic competition, Chamberlin introduced the concept of 'Group' in place of industry. Industry means the number of firms producing identical products. A 'Group' means a number of firms producing differentiated products which are closely related. For example, group of firms producing medicines, automobiles etc.

Find out :

Close substitutes for the following products.

Products	Substitutes
1) Gemini Oil	
2) Colgate Toothpaste	
3) Red Label Tea	
4) Bru Caffee	
5) Activa Two-wheeler	

EXERCISE

Q. 1. A) Choose the correct option :

1) In economic sense, market includes following activities
   a) The place where goods are sold and purchased.
   b) An arrangement through which buyers and sellers come in close contact with each other directly or indirectly.
   c) A shop where goods are sold.
   d) All of the above.

Options : 1) a and b   2) b and c
               3) a, b and c   4) only d

2) Classification of markets on the basis of place
   a) Local market, National market, International market
   b) Very short period market, Local market, National market.
   c) Short period market, National market, International market.
   d) Local market, National market, Short period market.

Options : 1) a, b and c   2) b, c and d

       3) only a   4) a and d

3) Homogeneous product is a feature of this market.

    a) Monopoly

    b) Monopolistic competition

    c) Perfect competition

    d) Oligopoly

Options : 1) c and d   2) a, b and c

       3) a, c and d   4) only c

4) Under Perfect competition, sellers are

    a) Price makers   b) Price takers

    c) Price discriminators   d) None of these

Options : 1) a, b and c   2) only b

       3) only c   4) a and c

Q. 2. Give economic terms :

1) The market where there are few sellers.

2) The point where demand and supply curve intersect.

3) The cost incurred by the firm to promote sales.

4) Number of firms producing identical product.

5) Charging different prices to different consumers for the same product or services.

Q. 3. Complete the Correlation :

1) Perfect competition : Free entry and exit :: _____ : Barriers to entry.

2) Price taker : _____ :: Price maker :: Monopoly.

3) Single price : Perfect competition :: Discriminated prices : _____

Q. 4. Find the odd word out :

1) Selling cost : Free gifts, Advertisement hoardings, Window displas, Patents.

2) Market sructure on the basis of competition : Monopoly, Oligopoly, Very Short Period market, Perfect competition.

3) Features of monopoly : Price maker, Entry barriers, Many sellers, Lack of substitutes.

4) Legal monopoly : Patent, OPEC, Copyright, Trade mark.

Q. 5. Answer the following :

1) Explain the features of Oligopoly.

2) Explain the types of Monopoly.

Q. 6. Observe the table and answer the questions :

Price of banana (per dozon) in ₹	Demand (in dozen)	Supply (in dozen)	Relation between DD and SS
10	500	100	DD > SS
20	400	_____	DD > SS
30	_____	300	DD = SS
40	200	_____	DD < SS
50	_____	500	DD < SS

1) Fill in the blanks in the above schedule.

2) Derive the equilibrium price from the above schedule with the help of a sutiable diagram.

Q. 7. Answer in detail :

1) Explain the meaning of Monopolistic competition with its features.

2) Explain the meaning of Perfect competition with its features.

○○○

6 Index Numbers

Introduction :

Index numbers are one of the most used statistical tools in economics. An index number is a device to measure changes in an economic variable (or group of variables) over a period of time. Index numbers were originally developed to measure changes in the price level. In the present context, it is also used to measure trends in a wide variety of areas that includes stock market prices, cost of living, industrial and agricultural production, changes in exports and imports etc. Index numbers are not directly measurable, but represent relative changes.

Do you know?

Origin of Index Numbers : During the 17th century, Rice Vaughan, an Englishman and eminent writer was concerned with the rise in prices which had occurred in his native land over the preceding century. The first study using Index Numbers was done in the early 18th century. In 1707, William Fleetwood made a comparison of the prices of certain commodities such as wheat, oats, beans, cloth, meat etc. for the periods 1440-1460 and 1686-1706. The results of this study are presented in his work, 'Chronicon Preciosum' (1707). In 1738, Charles de Ferrare Dutot of France constructed a simple aggregative index for two periods 1508 and 1735 and compared the costs for an identical list of commodities. However, the first recorded index number appeared in the work of G.R. Carli, an Italian who used a modified form of the simple average of price relatives in 1764.

Definitions of Index Numbers :

1) **Spiegel :** "An index number is a statistical measure designed to show changes in a variable or a group of related variables with reference to time, geographical location and other characteristics such as income, profession etc."

2) **Croxton and Cowden :** "Index Numbers are devices for measuring differences in the magnitude of a group of related variables."

Features of Index Numbers :

1) Index numbers are statistical devices.

2) Index numbers are specialized averages which are capable of being expressed in percentages.

3) Index numbers measure the net change in one or more related variables over a period of time or between two different time periods or two different localities.

4) Index number which is computed from a single variable is called a **'univariate index'**, whereas an index which is constructed from a group of variables is called a **'composite index'**.

5) The year for which the index number is prepared is the current year.

6) The year with which the changes are measured is called the base year.

7) The base year's index is assumed as 100 and accordingly the value of the current year is calculated.

8) Index numbers are also referred to as **'barometers of economic activity'**, since it is used to measure the trends and changes in the economy.

You should know :

Terminologies used in index numbers -

Base Year : The year with respect to which comparisons are made is the base year. It is denoted by the suffix 'o'.

Current Year : The year for which comparisons are required to be made is the

current period. It is denoted by the suffix '1'.

Notations

p_0 = Price of the commodity in the base year

p_1 = Price of the commodity in the current year

q_0 = Quantity of the commodity consumed or purchased in the base year

q_1 = Quantity of the commodity consumed or purchased in the current year

Types of Index numbers :

INDEX NUMBERS
- PRICE INDEX NUMBER
- QUANTITY INDEX NUMBER
- VALUE INDEX NUMBER
- SPECIAL PURPOSE INDEX NUMBER

1) **Price Index Number :** It measures the general changes in the prices of goods. It compares the level of prices between two different time periods.

2) **Quantity Index Number :** It is also called volume index number. It measures changes in the level of output or physical volume of production in the economy. For example, changes in agricultural production, industrial production etc. over a period of time.

3) **Value Index Number :** The value of a commodity is the product of its price and quantity (p × q). Value index number measures the changes in the value of a variable in terms of rupee. It is a more informative index as it combines both, changes in the price as well as quantity.

4) **Special Purpose Index Number :** They are constructed with some specific purpose. For example, import-export index numbers, labour productivity index numbers, share price index numbers etc.

Do you know?

Some of the widely used index numbers by the Government of India :

- Consumer Price Index
- Wholesale Price Index
- Index of Agricultural Production
- Index of Industrial Production
- Index of Service Production
- Index of Export/Import
- Human Development Index

Significance of Index Numbers in Economics :

Index numbers are indispensable tools of economic analysis. Following points explain the significance of index numbers :

1) **Framing suitable policies :** Index numbers provide guidelines to policy makers in framing suitable economic policies such as agricultural policy, industrial policy, fixation of wages and dearness allowances in accordance with the cost of living etc.

2) **Studies trends and tendencies :** Index numbers are widely used to measure changes in economic variables such as production, prices, exports, imports etc. over a period of time. For example, by examining the index of industrial production for the last five years, we can draw important conclusions about the trend of industrial production whether it shows an upward tendency or a downward tendency.

3) **Forecasting about future economic activity :** Index numbers are useful for making predictions for the future based on the analysis of the past and present trends in the economic activities. For example, based on the available data pertaining to imports and exports, future predictions can be made. Thus, forecasting guides in proper decision making.

4) **Measurement of inflation :** Index numbers are also used to measure changes in the price level from time to time. It enables the government to undertake appropriate anti-inflationary measures. There is a legal provision to pay the D.A. (dearness

allowance) to the employees in organised sector on the basis of changes in Dearness Index.

5) **Useful to present financial data in real terms :** Deflating means to make adjustments in the original data. Index numbers are used to adjust price changes, wage changes etc. Thus, deflating helps to present financial data in real terms (at constant prices).

Construction of Index Numbers :

Following steps are involved in the construction of index numbers :

1) **Purpose of index number :** The purpose for constructing the index number, its scope as well as which variable is intended to be measured should be clearly decided to achieve fruitful results.

2) **Selection of the base year :** Base year is also called the reference year. It is the year against which comparisons are made. The base year should be normal i.e. it should be free from natural calamities. It should not be too distant in the past.

Do you know?

In 2015, the Central Statistical Organisation (CSO) under the Ministry of Statistics changed the base year for tabulating Gross Domestic Product from 2004-05 to 2011-12. Periodic rebasing of GDP series every seven to ten years is carried out to account for the changing economic structure and relative prices. Besides this, the base year of Index of Industrial Production (IIP) and the base year of Wholesale Price Index (WPI) has also been changed from 2004-05 to 2011-12. At present, the process of further rebasing the base year is underway.

3) **Selection of items :** It is necessary to select a sample of the number of items to be included in the construction of a particular index number. For example, in the construction of price index numbers it is impossible to include each and every commodity. The commodities to be selected should represent the tastes, habits and customs of the people. Besides this, only standardized or graded items should be included to give better results.

4) **Selection of price quotations :** Prices of the selected commodities may vary from place to place and shop to shop in the same market. Therefore, it is desirable that price quotations should be obtained from an unbiased price reporting agency. To achieve accuracy, proper selection of representative places and persons is required.

5) **Choice of a suitable average :** Construction of index numbers requires choice of a suitable average. Generally, Arithmetic mean is used in the construction of index numbers because it is simple to compute compared to other averages.

6) **Assigning proper weights :** Weight refers to the relative importance of the different items in the construction of an index number. Weights are of two types i.e. quantity weights (q) and value weights (p x q). Since all items are not of equal importance, by assigning specific weights, better results can be achieved.

7) **Selection of an appropriate formula :** Various formulae are devised for the construction of index numbers. Choice of a suitable formula depends upon the purpose of index number and availability of data.

Methods of Constructing Index Numbers :

There are two methods of constructing index numbers:

a) Simple Index Number

b) Weighted Index Number

The following chart explains the methods of constructing index numbers :

CONSTRUCTION OF INDEX NUMBERS → SIMPLE INDEX NUMBER

CONSTRUCTION OF INDEX NUMBERS → WEIGHTED INDEX NUMBER
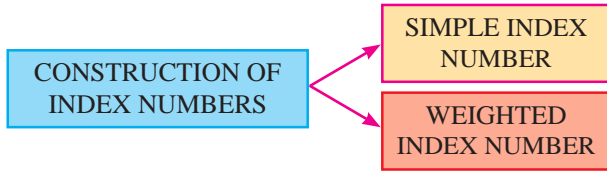
A) Simple Index Number : In this method, every commodity is given equal importance. It is the easiest method of constructing index numbers. This method can be applied to determine
1) Price Index Number
2) Quantity Index Number
3) Value Index Number

Some Solved Examples :

1) Price index number : It is measured as:

Price Index Number $P_{01} = \dfrac{\Sigma p_1}{\Sigma p_0} \times 100$

where, Σp_1 = sum total of the prices of the current year

Σp_0 = sum total of the prices of the base year

Ex 1 : Construct a Price index number using the simple method from the given data :

Steps : 1) Add the prices of the different commodities of the base year to derive Σp_0
2) Add the prices of the different commodities of the current year to derive Σp_1
3) Apply the formula :

Price Index Number $P_{01} = \dfrac{\Sigma p_1}{\Sigma p_0} \times 100$

Commodities	Prices in 2010 (in ₹) Base year p_0	Prices in 2015 (in ₹) (Current year) p_1
A	20	30
B	60	80
C	100	130
D	40	60
Total	$\Sigma p_0 = 220$	$\Sigma p_1 = 300$

Price Index Number $P_{01} = \dfrac{\Sigma p_1}{\Sigma p_0} \times 100$

$P_{01} = \dfrac{300}{220} \times 100 = 136.36$

$P_{01} = 136.36$

2) Quantity index number : It is measured as :

Quantity Index Number $Q_{01} = \dfrac{\Sigma q_1}{\Sigma q_0} \times 100$

where, Σq_1 = sum total of the quantities of the current year

Σq_0 = sum total of the quantities of the base year

Ex 2 : Construct a Quantity index number using the simple method from the given data :

Steps : 1) Add the quantities of the different commodities of the base year to derive Σq_0

2) Add the quantities of the different commodities of the current year to derive Σq_1

3) Apply the formula :

Quantity Index Number $Q_{01} = \dfrac{\Sigma q_1}{\Sigma q_0} \times 100$

Commodities	Qty. in 2000 (Base year) q_0	Qty. in 2001 (Current year) q_1
A	30	45
B	55	70
C	90	105
D	35	60
Total	$\Sigma q_0 = 210$	$\Sigma q_1 = 280$

Quantity Index Number $Q_{01} = \dfrac{\Sigma q_1}{\Sigma q_0} \times 100$

$Q_{01} = \dfrac{280}{210} \times 100 = 133.33$

$Q_{01} = 133.33$

3) Value Index Number : It is measured as :

Value Index Number $V_{01} = \dfrac{\Sigma p_1 q_1}{\Sigma p_0 q_0} \times 100$

where, $\Sigma p_1 q_1$ = sum total of the product of the prices and quantities of the current year.

$\Sigma p_0 q_0$ = sum total of the product of the prices and quantities of the base year.

Ex 3 : Construct a Value index number using the simple method from the given data :

Steps : 1) Find the product of prices and their respective quantities of the different commodities for the base year to derive $p_0 q_0$. Take the sum total of the products to derive $\Sigma p_0 q_0$.

2) Find the product of prices and their respective quantities of the different commodities for the

current year to derive p_1q_1. Take sum total of the products to derive Σp_1q_1.

3) Apply the formula :

Value Index Number $V_{01} = \dfrac{\Sigma p_1q_1}{\Sigma p_0q_0} \times 100$

Commodities	Base year			Current year		
	p_0	q_0	p_0q_0	p_1	q_1	p_1q_1
P	5	4	20	20	10	200
Q	10	3	30	30	8	240
R	15	2	30	40	6	240
S	20	1	20	50	4	200
Total	Σp_0q_0	=	100	Σp_1q_1	=	880

Value Index Number $V_{01} = \dfrac{\Sigma p_1q_1}{\Sigma p_0q_0} \times 100$

$V_{01} = \dfrac{880}{100} \times 100 = 880$

$V_{01} = 880$

B) Weighted Index Number : In this method, suitable weights are assigned to various commodities. It gives relative importance to the commodity in the group. In most of the cases 'quantities' are used as weights. There are various methods of constructing weighted index number such as Laaspeyre's Price Index, Paasche's Price Index etc.

Some Solved Examples :

Étienne Laspeyres : German economist Étienne Laspeyres (1834–1913) formulated an index for measuring current prices or quantities in relation to those of a selected base period.

The distinctive feature of the Laspeyres index is that it uses a group of commodities purchased in the base period as the basis for comparison.

1) **Laaspeyre's Price Index Number :** In this technique, 'base year' quantities are considered as weights. Laaspeyre's price index is calculated as :

$P_{01} = \dfrac{\Sigma p_1q_0}{\Sigma p_0q_0} \times 100$

Ex. 1 : Construct Laaspeyre's Index for the given data :

Commodities	Base year		Current year	
	p_0	q_0	p_1	q_1
A	20	4	30	6
B	10	5	20	8
C	40	8	60	5
D	30	4	40	4

Solution :

Commodities	Base year		Current year			
	p_0	q_0	p_1	q_1	p_1q_0	p_0q_0
A	20	4	30	6	120	80
B	10	5	20	8	100	50
C	40	8	60	5	480	320
D	30	4	40	4	160	120
Total					860	570

Steps : 1) Find out the product p_1q_0 of the different commodities.

2) Find out the product p_0q_0 of the different commodities.

3) Add all the products p_1q_0 obtained to derive Σp_1q_0.

4) Add all the products p_0q_0 obtained to derive Σp_0q_0.

5) Apply the given formula :

$P_{01} = \dfrac{\Sigma p_1q_0}{\Sigma p_0q_0} \times 100$

$P_{01} = \dfrac{860}{570} \times 100 = 150.87$

Thus, Laaspeyre's index $P_{01} = 150.87$

Do you know?

Sensex and Nifty are stock market indices which represent Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) respectively.

Sensex, also called BSE 30, is the market index consisting of 30 well-established and financially sound companies listed on Bombay Stock Exchange (BSE). The base year of Sensex is 1978-79.

Nifty, also called NIFTY 50, is the market

index consisting of 50 well-established and financially sound companies listed on National Stock Exchange of India (NSE). The base year of Nifty is taken as 1995.

