Foundation Course
Study Material

Paper 4

Business Economics

(Relevant for May, 2025 and onward Examinations)

BOARD OF STUDIES
THE INSTITUTE OF CHARTERED ACCOUNTANTS OF INDIA

© The Institute of Chartered Accountants of India

This Study Material has been prepared by the faculty of the Board of Studies. The objective of the Study Material is to provide teaching material to the students to enable them to obtain knowledge in the subject. In case students need any clarifications or have any suggestions for further improvement of the material contained herein, they may write to the Joint Director, Board of Studies.

All care has been taken to provide interpretations and discussions in a manner useful for the students. However, the Study Material has not been specifically discussed by the Council of the Institute or any of its Committees and the views expressed herein may not be taken to necessarily represent the views of the Council or any of its Committees.

Permission of the Institute is essential for reproduction of any portion of this material.

© THE INSTITUTE OF CHARTERED ACCOUNTANTS OF INDIA

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form, or by any means, electronic, mechanical, photocopying, recording, or otherwise, without prior permission, in writing, from the publisher.

Basic draft of this publication was prepared by CA. (Dr.) Rashmi Goel.

Edition	:	August, 2024
Committee/Department	:	Board of Studies
E-mail	:	bosnoida@icai.in
Website	:	www.icai.org
Price	:	₹ /-
ISBN No.	:	978-81-19472-33-8
Published by	:	The Publication & CDS Directorate on behalf of The Institute of Chartered Accountants of India ICAI Bhawan, Post Box No. 7100, Indraprastha Marg, New Delhi – 110002 (India)
Printed by	:	

BEFORE WE BEGIN

The contents of the study material for Foundation have been designed and developed by the Board of Studies, ICAI with an objective to synchronize the syllabus with the International Education Standards (IESs) of IFAC (International Federation of Accountants) to instill and enhance the necessary pre-requisites for becoming a well-rounded, competent and globally competitive Accounting Professional.

The requirements of "IES 1 Entry Level Requirements" have been kept in mind while developing the different chapters of study material.

This study material also lays emphasis on National Education Policy 2020 (NEP 2020) initiatives like conceptual clarity rather than rote learning and new pedagogical and curriculum restructuring based on the use of technology while teaching.

The traditional role of a chartered accountant was restricted to accounting and auditing, has undergone a sea change. Presently, there has been a marked shift towards strategic decision making and entrepreneurial roles that add value beyond traditional financial reporting. The primary factors responsible for the change are the increasing business complexities on account of a plethora of laws, borderless economies consequent to giant leap in e-commerce, emergence of financial instruments, emphasis on corporate social responsibility, significant developments in information technology, to name a few. Towards this end, the scheme of education and training is being continuously reviewed so that it is in sync with the requisites of the dynamic global business environment. The competence requirements are being continuously reviewed to enable aspiring chartered accountants to acquire the requisite professional competence to take on new roles.

Economics deals with problems and questions that affect almost all kinds of individuals in their capacities as consumers and producers. Therefore, economic literacy is essential for each and every individual. Business Economics, which has been introduced at the Foundation level of the Revised CA course, has been developed keeping in mind the fact that CAs now a days have to take up the role of not merely an accountant or auditor, but a business solution provider. Business Economics which integrates economic theory with business practice will help them in the process of business decision making.

The learning outcomes at the beginning of each unit orient the learners to focus on key concepts. The end of the chapter summary is intended to recapitulate what has been covered in the units. The sample questions appended at the end of each chapter, help students to

© The Institute of Chartered Accountants of India

practice what they have learned in the chapter /unit. The glossary at the end of the book intends to provide a quick review of the major concepts to the learners.

There are ten chapters in Business Economics namely, Introduction to Business Economics, Theory of Demand and Supply, Theory of Production and Cost, Price Determination in Different Markets, Business Cycles, Determination of National Income, Public Finance, The Money Market, International Trade, and Indian Economy. An attempt has been made to make this study material as self-contained as possible. The economic concepts have been explained in a clear, thorough way, using various applications to illustrate the use of theory and to reinforce students' understanding of it. Care has been taken to explain the principles and concepts in a lucid and easy language with the help of diagrams, pictures, tables, and illustrations so as to enable students to understand concepts properly and relate theory to real world situation.

The learners are requested to keep themselves updated on the wide-ranging changes that occur in the economic arena in view of the lack of feasibility of instantly incorporating them in the study material. Your valuable suggestions to improve the contents and /or use of pedagogical devices would be appreciated.

Happy Reading and Best Wishes!

© The Institute of Chartered Accountants of India

SYLLABUS

PAPER – 4: BUSINESS ECONOMICS (100 MARKS)

Objective:

To develop an understanding of the concepts and theories of Economics and to acquire the ability for addressing application-oriented issues.

Contents:

1. Introduction to Business Economics

Meaning and scope of Business Economics

Basic Problems of an Economy and Role of Price Mechanism.

2. Theory of Demand and Supply

Meaning and Determinants of Demand, Law of Demand and Elasticity of Demand – Price, Income and Cross Elasticity

Theory of Consumer's Behaviour –Indifference Curve approach

Meaning and Determinants of Supply, Law of Supply and Elasticity of Supply, Market Equilibrium and Social Efficiency.

3. Theory of Production and Cost

Meaning and Factors of Production, Short Run and Long Run

Law of Production – The Law of Variable Proportions and Laws of Returns to Scale,

Producer's Equilibrium

Concepts of Costs – Short-run and long-run costs, Average and Marginal Costs, Total, Fixed and Variable Costs

4. Price Determination in Different Markets

Market Structures: Perfect Competition, Monopoly and Monopolistic Competition. Using Game Theory to study Oligopoly.

Price Determination in these Markets

Price- Output Determination under different Market Forms

© The Institute of Chartered Accountants of India

5. Determination of National Income

a. Macro Economic Aggregates and Measurement of National Income

b. Determination of National Income: Keynes' Two Sector Basic Model, Three Sectors and Four Sectors Models

6. Business Cycles

- Meaning
- Phases
- Features
- Causes behind these Cycles

7. Public Finance

a. Fiscal functions: An Overview, Centre and State Finance

b Market Failure/ Government intervention to correct market failure.

c. Process of budget making: Sources of Revenue, Expenditure Management, and Management of Public Debt.

d. Fiscal Policy

8. Money Market

a. Concept of Money Demand

b. Important theories of Demand for Money

c. Concept of Money Supply, Cryptocurrency and other new terminology

d. Monetary Policy

9. International Trade

a. Theories of International Trade including theories of intra-industry trade by Krugman.