Hermann Paasche : German economist Hermann Paasche (1851-1925) developed an index for measuring current price or quantity levels relative to those of a selected base period. Paasche's index uses current-period weighting.

2) **Paasche's Price Index Number :** In this technique, quantities of the 'current year' are considered as weights. Paasche's Price Index is calculated as :

$$P_{01} = \frac{\Sigma p_1 q_1}{\Sigma p_0 q_1} \times 100$$

Ex. 2 : Construct Paasche's Index for the given data :

Commodities	Base year		Current year	
	p_0	q_0	p_1	q_1
M	2	10	5	8
N	4	5	8	3
O	1	7	2	10
P	5	8	10	5

Solution :

Commodities	Base year		Current year			
	p_0	q_0	p_1	q_1	$p_1 q_1$	$p_0 q_1$
M	2	10	5	8	40	16
N	4	5	8	3	24	12
O	1	7	2	10	20	10
P	5	8	10	5	50	25
Total					134	63

Steps : 1) Find out the product $p_1 q_1$ of the different commodities.

2) Find out the product $p_0 q_1$ of the different commodities.

3) Add all the products $p_1 q_1$ obtained to derive $\Sigma p_1 q_1$.

4) Add all the products $p_0 q_1$ obtained to derive $\Sigma p_0 q_1$.

5) Apply the given formula :

$$P_{01} = \frac{\Sigma p_1 q_1}{\Sigma p_0 q_1} \times 100$$

$$P_{01} = \frac{134}{63} \times 100 = 212.69$$

Thus, Paasche's index $P_{01} = 212.69$

Find out :
- List of crops included in the Index of Agricultural Production in India.
- List of products included in the Index of Industrial Production in India.

Limitations of index numbers :

Index numbers are useful in practice. However they suffer from certain limitations. Therefore, they are not completely reliable.

1) **Based on samples :** Index numbers are generally based on samples. We cannot include all the items in the construction of the index numbers. Hence they are not free from sampling errors.

2) **Bias in the data :** Index numbers are constructed on the basis of various types of data which may be incomplete. There may be bias in the data collected. This is bound to affect the results of the index numbers.

3) **Misuse of Index Numbers :** Index numbers can be misused. They compare a situation in the current year with a situation in the base year. Hence a person may choose a base year which will be suitable for his purpose. For example, a businessman may choose a year in which his profit is high as the base year and show that his profit is falling in the current years.

4) **Defects in formulae :** There is no perfect formula for the construction of an index number. It is only an average and so it has all the limitations of an average.

5) **Changes in the economy :** The habits, tastes and expectations of the people in

58

a country are always changing and all these changes cannot be included in the estimation of index numbers.

6) **Qualitative changes :** The price or quantity index numbers may ignore the changes in qualities of the products. At any given time, a better quality commodity will have a higher production cost and a higher price than an ordinary commodity which is a substitute for the better product.

7) **Arbitrary weights :** The weights assigned to different commodities may be arbitrary.

8) **Limited scope :** An index number has limited scope because if it is constructed for one purpose then it cannot be used for any other purpose.

Find out :

Newspaper headlines related to the following types of index numbers :
- Price Index
- Agricultural Productivity Index
- Index of Industrial Production
- Equity Share Price Index

EXERCISE

Q. 1. Choose the correct option :

1) Statements that are incorrect in relation to index numbers.
   a) Index number is a geographical tool.
   b) Index numbers measure changes in the air pressure.
   c) Index numbers measure relative changes in an economic variable.
   d) Index numbers are specialized averages.

Options : 1) c and d   2) a and b
           3) b and c   4) a and d

2) Statements that highlight the significance of index numbers.
   a) Index numbers are useful for making future predictions.
   b) Index numbers help in the measurement of inflation.
   c) Index numbers help to frame suitable policies.
   d) Index numbers can be misused.

Options : 1) b, c and d   2) a, c and d
           3) a, b and d   4) a, b and c

3) Statements that apply to weighted index numbers.
   a) Every commodity is given equal importance.
   b) It assigns suitable 'weights' to various commodities.
   c) In most of the cases, quantities are used as weights.
   d) Laaspeyre's and Paasche's method is used in the calculation of weighted index numbers.

Options : 1) b, c and d   2) a, c and d
           3) a, b and d   4) a, b, c and d

4) Statements related to limitations of index numbers.
   a) Index numbers are not completely reliable.
   b) There may be a bias in the data collected.
   c) Every formula has some kind of defect.
   d) Index numbers ignore changes in the qualities of products.

Options : 1) a, c and d   2) a, b, c and d
           3) a, b and d   4) b, c and d

5) Choose the correct pair :

Group A		Group B
1) Price Index	a)	$\dfrac{\Sigma p_1 q_1}{\Sigma p_0 q_0} \times 100$
2) Value Index	b)	$\dfrac{\Sigma q_1}{\Sigma q_0} \times 100$
3) Quantity Index	c)	$\dfrac{\Sigma p_1 q_1}{\Sigma p_0 q_1} \times 100$
4) Paasche's Index	d)	$\dfrac{\Sigma p_1}{\Sigma p_0} \times 100$

Options : 1) 1-d, 2-c, 3-a, 4-b   2) 1-d, 2-a, 3-b, 4-c
           3) 1-b, 2-c, 3-d, 4-a   4) 1-c, 2-d, 3-a, 4-b

Q. 2. Complete the Correlation :

1) Price Index : Inflation :: [_____] : Agricultural production

2) [_____] : Base year prices :: P_1 : Current year prices

3) Laaspeyre's index : [_____] :: Paasche's index : Current year quantities

4) [_____] : Single variable :: Composite index : Group of variables

Q. 3. Solve the following :

1) Calculate Price Index number from the given data :

Commodity	A	B	C	D
Price in 2005 (₹)	6	16	24	4
Price in 2010 (₹)	8	18	28	6

2) Calculate Quantity Index number from the given data :

Commodity	P	Q	R	S	T
Base year quantities	170	150	100	195	205
Current year quantities	90	70	75	150	95

3) Calculate Value Index number from the given data :

Commodity	Base Year		Current Year	
	Price	Quantity	Price	Quantity
A	40	15	70	20
B	10	12	60	22
C	50	10	90	18
D	20	14	100	16
E	30	13	40	15

4) Calculate Laaspeyre's and Paasche's index from the given data :

Commodity	Base Year		Current Year	
	Price	Quantity	Price	Quantity
X	8	30	12	25
Y	10	42	20	16

Q. 4. Distinguish between :

1) Simple Index Numbers and Weighted Index Numbers.

2) Price Index and Quantity Index.

3) Laaspeyre's Index and Paasche's Index.

Q. 5. State with resons whether you agree or disagree with the following statements :

1) Index numbers measure changes in the price level only.

2) Index numbers are free from limitations.

3) Index numbers can be constructed without the base year.

Q. 6. Answer the following :

1) Explain the features of index numbers.

2) Explain the significance of index numbers in economics

Q. 7. Answer in detail :

1) Explain the steps involved in the construction of index numbers.

○○○

7 National Income

Fig. 7.1

Introduction :

National Income is one of the important subject matter of macroeconomics. The national economy comprises of all the firms and factories, shops and markets, banks and financial institutions, various departments and their offices etc. National income is a composite measure of all economic activities such as production, distribution, exchange and consumption, but is also an objective indicator of economic welfare of the people in a country.

In India, establishment of the National Income Committee (NIC) in 1949 marked the beginning of Government efforts for regular compilation of National Income estimates. At present, Central Statistical Organisation (CSO) compiles and publishes data on national income and allied aggregates every year.

Meaning :

Modern economy is a money economy. Hence, national income of a country is expressed in terms of money.

The total income of the nation is called national income.

In real terms, national income is the flow of goods and services produced in an economy during a year.

Definitions of National Income :

Following are some of the important definitions of national income :

1) **National Income Committee (NIC) :** The National Income Commitee was appointed by the Government of India in August 1949 with Prof. P. C. Mahalanobis as Chairman and Prof. D. R. Gadgil and Dr. V. K. R. V. Rao as the members.

P.C.Mahalanobis   V. K. R. V. Rao   D. R. Gadgil

According to NIC "A national estimate measures the volume of commodities and services turned out during a given period counted without duplication."

2) **Prof. A.C. Pigou :** "National dividend is that part of objective income of the community including of course income derived from abroad which can be measured in money."

5) **Prof. Irving Fisher :** "National dividend or income consists solely of services as received by ultimate consumers, whether from their material or from their human environments."

Features of National Income :

1) **Macro Economic concept :** National income represents income of the economy as a whole rather than that of an individual. Hence it is a macro economic concept.

2) **Value of only final goods and services :** In order to avoid double counting in national income, the value of only final goods and

services produced in the economy are considered. The value of intermediate goods or raw materials is not considered. For example, while estimating the production of shirts, there is no need to take the value of cotton, as it is already included in the price of the shirts.

3) **Net aggregate value :** National income includes net value of goods and services produced and does not include depreciation cost. (i.e. wear and tear of capital assets)

4) **Net income from abroad :** National income includes net income from abroad i.e. difference between export value and import value (X-M) and net difference between receipts from abroad and payments made abroad (R-P).

5) **Financial year :** National income is always expressed with reference to a time period. In India, it is from 1st April to 31st March.

6) **Flow concept :** National income is a flow concept as it shows flow of goods and services produced in the economy during a year.

7) **Money value :** National income is always expressed in monetary terms. It represents only those goods and services which are exchanged for money.

Circular Flow of National Income :

Circular flow of income is the basic concept in macro economics. The circular flow of income refers to the process whereby an economy's money receipts and payments flow in a circular manner continuously through time.

Circular flow of income can be determined for the following :

1) Two sector Economy (Households and Business Firms.) $Y = C + I$

2) Three sector Economy (Households, Business Firms and Government sector) $Y = C + I + G$

3) Four Sector Economy (Households, Business

Firms, Government and Foreign sector) $Y = C + I + G + (X-M)$

The circular flow of goods and money in a two sector model is explained below :

Two sector model of Circular flow of National Income :

There are two sectors, households and firms. It divides the diagram into two parts. The upper half represents the factor market and the lower half represents the commodity market.

Fig. no. 7.2 explaines circular flow of income and expenditure in a two sector model.
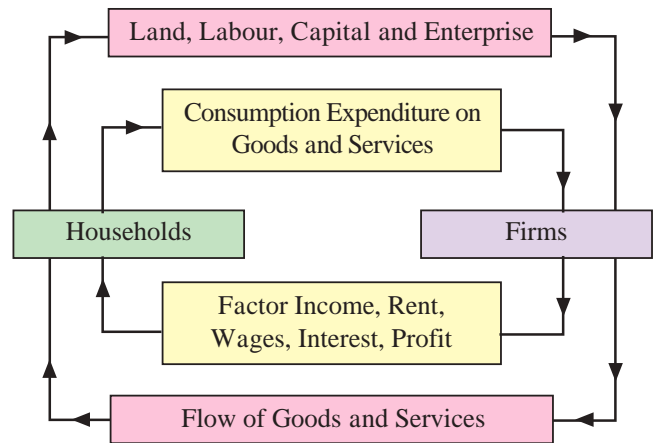
Fig. 7.2

In the above figure 7.2, the factors of production flow from the households to the firms. The firms use these factors to produce goods and services required by the households. Thus, goods flow from the households to the firms and from the firms back to the households. It is called product flows.

In the same way, money flows from the firms to the households in the form of factor payments such as rent, wages, interest and profit. Households use this income to purchase goods and services. Thus, money flows from the firms to the households and from the households back to the firms. It is called money flows.

In the circular flow of income, production generates factor income, which is converted into expenditure. This flow of income continues as production is a continuous activity due to never ending human wants. It makes the flow of income circular

I) Three Sector Model of Circular Flow of National Income : Under a three sector model, the government sector is added to the existing two sectors i.e. households and business firms.

II) Four Sector Model of Circular Income : In an four sector model, foreign sector is added to the existing three sectors i.e. households, business firms and government sector.

Different Concepts of National Income :

Following are some of the important concepts related to national income.

1) **Gross Domestic Product (GDP) :** Gross Domestic Product is the gross market value of all final goods and services produced within the domestic territory of a country, during a period of one year.

$\therefore$ GDP = C + I + G + (X-M) ,

Where C = Private consumption expenditure

I = Domestic Private Investment

G = Government's consumption and Investment Expenditures

X - M = Net export value (Value of Exports - Value of imports

2) **Net Domestic Product (NDP) :** Net Domestic Product is the net market value of all final goods and services produced, within the territorial boundaries of a country, during a period of one year.

$\therefore$ NDP = GDP – Depreciation.

3) **Gross National Product (GNP) :** Gross National Product means the gross value of final goods and services produced annually in a country, which is estimated according to the price prevailing in the market.

$\therefore$ GNP = C + I + G + (X-M) + (R-P).

(R = receipts from abroad and P = payments made abroad)

4) **Net National Product (NNP) :** Net National Product is the net market value of all final goods and services produced by the residents of a country, during a period of one year.

$\therefore$ NNP = GNP – Depreciation.

Find out :

India's GDP data.

You should know :
Concept of Green GNP :

It is defined as, "Green GNP is an indicator of sustainable use of natural environment and equitable distribution of benefits of development."

Gross National product does not take into consideration the cost in terms of (i) Environmental pollution, (ii) Depletion of natural resources caused by production of output. Mere increase in GNP will not reflect improvement in quality of life, when it increases environmental pollution or reduce available resources for future generations. So Green GNP has been introduced while measuring economic welfare.

Following are the characteristics of Green GNP :

1) Sustainable economic development, i.e. development which should not cause environmental degradation (pollution) and depletion of natural resources.

2) Equitable distribution of benefits of its development.

3) Promotes economic welfare for a long period of time.

Measurement :

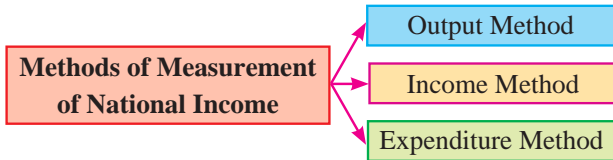Green GNP = GNP - (Net fall in stock of natural capital + pollution load.)

Find out :

Names of five countries making use of the concept of Green GNP.

Methods of Measurment of National Income :

There are three methods of measuring national income.

1) Output Method/Product Method
2) Income Method
3) Expenditure Method

1) Output Method :

This method of measuring national income is also known as product method or inventory method.

This method approaches national income from the output side. According to this method, the economy is divided into different sectors, such as agriculture, mining, manufacturing, small enterprises, commerce, transport, communication and other services. The output or product method is followed either by valuing all the final goods and services, produced during a year, at their market price or by adding up all the values at each higher stage of production, until these products are turned into final products.

While using this method utmost care must be taken to avoid multiple or double counting. To avoid double counting this method suggests two alternative approaches for the measurement of GNP.

i) **Final Goods Approach / The Final Product Approach :** Final goods are those goods which are ready for final consumption. According to this approach, value of all final goods and services produced in primary, secondary and tertiary sector are included and the value of all intermediate transactions are ignored. Intermediate goods are involved in the process of producing final goods, that is, the final flow of output purchased by consumers. Hence, the value of final output includes the value of intermediate products.

For example, the price of bread includes, the cost of wheat, making of flour, etc., wheat and flour are both intermediate goods. Their values are paid up during the process of production. In the final product i.e. bread, the values of intermediate goods are already included.

Thus, a separate accounting of the values of intermediate goods, along with the accounting of the value of final product, would mean double counting. To avoid this, the value of only the final product or goods must be computed.

ii) **Value Added Approach / The Value Added Method :** In order to avoid double counting value added approach is used. According to this approach, the value added at each stage of the production process is included. The difference between the value of final outputs and inputs, at each stage of production is called the value added. Thus, GNP is obtained as the sum total of the values added by all the different, stages of the production process, till the final output is reached in the hands of consumers, to meet the final demand. This can be illustrated with the help of the following table.

Table No. 7.1 - Value Added Method

Production stage	Value of output ₹	Value of input ₹	Value added ₹
Cotton	150	0	150
Yarn	250	150	100
Cloth	400	250	150
Shirt (final goods)	500	400	100
Total value			500

Value added at each stage is calculated by deducting the value of inputs from the value of output produced. The sum total added at different stages make GNP. In the above table the value of final good (Shirt) is ₹ 500. The sum total of value added at each stage of production is also ₹ 500. Thus the total value added is equal to the value of final goods. (150 + 100 + 150 + 100 = 500)

64

Precautions :

While estimating national income by output method, following precautions should be taken:

1) To avoid double counting, only the value of final goods and services must be taken into account.