b. Trade Policy – The Instruments of Trade Policy

c. Trade Negotiations

d. Exchange Rates and its economic effects

e. International Capital Movements: Foreign Direct Investment

10. Indian Economy (Before 1950- Chanakya and Nand Vansh, OECD Paper (1950-1991), Basic knowledge 1991 Onwards

© The Institute of Chartered Accountants of India

CONTENTS

Pages

Chapter 1 – Nature & Scope of Business Economics ..... 1.1 – 1.36

Unit 1: Introduction 1.1

1.0 Introduction 1.2

1.1 Definitions of Business Economics 1.7

1.2 Nature of Business Economics 1.8

1.3 Scope of Business Economics 1.11

1.4 Difference between Economics & Business Economics 1.13

Summary 1.14

Unit 2: Basic Problems of an Economics & Role of Price Mechanism 1.16

2.0 Basic Problems of an Economy 1.16

2.1. Capitalist Economy 1.18

2.2 Socialist Economy 1.22

2.3 The Mixed Economy 1.25

Summary 1.27

Test Your Knowledge 2.27

Chapter 2 – Theory of Demand and Supply 2.1-2.117

Unit 1: Law of Demand and Elasticity of Demand 2.1

1.0 Meaning of Demand 2.3

1.1 What Determines Demand 2.4

1.2 The Demand Function 2.9

1.3 Law of Demand 2.10

1.4 Expansion and Contraction of Demand 2.18

1.5 Elasticity of Demand 2.22

1.6 Income Elasticity of Demand 2.38

1.7 Cross- Price Elasticity of Demand 2.42

1.8 Advertisement Elasticity 2.46

Summary 2.47

© The Institute of Chartered Accountants of India

Unit 2: Theory of Consumer Behaviour 2.50

2.0 Nature of Human Wants 2.50

2.1. Classification of Wants 2.51

2.2 Relationship between TU & MU 2.52

2.3 Law of Diminishing Marginal Utility 2.53

2.4 Consumer Surplus 2.54

2.5 Indifference Curve Analysis 2.59

Summary 2.72

Unit 3: Supply 2.74

3.0 Introduction 2.74

3.1. Determinants of Supply 2.75

3.2 Law of Supply 2.77

3.3 Movements on Supply Curve- increase or decrease in the quantity supplied 2.79

3.4 Shifts in Supply Curve – increase or decrease in supply 2.79

3.5 Elasticity of Supply 2.80

3.6 Equilibrium Price 2.87

Summary 2.89

Test Your Knowledge 2.90

Chapter 3 – Theory of Production and Cost 3.1-3.72

Unit 1: Theory of Production 3.1

1.0 Meaning of Production 3.2

1.1 Factors of Production 3.5

1.2 Production Function 3.20

1.3 Production Optimisation 3.29

Summary 3.32

Unit 2: Theory of Cost 3.35

2.0 Cost Concepts 3.35

2.1. Cost Function 3.39

© The Institute of Chartered Accountants of India

2.2 Short Run Total Costs 3.39
2.3 Long Run Average Cost Curve 3.45
2.4 Economies & Diseconomies of Scale 3.48
Summary 3.52
Test Your Knowledge 3.54
Chapter 4 – Price Determination in Different Markets 4.1-4.86
Unit 1: Meaning and Types of Markets 4.1
1.0 Meaning of Market 4.2
1.1 Types of Market Structures 4.6
1.2 Concepts of Total Revenue, Average Revenue and Marginal Revenue 4.8
Summary 4.14
Unit 2: Determination of Prices 4.16
2.0 Introduction 4.16
2.1. Determination of Prices – A General View 4.17
2.2 Changes in Demand and Supply 4.19
2.3 Simultaneous Changes in Demand and Supply 4.21
Summary 4.25
Unit 3: Price Output Determination under Different Market Forms 4.27
3.0 Perfect Competition 4.28
3.1. Monopoly 4.39
3.2 Imperfect Competition- Monopolistic Competition 4.51
3.3 Oligopoly 4.56
Summary 4.62
Test Your Knowledge 4.65
Chapter 5 – Business Cycles 5.1-5.21
5.0 Introduction 5.2
5.1 Phase of Business Cycle 5.3
5.2 Features of Business Cycle 5.9

© The Institute of Chartered Accountants of India

5.3 Causes of Business Cycles 5.10
5.4 Relevance of Business Cycles in Business Decision Making 5.13
Summary 5.14
Test Your Knowledge 5.16
Chapter 6 – Determination of National Income 6.1-6.72
Unit 1: National Income Accounting 6.1
1.1 National Income Accounting 6.2
1.2 Usefulness and Significance of National Income Estimates 6.2
1.3 Different Concepts of National Income 6.3
1.4 Measurement of National Income in India 6.15
1.5 The System of Regional Accounts in India 6.26
1.6 GDP & Welfare 6.27
1.7 Limitations and Challenges of National Income Computation 6.28
Summary 6.29
Test Your Knowledge 6.30
Unit 2: The Keynesian Theory of Determination of National Income 6.34
2.1 Introduction 6.35
2.2. Circular Flow in a Simple Two-Sector Model 6.36
2.2. Basic Concepts & Functions 6.38
2.4 The Two-Sector Model of National Income Determination 6.43
2.5 The Investment Multiplier 6.50
2.6 Determination of Equilibrium Income: Three Sector Model 6.54
2.7 Determination of Equilibrium Income: Four Sector Model 6.62
2.8 Conclusion 6.68
Summary 6.68
Test Your Knowledge 6.70

© The Institute of Chartered Accountants of India

Chapter 7 – Public Finance 7.1-7.91

Unit 1: Fiscal Functions: An Overview, Centre and State Finance.....7.1

1.1 Introduction.....7.2

1.2 The Role of Government in an Economic System.....7.3

1.3 The Allocation Function.....7.5

1.4 The Redistribution Function.....7.8

1.5 Stabilization Function.....7.9

Summary.....7.15

Test Your Knowledge.....7.18

Unit 2: Market Failure/ Government intervention to correct Market Failure 7.23

2.1 Introduction.....7.23

2.2 The Concept of Market Failure.....7.24

2.3 Why Do Markets Fail.....7.24

2.4 Public Goods.....7.27

2.5 Incomplete Information.....7.29

2.6 Government Intervention to Minimize Market Power.....7.32

2.7 Government Intervention to Correct Externalities.....7.33

2.8 Government Intervention in The Case of Merit Goods.....7.37

2.9 Government Intervention in The Case of Demerit Goods.....7.38

2.10 Government Intervention in The Case of Public Goods.....7.39

2.11 Price Intervention: Non-Market Pricing.....7.39

2.12 Government Intervention for Correcting Information Failure.....7.40

2.13 Government Intervention for Equitable Distribution.....7.40

Summary.....7.41

Test Your Knowledge.....7.45

Unit 3: The Process of Budget Making: Sources of Revenue, Expenditure Management and Management of Public Debt 7.51

3.1 Introduction.....7.51

3.2. The Process of Budget Making.....7.52

© The Institute of Chartered Accountants of India

3.3 Sources of Revenue 7.56
3.4 Public Expenditure Management 7.57
3.5 Public Debt Management 7.59
Test Your Knowledge 7.65
Unit 4: Fiscal Policy 7.72
4.1 Introduction 7.72
4.2. Objectives of Fiscal Policy 7.73
4.3 Types of Fiscal Policy 7.74
4.4 The Instruments of Fiscal Policy 7.76
Summary 7.83
Test Your Knowledge 7.85
CHAPTER 8 – Money Market 8.1-8.58
Unit 1: The Concept of Money Demand: Important Theories 8.1
1.1 Introduction 8.2
1.2 The Demand for Money 8.4
1.3 Theories of Demand for Money 8.5
1.4 Post-Keynesian Developments in the Theory of Demand for Money 8.12
1.5 Conclusion 8.15
Summary 8.16
Test Your Knowledge 8.18
Unit 2: The Concept of Money Supply 8.22
2.1 Introduction 8.23
2.2 Rationale of Measuring Money Supply 8.24
2.3 The Sources of Money Supply 8.25
2.4 Measurement of Money Supply 8.26
2.5 Determinants of Money Supply 8.27
2.6 The Concept of Money Multiplier 8.27
2.7 The Money Multiplier Approach to Supply of Money 8.29

© The Institute of Chartered Accountants of India

2.8 Monetary Policy and Money Supply 8.33
2.9 Effect of Government Expenditure on Money Supply 8.33
Summary 8.38
Test Your Knowledge 8.40
Unit 3: Monetary Policy 8.44
3.1. Introduction 8.45
3.2 Monetary Policy Defined 8.45
3.3 The Monetary Policy Framework 8.45
3.4 The Organisational Structure for Monetary Policy Decisions 8.50
3.5 Conclusion 8.51
Summary 8.51
Test Your Knowledge 8.54
Chapter 9 – International Trade 9.1-9.88
Unit 1: Theories of International Trade 9.1
1.1 Introduction 9.2
1.2 Important Theories of International Trade 9.4
Summary 9.9
Test Your Knowledge 9.11
Unit 2: The Instruments of Trade Policy 9.14
2.1 Introduction 9.15
2.2. Tariffs 9.16
2.3 Non -Tariff Measures (NTMs) 9.21
2.4 Export-Related Measures 9.26
Summary 9.27
Test Your Knowledge 9.30
Unit 3: Trade Negotiations 9.33
3.1 Introduction 9.33
3.2. Taxonomy of Regional Trade Agreements (RTAs) 9.34

© The Institute of Chartered Accountants of India

3.3 The General Agreement on Tariffs and Trade (GATT) 9.36
3.4 The Uruguay Round and the Establishment of WTO 9.37
3.5 The World Trade Organization (WTO) 9.37
3.6 The Doha Round 9.44
3.7 G 20 Economies: Facilitating Trade 9.44
Summary 9.45
Test Your Knowledge 9.47
Unit 4: Exchange Rate and Its Economic Effects 9.50
4.1 Introduction 9.51
4.2 The Exchange Rate 9.51
4.3 The Exchange Rate Regimes 9.51
4.4 Nominal Versus Real Exchange Rates 9.54
4.5 The Foreign Exchange Market 9.55
4.6 Determination of Nominal Exchange Rate 9.56
4.7 Changes in Exchange Rates 9.57
4.8 Devaluation Vs Depreciation 9.59
4.9 Impacts of Exchange Rate Fluctuations on Domestic Economy 9.60
Summary 9.64
Test Your Knowledge 9.66
Unit 5: International Capital Movements 9.70
5.1 Introduction 9.71
5.2 Types of Foreign Capital 9.71
5.3 Foreign Direct Investment (FDI) 9.72
5.4 Foreign Portfolio Investment (FPI) 9.72
5.5 Reasons for Foreign Direct Investment 9.74
5.6 Modes of Foreign Direct Investment (FDI) 9.77
5.7 Benefits of Foreign Direct Investment 9.78
5.8 Potential Problems Associated with Foreign Direct Investment 9.80

© The Institute of Chartered Accountants of India

5.9 Foreign Direct Investment in India (FDI) 9.82
5.10 Overseas Direct Investment by Indian Companies 9.83
Summary 9.85
Test Your Knowledge 9.86
Chapter 10 – Indian Economy 10.1-10.38
10.1 Status of Indian Economy: Pre Independence Period (1850-1947) 10.1
10.2 Indian Economy: Post Independence (1947-1991) 10.4
10.3 The Era of Reforms 10.7
10.4 The Economic Reforms of 1991 ..... 10.9
10.5 GDP Growth Rates Post 1991 Reforms 10.15
10.6 NITI Aayog: A Bold Step for Transforming India 10.16
10.7 The current state of the Indian Economy: A brief overview 10.18
10.8 Conclusion 10.27
Summary 10.27
Test Your Knowledge 10.34
Glossary ..... i – xxi

© The Institute of Chartered Accountants of India

© The Institute of Chartered Accountants of India

CHAPTER 1

NATURE AND SCOPE OF BUSINESS ECONOMICS

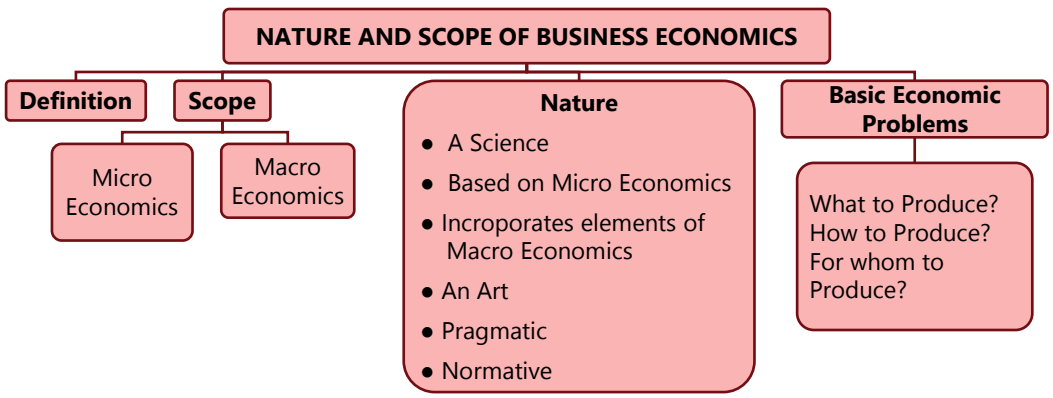
UNIT – 1: INTRODUCTION

LEARNING OUTCOMES

After studying this unit, you would be able to:

- Explain the Meaning of Economics.
- Describe the Meaning and Nature of Business Economics.
- Describe the Scope of Business Economics.

CHAPTER OVERVIEW



© The Institute of Chartered Accountants of India

1.0 INTRODUCTION

1.0.0 What is Business all about?

A business is an economic activity. There are various types of business like manufacturing, mining, construction, agriculture, poultry- farming, food processing, banking, insurance, health, education, transportation, communication, so on and so forth. Each one of these businesses represents activity transforming a set of inputs into a set of output which is the essence of economic activity. We can say, creation of net value added is the basic objective of all such activities. On the input side we refer to men, materials, machines, management etc., or as the economists classify as land, labour, capital and entrepreneurship. By output, we refer to different types of goods and services. Within 'goods' also, we have consumer goods, producer goods, capital goods, private goods, public goods, merit goods like essential goods, non-merit goods like cigarettes. Some of these goods are non durable or single use goods and some are durable in nature.

The purpose of any economic activity such as production, consumption, distribution, exchange and inventory accumulation, is to create surplus or profit. Some of Non-Profit Organisations (NPOs) may not aim at private profits but they aim at 'social benefits.' In context of all economic enterprises, several decisions have to be taken. For example, a production unit has to decide – What to produce? When to produce? For whom to produce? Why to produce? In the same way, a finance enterprise dealing with funds has to decide – When to raise funds? Where to direct the use of these funds? What should be the maturity and other terms? Each decision problem represents an area of choice. It is suggested that economics is a discipline which is helpful in analysing the rationality and optimality of a given choice.

At this stage one must know what economics is all about.

1.0.1 What is Economics about?

The term 'Economics' owes its origin to the Greek word 'Oikonomia' which means 'household'. Till 19th century, Economics was known as 'Political Economy.' The book named 'An Inquiry into the Nature and Causes of the Wealth of Nations' (1776) usually abbreviated as 'The Wealth of Nations', by Adam Smith is considered as the first modern work of Economics.

Before we start with the meaning of Business Economics, it is important for us to understand what Economics is about. For this, consider the following situation:

© The Institute of Chartered Accountants of India

It is your birthday and your mother gives you ₹ 1000 as birthday gift. You are free to spend the money as you like. What will you do? You have many options before you, such as:

Option 1 : You can give a party to your friends and spend the whole money on them.

Option 2 : You can buy yourself a dress for ₹ 1000.

Option 3 : You can go for a movie and eat in a restaurant of your choice.

Option 4 : You can buy yourself a book and save the rest of the money.