2) Goods used for self consumption by farmers should be estimated by a guess work. Imputed value of goods produced for self consumption is included in national income.

3) Indirect taxes included in the market prices are to be deducted and subsidies given by the government to certain products should be added for accurate estimation of national income.

4) While evaluating output, changes in the price level between different years must be taken into account.

5) Value of exports should be added and value of imports should be deducted.

6) Depreciation of capital assets should be deducted.

7) Sale and purchase of second hand goods should be ignored as it is not a part of current production.

Output method is widely used in the underdeveloped countries. However, it is less reliable because of the margin of error. In India, this method is applied to agriculture, mining and manufacturers, including handicrafts. But it is not applied for transport, commerce and communication sectors in India.

2) Income Method :

This method of measuring national income is also known as factor cost method. This method estimates national income from the distribution side.

According to this method, the income payments received by all citizens of a country, in a particular year, are added up, that is, incomes that accrue to all factors of production by way of rents, wages, interest and profits are all added together, but income received in the form of transfer payments are ignored. The data pertaining to income are obtained from different sources, for instance, from income tax returns, reports, books of accounts, as well as estimates for small income.

GNP can be treated as the sum of factor incomes, earned as a result of undertaking economic activity, on the part of resource owners and reflected in the production of the total output of goods and services during any given time period.

Thus, GNP, according to income method, is calculated as follows:

NI = Rent + Wages + Interest + Profit + Mixed Income + Net income from abroad.

NI = R + W + I + P + MI + (X–M)

Precautions :

While estimating national income by income method, the following precautions should be taken.

1) Transfer incomes or transfer payments like scholarships, gifts, donations, charity, old age pensions, unemployment allowance etc., should be ignored.

2) All unpaid services like services of a housewife, teacher teaching her/his child, should be ignored.

3) Any income from sale of second hand goods like car, house etc., should be ignored.

4) Income from sale of shares and bonds should be ignored, as they do not add anything to the real national income.

5) Revenue received by the government through direct taxes, should be ignored, as it is only a transfer of income.

6) Undistributed profits of companies, income from government property and profits from public enterprise, such as water supply, should be included.

7) Imputed value of production kept for self-consumption and imputed rent of owner occupied houses should be included.

In India, the National Income Committee

of the Central Statistical Organization, uses the income method for adding up the income arising from trade, transport, professional and liberal arts, public administration and domestic services.

3) Expenditure Method :

This method of measuring national income is also known as Outlay Method.

According to this method, the total expenditure incurred by the society, in a particular year, is added together. Income can be spent either on consumer goods or on capital goods. Thus, we can get national income by summing up all consumption expenditure and investment expenditure made by all individuals, firms as well as the government of a country during a year.

Thus, gross national product is found by adding up $\quad NI = C + I + G + (X–M) + (R–P)$

1) **Private Final Consumption Expenditure (C) :** Private Final Consumption Expenditure (C) by households on non-durable goods, such as food, which are used immediately; expenditure on durable goods such as car, computer, television set, washing machine etc., which are generally used for a longer period of time; and expenditure on services like transport services, medical services, etc.

2) **Gross Domestic Private Investment Expenditure (I) :** It refers to expenditure made by private businesses on replacement, renewals and new investment (I).

3) **Government Final Consumption and Investment Expenditure (G) :**

i) Government's final consumption expenditure refers to the expenditure incurred by government on various administrative services like, law and order, defence, education, health etc.

ii) Government's investment expenditure refers to the expenditure incurred by government, on creating infrastructural facilities like construction of roads, railways, bridges, dams, canals, which are used by the business sector for production of goods and services in any economy (G).

4) **Net Foreign Investment/Net Exports :** It refers to the difference between exports and imports of a country during a period of one year.

5) **Net Receipts (R-P) :** The difference between expenditure incurred by foreigners on domestic goods and services (R) and expenditure incurred abroad by residents on foreign goods and services (P).

Precautions:

While estimating national income by Expenditure Method, the following precautions should be taken.

1) Expenditure on all intermediate goods and services should be ignored, in order to avoid double counting.

2) Expenditure on the repurchase of second hand goods, should be ignored, as it is not incurred on currently produced goods.

3) Expenditure on transfer payments like scholarships, old age pensions, unemployment allowance etc., should be ignored.

4) Expenditure on repurchase of financial assets such as shares, bonds, debentures etc., should not be included, as such transactions do not add to the flow of goods and services.

5) Indirect taxes should be deducted.

6) Expenditure on final goods and services should be included.

7) Subsidies should be included.

Out of these methods, the Output Method and Income Method are extensively used. In advanced countries like U.S.A. and U.K. the Income Method is popular. Expenditure Method is rarely used by any country because of practical difficulties. In India, the Central Statistical Organization (CSO) adopts a combination of both output method and income method to estimate national income of India.

You should know :

Mixed income refers to the incomes of self employed persons who use their own land, labour, capital and entrepreneurship to produce various goods and services.

Difficulties in the Measurement of National Income :

There are various difficulties in the measurement of national income.

A) Theoretical Difficulties or Conceptual Difficulties :

1) **Transfer payments :** Individuals get pension, unemployment allowance etc. but whether these transfer payments should be included in national income or not, is a major problem. On one hand they are a part of individual income and on the other hand, they are part of Government expenditure. Hence, these transfer payments are not included in national income.

2) **Illegal income :** Illegal incomes like income from gambling, black marketing, theft, smuggling etc. are not included in national income.

3) **Unpaid services :** For the purpose of calculating national income, only paid goods and services are considered. However, there are a number of unpaid services which are not accounted for in the calculation of national income. For example, services of housewives and the services provided out of love, affection, mercy, sympathy, charity etc. are not included in national income.

4) **Production for self consumption :** The products kept for self consumption by the farmers and other allied producers do not enter the market. Hence, it is not accounted for in the national Income.

5) **Income of foreign firms :** According to IMF, income of a foreign firm, should be included in the national income of the country, where the firm actually undertakes the production work.

6) **Valuation of Government Services :** Government provides a number of public services such as law and order, defence, public administration, education, health services etc. The calculation of these services at market price is difficult, as the real value of these services is not known. Therefore, it is difficult to calculate national Income.

7) **Changing price level :** Difficulties in calculating national income also arise due to changes in price levels. For example, when the price level rises, the national income may show an increase even though the production may have decreased. Also, when the price level falls, the national income may show a decrease even though there may be an increase in production.

B) Practical Difficulties or Statistical Difficulties :

In practice, a number of difficulties arise in the collection of statistical data required for estimation of national income. Some of the practical difficulties are as follows :

1) **Problem of double counting :** The greatest difficulty in calculating national income is of double counting. It arises from the failure to distinguish properly, between a final and an intermediate product. For example, flour used by a bakery is an intermediate product and that by a household is final product.

2) **Existence of non-monetized sector :** In India, especially in rural areas, there exists the non-monetized sector. Agriculture, still being in the nature of subsistence farming, a major part of production is partly exchanged for other goods and services. It is excluded while counting national income.

3) **Inadequate and unreliable data :** Adequate and correct data on production and cost data relating to crops, fisheries, animal husbandry, forestry, construction workers, small enterprises etc., are not available in

a developing country. Besides this, data on unearned incomes, consumption and investment expenditure of rural and urban population are also not available. This does not reveal the actual size of national income.

4) **Depreciation :** Depreciation refers to wear and tear of capital assets, due to their use in the process of production. There are no uniform, common or accepted standard rates of depreciation applicable to the various capital assets. Thus, it is difficult to make correct deductions for depreciation.

5) **Capital gains or losses :** Capital gains or capital losses, which accrue to the property owners by increase or decrease in the market value of their capital assets or changes in demand, are not included in the national income because these changes do not result from current economic activities.

6) **Illiteracy and ignorance :** Due to ignorance and illiteracy, small producers do not keep an account of their production. So they cannot give information about the quantity or value of their output.

7) **Difficulties in the classification of working population :** In India, working population is not clearly defined. For instance, farmers in India are not engaged in agriculture round the year. Obviously, in the off season, they engage themselves in alternative occupations. In such a case, it is very difficult to identify their incomes from a particular occupation.

8) **Valuation of inventories :** Raw materials, intermediate goods, semi-finished and finished products in the stock of the producers are known as inventories. Any mistake in measuring the value of inventory, will distort the value of the final production of the producer. Therefore, valuation of inventories requires careful assessment.

Importance of National Income :

The following points explain the importance of the National Income :

1) **For the Economy :** National income data are important for the economy of a country. In present times, the national income data are regarded as accounts of the economy, which are known as 'Social Accounts'. It tells us how the aggregates of a nation's income, output and product result from the income of different individuals, products of industries and transactions of international trade.

2) **National policies :** National income data forms the basis of national policies such as employment policy, industrial policy, agricultural policy etc. These figures enable us to know the direction in which the industrial output, investment and saving etc., change. National Income also helps to generate economic models like growth model, investment models etc. Thus, proper measures can be adopted to bring the economy to the right path.

3) **Economic planning :** For economic planning, data pertaining to national income is very essential. This includes data related to a country's gross income, output, savings, investment and consumption which can be obtained from different sources.

4) **Economic Research :** National income data are also used by the research scholars of economics. They make use of various data of the country's input, output, income, savings, consumption, investment employment etc., which are obtained from social accounts.

5) **Comparison of Standard of Living :** National income data helps us to compare the standards of living of people in different countries and of people living in the same country at different times.

6) **Distribution of Income :** National income statistics enables us to know about the distribution of income in the country from the data related to wages, rent, interest and profits. We understand the disparities in the incomes of different sections of the society.

EXERCISE

Q. 1. Complete the following statements :

1) While estimating national income, we include only value of final goods and services in order to ....
   a) make computation easier
   b) avoid double counting
   c) maximize national welfare of the people
   d) evaluate the total economic performance of a nation

2) NDP is obtained by ....
   a) deducting depreciation from GNP
   b) deducting depreciation from GDP
   c) including depreciation in GDP
   d) including depreciation in GNP

3) In India, national income is estimated using ....
   a) output method
   b) income method
   c) expenditure method
   d) combination of output and income method

Q. 2. Complete the Correlation :

1) [   ] : C + I + G + (X-M) :: GNP : C + I + G + (X-M) + (R-P).

2) Output method : [   ] :: Income method : Factor cost method

3) Theoretical difficulty : Transfer payments :: [   ] : Valuation of Inventories

Q. 3. Choose the correct option :

1) Wrongly matched pair :
   a) National Income Committee – 1949
   b) Financial year – 1st April to 31st March
   c) Income method – National Income = Rent + Wages + Interest + Profit + Mixed income + Net Income from abroad
   d) Expenditure method – National Income = Rent + Wages + Interest + Profit

   Options : 1) a   2) b   3) c   4) d

Q. 4. Identify and Explain the following concepts :

1) Vrinda receives monthly pension of Rs.5,000/- from the State Government.

2) Viru kept aside 100 kgs. out of 500 kgs. of wheat produced in his farm for his family.

3) Sheetal purchased wheat flour for her bakery from the flour mill.

4) Shobha collected data regarding the money value of all final goods and services produced in the country for the financial year 2018-2019.

5) Rajendra has a total stock of 500 gel pens in his shop which includes the 200 gel pens produced in the previous financial year.

Q. 5. Answer the following :

1) Explain the two sector model of circular flow of national income.

2) Explain the importance of national income.

3) Explain the features of national income.

4) Explain the concept of Green GNP.

Q. 6. State with reasons, whether you agree or disagree with the following statements :

1) There are many theoretical difficulties in the measurement of national income.

2) Under output method, value added approach is used to avoid double counting.

Q. 7. Answer in detail :

1) Explain the practical difficulties involved in the measurement of national income.

2) Explain the income method and expenditure method of measuring national income.

❍❍❍

69

8 Public Finance in India
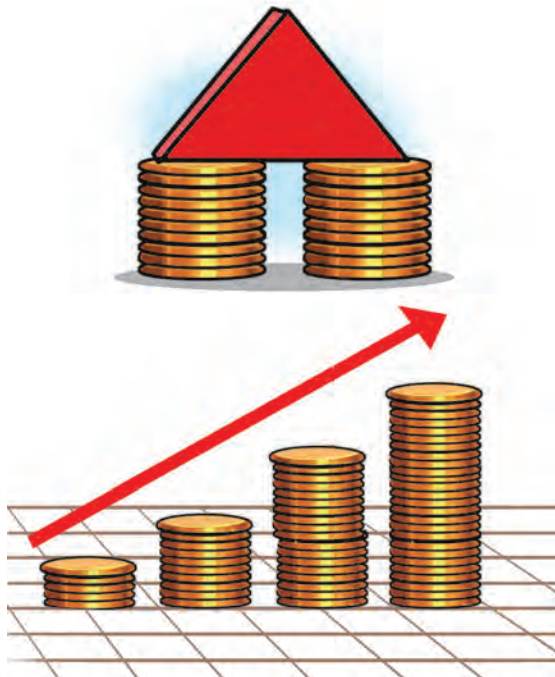
Fig. 8.1

Introduction :

Public finance is one of the old branches of economics which highlights the role and functions of the government in an economy. Government is a formal or informal institution created by the people in a specific region to perform various functions such as protection from external attacks, protection of private property of the people, generation of employment, maintaining internal law and order, provision of social needs like education, health, etc.

These functions of the government can be classified as :

1) **Obligatory functions :** Protection from external attacks, maintaining internal law and order etc. are obligatory functions of the government.

2) **Optional functions :** Provision of education and health services, provision of social security like pensions and other welfare measures etc. are optional functions of the government.

> **Find out :**
>
> More examples of obligatory and optional functions of the government.

Meaning and Nature of Public Finance :

To perform the above mentioned functions, adequately and efficiently, any government needs funds which can be received from various sources. The concept of public finance is a combination of two words 'public' and 'finance, 'Public' is a collective for the individuals living within an administrative territory. In economics, it is used to signify the government which represents the public. 'Finance' simply means income and expenditure. Thus, 'public finance' is nothing but a study of the principles of income and expenditure of the government at central, state and local levels. This study is done under the public finance branch in economics.

Definitions of Public Finance :

Different economists have defined public finance in their own ways. Let us study some of these definitions :

1) **According to Hugh Dalton :** "Public finance is one of those subjects which are on the borderline between economics and politics. It is concerned with the income and expenditure of public authorities and with the adjustment of one with the other." Since we study the activities of the governments in political science too, public finance also constitutes a part of the study of political science.

2) **According to Prof. Findlay Shirras :** "Public finance is the study of the principles underlying the spending and raising of funds by public authorities."