What do you notice? You have many options before you. Given a choice, you would like to spend not only on your friends, but would also like to go for a movie, eat in a restaurant, buy a dress and a book and save some money. However, you cannot have all of them at the same time. Why? Because you have only ₹1000 with you. Had your mother given you ₹ 2000, you might have satisfied more of your desires. But, she has not. Now, you find yourself in a dilemma as to which of the above options to choose. You will have to go for one option or a combination of one or more options. What do you do? You evaluate the various alternatives and choose the one that gives you the greatest satisfaction. Similar dilemma is faced by every individual, every society and every country in this world. Life is like that. Since we cannot have everything we want with the resources we have, we are forever forced to make choices. Therefore, we choose to satisfy only some of our wants leaving many other wants unsatisfied.

The fundamental facts:

(i) 'Human beings have unlimited wants'; and

(ii) 'The means to satisfy these unlimited wants are relatively scarce' form the subject matter of Economics.

Let us now examine what Economics studies about. Economics is the study of the processes by which the relatively scarce resources are allocated to satisfy the competing unlimited wants of human beings in a society. Of course, the available resources will be efficiently used when they are allocated to their highest valued uses. Economics is, thus, the study of how we work together to transform the scarce resources into goods and services to satisfy the most pressing of our infinite wants and how we distribute these goods and services among ourselves.

This definition of Economics, with the narrow focus on using the relatively scarce resources to satisfy human wants, is the domain of modern neo classical micro economic analysis. Despite being correct, it is incomplete as it brings to our mind the picture of a society with fixed resources, skills and productive capacity, deciding on what specific kinds of goods and services it ought to produce with the given resources and how they ought to be distributed among the members of the society. However, two of the most important concerns of modern economies are not fully covered by this concept.

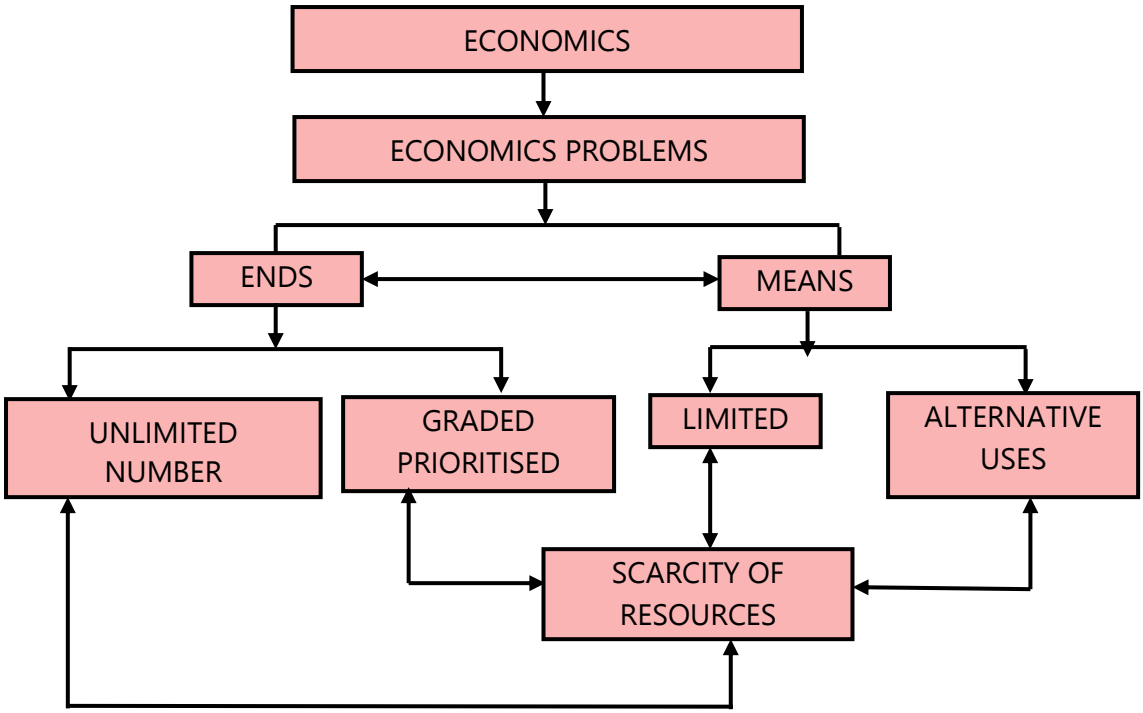
© The Institute of Chartered Accountants of India

On the one hand, we find that the productive capacity of modern economies has grown tremendously. Population and labour force have increased, new sources of raw materials have been discovered, and new and better plant and equipment have been made available on farms and in factories and mines. Not only has the quantity of available productive resources increased, their quality has also improved substantially. Better education and newly acquired skills have raised the productivity of labour force, and has led to the discovery of completely new kinds of natural resources such as shale gas and new alternative greener sources of energy such as solar and wind power. On the other hand, we know that the resulting growth in production and income has not been smooth. There have been periods in which output not only failed to grow, but also actually declined sharply (Global Financial Crisis 2007 and Corona Pandemic 2019). During such periods, factories, workers and other productive resources have remained idle due to insufficient demand.

Economics, therefore, concerns itself not just with the crucial concern of how a nation allocates its scarce productive resources to various uses; it also deals with the processes by which the productive capacity of these resources is increased and with the factors which, in the past, have led to sharp fluctuations in the rate of utilisation of these resources.

In the day-to-day events, we come across several economic issues such as changes in the price of individual commodities as well as in the general price level; economic prosperity and higher standards of living of some countries despite general poverty and poor standards of living in others; and some firms making extraordinary profits while others close down etc. These are matters fundamentally connected with economic analysis. **The study of Economics will enable us to develop an analytical approach that helps us in understanding and analysing a wide range of economic issues.** It would also provide us with a number of models and frameworks that can be applied in different situations. The tools of Economics assist in choosing the best course of action from among the different alternative courses of action available to the decision maker. However, it is necessary to remember that most economic problems are of complex nature and are affected by several forces, some of which are rooted in Economics and others in political set up, social norms, etc. The study of Economics cannot ensure that all problems will be appropriately tackled; but, without doubt, it would enable a student to examine a problem in its right perspective and would help him in discovering suitable measures to deal with the same.

© The Institute of Chartered Accountants of India



1.0.2 Meaning of Business Economics

Having understood the meaning of Economics, let us now understand what Business Economics is. For this, consider the following situation:

Mr. G. Ramamurthy, the CEO of Worldwide Food Limited, on completion of his presentation turned to his Board of Directors and raised the question "Well ladies and gentlemen, what you say? Shall we go into soft drink business?"

"Give us some time, Sir" remarked Swaminathan. "You are asking us to approve a major decision which will have long term impact on the direction of the company".

"I understand your concern for the company but now the time has come for us to expand our business. Soft drinks market is growing fast and it is closely related to our core business: food" answered Ramamurthy.

"But competition from White Soft Drinks Ltd. and Black Nectar Ltd. is tough. They are already into this business for years" remarked another board member.

"That is right. But we must not forget that the statistics show that there is still room for growth in this market. And also, food business is near maturity." Replied Ramamurthy.

"Don't forget that even Swati Foods tried entering the soft drink market and failed miserably", remarked Ashok Aggrawal, another board member. "Moreover, the projections you are showing are based on last ten years' data. What is the guarantee that the trend will

© The Institute of Chartered Accountants of India

continue? He questioned. "Also, we should not forget that Indians have become health conscious and who knows tomorrow what will people prefer?" He continued.

"Well friends, all your concerns are logical, and believe me; I have given much thought to these 'ifs' and 'buts'. My people have spent many days analysing all available data to arrive at a judgement. Our analysis indicates a strong possibility of earning above-average return on investment in this market, a return that will be more than what we are earning in food industry. We are already working on the details of production, cost, pricing, distribution, financing etc. I fear, if we wait for long, we will be missing an opportunity that may not come again for long. Let's go ahead and make the most of it" remarked Ramamurthy.

What do you notice in the hypothetical example given above? The management of the company is faced with the problem of decision making.

As we are aware, the survival and success of any business depends on sound decisions. Decision making refers to the process of selecting an appropriate alternative that will provide the most efficient means of attaining a desired end, from two or more alternative courses of action. Decision making involves evaluation of feasible alternatives, rational judgment on the basis of information and choice of a particular alternative which the decision maker finds as the most suitable. As explained above, the question of choice arises because our productive resources such as land, labour, capital, and management are limited and can be employed in alternative uses. Therefore, more efficient alternatives must be chosen and less efficient alternatives must be rejected.

The management of a business unit generally needs to make strategic, tactical and operational decisions. A few examples of issues requiring decision making in the context of businesses are illustrated below:

- Should our firm be in this business?
- Should the firm launch a product, given the highly competitive market environment?
- If the firm decided on launching the product, which available technique of production should be used?
- From where should the firm procure the necessary inputs and at what prices so as to have competitive edge in the market?
- Should the firm make the components or buy them from other firms?
- How much should be the optimum output and at what price should the firm sell?
- How will the product be placed in the market? Which customer segment should we focus on and how to improve the customer experience? Which marketing strategy should be chosen? How much should be the marketing budget?

© The Institute of Chartered Accountants of India

- How to combat the risks and uncertainties involved?

Decision making on the above as well as similar issues is not simple and straightforward as the economic environment in which the firm functions is highly complex and dynamic. The problem gets aggravated because, most of the time, decisions are to be taken under conditions of imperfect knowledge and uncertainty. Decision making, therefore, requires that the management be equipped with proper methodology and appropriate analytical tools and techniques. Business Economics meets these needs of the management by providing a huge corpus of theory and techniques. Briefly put, Business Economics integrates economic theory with business practice.

Business Economics, also referred to as Managerial Economics, generally refers to the integration of economic theory with business practice. While the theories of Economics provide the tools which explain various concepts such as demand, supply, costs, price, competition etc., Business Economics applies these tools in the process of business decision making. Thus, Business Economics comprises of that part of economic knowledge, logic, theories and analytical tools that are used for rational business decision making. In brief, it is Applied Economics that fills the gap between economic theory and business practice.

Business Economics has close connection with Economic theory (Micro as well as Macro-Economics), Operations Research, Statistics, Mathematics and the Theory of Decision-Making. A professional business economist has to integrate the concept and methods from all these disciplines in order to understand and analyse practical managerial problems. Business Economics is not only valuable to business decision makers, but also useful for managers of 'not-for-profit' organisations such as NGO, and voluntary organisations.

1.1 DEFINITIONS OF BUSINESS ECONOMICS

Business Economics may be defined as the use of economic analysis to make business decisions involving the best use of an organization's scarce resources. It is also known as Managerial Economics.

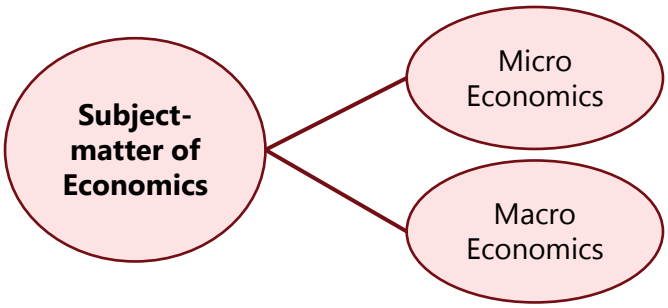
Joel Dean defined Business Economics in terms of the use of economic analysis in the formulation of business policies. Business Economics is essentially a component of Applied Economics as it includes application of selected quantitative techniques such as linear programming, regression analysis, capital budgeting, break even analysis and cost analysis.

Our approach in this text is to focus on the heart of Business Economics i.e. the Micro Economic Theory of the behaviour of consumers and firms in competitive and not-competitive markets. This theory provides managers with a basic framework for making key business decisions about the allocation of their firm's scarce resources.

© The Institute of Chartered Accountants of India

1.2 NATURE OF BUSINESS ECONOMICS

Economics has been broadly divided into two major parts i.e. Micro Economics and Macro Economics. Before explaining the nature of Business Economics, it is pertinent to understand the distinction between these two.



Micro Economics is basically the study of the behaviour of different individuals and organizations within an economic system. In other words, Microeconomics examines how the individual units (consumers or firms) make decisions as to how to efficiently allocate their scarce resources. Here, the focus is on a small number of or group of units rather than all the units combined, and therefore, it does not explain what is happening in the wider economic environment.

We mainly study the following in Micro-Economics:

- Product pricing;
- Consumer behaviour;
- Factor pricing;
- The economic conditions of a section of people;
- Behaviour of firms; and
- Location of industry.

Macro Economics, in contrast, is the study of the overall economic phenomena or the economy as a whole, rather than its individual parts. Accordingly, in Macro-Economics, we study the behaviour of the large economic aggregates, such as, the overall levels of output and employment, total consumption, total saving and total investment, exports, imports and foreign investment and also how these aggregates shift over time. It analyzes the overall economic environment in which the firms, governments and households operate and make decisions. However, it should be kept in mind that this economic environment represents the overall effect of the innumerable decisions made by millions of different consumers and producers.

© The Institute of Chartered Accountants of India

A few areas that come under Macro Economics are:

- National Income and National Output;
- The general price level and interest rates;
- Balance of trade and balance of payments;
- External value of currency;
- The overall level of savings and investment; and
- The level of employment and rate of economic growth.

While Business Economics is basically concerned with Micro Economics, Macro economic analysis also has got an important role to play. Macroeconomics analyzes the background of economic conditions in an economy which will immensely influence the individual firm's performance as well as its decisions. Business firms need a thorough understanding of the macroeconomic environment in which they have to function. For example, knowledge regarding conditions of inflation and interest rates will be useful for the business economist in framing suitable policies. Moreover, the long-run trends in the business world are determined by the prevailing macroeconomic factors.

Having understood the meaning of Micro and Macro Economics, we shall examine the nature of Business Economics:

Nature of Business Economics

The economic world is extremely complex as there is a lot of interdependence among the decisions and activities of economic entities. Economic theories are hypothetical and simplistic in character as they are based on economic models built on simplifying assumptions. Therefore, usually, there is a gap between the propositions of economic theory and happenings in the real economic world in which the managers make decisions. Business Economics enables application of economic logic and analytical tools to bridge the gap between theory and practice.

The following points will describe **the nature of Business Economics:**

- ***Business Economics is a Science:*** Science is a systematized body of knowledge which establishes cause and effect relationships. Business Economics integrates the tools of decision sciences such as Mathematics, Statistics and Econometrics with Economic Theory to arrive at appropriate strategies for achieving the goals of the business enterprises. It follows scientific methods and empirically tests the validity of the results.
- ***Based on Micro Economics:*** Business Economics is based largely on Micro-Economics. A business manager is usually concerned about achievement of the predetermined

© The Institute of Chartered Accountants of India

objectives of his organisation so as to ensure the long-term survival and profitable functioning of the organization. Since Business Economics is concerned more with the decision making problems of individual establishments, it relies heavily on the techniques of Microeconomics.