70

Differences Between Public Finance and Private Finance :

Points of difference	Public finance	Private finance
1) Objectives	To offer maximum social advantage to the society	To fulfil private interests
2) Determination of expenditure	Government first determines the volume and different ways of its expenditure	An individual considers his income and then determines the volume of expenditure
3) Credit status	High degree of credit in the market	Credit of a private individual is limited
4) Right to print currency	The Government can print notes through Reserve Bank of India	Private individual does not enjoy such right
5) Elasticity of finance	Public finance is more elastic	There is not much scope for changes in private finance
6) Effect on economy	Tremendous impact on the economy of country	Marginal effect on the national economy

Structure of Public Finance :

The components or scope of public finance can be shown as below :

Structure of Public Finance at a Glance

I) Public Expenditure

II) Public Revenue

III) Public Debt

IV) Fiscal Policy

V) Financial Administration

A) Tax

B) Non-Tax

Internal

External

Direct

Indirect

1) Proportionate
2) Progressive
3) Regressive

Goods and Services Tax (GST)

(Revenue expenditure and debit policy for overall growth)

A) Revenue expenditure
B) Capital expenditure
C) Developmental expenditure
D) Non- Developmental expenditure

1) Fees
2) Prices of public good and service
3) Special Assessment
4) Fines and penalties
5) Gifts, grants and donations
6) Special levy
7) Borrowings

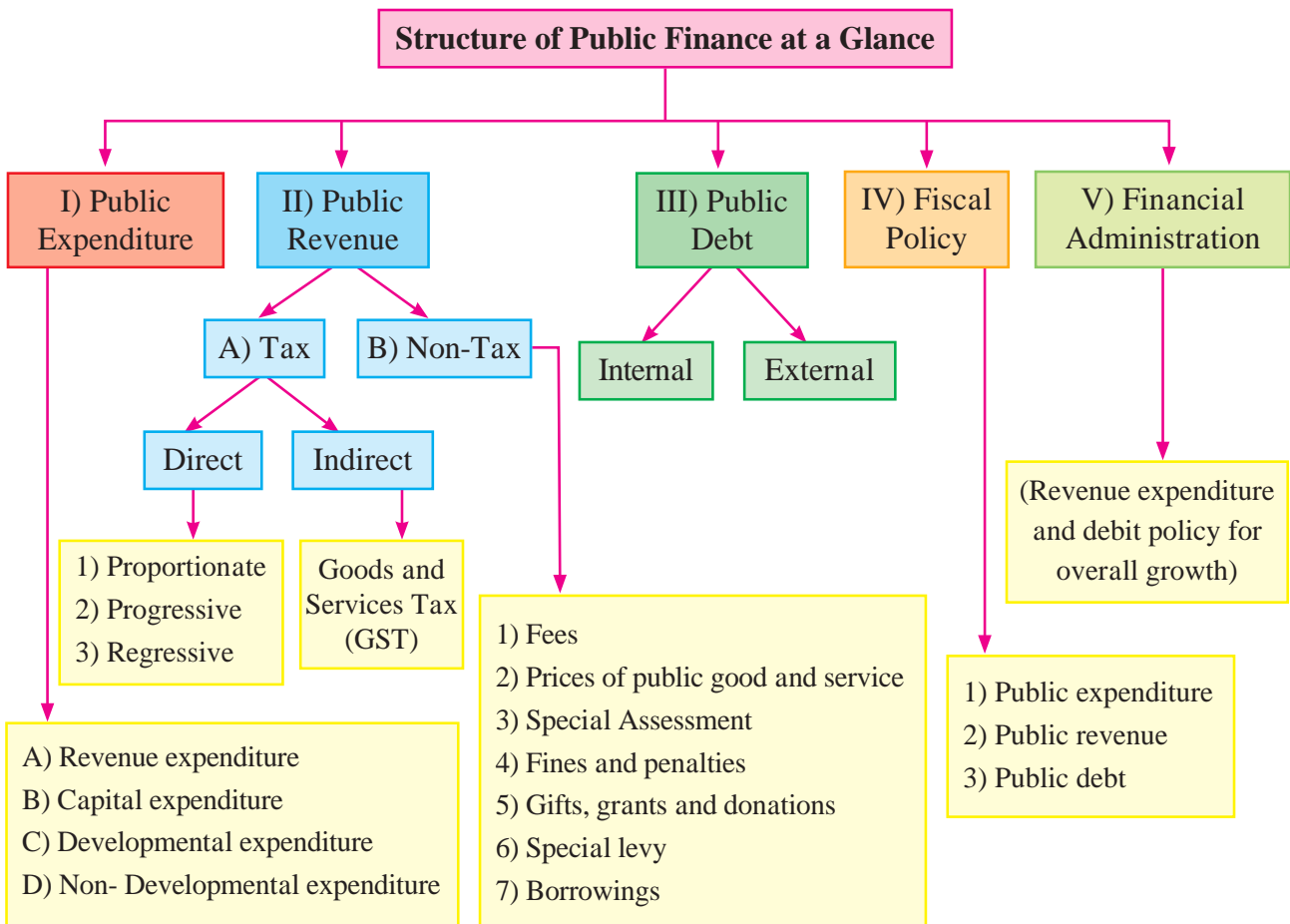1) Public expenditure
2) Public revenue
3) Public debt

Fig. 8.2

On the basis of figure 8.2, the explanation is as follows :

I) Public Expenditure :

Public expenditure is that expenditure which is incurred by the public authority [Central, State and Local Bodies] for protection of their citizens, for satisfying their collective needs and for promoting their economic and social welfare.

Till 20th century, the majority of the governments had adopted a policy of laissez faire. Under this policy, the functions of government were restricted to the obligatory functions. But, the modern governments not only perform the obligatory functions such as defence and civil administration, but also perform optional functions for promoting social and economic development of their countries. Therefore, study of public expenditure is an important part of study of public finance.

Classification of Public Expenditure :

Different economists have classified public expenditure on different bases. We shall now study some of the important classification of public expenditure.

A) **Revenue Expenditure :** Revenue expenditure of the government is for incurred carrying out day-to-day functions of the government departments and various services. It is incurred regularly. For example, administration costs of the government, salaries, allowances and pensions of government employees, medical and public health services etc.

B) **Capital Expenditure :** Capital expenditure of the government is expenditure for progress and development of the country. For example, huge investments in different development projects, loans granted to the state governments and government companies, repayment of government loans etc.

C) **Developmental Expenditure :** Developmental expenditure is productive in nature. The expenditure which results in generation of employment, increase in production, price stability etc. is known as developmental expenditure. For example, expenditure on health, education, industrial development, social welfare, Research and Development (R & D) etc.

D) **Non-Developmental Expenditure :** On the other hand, that government expenditure which does not yield any direct productive impact on the country is called non-developmental expenditure. For example, administration costs, war expenditure etc. These are unproductive in nature.

Do you know?

Trends in Public Expenditure in India since Independence

Sr. No.	Year	Total Expenditure (₹ Cr.)
1	1991-92	72,317
2	2001-02	3,62,450
3	2005-06	5,06,123
4	2009-10	10,24,487
5	2015-16	11,95,025
6	2016-17	13,74,203
7	2017-18	14,35,233
8	2018-19	17,29,682

Source - Economic Survey, Government of India- 2018-19

Given table shows trends in public expenditure in India since 1991-92 for select years. It can be clearly observed that there is tremendous growth in the total public expenditure of the country over the period.

Reasons for Growth in Public Expenditure :

It is observed that there is a continous growth in public expenditure in a developing country like India.

Let us study some of the important reasuns :

1) **Increase in the Activities of the Government :** As mentioned earlier, the modern government performs many functions for the social and economic

development of the country. These functions include spread of education, public health, public works, public recreation, social welfare schemes etc. It is observed that new functions are continuously being undertaken and old functions are being performed more efficiently on a large scale by the government. This leads to increase in public expenditure.

2) **Rapid Increase in Population :** Population of developing countries like India is increasing fast. In 2011 Census, it was 121.02 crores. As a result, the government has to incur greater expenditure to fulfil the needs of the increasing population.

3) **Growing Urbanization :** Spread of urbanization is a global phenomenon of the day. This leads to increase in the government expenditure on water supply, roads, energy, schools and colleges, public transport, sanitation etc.

4) **Increasing Defence Expenditure :** In modern times, defence expenditure of the government is increasing even in the peace time due to unstable and hostile international relationships.

5) **Spread of Democracy :** Majority of the countries in the world are democratic in nature. A democratic form of government is expensive due to regular elections and other such activities. This results in the increase in total expenditure of the government.

6) **Inflation :** Just like a private individual, the government has to buy goods and services from the market for the spread of economic and social development. Normally, prices show a rising trend. Due to this, the government has to incur increasing costs.

7) **Industrial Development :** Industrial development leads to an increase in

production, employment and overall growth in the economy. Hence, the government makes huge efforts for implementing various schemes and programmes for industrial development. This results in increase in government expenditure.

8) **Disaster Management :** Many natural and man-made calamities like earthquakes, floods, cyclones, social unrest etc. are occurring more frequently. The government has to spend a huge amount for the disaster management which increases total expenditure.

Modern governments are working for 'welfare state'. Hence, there is a continuous increase in the public expenditure.

Find out :
Reasons for growth in public expenditure other than given above.

Find out :
Important social welfare schemes by the Govt.

II) Public Revenue :

Public revenue means the aggregate collection of income with the government through various sources. Public revenue holds the permanent position in the study of public finance which is part of study of economics. Thus, the necessity of public revenue arises due to public expenditure.

The main sources of public revenue are as follows.

Sources of Public Revenue :

A) Taxes   B) Non-tax Revenue :

A) Taxes :

1) According to Prof. Taussig : "The essence of a tax as distinguished from other charges by government is the absence of a direct

quid pro quo between the tax payer and the public authority."

2) According to Prof. Seligman, "A tax is a compulsory contribution from the person to the government without reference to special benefits conferred."

A tax possesses following essential characteristics :

1) It is a compulsory contribution to the government and every citizen of the country is legally bound to pay the tax imposed upon him. It is a major source of revenue to the government. If any person does not pay a tax, he can be punished by the government.

2) Tax is paid by a taxpayer to enable government to incur expenses in the common interests of the society.

3) The payment of a tax by a person does not entitle him to receive any direct and proportionate benefits or services from the government in return for the tax.

4) Tax is imposed on income, property or commodities and services.

You should know :

Canons (Principles) of Taxation :

Adam Smith, the founder of Modern economics propounded the following four canons of taxation :

1) **Canon of Equity or Equality :** Smith suggested that every person will pay the taxes to the government in proportion to his 'ability to pay'. It means rich people should pay more tax compared to the poor.

2) **Canon of Certainty :** According to Smith, the taxpayer should know in advance how much tax he has to pay, at what time he has to pay the tax and in what form the tax is to be paid to the government.

3) **Canon of Convenience :** According to

this canon, every tax should be levied in such a manner and at such a time that it becomes convenient to the tax payer.

4) **Canon of Economy :** According to this canon, the cost of tax collection should be the minimum. If a major portion of the tax proceeds is spent on the tax collection itself, then such a tax cannot be considered as a good tax.

Types of Taxes :

There are two main types of taxes. They are :

1) Direct Tax and 2) Indirect Tax.

Let us study in details :

1) **Direct Tax :** It is paid by the taxpayer on his income and property. The burden of tax is borne by the person on whom it is levied. As he cannot transfer the burden of the tax to others, impact and incidence of direct tax falls on the same person. For example- personal income tax, wealth tax etc.

2) **Indirect Tax :** It is levied on goods or services. It is paid at the time of production or sale and purchase of a commodity or a service. The burden of an indirect tax can be shifted by the taxpayer (producers) to other person/s. Hence, impact and incidence of tax are on different heads. For example, newly implemented Goods and Services Tax [GST] in India has replaced almost all indirect taxes, custom duty.

Do you know?

Direct taxes are further classified into three categories depending upon the rate of tax. These are :

1) **Proportionate tax :** When a tax is levied at the same and constant rate on all incomes, it is called proportional tax.

2) **Progressive tax :** A tax, the rate of which increases with every increase in income

is called progressive tax. In India we have progressive tax rate system.

3) **Regressive tax :** In regressive taxation, the larger the income of a tax-payer, the smaller is the proportion of the tax levied on him.

B) Non-Tax Revenue Sources :

Public revenue received by the government administration, public enterprises, gifts and grants etc. are called as non-tax revenue. These sources are different than the taxes. A brief information about these sources are as follows :

1) **Fees :** A tax is paid compulsorily without any return service whereas, fee is paid in return for certain specific services rendered by the government. For example- education fee, registration fee, etc.

2) **Prices of public goods and services :** Modern governments sell various types of commodities and services to the citizens. A price is a payment made by the citizens to the government for the goods and services sold to them. For example- railway fares, postal charges etc.

3) **Special Assessment :** The payment made by the citizens of a particular locality in exchange for certain special facilities given to them by the authorities is known as 'special assessment.' For example- local bodies can levy a special tax on the residents of a particular area where extra/ special facilities of roads, energy, water supply etc. are provided.

4) **Fines and Penalties :** The government imposes fines and penalties on those who violate the laws of the country. The objective of the imposition of fines and penalties is not to earn income, but to discourage the citizens from violating the laws framed by the Government. For example, fines for violating traffic rules. However, the income from this source is small.

5) **Gifts, Grants and Donations :** The government may also earn some income in the form of gifts by the citizens and others. The government may also receive grants from the foreign governments and institutions for general and specific purposes. Foreign aid has become an important source of development finance for a developing country like India. However, this source of revenue is uncertain in nature.

6) **Special levies :** This is levied on those commodities, the consumption of which is harmful to the health and well-being of the citizens. Like fines and penalties, the objective is not to earn income, but to discourage the consumption of harmful commodities by the citizens. For example- duties levied on wine, opium and other intoxicants.

7) **Borrowings :** The government can borrow from the people in the form of deposits, bonds etc. It also gets loans from foreign governments and organizations such as IMF, World Bank etc. Loans are becoming more and more popular source of revenue for the governments in the modern times.

Do you know?

Goods and Services Tax [GST]

The Goods and Services Tax [GST] came into effect in India on July 1, 2017. It was proposed by the Kelkar Task Force on Implementation of the Fiscal Responsibility and Budget Management [FRBM] Act in July, 2004. The 101st Amendment in the Constitution Act, 2016 provided for the constitution of the Goods and Services Tax Council[GSTC] comprising the Union Finance Minister, the Minister of State[Revenue] and the Finance Ministers of each state, empowering the Council to

75

make recommendations on the GST rates, exemptions, thresholds of the tax etc.

GST is different from an excise or sales tax imposed as a single-stage levy on the manufacture or sale of a product. It is a comprehensive tax base with nationwide coverage of goods and service. GST would replace the following taxes levied and collected by the Centre and States such as Central Excise Duty, Service tax, Additional Duties of Customs, State Value Added Tax, Entry Tax, Entertainment Tax etc.

Central Goods and Services Tax [CGST] - It is a tax levied on interstate supplies of both goods and services by the central government which will be governed by the CGST Act.

State Goods and Services Tax [SGST]- This tax is received by the state in which the goods or services are consumed and not by the state in which these goods are manufactured.

Integrated Goods and Services Tax [IGST]- It is a tax levied on all interstate supplies of goods and services which will be governed by the IGST Act.

Compensation Part - It is for the loss of expected income on the part of the State Governments.

Expected Benefits of GST :

- Creation of a unified common national market for India.
- Boost to foreign investments and 'Make in India', campaign.
- Harmonization of laws, procedures and rates of tax.
- Boost export and manufacturing activity.
- Improvement in the overall investment climate in the country.
- Simplifying the tax system in the country.

- Reducing final price of goods.
- Boost to the industrial sector.
- Poverty Eradication by generating more employment and more financial resources.

Sample showing GST voucher

```
BILL No. :  13147   DATE : 27/12/2019
TABLE No.: 30        TIME : 08:11:59 PM
STAFF     : MUJI     PAX  : 6
--------------------------------------------
ITEM NAME         QTY   RATE    AMOUNT
--------------------------------------------
WED TO SUNDAY V    6   595.00   3570.00
BLUE LAGOON MOC    1   115.00    115.00
THANDAI COOLER     1   140.00    140.00
MANGO DELIGHT M    1   125.00    125.00
--------------------------------------------
           SUB TOTAL    :   3950.00
           CGST @2.50 % :     98.75
           SGST @2.50 % :     98.75
           TOTAL        :   4148.00
                            3570.00
VAT No.  : 27115279743V
GST IN   : 27AAXFM3502E1Z8

COEST SIGN        AUTHORISED SIGNATORY
```

III) Public Debt :

Like a private individual, the government also needs to raise loans. In fact, raising debt is the most common activity of any government, because government expenditure generally exceeds government revenue. Public debt policy of the government plays an important role in public finance.

There are mainly two types of public debt. They are :

1) Internal Debt and 2) External Debt

1) **Internal Debt :** When a government borrows from its citizens, banks, central bank, financial institutions, business houses etc. within the country, it is known as internal debt.

2) **External Debt :** When a government borrows from foreign governments, foreign banks or institutions, international organizations like International Monetary Fund, World Bank etc., it is known as external debt.

Table no. 8.1 shows the difference between Internal debt and External debt.

Table 8.1

Differences between Internal and External Debt

Sr. No.	Internal Debt	External Debt
1	Raised within the economy	Raised outside the economy
2	Voluntary or compulsory in nature	Voluntary in nature
3	Use of domestic currency	Use of foreign currency
4	Less complex for management	More complex for management

Try this :

Classify the following activities into Internal and External Debt :

1) Government selling bonds to its citizens.
2) Government of India borrowing funds from the World Bank for provision of water supply.
3) Government of India takes loans from Nationalized Banks for developing infrastructure facilities in the country.
4) Government of India takes loans from World Bank for Mumbai Metro Train.

IV) Fiscal Policy :

Fiscal policy is the means by which a government adjusts its spending levels and tax rates to monitor and influence a nation's economy. It deals with the public expenditure, public revenue and public debt. In short, it is the financial policy implemented by the Government.

V) Financial Administration :

A smooth and efficient implementation of revenue, expenditure and debt policy of the Government, is referred to as financial administration. This includes preparation and implementation of the Government budgets along with overall growth of the country.