- ***Incorporates elements of Macro Analysis:*** A business unit does not operate in a vacuum. It is affected by the external environment of the economy in which it operates such as, the general price level, income and employment levels in the economy and government policies with respect to taxation, interest rates, exchange rates, industries, prices, distribution, wages and regulation of monopolies. All these are components of Macroeconomics. A business manager must be acquainted with these and other macroeconomic variables, present as well as future, which may influence his/ her business environment.
- ***Business Economics is also an Art*** as it involves practical application of rules and principles for the attainment of set objectives.
- ***Use of Theory of Markets and Private Enterprises:*** Business Economics largely uses the theory of markets and private enterprise. It uses the theory of the firm and resource allocation in the backdrop of a private enterprise economy.
- ***Pragmatic in Approach:*** Micro-Economics is abstract and purely theoretical and analyses economic phenomena under unrealistic assumptions. In contrast, Business Economics is pragmatic in its approach as it tackles practical problems which the firms face in the real world.
- ***Interdisciplinary in Nature:*** Business Economics is interdisciplinary in nature as it incorporates tools from other disciplines such as Mathematics, Operations Research, Management Theory, Accounting, marketing, Finance, Statistics and Econometrics.
- ***Normative in Nature:*** Economic theory has developed along two lines – positive and normative. A positive or pure science analyses cause and effect relationship between variables in an objective and scientific manner, but it does not involve any value judgement. In other words, it states 'what is' of the state of affairs and not what 'ought to be'. In other words, it is descriptive in nature in the sense that it describes the economic behaviour of individuals or society without prescriptions about the desirability or otherwise of such behaviour. As against this, a normative science involves value judgements. It is prescriptive in nature and suggests 'what should be' a particular course of action under given circumstances. Welfare considerations are embedded in normative science.

  Business Economics is generally normative or prescriptive in nature. It suggests the application of economic principles with regard to policy formulation, decision-making

© The Institute of Chartered Accountants of India

and future planning. However, if the firms are to establish valid decision rules, they must thoroughly understand their environment. This requires the study of positive or descriptive economic theory. Thus, Business Economics combines the essentials of normative and positive economic theory, the emphasis being more on the former than the latter.

1.3 SCOPE OF BUSINESS ECONOMICS

The scope of Business Economics is quite wide. It covers most of the practical problems a manager or a firm faces. There are two categories of business issues to which economic theories can be directly applied, namely:

1. Internal issues or operational issues (this can be solved using Micro Economics)
2. External issues or environmental issues (this can be solved using Macro Economics)

Now we will see both of them one by one -

1. Microeconomics applied to Internal or Operational Issues

Operational issues include all those issues that arise within the organization and fall within the purview and control of the management. These issues are internal in nature. Issues related to choice of business and its size, product decisions, technology and factor combinations, pricing and sales promotion, financing and management of investments and inventory are a few examples of operational issues. The following Microeconomic theories deal with most of these issues.

- ***Demand Analysis and Forecasting:*** Demand analysis pertains to the behaviour of consumers in the market. It studies the nature of consumer preferences and the effect of changes in the determinants of demand such as, price of the commodity, consumers' income, prices of related commodities, consumer tastes and preferences etc.

  Demand forecasting is the technique of predicting future demand for goods and services on the basis of the past behaviour of factors which affect demand. Accurate forecasting is essential for a firm to enable it to produce the required quantities at the right time and to arrange, well in advance, for the various factors of production viz., raw materials, labour, machines, equipment, buildings etc. Business Economics provides the manager with the scientific tools which assist him in forecasting demand.

- ***Production and Cost Analysis:*** Production theory explains the relationship between inputs and output. A business economist has to decide on the optimum size of output, given the objectives of the firm. He has also to ensure that the firm is not incurring undue costs. Production analysis enables the firm to decide on the choice of appropriate technology and selection of least - cost input-mix to achieve technically

© The Institute of Chartered Accountants of India

efficient way of producing output, given the inputs. Cost analysis enables the firm to recognise the behaviour of costs when variables such as output, time period and size of plant change. The firm will be able to identify ways to maximize profits by producing the desired level of output at the minimum possible cost.

- ***Inventory Management:*** Inventory management theories pertain to rules that firms can use to minimise the costs associated with maintaining inventory in the form of 'work-in-process,' 'raw materials', and 'finished goods'. Inventory policies affect the profitability of the firm. Business economists use methods such as ABC analysis, simple simulation exercises and mathematical models to help the firm maintain optimum stock of inventories.
- ***Market Structure and Pricing Policies:*** Analysis of the structure of the market provides information about the nature and extent of competition which the firms have to face. This helps in determining the degree of market power (ability to determine prices) which the firm commands and the strategies to be followed in market management under the given competitive conditions such as, product design and marketing. Price theory explains how prices are determined under different kinds of market conditions and assists the firm in framing suitable price policies.
- ***Resource Allocation:*** Business Economics, with the help of advanced tools such as linear programming, enables the firm to arrive at the best course of action for optimum utilisation of available resources.
- ***Theory of Capital and Investment Decisions:*** For maximizing its profits, the firm has to carefully evaluate its investment decisions and carry out a sensible policy of capital allocation. Theories related to capital and investment provides scientific criteria for choice of investment projects and in assessment of the efficiency of capital. Business Economics supports decision making on allocation of scarce capital among competing uses of funds.
- ***Profit Analysis:*** Profits are, most often, uncertain due to changing prices and market conditions. Profit theory guides the firm in the measurement and management of profits under conditions of uncertainty. Profit analysis is also immensely useful in future profit planning.
- ***Risk and Uncertainty Analysis:*** Business firms generally operate under conditions of risk and uncertainty. Analysis of risks and uncertainties helps the business firm in arriving at efficient decisions and in formulating plans on the basis of past data, current information and future prediction.

2. Macroeconomics applied to External or Environmental Issues

Environmental factors have significant influence upon the functioning and performance of

© The Institute of Chartered Accountants of India

business. The major macro-economic factors relate to:

- The type of economic system
- Stage of business cycle
- The general trends in national income, employment, prices, saving and investment.
- Government's economic policies like industrial policy, competition policy, and fiscal policy, foreign trade policy and globalization policies.
- Working of central banks and financial sector and capital market and their regulation.
- Socio-economic organisations like trade unions, producer and consumer unions and cooperatives.
- Social and political environment.

Business decisions cannot be taken without considering these present and future environmental factors. As the management of the firm has no control over these factors, it should fine-tune its policies to minimise their adverse effects.

1.4 DIFFERENCE BETWEEN ECONOMICS AND BUSINESS ECONOMICS

Basis of Difference	Economics	Business Economics
Meaning	It involves the framing of economic principles to solve economic problems.	It involves the application of economic principles to solve economic problems.
Character	It is microeconomic as well as macroeconomic in character.	It is microeconomic in character.
Main Task	The fulfilment of needs of individuals as well as entities.	Proper decision making in a particular business entity.
Nature	It is positive as well as normative in nature.	It is only normative in nature.
Scope	It has a wider scope.	It has a comparatively narrow scope.
Branches	It has business economics as its applied branch.	It is an applied branch of economics.

© The Institute of Chartered Accountants of India

Concerned with	All the theories from production to consumption including distribution.	It is concerned with only profit theory ignoring other theories.
Analysis Involved	It includes the analysis of macro level issues like growth, inflation and employment, etc.	It includes the analysis of micro level issues like demand, supply and profit etc.
Concentration	It concentrates only on the economic aspects of any business problem.	It concentrates on both economic as well as non-economic aspects of any business problem.
Validity of Assumptions	It is based on certain assumptions.	Some assumptions become invalid when applied.

SUMMARY

- An economy exists because of two facts, i.e. human wants are unlimited and the resources are scarce.
- Economics is the study of processes by which the relatively scarce resources are allocated to satisfy the competing unlimited wants of human beings in a society.
- The subject matter of Economics is divided into two parts – Micro and Macro Economics
- Microeconomics examines how the individual units (consumers or firms) make decisions as to how to efficiently allocate their scarce resources.
- Macroeconomics study the behaviour of the large economic aggregates, such as, the overall levels of output and employment, total consumption, total saving and total investment exports and imports, and how these aggregates shift over time.
- Business Economics integrates economic theory with business practice and relies on economic analysis in the formulation of business policies.
- While Business Economics is basically concerned with Micro Economics, Macro economic analysis has got an important role to play. Macroeconomics analyzes the environment in which the business has to function.
- Business Economics is a normative science which is interdisciplinary and pragmatic in approach.