Government Budget :

Budget is an important instrument of financial administration through which all the financial affairs of the state are regulated. Budget is a financial statement showing the expected receipts and proposed expenditures of the government in the coming financial year. In India, a financial year is from 1st April to 31st March. Article 112 of the Constitution of India has a provision for annual financial statement. In every budget, a set of seven budget documents describe the details of Government finance in India.

The word 'Budget' is derived from the French word 'Bougette',which means a bag or a wallet containing the financial proposals. These financial proposals are in the form of the Government expenditure and revenue.

Do you know?

The term 'Budget' is not used in the Constitution of India. It refers to the 'Annual Financial Statement' of the Government.

Revenue and Capital Budgets :

Central Budget provisions are divided into-
1) Revenue Budget and
2) Capital Budget.

1) **Revenue Budget :** It consists of revenue receipts and revenue expenditure of the government. Revenue receipts are divided into tax and non-tax revenue. Revenue expenditure comprises of interest paid on Government borrowings, subsidies and grants given to the state governments.

2) **Capital Budget :** The capital budget consists of capital receipts and capital payments. Capital receipts are Government loans raised from the public and the Reserve Bank of India, divestment of equity holding in the public sector enterprises, loans received from the foreign Governments and other foreign bodies, State deposit funds, special deposits etc.

77

Capital payments refer to the capital expenditures on various development projects, investments by the Government, loans given to the state Governments, and Government companies, corporations and other parties. Besides, it includes expenditure on social and community development, defence and general services.

Types of Budget :

The budgetary provisions of public expenditure and revenue need to be at different levels as per the changing needs of the economy. Accordingly, Government budget is of three types :

1) Balanced Budget
2) Surplus Budget
3) Deficit Budget

1) **Balanced Budget :** Government budget is said to be balanced, when estimated revenue and expenditure of the government are equal. That is, Government Receipts = Government Expenditure.

The concept of a balanced budget was advocated by the classical economists like Adam Smith. It was considered as neutral in its effect on the working of the economy and hence, they regarded it as the best.

However, modern economists believe that the policy of balanced budget may not always be suitable for the economy. The modern Governments are welfare entities and hence, they cannot keep their expenditure at the level of their receipts.

2) **Surplus Budget :** Government budget is said to be surplus, when estimated Government receipts are more than the estimated Government expenditure. i.e. anticipated Government Receipts > estimated Government Expenditure.

A surplus budget may prove useful during the period of inflation. In the period

of inflation, there is a tendency for prices to rise rapidly. This needs to be checked, particularly in the interest of those who have more or less a fixed income. The rise in prices can be checked by lowering the level of effective demand in the economy. This can be done by increasing taxes which would increase the revenue of the government and reduce the purchasing power of the people. As a result, the aggregate demand will fall leading to downward movement in the price level. Thus, inflationary pressures can be controlled.

However, a surplus budget should not be used in the situations other than inflation as it may lead to unemployment and low levels of output in an economy.

3) **Deficit Budget :** Government budget is said to be deficit, when anticipated Government receipts are less than the estimated Government expenditure. That is anticipated Government Receipts < estimated Government expenditure.

A deficit budget may prove useful during the period of depression. In the period of depression, all economic activities are at low level which results in unemployment. This can be checked by increasing Government expenditure, by borrowing money and through deficit financing. This will increase employment and aggregate effective demand for goods and services which would encourage further investment. In modern times, deficit budget is the most commonly implemented policy of any Government.

Developing countries like India have consistently resorted to deficit budget technique for economic development.

Importance of Budget :

Union Budget is important because it affects people and economy in general in a

number of ways. Taxes are the most interesting part of any budget. Taxes determine the fate of businesses and individuals. The level of disposable income of the taxpayers depends on the tax rates presented in the budget. Government expenditure on various heads such as defence, administration, infrastructure, education and health care etc. affects the lives of the citizens and overall economy. Also, budget is important because Governments use it as a medium for implementing economic policies in the country. Budgetary actions of the Government affect production, size and distribution of income and utilization of human and material resources of the country.

Thus, the scope and importance of public finance in a modern economy has undergone an immense change since last 100 years.

EXERCISE

Q. 1. A) Choose the correct option :

1) Optional functions of Government :
   a) Protection from external attack
   b) Provision of education and health services
   c) Provision of social security measures
   d) Collection of tax

   Options : 1) b and c   2) a, b and c
           3) b, c and d   4) All of the above

2) Obligatory functions of the Government :
   a) Provision of employment
   b) Maintaining internal law and order
   c) Welfare measures
   d) Exporting goods and services

   Options : 1) c and d   2) a and b
           3) only b   4) a, c and d

3) "Definition - Public finance is one of those subjects which are on the borderline between economics and politics." .... given by
   a) Adam Smith
   b) Alfred Marshall
   c) Prof. Hugh Dalton
   d) Prof. Findlay Shirras

   Options : 1) only a   2) only b
           3) only c   4) only d

4) Non-tax sources of revenue :
   a) Direct and Indirect Tax
   b) Direct Tax and Fees
   c) Fees
   d) Special Levy

   Options : 1) b and c   2) a and c
           3) a, b, c and d   4) c and d

5) Trends shown by Public expenditure of any Government shows following trend.
   a) Constant   b) Increasing
   c) Decreasing   d) Fluctuating

   Options : 1) only a   2) only b
           3) only c   4) only d

6) Identify the right group of pairs from the given options.
   i) Direct tax   a) Non-tax revenue
   ii) Indirect tax   b) Inflation
   iii) Fees and Fines   c) GST
   iv) Surplus budget   d) Personal income tax

   Options : a) i-d   ii-c   iii-b   iv-a
           b) i-c   ii-d   iii-a   iv-b
           c) i-d   ii-c   iii-a   iv-b
           d) i-a   ii-b   iii-c   iv-d

Q. 2. Distingwish between following concepts :

1) Public finance and Private finance.
2) Internal debt and External debt.
3) Developmental expenditure and Non-developmental expenditure.
4) Special assessment and Special levy.
5) Direct Tax and Indirect tax.

Q. 3. State with reasons whether you agree or disagree with the following statement :

1) Obligatory function is the only function of the Govenment.

2) Fines and penalties are a major source of revenue for the Government.

3) The goods and services tax (GST) has replaced almost all indirect taxes in India.

4) Democratic Governments do not lead to increase in public expenditure.

5) Public finance is more elastic than private finance.

Q. 4. Read the given passage and answer the questions :

"The conventional notion of social security is that the government would make periodic payments to look after people in their old age, ill-health, disability and poverty. This idea should itself change from writing a cheque for the beneficiary to institutional arrangements to care for beneficiaries, including by enabling them to look after themselves, to a large extent.

The write-a-cheque model of social security is a legacy from the rich world at the optimal phase of its demographic transition, when the working population was numerals enough and earning enough to generate the taxes to pay for the care of those not working. This model is ill-suited for less, well-off India with growing life expectancy, increasing urbanization and resultant migration. Social security under urbanization will be different from social security in a static society.

1) State the conventional notion of social security.

2) What kind of conceptual change is suggested in the given paragraph.

3) What is a legacy of social security from the rich world?

4) Which features of India make the traditional model of social security ill-suited for the economy?

Q. 5. Answer the following :

1) State the types and importance of Government budget.

2) Explain the principles of taxation.

3) Explain non-tax sources of revenue of the Government.

Q. 6. Answer in detail :

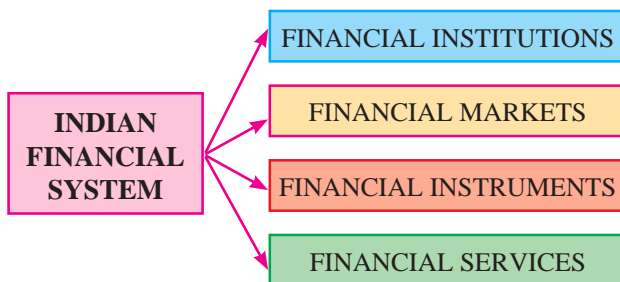1) Explain various reasons for the growth of public expenditure.

○○○

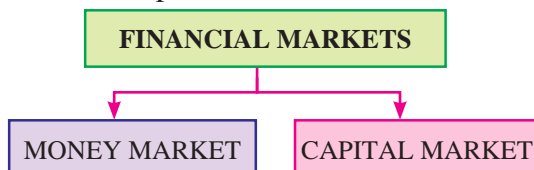# 9 Money Market and Capital Market in India

Introduction :

Finance is the backbone of an economy. Finance, basically refers to the management of money. It includes funds needed by individuals, business houses and the Government for various purposes. Thus, finance is categorized as personal finance, corporate finance and public finance. The financial system of the country is responsible for the mobilization and allocation of funds. It helps in creation of wealth which is vital for the economic development of the country. The financial system in India comprises of financial institutions, financial markets, financial instruments and financial services.

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                    ┌──────────────────────────┐
                    │ FINANCIAL INSTITUTIONS   │
                    └──────────────────────────┘
┌──────────┐        ┌──────────────────────────┐
│ INDIAN   │───────▶│   FINANCIAL MARKETS      │
│ FINANCIAL│        └──────────────────────────┘
│ SYSTEM   │        ┌──────────────────────────┐
└──────────┘        │  FINANCIAL INSTRUMENTS   │
                    └──────────────────────────┘
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                    │   FINANCIAL SERVICES     │
                    └──────────────────────────┘
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This chapter deals exclusively with financial markets in India. Financial markets are an important component of the financial system.

Meaning of Financial Market :

Financial market refers to a market where sale and purchase of financial assets such as bonds, stocks, derivatives, government securities, foreign currency etc. is undertaken. Financial markets operate through banks, non-banking financial institutions, brokers, mutual funds, discount houses etc. Financial markets include two distinct markets i.e. the Money market and Capital market.

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        ┌──────────────────────┐
        │  FINANCIAL MARKETS   │
        └──────────────────────┘
           │              │
           ▼              ▼
  ┌────────────────┐  ┌──────────────────┐
  │ MONEY MARKET   │  │ CAPITAL MARKET   │
  └────────────────┘  └──────────────────┘
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Try this :

From the given examples, identify the type of finance involved (Personal finance/ Corporate finance /Public finance) :

- Building a retirement corpus
- Raising share capital through sale of equity shares
- Collection of tax revenue
- Clearing home loan through EMI (Equated Monthly Instalment)
- Expenditure on social infrastructure such as health and education
- Managing working capital needs

A) Money Market in India :
Meaning :

Money market is a market for lending and borrowing of short term funds. It is a market for "near money" i.e. short term instruments such as trade bills, government securities, promissory notes etc. Such instruments are highly liquid, less risky and easily marketable with a maturity period of one year or less than one year.

Do you know?
Some Financial Instruments :

- **Bonds** refer to debt instruments issued by companies or the government as a means of borrowing long term funds.
- **Equity shares** refer to shares of a company held by an individual or a group.
- **Derivatives** refer to a financial security which derives its value/price from the underlying assets such as bonds, stocks, currency, interest rates, commodities etc.
- **Government securities** refer to debt instruments issued by a government with a promise of repayment at maturity.

81

- **Trade bills** refer to bills of exchange drawn on and accepted by a trader (trade acceptance) in payment of goods.

- **Promissory note** is a financial instrument that contains a written promise by one party to pay another party a definite sum of money, either on demand or at a specified future date.

Structure of Money Market in India :

The money market in India is dichotomous by nature. It comprises of both, the organized sector as well as the unorganized sector. The organized sector includes the Reserve Bank of India (RBI), commercial banks, co-operative banks, development financial institutions, investment institutions and the Discount and Finance House of India (DFHI). The unorganized sector on the other hand, comprises of indigenous bankers, money lenders and unregulated non-bank financial intermediaries.

Money market centres in India are located at Mumbai, Delhi and Kolkata. However, Mumbai is the only active money market centre in India with money flowing in from all parts of the country.

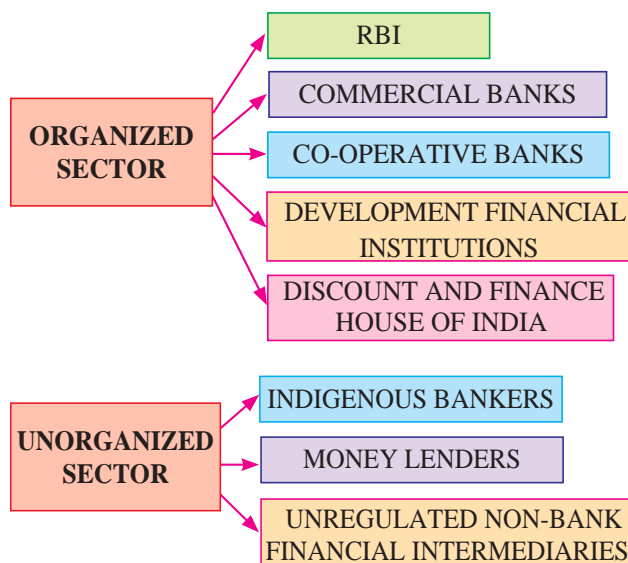The following chart explains the structure of money market in India :

Fig. 9.1

1) **Organized Sector :** The organised sector of the money market consists of the Reserve Bank of India, commercial banks, co-operative banks, regulated financial intermediaries etc. Let us now discuss the organized sector of the money market in India.

a) **Reserve Bank of India (RBI):** Every country in the world has a Central Bank which is at the apex of the banking system. It is entrusted with the responsibility of regulating the money market in the country. Reserve Bank of India is the central bank of our country. RBI was set up on the basis of the recommendations of the Hilton Young Commission. The RBI Act of 1934 provides the statutory basis of the functions of the bank. RBI commenced its operations on 1st April, 1935 as a private shareholders' bank. RBI was nationalized on 1st January, 1949. It is the most important constituent of the money market.

Popular Definitions of Central Bank :

Dr. M. H. de Kock : "Central bank is one which constitutes the apex of the monetary and banking structure of the country."

Prof. W. A. Shaw : "Central bank is a bank which controls credit."

Functions of Reserve Bank of India

1) **Issue of Currency Notes :** RBI has the sole right to issue currency notes of all denominations, except one rupee note and coins. As per the 'Minimum Reserve System' of 1957, RBI is required to maintain minimum gold and foreign exchange reserves of Rs 200 crores, out of which at

least ₹ 115 crores should be in gold and the remaining ₹ 85 crores should be in terms of foreign currency and government securities.

2) **Banker to the Government :** RBI acts as a banker, agent and advisor to the Government. It transacts the business of both, the Central and State Governments. It accepts money as well as makes payments on behalf these Governments. It also undertakes the management of public debt. It advises the Government on a wide range of economic issues.

3) **Banker's Bank :** RBI exercises statutory control over the commercial banks. All scheduled banks are compulsorily required to maintain a certain minimum of cash reserves with the RBI against their demand and time liabilities. RBI provides financial assistance to banks in the form of discounting of eligible bills. Loans and advances are also provided against approved securities.

4) **Custodian of Foreign Exchange Reserves :** RBI acts as a custodian of the country's foreign exchange reserves. It has to maintain the official rate of exchange of rupee as well as ensure its stability. RBI also undertakes to buy and sell the currencies of all the members of the International Monetary Fund (IMF).

5) **Controller of Credit :** As a supreme banking authority of the country, RBI has the power to influence the volume of credit created by commercial banks. It also monitors the purpose or use of credit. Quantitative methods such as bank rate, open market operations, variable reserve ratios such as Cash Reserve Ratio (CRR), Statutory Liquid Ratio (SLR) etc. control the volume of credit created. Qualitative methods such as fixing margin requirements, credit rationing, moral suasion etc. regulate the purpose or use of credit.

6) **Collection and Publication of Data :** RBI collects and compiles statistical information related to banking and other financial sectors of the economy.

7) **Promotional and Developmental Functions :** RBI also performs certain promotional and developmental functions such as extending banking services to semi-urban and rural areas, providing security to depositors, development of specialized institutions for agricultural credit, industrial finance etc.

8) **Other Functions :** RBI acts as a clearing house for settling the accounts between its member banks. As a lender of last resort, it also provides liquidity to banks experiencing financial difficulty.