© The Institute of Chartered Accountants of India

- There are two categories of business issues to which economic theories can be directly applied, namely: Microeconomics applied to operational or internal Issues and Macroeconomics applied to environmental or external issues.
- Business Economics makes use of microeconomic analysis such as, demand analysis and forecasting, production and cost Analysis, inventory management, market structure and pricing policies, resource allocation, theory of capital and investment decisions, profit analysis and risk and uncertainty analysis.
- Business Economics also considers Macroeconomics related to economic systems, business cycles, national income, employment, prices, saving and investment, Government's economic policies and working of financial sector and capital market.

Study of Inventory Management, Product and Promotion Policy, Resource Allocation, Capital Budgeting, Risk and Uncertainty Analysis are outside the scope of this book. They will be taught in other subjects – Financial Management, Strategic Management etc. at higher levels of CA course.

© The Institute of Chartered Accountants of India

UNIT - 2: BASIC PROBLEMS OF AN ECONOMY AND ROLE OF PRICE MECHANISM

LEARNING OUTCOMES

After studying this unit, you would be able to:

- Explain the Basic Problems faced by an Economy.
- Describe how Different Economies Solve their Basic Economic Problems.
- Explain the Role of Price Mechanism in Solving the Basic Problems of an Economy.

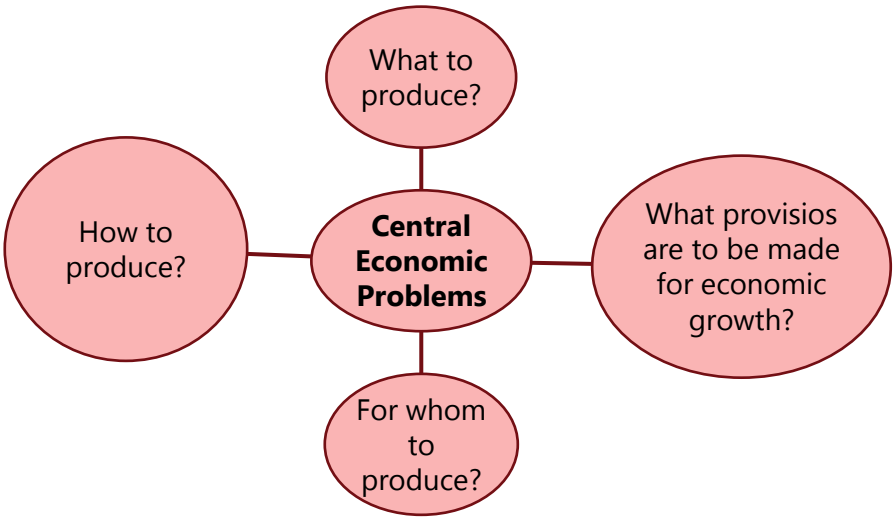
2.0 BASIC PROBLEMS OF AN ECONOMY

As mentioned in the last unit, all countries, without exceptions, face the problem of scarcity. Their resources (natural productive resources, man-made capital goods, consumer goods, money and time etc.) are limited and these resources have alternative uses. For example, coal can be used as a fuel for the production of industrial goods; it can be used for producing electricity, for domestic cooking purposes and for many other purposes. Similarly, financial resources can be used for many purposes. If the resources were unlimited, people would be able to satisfy all their wants and there would be no economic problem. Alternatively, if a resource has only a single use, then also the economic problem would not arise.

Every economic system, be it capitalist, socialist or mixed, has to deal with this central problem of scarcity of resources relative to the wants for them. This is generally called **'the central economic problem'.** The central economic problem is further divided into four basic economic problems. These are:

- What to produce?
- How to produce?
- For whom to produce?
- What provisions (if any) are to be made for economic growth?

© The Institute of Chartered Accountants of India



(i) **What to produce?:** Since the resources are limited, every society has to decide which goods and services should be produced and how many units of each good (or service) should be produced. An economy has to decide whether more guns should be produced or more butter should be produced; or whether more capital goods like machines, equipment's, dams etc., will be produced or more consumer goods such as, cell phones will be produced. Not only the society has to decide about what goods are to be produced, it has also to decide in what quantities each of these goods would be produced. In a nutshell, a society must decide how much wheat, how many hospitals, how many schools, how many machines, how many meters of cloths etc. have to be produced.

(ii) **How to produce?:** There are various alternative techniques of producing a commodity. For example, cotton cloth can be produced using handlooms, power looms or automatic looms. Production with handlooms involves use of more labour and production with automatic loom involves use of more machines and capital. A society has to decide whether it will produce cotton cloth using labour- intensive techniques or capital-intensive techniques. Likewise, for all goods and services, it has to decide whether to use labour- intensive techniques or capital - intensive techniques. Obviously, the choice would depend on the availability of different factors of production (i.e. labour and capital) and their relative prices. It is in the society's interest to use those techniques of production that make the best use of the available resources.

(iii) **For whom to produce?:** Another important decision which a society has to take is 'for whom' it should produce. A society cannot satisfy each and every want of all the people. Therefore, it has to decide on who should get how much of the total output of goods and services, i.e. How the goods (and services) should be distributed among

© The Institute of Chartered Accountants of India

the members of the society. In other words, it has to decide about the shares of different people in the national cake of goods and services.

(iv) **What provision should be made for economic growth?:** A society would not like to use all its scarce resources for current consumption only. This is because, if it uses all the resources for current consumption and no provision is made for future production, the society's production capacity would not increase. This implies that incomes or standards of living of the people would remain stagnant, and in future, the levels of living may actually decline. Therefore, a society has to decide how much saving and investment (i.e. how much sacrifice of current consumption) should be made for future progress.

We shall now examine the term 'economic system'. An economic system refers to the sum total of arrangements for the production and distribution of goods and services in a society. In short, it is defined as the sum of the total devices which give effect to economic choice. It includes various individuals and economic institutions.

You must be wondering how different economies of the world would be solving their central problems. In order to understand this, we divide all the economies into three broad classifications based on their mode of production, exchange, distribution and the role which their governments plays in economic activity. These are:

2.1 CAPITALIST ECONOMY

Capitalism, the predominant economic system in the modern global economy, is an economic system in which all means of production are owned and controlled by private individuals for profit. In short, private property is the mainstay of capitalism and profit motive is its driving force. Decisions of consumers and businesses determine economic activity. Ideally, the government has a limited role in the management of the economic affairs under this system. Some examples of a capitalist economy may include United States and United Kingdom, Hong Kong, South Korea etc. However, many of them are not pure form of capitalism but show some features of being a capitalist economy.