Find out :

Names of the Central Banks of the following countries :

- USA
- UK (United Kingdom)
- CANADA
- SWEDEN
- RUSSIA
- FRANCE
- GERMANY
- JAPAN
- CHINA
- AUSTRALIA

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b) **Commercial banks :** Commercial banks act as intermediaries in the country's financial system to bring the savers and investors together. They are profit seeking financial institutions. Acceptance of deposits and granting loans and advances are the primary functions of commercial banks. Commercial banks play an important role in mobilizing savings and allocating them to various sectors of the economy. It includes both scheduled commercial banks and non-scheduled commercial banks. Scheduled commercial banks are those included in the second schedule of the Reserve Bank of India Act, 1934. In terms of ownership and function, commercial banks in India can be

classified into four categories:
- Public sector banks
- Private sector banks
- Regional rural banks
- Foreign banks

Popular Definitions of Commercial Bank :

Banking Regulation Act of 1949 : "Banking means the accepting, for the purpose of lending or investment, of deposits of money from the public, repayable on demand or otherwise, and withdrawable by cheque, demand draft, order or otherwise."

Prof. Cairncross : "A bank is a financial intermediary, a dealer in loans and debts."

Functions of Commercial Banks :

1) **Acceptance of deposits :** Deposits constitute the main source of funds for commercial banks. Savings lead to the creation of deposits. Deposits are categorized as (i) Demand deposits and (ii) Time deposits.

i) **Demand Deposits :** Deposits that are withdrawable on demand are known as demand deposits. They are in the form of Current account and Savings account deposits.

- Current account is usually opened by businessmen, corporations, industrial houses, trusts etc. They are provided with overdraft facility. Overdraft means withdrawal in excess of the balance in the account.

- Savings account are operated by a large number of people, particularly the salaried class, small traders etc. who wish to save a part of their income with the bank.

ii) **Time deposits :** Deposits that are repayable after a certain period of time are known as time deposits. They are in the form of recurring deposits and time deposits

- Recurring deposit refers to a deposit wherein a customer deposits a fixed amount at regular intervals for a specified period of time.

- Fixed deposits refer to a lumpsum amount deposited by a customer for a specified period of time. Compared to all other deposits, fixed deposits carry a high rate of interest.

2) **Providing loans and advances :** Commercial banks mobilize savings and lend these funds to institutions and individuals for various purposes. Based on the tenure, loans include call loans, short term, medium term and long term loans. Longer the duration of the loans, greater will be the rate of interest. Besides this, banks also provide cash credit, overdraft facility as well as discount bills of exchange.

3) **Ancillary functions :** Commercial banks also provide a range of ancillary services such as transfer of funds, collection of money, making periodical payments on behalf of the customer, merchant banking, foreign exchange, safe deposit lockers, D-mat facility, internet banking, mobile banking etc.

4) **Credit Creation :** Credit creation is an important function of commercial banks. Commercial banks are creators of credit. Demand and time deposits constitute the primary deposits of banks. After meeting the reserve requirements out of the net demand and time liabilities, the balance amount is used for giving loans. Thus, secondary deposits or 'derivative deposits' are created out of the loans given by the banks.

For instance, when the bank provides loan to its customer, the loan amount is credited into the bank account of the customer. The bank that receives the loan amount as a deposit, keeps aside a certain portion in the form of reserves. After meeting the reserve requirements, the bank lends the remaining amount. This procedure is followed by the

entire banking system in the country, leading to creation of credit. In short, commercial banks create deposits out of the loans given thereby leading to crediton.

Fig. 9.2

c) Co-operative Banks : Co-operative banks came into existence with the enactment of the Co-operative Credit Societies Act of 1904. Co-operative banks supplement the efforts of commercial banks by meeting the credit needs of the local population. It fulfills the banking needs of small and medium income groups. The co-operative credit sector comprises of co-operative credit institutions such as primary co-operative credit societies, district central co-operative banks and state co-operative banks.

Fig. 9.3 explains the structure of co-operative banks in India :
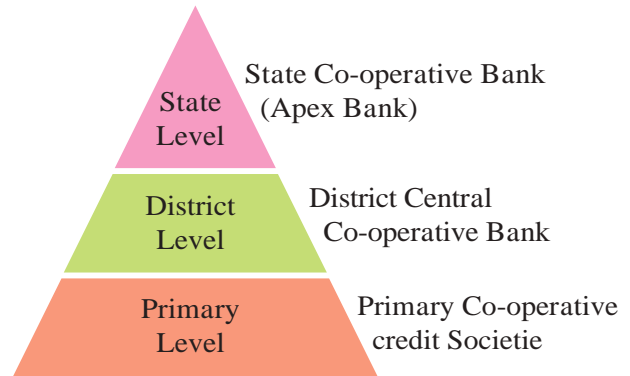
Three Tier Co-operative Credit Structure

Fig. 9.3

d) Development Financial Institutions (DFIs) : Development financial institutions are agencies that provide medium and long-term financial assistance. They help in the development of industry, agriculture and other key sectors. Industrial Finance Corporation of India (IFCI) was the first development financial institution to be established in 1948.

Let's recall :

You have already studied in class XI about NABARD which is the apex institution in the rural credit structure. It provides credit for promotion of agriculture, small-scale industries, cottage and village industries, handicrafts etc.

Development financial institutions have diversified their operations with the advent of liberalization and globalization. They have set up subsidiaries to offer a wide range of new products and services

such as commercial banking, consumer finance, broking, venture capital finance, infrastructural financing, e-commerce etc. Thus, development financial institutions are in the process of converting themselves into universal banks. RBI has issued guidelines for development financial institutions to become commercial banks. For e.g. ICICI (Industrial Credit and Investment Corporation of India) has become a universal bank by a reverse merger with its subsidiary ICICI Bank.

e) **Discount and Finance House of India (DFHI) :** The Discount and Finance House of India (DFHI) was set up in 1988 as a money market institution based on the recommendations of the Vaghul Committee. It is jointly owned by the RBI, public sector banks and financial institutions to impart liquidity to the money market instruments.

2) **Unorganized Sector :** The unorganized money market in India comprises of indigenous bankers, money lenders and unregulated non-bank financial intermediaries. The activities of the unorganized money market are largely confined to the rural areas.

i) **Indigenous bankers :** They are financial intermediaries that function similar to banks. They mostly deal in indigenous short-term credit instruments such as hundi. The rate of interest differs from one market to another. Indigenous bankers are mostly confined to certain social strata. They are an important source of funds in unbanked areas and provide loans directly to agriculture, trade and industry.

ii) **Money lenders :** They mostly operate in the villages. Money lenders usually charge a high rate of interest. The loans provided by money lenders are for both productive and unproductive purpose. Agricultural

labourers, small and marginal farmers, artisans, small traders etc. usually borrow money from the money lenders. At present, the activities of the money lenders have been restricted by RBI due to their exploitative tendencies.

iii) **Unregulated Non-Bank Financial Intermediaries :** They include Chit funds, Nidhi, loan companies etc. Under Chit funds, members make regular contribution to the fund. Bids or draws are made on the basis of a criteria mutually agreed upon by the members. Accordingly, the collected fund is given to the chosen member. Chit funds mostly operate in Kerala and Tamil Nadu. Nidhi is also a type of mutual benefit fund thriving on the contribution of its members. Loans are provided to members at reasonable rates of interest. Loan companies are finance companies. They provide loans to traders, small-scale industries and self-employed persons. Being unregulated, they charge a high rate of interest on loans.
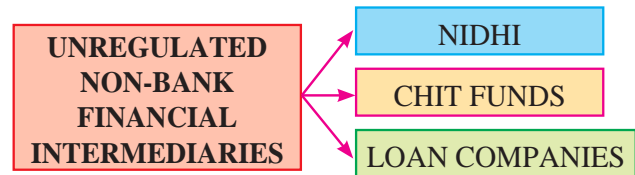
Do you know?

Money market instruments :

The following instruments are traded in the money market :

• **Call / Notice Money Market :** When money is borrowed or lent for a day, it is known as call (overnight) money. When money is borrowed or lent for more than a day up to 14 days, it is known as notice money.

• **Treasury Bills (TBs) :** They are short term instruments issued by the RBI on

behalf of the government to meet temporary liquidity shortfalls.

• **Commercial Papers (CPs) :** It is an unsecured promissory note, negotiable and transferable by endorsement and delivery with a fixed maturity period.

• **Certificate of Deposits (CDs) :** They are unsecured, negotiable instruments in bearer form issued by commercial banks and development finance institutions.

• **Commercial Bills (CBs) :** They are short term, negotiable and self-liquidating instruments with low risk.

Role of Money Market in India :

The following points outline the role of the money market in India :

1) **Short-term requirements of borrowers :** Money market provides reasonable access for meeting the short-term financial needs of the borrowers at realistic prices.

2) **Liquidity Management :** Money market is a dynamic market. It facilitates better management of liquidity and money in the economy by the monetary authorities. This, in turn, leads to economic stability and development of the country.

3) **Portfolio Management :** Money market deals with different types of financial instruments that are designed to suit the risk and return preferences of the investors. This enables the investors to hold a portfolio of different financial assets which in turn, helps in minimizing risk and maximizing returns.

4) **Equilibrating mechanism :** Through rational allocation of resources and mobilization of savings into investment channels, money market helps to establish equilibrium between the demand for and supply of short-term funds.

5) **Financial requirements of the Government :** Money market helps the Government to fulfil its short term financial requirements on the basis of Treasury Bills.

6) **Implementation of Monetary policy :** Monetary policy is implemented by the central bank. It aims at managing the quantity of money in order to meet the requirements of different sectors of the economy and to increase the pace of economic growth. A well-developed money market ensures successful implementation of the monetary policy. It guides the central bank in developing an appropriate interest policy.

7) **Economizes the use of cash :** Money market deals with various financial instruments that are close substitutes of money and not actual money. Thus, it economizes the use of cash.

8) **Growth of Commerce, Industry and Trade :** Money market facilitates discounting bills of exchange to local and international traders who are in urgent need of short-term funds. It also provides working capital for agriculture and small scale industries.

Problems of the Indian Money Market :

Compared to advanced countries, the Indian money market is less developed in terms of volume and liquidity. Following points explain the problems of the Indian Money Market :

1) **Dual Structure of the Money Market :** Presence of both, the organized and unorganized sector in the money market leads to disintegration, lack of transparency and increased volatility. The unorganized markets lack co-ordination and do not come under the direct control and supervision of the RBI.

2) **Lack of uniformity in the rates of interest :** The money market comprises of various entities such as commercial banks, co-operative banks, non-bank finance companies, development finance

institutions, investment companies etc. The category of borrowers is also different.

3) **Shortage of funds :** Money market faces shortage of funds due to inadequate savings. Low per capita income, poor banking habits among the people, indulgence in wasteful consumption, inadequate banking facilities in the rural areas etc. have also been responsible for the paucity of funds in the money market.

4) **Seasonal fluctuations :** Demand for funds varies as per the seasons. During the peak season, from October to June, finance is required on a large scale for various purposes such as trading in agricultural produce, investment in business activities etc. This results in wide fluctuations in the money market.

5) **Lack of financial inclusion :** Banking facilities in the country are still inadequate and inaccessible to the vulnerable groups such as the weaker sections and the low income groups. This shows lack of financial inclusion.

6) **Delays in technological upgradation :** Use of advanced technology is a pre-requisite for the development and smooth functioning of financial markets. Delays in upgradation of technology hampers the working of the money market.

Reforms introduced in the Money Market :

Following are some of the important reforms introduced in the money market :

1) Introduction of new instruments such as Treasury bills of varying maturity periods, Commercial Papers (CPs), Certificate of Deposits (CDs) and Money Market Mutual Mutual Funds (MMMFs).

2) RBI Repos and Reverse Repos were introduced under the Liquidity Adjustment Facility (LAF).

3) Interest rates to be largely determined by market forces.

4) National Electronic Fund Transfer (NEFT) and Real Time Gross Settlement (RTGS) were introduced as an improved payment infrastructure.

5) Electronic dealing system was introduced to bring about technological upgradation.

Do you know?

Recent developments in banking sector :

- **Small Finance Banks** : Small finance banks aim to promote financial inclusion through supply of credit to small business units, small and marginal farmers, micro and small industries and other unorganized sector entities through high technology but low cost operations.

- **Payments Banks :** A payments bank is like any other bank, but operating on a smaller scale without involving any credit risk. In simple words, it can carry out most banking operations but can't advance loans or issue credit cards. It can accept demand deposits (up to ₹ 1 lakh), offer remittance services, mobile payments / transfers / purchases and other banking services like ATM/debit cards, net banking and third party fund transfers.

- **Universal Banks :** Universal banks refer to those banks that offer a wide range of financial services, such as, commercial banking and investment banking and other activities especially insurance. It is a multi-purpose and multi-functional financial supermarket providing both banking and financial services through a single window.

- **Local Area Banks :** Local area bank scheme was introduced in August, 1996 to enable mobilization of rural savings by local institutions especially private local banks and make them available for investments in the local areas. This helps to bridge the gap in credit availability and strengthen the institutional credit from work in the rural and semi-urban areas.

B) Capital Market in India :

Meaning :

Capital market is a market for long term funds both equity and debt raised within and outside the country. It is also an important constituent of the financial system. Development of an effective capital market is necessary for promoting more investments as well as achieving economic growth. The demand for long term funds comes from agriculture, trade and industry. Individual savers, corporate savings, banks, insurance companies, specialized financial institutions are the suppliers of long term funds.

Fig. 9.4

Structure of Capital Market in India :

The capital market in India comprises of the Gilt-Edged or the Government Securities Market, Industrial Securities Market, Development Financial Institutions and Financial Intermediaries.

Fig. 9.5, explains the structure of India's Capital Market.

1) **Government Securities Market :** It is also known as the gilt-edged market. It deals in government and semi-government securities. Such securities carry a fixed rate of interest.

2) **Industrial Securities Market :** It deals with the shares and debentures issued by old and new companies. It is further divided into Primary Market (New Issues) and Secondary Market (Old Issues). Primary market helps to raise fresh capital through sale of shares and debentures. Secondary market deals with securities already issued by companies. Secondary markets function through stock exchanges.

Stock exchange is an important constituent of the capital market. It is an association or organization in which stocks, bonds, commodities etc are traded. Bombay Stock Exchange (BSE) and National Stock Exchange (NSE) are the premier stock exchanges in the country.

3) **Development Financial Institutions (DFIs) :** They provide medium term and long term financial assistance to the private sector. They include Industrial Finance Corporation of India (IFCI), Industrial Investment Bank of India (IIBI), EXIM Bank etc.

4) **Financial Intermediaries :** Financial intermediary is an organization which acts as a link between the investor and the
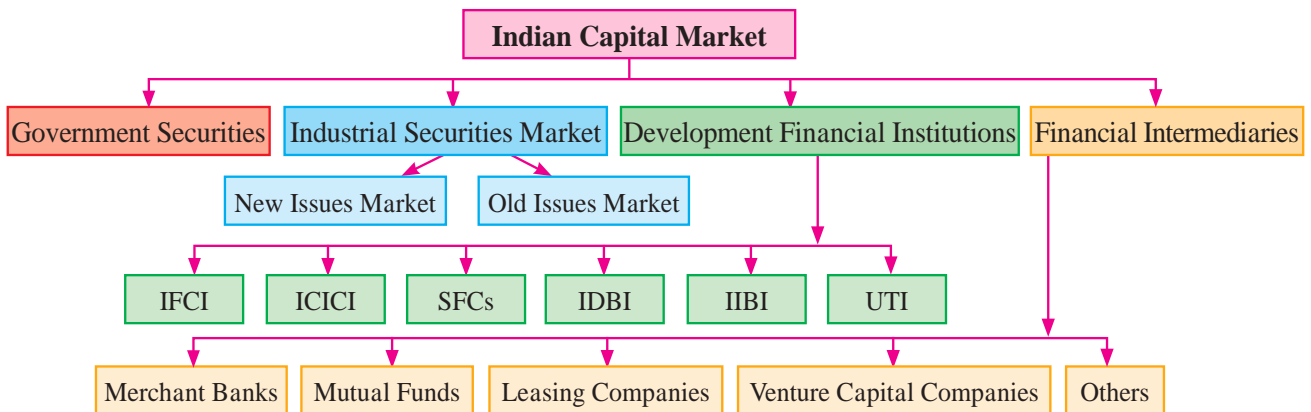

Fig. 9.5

89

borrower to meet the financial objectives of both the parties. They consist of merchant banks, mutual funds, leasing companies, venture capital companies etc.

Role of Capital Market in India :

1) **Mobilizes long term savings :** There is an increasing demand for investment funds by industrial organizations and the government. But the availability of financial resources is insufficient to meet this growing demand. Capital market helps to mobilize long term savings from various section of the population through the sale of securities.

2) **Provides equity capital :** Capital market provides equity capital or share capital to entrepreneurs which could be used to purchase assets as well as fund business operations.

3) **Operational efficiency :** Capital market helps to achieve operational efficiency by lowering the transaction costs, simplifying transaction procedures, lowering settlement timings in purchase and sale of stocks.

4) **Quick valuation :** Capital market helps to determine a fair and quick value of both equity (shares) and debt (bonds, debentures) instruments.

5) **Integration :** Capital market leads to integration among real and financial sectors, equity and debt instruments, government and private sector, domestic and external funds etc.

Problems of the Capital Market :

Following points explain the problems faced by the Indian Capital Market :

1) **Financial Scams :** Increasing number of financial frauds have resulted in irreparable loss for the capital market. Besides this, it has also lead to public distrust and loss of confidence among the individual investors.

2) **Insider trading and price manipulation :** Insider trading means buying or selling of a security by someone who has access to non-public information or 'unpublished information' for personal benefit. Price manipulation or price rigging on the other hand means to simply raise the prices of shares through buying and selling of shares within certain individuals themselves for personal gains. Such illegal practices have also affected the smooth functioning of capital market.

3) **Inadequate debt instruments :** Debt instruments include bonds, debentures etc. There is not much trading in the debt securities due to narrow investor base, high cost of issuance, lack of accessibility to small and medium enterprises.

4) **Decline in the volume of trade :** Regional stock exchanges have witnessed a sharp decline in the volume of trade because investors prefer to trade in securities listed in premier stock exchanges like BSE, NSE etc.

5) **Lack of informational efficiency :** A market is said to be informationally efficient if a company's stock prices incorporate all the available information into the current prices. However, the stock market in India lacks informational efficiency compared to advanced countries.

Find out :
List of regional stock exchanges in India.

Reforms introduced in the Capital Market :

Following are some of the important reforms introduced in the capital market :

1) Securities and Exchange Board of India (SEBI) was established in 1988 but given statutory powers in 1992 to protect the interest of the investors and promote the development of the securities market.

2) National Stock Exchange (NSE), the leading stock exchange in India was established in 1992.

3) Computerized Screen Based Trading System (SBTS) was introduced as a part of modernization.

4) Demat account has been introduced since 1996 to facilitate easy purchase and sale of shares by the investors through the electronic method.

5) Increased access to global funds by Indian companies was permitted through American Depository Receipts (ADRs) and Global Depository Receipts (GDRs).

6) Investor Education and Protection Fund (IEPF) was established in 2001 to promote investors' awareness and protecting the interest of the investors.

Do you know?

Economic Policy in an Economy

Monetary Policy	Fiscal Policy
Implemented by Central Bank	Implemented by Central government
Deals with Money Supply	Deals with taxes, expenditure etc.
Aims at financial stability	Aims at economic and social development
Quantitative in nature	Qualitative in nature

EXERCISE

Q. 1. Complete the following statements :

1) Development financial institutions were established to ....
   a) provide short term funds.
   b) develop industry, agriculture and other key sectors.
   c) regulate the money market.
   d) regulate the capital market.

2) Money market faces shortage of funds due to ....
   a) inadequate savings.
   b) growing demand for cash.
   c) presence of unorganized sector.
   d) financial mismanagement.

3) Individual investors have lost confidence in the capital market due to ....
   a) lack of financial instruments.
   b) high transaction costs.
   c) low returns.
   d) financial scams.

4) Commercial banks act as intermediaries in the financial system to ....
   a) make profits
   b) accelerate the country's economic growth.
   c) mobilise the savings and allocating them to various sectors of the economy.
   d) control the credit.

Q. 2. Complete the correlation :

1) Money market : Short term funds :: ☐ : Long term funds

2) ☐ : Central Bank :: SBI : Commercial Bank

3) Co-operative banks : Organized sector :: Indigenous bankers : ☐

4) Primary market : ☐ :: Secondary market : Old issues

Q. 3. Find the odd word :

1) Types of Bank Accounts : Saving a/c, D-mat a/c, Recurring a/c, Current a/c

2) Unregulated Financial intermediates : Mutual fund, Nidhi, Chit fund, Loan Companies

3) Financial Assets : Bonds, Land, Govt. Securities, Derivatives

4) Quantitative Tools : Bank rate, Open market operations, Foreign Exchange rate, Variable reserve ratios

91

Q. 4. Assertion and Reasoning :

1) **Assertion (A) :** Money market economizes use of cash

   Reasoning (R) : Money market deals with financial instruments that are close substitutes of money

   Options : 1) (A) is True, but (R) is False

   2) (A) is False, but (R) is True

   3) Both (A) and (R) are True and (R) is the correct explanation of (A)

   4) Both (A) and (R) are True and (R) is not the correct explanation of (A)

2) **Assertion (A) :** Regional stock exchanges have witnessed a sharp decline in the volume of trade.

   Reasoning (R) : Investors prefer to trade in securities listed in premier stock exchanges like BSE, NSE etc.

   Options : 1) (A) is True, but (R) is False

   2) (A) is False, but (R) is True

   3) Both (A) and (R) are True and (R) is the correct explanation of (A)

   4) Both (A) and (R) are True and (R) is not the correct explanation of (A)

3) **Assertion (A) :** The unorganized sector of the money market lacks transparency.

   Reasoning (R) : Activities of the unorganized sector are largely confined to rural areas.

   Options : 1) (A) is True, but (R) is False

   2) (A) is False, but (R) is True

   3) Both (A) and (R) are True and (R) is the correct explanation of (A)

   4) Both (A) and (R) are True and (R) is not the correct explanation of (A)

4) **Assertion (A) :** Foreign exchange management and control is undertaken by commercial banks.

   Reasoning (R) : RBI has to maintain the official rate of exchange of rupee and ensure its stability.

   Options : 1) (A) is True, but (R) is False

   2) (A) is False, but (R) is True

   3) Both (A) and (R) are True and (R) is the correct explanation of (A)

   4) Both (A) and (R) are True and (R) is not the correct explanation of (A)

Q. 5. Identify and explain the concepts from the given illustrations :

1) Raghu's father regularly invests his money in stocks and bonds.

2) Sara makes a monthly contribution to a fund jointly created by her friends. The collected fund is then given to a chosen member through lucky draw.

3) Tina deposited a lumpsum amount of ₹ 50,000 in the bank for a period of one year.

4) ABC bank provides d-mat facility, safe deposit lockers, internet banking facilities to its customers.

Q. 6. Distinguish between :

1) Money market and Capital market.

2) Demand deposit and Time deposit.

3) Organized sector and Unorganized sector of money market.

Q. 7. Answer the following :

1) Explain the problems faced by the money market in India.

2) Explain the functions of commercial bank.

3) Explain the role of capital market in India.

4) Explain the problems of capital market in India.

Q. 8. Answer in detail :

1) Explain the role of money market in India.

2) Explain the functions of RBI.

○○○

10 Foreign Trade of India

Introduction :

Before 1947, the pattern of India's foreign trade was typically colonial. India was a supplier of raw materials to the industrialized nations, particularly England and importer of manufactured goods. This dependence on foreign trade did not permit industrialization at home. As a result the indigenous handicrafts suffered a severe blow. However, many underdeveloped countries that won independence in the post World War II period, viewed foreign trade as an investment.

Meaning of Internal Trade :

Buying and selling of goods and services within the boundaries of a nation are referred to as 'Internal Trade' or 'Domestic Trade' or 'Home Trade'. For example, if goods produced in Maharashtra are sold to states like West Bengal, Uttar Pradesh, Tamil Nadu etc, then it is known as internal trade.

Fig. 10.1

Meaning of Foreign Trade :

Foreign Trade is trade between the different countries of the world. It is called as International Trade or External Trade.

Definition :

According to Wasserman and Hultman, "International Trade consists of transaction between residents of different countries".

Types of foreign trade :

Foreign trade is divided into the following three types.

1) Import Trade, 2) Export Trade, 3) Entrepot Trade

1) **Import Trade :** Import trade refers to purchase of goods and services by one country from another country or inflow of goods and services from foreign country to home country. For example, India imports petroleum from Iraq, Kuwait, Saudi Arabia, etc.

2) **Export Trade :** Export trade refers to the sale of goods by one country to another country or outflow of goods from one country to foreign country. For example, India exports tea, rice, jute to China, Hong Kong, Singapore etc.

3) **Entrepot Trade :** Entrepot trade refers to purchase of goods and services from one country and then selling them to another country after some processing operations. For example, Japan imports raw material required to make electronic goods like, radio, washing machine, television etc. from England, Germany, France etc. and sells them to various countries in the world after processing them.

Role of Foreign Trade :

Trade is an engine of growth of an economy, because it plays an important role for economic development. In developed countries it represents a significant share of Gross Domestic Product.

Role of foreign trade can be justified on the basis of the following points :

1) **To earn foreign exchange :** Foreign trade provides foreign exchange which can be used for very productive purposes. Foreign trade is a remarkable factor in expanding

93

the market and encouraging the production of goods.

2) **Encourages Investment :** Foreign trade creates an opportunity for the producers to reach beyond the domestic markets. It encourages them to produce more goods for export. This leads to an increase in total investment in an economy.

3) **Division of labour and specialization :** Foreign trade leads to division of labour and specialization at world level. Some countries have abundant natural resources, they should export raw material and import finished goods from countries which are advanced in skilled manpower. Thus, foreign trade gives benefits to all countries thereby leading to division of labour and specialization.

4) **Optimum allocation and utilization of resources :** Due to specialization, resources are channelized for the production of only those goods which would give highest returns. Thus, there is rational allocation and specialization of resources at the international level due to foreign trade.

5) **Stability in price level :** Foreign trade helps to keep the demand and supply position stable which in turn stabilizes the price level in the economy.

6) **Availability of multiple choices :** Foreign trade provides multiple choices of imported commodities. As foreign trade is highly competitive it also ensures a good quality and standard products. This raises the standard of living of people.

7) **Brings reputation and helps earn goodwill :** Exporting country can earn reputation and goodwill in the international market. For example, countries like Japan, Germany, Switzerland etc. have earned a lot of goodwill and reputation in foreign market for their qualitative production of electronic goods.

Try this :

Name the goods exported to and imported from India to China and Japan in recent years by India.

Composition and Direction of India's foreign trade :

Over the last 70 years, India's foreign trade has undergone a complete change in terms of composition and direction. Main feature of composition of India's foreign trade are as follows :

1) **Increasing share of Gross National Income :** In 1990-91, share of India's foreign trade (import-export) in gross national income was 17.55%. It increased to 25% during 2006-07 and to 48.8% during 2016-17

2) **Increase in volume and value of trade :** Since 1990-91, the volume and value of India's foreign trade has gone up. India now exports and imports goods which are several times more in value and volume.

3) **Change in the composition of exports :** Since Independence, the composition of export trade of India has undergone a change. Prior to Independence, India used to export primary products like jute, cotton, tea, oil-seeds, leather, foodgrains, cashew nuts and mineral products. With the passage of time, manufactured items like readymade garments, gems and jewellery, electronic goods, especially computer hardware and software occupy a prime place in India's exports.

4) **Change in the composition of imports :** Prior to independence, India used to import consumer goods like medicines, cloth, motor vehicles, electrical goods etc. A part from petrol and petroleum, India is now importing mainly capital goods like high-tech machinery chemicals, fertilizers, steel etc.

5) **Oceanic trade** : Most of India's trade is by sea. India has trade relations with its neighbouring countries like Nepal, Afghanistan, Myanmar, Sri Lanka etc. The share of India's oceanic trade is around 68%.

6) **Development of new ports :** For its foreign trade, India depended mostly on Mumbai, Kolkata and Chennai ports. Therefore, these ports were overburdened. Recently, India has developed new ports at Kandla, Cochin, Vishakhapatnam, Nhava Sheva etc. to reduce the burden on the exsiting ports.

Find out :

Recent share of India's foreign trade in Gross National Income.

Do you know?

Composition of India's Imports

Commodities		Years			
		2015-16		2016-17	
Sr. No.		Expenditure (in million $)	Percentage	Expenditure (in million $)	Percentage
1	Petroleum, oil and lubricants	82,944	21.8	86,896	22.6
2	Electronic goods	40,032	10.5	41,941	10.9
3	Pearls and precious stones	20,070	5.3	23,809	6.2
4	Edible oils	10,492	2.8	10,893	2.8
5	Fertilizers	8,072	2.1	5,024	1.3
6	Foodgrains	276	0.1	1,429	0.4

Composition of India's Exports

Commodities		Years			
		2015-16		2016-17	
Sr. No.		Expenditure (in million $)	Percentage	Expenditure (in million $)	Percentage
1	Readymade Garments	16,964	6.9	17,368	6.3
2	Iron ore	191	0.0	1,534	0.5
3	Cotton yarn	8,874	3.4	8,550	3.1
4	Petroleum products	31,209	11.9	32,416	11.7
5	Leather manufactures	5,554	2.1	5,308	1.9
6	Engineering goods	7,220	23.0	65,267	23.7

Source : 1) Reserve Bank of India, Handbook of Statistics on Indian Economy 2016-17,
2) Government of India, Economic Survey 2017-18.

Direction of India's foreign trade :

Direction of foreign trade means the countries to which India exports its goods and services and the countries from which it imports the goods and services. Thus, direction consists of destination of exports and sources of our imports. Prior to Independence, much of India's trade was done with Britain. Therefore Britain used to hold the first position in India's foreign trade. However, after Independence, new trade relations with many other countries were established. Now USA has emerged as the leading trading partner followed by Germany, Japan and United Kingdom.

Do you know?

Direction of India's Imports

Sr. no.	Countries/Organisation	Year 2016-17 (Percentage)
1	OECD	28.1
2	OPEC	24.1
3	Eastern Europe	2.4
4	Developing Nations	43.2
5	Others	2.2

Direction of India's Exports

Sr. no.	Countries/Organisation	Year 2016-17 (Percentage)
1	OECD	37.9
2	OPEC	16.4
3	Eastern Europe	1.0
4	Developing Nations	43.5
5	Others	1.2

Source : Reserve Bank of India, Handbook of Statistics on Indian Economy.

Trends in India's foreign trade since 2001 :

Since liberalisation, India's foreign trade has expanded manifold and has shown a significant structured shift in imported and exported products, and also in its geographical composition.

Fig. 10.2

Recent Trends in Exports :

1) **Engineering goods :** According to Engineering Goods Export Promotion Council (EGEPC) Report, the share of engineering goods was 25% in India's total exports in 2017-18. Within this category some of the prominent exported items are transport equipment including automobiles and auto components, machinery and instruments. During the period 2010-11 to 2014-15, exports of transport equipment have grown from 16 billion dollars to to 24.8 billion dollars.

2) **Petroleum products :** India's petroleum capacity increased significantly since 2001-02, due to which India turned as a net exporter of petroleum refinery products. Petroleum product had a share of 4.3% in India's total exports in 2000-01, which rose steadily to 20.1% in 2013-14.

3) **Chemicals and chemical products :** An important export item that has performed reasonably well over the last few years is chemicals and chemical products. The share of this item was 10.4% in 2014-15.

4) **Gems and Jewellery :** Gems and jewellery is one of the major contributors to export earnings in India, having a share of 13.3% in India's merchandise export in 2014-15.

5) **Textiles and readymade garments :** Textiles and garment exports together accounted for 11.3% of India's exports

in 2014-15. In fact, India is one of the leading exporting countries of textiles and readymade garments in the world.

Trends in Imports :

1) **Petroleum :** Petroleum has always remained the most important item of imports in India's trade in the pre as well as post reform period. It had a share of 27% in total imports in 1990-92 which currently stands at around 31%.

2) **Gold :** After petroleum, the second most imported item is gold. It has been observed that there is a significant drop in gold imports during 2013-14. The gold imports declined from 53.3 billion dollars in 2011-12 to 27.5 billion dollars in 2013-14. This was primarily due to fall in international gold prices and various policy measures taken by the government to curb gold imports.

3) **Fertilizers :** The share of fertilizers in import expenditure declined from 4.1% in 1990-91 to only 1.3% in 2016-17.

4) **Iron and Steel :** The share of iron and steel in import expenditure declined from 4.9% to 2.1% in 2016-17.

Concept of Balance of payments :

The Balance of payments of a country is a systematic record of all international economic transactions of that country during a given period, usually a year.

According to Ellsworth, "Balance of payments is a summary statement of all the transactions between the residents of one country and the rest of the world.

According to Walter Krause, "The balance of payments of a country is a systematic record of all economic transactions completed between its residents and the rest of the world during a given period of time usually a concept of year. From the above definitions, it is clear that the value of exchange of goods and services among the citizens, businessmen, firms, government

etc. is included in balance of payments.

Fig. 10.3

Balance of Trade :

Balance of trade is the difference between the value of a country's exports and imports for a given period. Balance of trade is also referred to as the international trade balance.

According to Bentham, "Balance of trade of a country is the relation over a period between the values of her exports and imports of physical goods."

According to Samuelson, "if export value is greater than the import value it is called as trade surplus and if import value is greater than export value, then it is called as trade deficit."

It is clear from the above definitions that balance of trade includes the value of imports and exports of visible goods and invisible goods.

Fig. 10.4

Find out :
List of countries coming under OPEC and OECD.

EXERCISE

Q. 1. Choose the correct option :

1) Types of foreign trade
   a) Import trade   b) Export trade
   c) Entrepot trade   d) Internal trade

   Options : 1) a and b   2) a, b and c
       3) a, b, c and d   4) None of these

2) Export trends of India's foreign trade includes
   a) Engineering goods
   b) Gems and Jewellery
   c) Textiles and ready-made garments
   d) Gold

   Options : 1) a and c   2) a, b and c
       3) b, c and d   4) None of these

3) Role of foreign trade is
   a) To earn foreign exchange
   b) To encourage investment
   c) Lead to division of labour
   d) Bring change in composition of exports

   Options : 1) a and b   2) a, b and c
       3) b and d   4) None of these

Q. 2. Identify and explain the concepts from the given illustrations :

1) India purchased petroleum from Iran.
2) Maharashtra purchased wheat from Punjab.
3) England imported cotton from India, made readymade garments from it and sold them to Malaysia.
4) Japan sells smart phones to Myanmar.

Q. 3. Distinguish between the following :

1) Internal trade and International trade.
2) Trends in imports and Trends in exports of foreign trade.
3) Balance of payments and Balance of trade.

Q. 4. Answer the following :

1) Explain the concept of foreign trade and its types.

2) Explain any four features of composition of India's foreign trade.
3) Explain the trend in India's imports.

Q. 5. State with reasons whether you agree or disagree with the following statements :

1) During British rule, indigenous handicrafts suffered a severe blow.
2) Trade is an engine of growth for an economy.
3) Foreign trade leads to division of labour and specialization at world level.

Q. 6. Observe the following table and answer the questions given below it.

- Direction of India's imports

Countries / Organisations	Years	
	1990-91	2015-16
Sr. No.	Percentage	Percentage
1 OECD	54.0	28.8
2 OPEC	16.3	23.6
3 Eastern Europe	7.8	1.9
4 Developing Nations	18.6	43.2
5 Others	1.4	2.5

Questions :

1) Which organisation has the least share in the direction of India's imports in 2015-16?
2) Which organisation has maximum share in India's direction of imports in 1990-91?
3) Expand the abbreviations of OECD and OPEC
4) State your opinion regarding the direction of India's imports.
5) How much is the percentage of increase in the imports of developing nations in 2015-16 as compared to 1990-91?

Q. 7. Answer in detail :

1) Explain the meaning and role of foreign trade.
2) Explain the recent trends in India's exports.

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GLOSSARY OF ECONOMIC TERMS

- **Advertising :** Business of persuading people to buy products or services.

- **Antique goods :** Something made in an earlier period that is collected and considered to have value because it is beautiful, rare and old or of a high quality.

- **Arbitrary weights :** Based on or determined by individual preference, rather than intrinsic nature of something.

- **Bank rate :** The rate of interest set by a central bank in a country. This is the lowest rate at which central bank lends money against approved securities.

- **Branded products :** A branded product is one which is the made by a well-known manufacturer and has the manufacturer's label on it.

- **Canons of taxation :** Canons of taxation define numerous rules and principles upon which a good taxation system should be built.

- **Capital gains :** A capital gain is a rise in the value of a capital asset (investment or real estate) that gives it a higher worth than the purchase price.

- **Capital losses :** A capital loss is essentially the difference between the purchase price and the price at which the asset is sold, where the sale price is lower than the purchase price.

- **Cardinal measurement :** The exponents of cardinal utility analysis regard utility to be a cardinal concept and hypothetically hold that utility is a measurable and quantifiable entity.

- **Cash reserve ratio (CRR) :** As per RBI Act of 1934, every commercial bank has to keep certain minimum cash reserves with RBI. It varies between 3- 15% of the total demand and time deposits.

- **Ceteris paribus :** It is a Latin phrase and a dominant assumption in mainstream economic thinking when translated into English refers to "other things being equal or constant."

- **Composite measure :** In Statistics, composite measures of variables refers to measurements based on multiple data items.

- **Composition of foreign trade :** Composition of trade means a study of the goods and services imported and exported by a country.

- **Consumer equilibrium :** It is a state of balance that can be achieved by a consumer from the purchase of goods and services, given their present level of income and the current level of prices.

- **Copyrights :** Copyright is a form of protection provided by the laws of a country to the creators of original works that includes literary, dramatic, musical, artistic and certain other creative works. A copyright holder can prevent others from copying, performing or otherwise using the work without his or her consent.

- **Cost of living :** It is the average amount of money that people in a particular place need to afford basic food, housing and clothing.

- **Credit rationing :** RBI imposes a ceiling on the loans and advances offered by commercial banks to regulate and control the purpose of credit.

- **Cross elasticity :** Cross elasticity of demand is an economic concept that measures the responsiveness in the quantity demanded of one good when the price for another good (substitute or complementary product) changes.

- **Deficit financing :** It is a practice in which a government spends more money than it receives as revenue. The difference is made up by borrowing or minting new funds.

- **Deflating :** Deflating in statistics means counteracting the effect of inflation over a set of data to unravel their true values and make them comparable.

- **Dearness Allowances :** It is a cost of living adjustment allowance paid to government employees, public sector employees and pensioners. It is calculated as a percentage of basic salary to mitigate the impact of inflation.

- **Direction of foreign trade :** Direction of foreign trade means the countries to which a particular country exports its goods and the countries from which it imports.

- **Disparities in income :** It refers to a significant disparity or inequality in the distribution of income between individuals, groups, populations, social classes or countries.

- **Division of labour :** It means separation of a work process into a number of tasks, with each task performed by a separate person or group of persons.

- **Double counting :** It occurs when the costs of intermediate goods used by a business to produce a finished good are included in the computation of a nation's gross domestic product.

- **Economic efficiency :** Economic efficiency is achieved when all goods and factors of production in an economy are distributed or allocated to their most valuable uses and waste is eliminated or minimized.

- **Economic model :** It is a simplified representation of economic reality showing the inter-relationships between selected economic variables.

- **Economic variable :** It refers to any measurement that helps to determine how an economy functions. Population, poverty, unemployment, inflation etc. are examples of economic variables.

- **Economic welfare :** It is the overall level of financial satisfaction and prosperity experienced by participants in an economic system.

- **Effective demand :** In Keynesian macroeconomic theory, effective demand is the point of equilibrium where aggregate demand = aggregate supply.

- **Engineering goods :** Engineering goods include metal products, industrial machinery and equipment, auto and its components and transport equipments.

- **Financial proposal :** A financial proposal is a written report that provides details of the future of a business by addressing its monetary needs and budget.

- **Forecasting :** It is a planning tool that helps management in its attempts to cope with the uncertainty of the future, relying mainly on data from the past and present and analysis of trends.

- **General price level :** It is an index that measures the change in price of goods in an economy over time and hence the purchasing power of the currency of the country.

- **Illegal incomes :** Income derived from illegal activities such as bookie/betting operations, theft, embezzlement and from other illegal resources.

- **Imputed value :** Imputed value is an assumed value given to an item when the actual value is not known or available.

- **Impact of tax :** Effect of a tax on production or consumption of a product.

- **Incidence of tax:** The incidence of a tax refers to the extent to which an individual or organisation suffers from the imposition of a tax.

- **Income tax returns :** A tax return is documentation filed with a taxing authority that reports income, expenses and other relevant financial information.

- **Indivisible goods :** A good is indivisible when the utility one derives from it depends on the number of users or individuals using it. This concept is used in public finance.

- **Intermediate goods :** An intermediate good is a good or service purchased by a manufacturer to be used as an input in another product.

- **Laissez-faire :** It is a policy of minimum governmental interference in the economic affairs of individuals and society.

- **Leasing Companies :** They provide finance for acquiring plant and machinery especially for small and medium sized enterprises.

- **Liquidity Adjustment facility (LAF) :** It is a monetary policy tool used by RBI which allows commercial banks to borrow money through repurchase agreements. It consists of Repo and Reverse Repo operations.

- **Marginalism :** Marginalism is concerned with how much extra use is gained from incremental increases in the number of goods created, sold, etc. and how these measures relate to consumer choice and demand.

- **Margin Requirements :** It is used by RBI to determine the loan value of a collateral security offered by a borrower. It is used to control speculative activities.

- **Merchant Banks :** Merchant banks in India manage and underwrite new issues, advise corporate clients on fund raising and other financial aspects.

- **Mixed income :** Remuneration of a self employed person is treated as mixed income. It is defined as the income that is received, over a given reference period, by individuals, for themselves or in respect of their family members, as a result of their current or former involvement in self employment jobs.

- **Moral Suasion :** It is a psychological instrument of credit control which is used by RBI to persuade commercial banks to co-operate with it in following a proper credit policy more rigorously.

- **Mutual Funds :** Mutual funds mobilize the savings of the general public and invest them in stock market securities.

- **National Electronic Fund Transfer (NEFT) :** It is an electronic fund transfer process, through which money can be sent from one bank account to another within the country in a safe and hassle free manner.

- **Oceanic trade :** It refers to expansion of trade network of coastal countries beyond their land territories.

- **Open market operations :** Open market operations is the sale and purchase of government securities and treasury bills by RBI or the central bank of the country. It is undertaken to regulate the money supply in the economy.

- **Optimum allocation :** It refers to the allocation of resources in the best possible manner to achieve economic efficiency. It prevents misuse and avoids wastage of resources.

- **Paradox of values :** It is an observation that articles or goods critical to life (such as water) are very cheap, whereas others which have no bearing on human existence (such as diamonds) are very expensive.

- **Patents :** It is an official legal right to make or sell an invention for a particular number of years.

- **Perishable goods :** They are a type of good especially food products with limited shelf life.

- **Point of satiety :** Point of satiety is defined as "the point where marginal utility of any commodity is zero."

- **Potential supply :** Stock is the basis of supply. It constitutes the potential or total supply of a commodity that can be offered for sale at a favourable time.

- **Prestige goods :** They are high end or luxury goods that increases the status of the consumers who own or use them e.g. jewellery, luxury cars etc.

- **Price discrimination :** It is the act of of selling the same product at different prices to different buyers, in order to maximize sales and profits.

- **Price illusion :** It is also called money illusion. It refers to the tendency of consumers to think in terms of nominal rather than real monetary values when making economic decisions. It is likely to occur when inflation is unanticipated.

- **Price quotations :** Price quotation is a document (generally written) which a seller provides to the buyer for offering goods and services at a stated price, subject to terms and conditions specified therein.

- **Principle of rationality :** It is an economic principle that assumes that individuals always make prudent and logical decisions that provide them with the highest amount of personal utility. These decisions provide people with the greatest benefit or satisfaction, given the choices available.

- **Public utilities :** Public utilities are services provided by the government or state, such as the supply of electricity and gas, or the train network.

- **Quid pro quo :** Quid pro quo is a Latin phrase which means a gift or a advantage that is given to someone in return for something that they have done.

- **Rational consumer :** A consumer who makes his choices after considering all the other alternative goods and services available in the market is called a rational consumer.

- **Rare goods :** They are artistic or precious goods that have a limited supply. The supply of these goods cannot be increased according to their demand or rising prices.

- **Real Time Gross Settlement (RTGS) :** 'Real Time' means the processing of instructions at the time they are received 'Gross settlement' means that settlement of funds transfer instructions occurs individually.

- **Rectangular hyperbola :** Rectangular hyperbola is a curve under which all rectangular areas are equal.

- **Repo Rate :** Rate at which RBI repurchases government securities from commercial banks for a short period when a liquidity shortage is experienced. It injects liquidity into the banking system.

- **Reverse Repo Rate :** Rate at which RBI sells dated government securities in the market through auction at fixed cut-off rate of interest. It absorbs liquidity and also provides short term avenue to banks to park their surplus funds.

- **Sales proceeds :** It refers to the amount of money received from a particular event or activity or when something is sold.

- **Samples:** It is a subset containing the characteristics of a larger population.

- **Self-consumption :** Producers themselves consume the entire or a part of the output they produce is self-consumption.

- **Social accounts :** It is the process of measuring, monitoring, and reporting to stakeholders the social and environmental effects of an organization's actions.

- **Speculation :** Speculation involves trading in a financial instrument involving high risk, in expectation of significant returns. The motive is to take maximum advantage from fluctuations in the market.

- **Standardized items :** It means products of the same type, having the same basic features.

- **Statutory Liquidity Ratio (SLR) :** Under Section 24 of Bankng Regulation Act, 1949, commercial banks have to maintain liquid assets in the form of cash, gold and approved securities equal to not less than 25% of their total demand and time liabilities. It has been revised by RBI from time to time.

- **Subsidies :** It is a sum of money granted by the state or a public body to help an industry or business to keep the price of a commodity or service low.

- **Tariff :** Tariffs are used to restrict imports by increasing the price of goods and services purchased from another country, making them less attractive to domestic consumers.

- **Trademarks :** It is a symbol, word or words legally registered or established by use as representing a company or product.

- **Transfer payments :** It is a one-way payment of money for which no money, good or service is received in exchange. Governments use such payments as means of income redistribution by giving out money under social welfare programs such as social security, old age or disability pensions, student grants, unemployment compensation, etc.

- **Trends and Tendencies :** A pattern of gradual change in a condition, output or process or an average or general tendency of a series of data represented by a line or curve on a graph.

- **Uncertainty :** In economics, uncertainty implies that the future outlook for the economy is unpredictable. There is a high likelihood of negative economic events to occur.

- **Undistributed profits of companies :** Undistributed profits are those earnings of a corporation that have not been paid out to investors in the form of dividends.

- **Venture Capital Companies :** They provide commercial support to new ideas and for the introduction and adaptation of new technologies.

- **Welfare economics :** It is that branch of economics that seeks to evaluate economic policies in terms of their effects on the well-being of the community.

- **Window Display :** It is a marketing strategy in which a systematic arrangement of articles is done in such a way that they attract the attention of those who pass-by.

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LIST OF ABBREVIATIONS

• ADR	American Depository Receipts
• BSE	Bombay Stock Exchange
• CGST	Central Goods and Service Tax
• CRR	Cash Reserve Ratio
• CSO	Central Statistical Organisation
• DFHI	Discount and Finance House of India
• DFI	Development Financial Institution
• EGEPC	Engineering Goods Export Promotion Council
• GDP	Gross Domestic Product
• GDR	Global Depository Receipts
• GNP	Gross National Product
• GST	Goods and Service Tax
• ICICI	Industrial Credit and Investment Corporation of India
• IDBI	Industrial Development Bank of India
• IEPF	Investor Education and Protection Fund
• IFCI	Industrial Finance Corporation of India
• IGST	Integrated Goods and Service Tax
• IIBI	Industrial Investment Bank of India
• LAF	Liquidity Adjustment Facility
• MMMF	Money Market Mutual Funds
• NDP	Net Domestic Product
• NEFT	National Electronic Fund Transfer
• NNP	Net National Product
• NSE	National Stock Exchange
• OECD	Organisation for Economic Co-operation and Development
• OPEC	Organisation of Petroleum Exporting Countries
• RTGS	Real Time Gross Settlement
• SBTS	Screen Based Trading System
• SEBI	Securities and Exchange Board of India
• SFC	State Finance Corporation
• SGST	State Goods and Service Tax
• SLR	Statutory Liquidity Ratio
• UTI	Unit Trust of India

REFERENCES

- Ministry of Finance, Government of India (Oxford Press), Economic Survey 2017-18.

IMPORTANT WEBSITES/LINKS

- https://data.gov.in
- https://www.rbi.org.in - (Reserve Bank of India)
- mofapp.nic.in:8080/economic survey (Ministry of Finance, GoI)
- www.mospi.gov.in/national-sample-survey-office-nsso – (Ministry of Statistics and Programme Implementation, GoI).
- https://stats.oecd.org
- https://www.bseindia.com
- https://www.nseindia.com
- https://www.finmin.nic.in
- https://www.incometaxindia.gov.in
- https://www.gst.gov.in
- https://www.sebi.gov.in
- https://dgft.gov.in

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