© The Institute of Chartered Accountants of India

An economy is called capitalist or a free market economy or laissez-faire economy if it has the following characteristics:

- ***Right to private property:*** The right to private property means that productive factors such as land, factories, machinery, mines etc. can be under private ownership. The owners of these factors are free to use them in any manner in which they like and bequeath it as they desire. The government may, however, put some restrictions for the benefit of the society in general.
- ***Freedom of enterprise:*** Each individual, whether consumer, producer or resource owner, is free to engage in any type of economic activity. For example, a producer is free to set up any type of firm and produce goods and services of his choice.
- ***Freedom of economic choice:*** All individuals are free to make their economic choices regarding consumption, work, production, exchange etc.
- ***Profit motive:*** Profit motive is the driving force in a free enterprise economy and directs all economic activities. Desire for profits induces entrepreneurs to organize production so as to earn maximum profits.
- ***Consumer Sovereignty:*** Consumer is supposed to be the king under capitalism. Consumer sovereignty means that buyers ultimately determine which goods and services will be produced and in what quantities. Consumers have unbridled freedom to choose the goods and services which they would consume. Therefore, producers have to produce goods and services which are preferred by the consumers. In other words, based on the purchases they make, consumers decide how the economy's limited resources are allocated.
- ***Competition:*** Competition is the most important feature of the capitalist economy. Competition brings out the best among buyers and sellers and results in efficient use of resources.
- ***Absence of Government Interference****:* A purely capitalist economy is not centrally planned, controlled or regulated by the government. In this system, all economic decisions and activities are guided by self-interest and price mechanism which operates automatically without any direction and control by the governmental authorities.

2.1.0 How do capitalist economies solve their central problems?

A capitalist economy has no central planning authority to decide what, how and for whom to produce. In the absence of any central authority, it looks like a miracle as to how such an economy functions. If the consumers want cars and producers choose to make cloth and workers choose to work for the furniture industry, there will be total confusion and chaos in the country. However,

© The Institute of Chartered Accountants of India

this does not happen in a capitalist economy. Such an economy uses the impersonal forces of market demand and supply or the price mechanism to solve its central problems.

Deciding 'what to produce': The aim of an entrepreneur is to earn as much profits as possible. This causes businessmen to compete with one another to produce those goods which consumers wish to buy. Thus, if consumers want more cars, there will be an increase in the demand for cars and as a result their prices will increase. A rise in the price of cars, costs remaining the same, will lead to more profits. This will induce producers to produce more cars. On the other hand, if the consumers' demand for cloth decreases, its price would fall and profits would go down. Therefore, business firms have less incentive to produce cloth and less of cloth will be produced. Thus, more of cars and less cloth will be produced in such an economy. In a capitalist economy (like the USA, UK and Germany) the question regarding what to produce is ultimately decided by consumers who show their preferences by spending on the goods which they want.

Deciding 'how to produce': An entrepreneur will produce goods and services choosing that technique of production which renders his cost of production minimum. If labour is relatively cheap, he will use labour-intensive method and if labour is relatively costlier he will use capital-intensive method. Thus, the relative prices of factors of production help in deciding how to produce.

Deciding 'for whom to produce': Goods and services in a capitalist economy will be produced for those who have buying capacity. The buying capacity of an individual depends upon his income. How much income he will be able to make depends not only on the amount of work he does and the prices of the factors he owns, but also on how much property he owns. Higher the income, higher will be his buying capacity and higher will be his demand for goods in general.

Deciding about consumption, saving and investment: Consumption and savings are done by consumers and investments are done by entrepreneurs. Consumers' savings, among other factors, are governed by the rate of interest prevailing in the market. Higher the level of income and interest rates, higher will be the savings. Investment decisions depend upon the rate of return on capital. The greater the profit expectation (i.e. the return on capital), the greater will be the investment in a capitalist economy. The rate of interest on savings and the rate of return on capital are nothing but the prices of capital.

Thus, we see above that what goods are produced, by which methods they are produced, for whom they are produced and what provisions should be made for economic growth are decided by price mechanism or market mechanism.

© The Institute of Chartered Accountants of India

2.1.1 Merits of Capitalist Economy

- Capitalism is self-regulating and works automatically through price mechanism. There is no need of incurring costs for collecting and processing of information and for formulating, implementing and monitoring policies.
- The existence of private property and the driving force of profit motive result in greater efficiency and incentive to work.
- The process of economic growth is likely to be faster under capitalism. This is because the investors try to invest in only those projects which are economically feasible.
- Resources are used in activities in which they are most productive. This results in optimum allocation of the available productive resources of the economy.
- There is usually high degree of operative efficiency under the capitalist system.
- Cost of production is minimized as every producer tries to maximize his profit by employing methods of production which are cost-effective.
- Capitalist system offer incentives for efficient economic decisions and their implementation.
- Consumers are benefitted as competition forces producers to bring in a large variety of good quality products at reasonable prices. This, along with freedom of choice, ensures maximum satisfaction to consumers. This also results in higher standard of living.
- Capitalism offers incentives for innovation and technological progress. The country as a whole benefits through growth of business talents, development of research, etc.
- Capitalism preserves fundamental rights such as right to freedom and right to private property. Therefore, the participants enjoy maximum amount of autonomy and freedom.
- Capitalism rewards men of initiative and enterprise and punishes the imprudent and inefficient.
- Capitalism usually functions in a democratic framework.
- The capitalist set up encourages enterprise and risk taking and emergence of an entrepreneurial class willing to take risks.

2.1.2 Demerits of Capitalism

- There is vast economic inequality and social injustice under capitalism. Inequalities reduce the aggregate economic welfare of the society as a whole and split the society

© The Institute of Chartered Accountants of India

into two classes namely the 'haves' and the 'have-nots', sowing the seeds of social unrest and class conflict.

- Under capitalism, there is precedence of property rights over human rights.
- Economic inequalities lead to wide differences in economic opportunities and perpetuate unfairness in the society.
- The capitalist system ignores human welfare because, under a capitalist set up, the aim is profit and not the welfare of the people.
- Due to income inequality, the pattern of demand does not represent the real needs of the society.
- Exploitation of labour is common under capitalism. Very often this leads to strikes and lock outs. Moreover, there is no security of employment. This makes workers more vulnerable.
- Consumer sovereignty is a myth as consumers often become victims of exploitation. Excessive competition and profit motive work against consumer welfare.
- There is misallocation of resources as resources will move into the production of luxury goods. Less wage goods will be produced on account of their lower profitability.
- Less of merit goods like education and health care will be produced. On the other hand, a number of goods and services which are positively harmful to the society will be produced as they are more profitable.
- Due to unplanned production, economic instability in terms of over production, economic depression, unemployment etc., is very common under capitalism. These result in a lot of human misery.
- There is enormous waste of productive resources as firms spend huge amounts of money on advertisement and sales promotion activities.
- Capitalism leads to the formation of monopolies as large firms may be able to drive out small ones by fair or foul means.
- Excessive materialism as well as conspicuous and unethical consumption leads to environmental degradation.

2.2 SOCIALIST ECONOMY

The concept of socialist economy was propounded by Karl Marx and Frederic Engels in their work **'The Communist Manifesto'** published in 1848. In this economy, the material means of production i.e. factories, capital, mines etc. are owned by the whole community represented

© The Institute of Chartered Accountants of India

by the State. All members are entitled to get benefit from the fruits of such socialised planned production on the basis of equal rights. A socialist economy is also called as "Command Economy" or a "Centrally Planned Economy". Here, the resources are allocated according to the commands of a central planning authority and therefore, market forces have no role in the allocation of resources. Under a socialist economy, production and distribution of goods are aimed at maximizing the welfare of the community as a whole. Hence the central problems are solved through planning under socialist economy.

Some important characteristics of this economy are:

- ***Collective Ownership:*** There is collective ownership of all means of production except small farms, workshops and trading firms which may remain in private hands. As a result of social ownership, profit-motive and self- interest are not the driving forces of economic activity as it is in the case of a market economy. The resources are used to achieve certain socio-economic objectives.
- ***Economic planning:*** There is a Central Planning Authority to set and accomplish socio-economic goals; that is why it is called a centrally planned economy. The major economic decisions, such as what to produce, when and how much to produce, etc., are taken by the central planning authority.
- ***Absence of Consumer Choice:*** Freedom from hunger is guaranteed, but consumers' sovereignty gets restricted by selective production of goods. The range of choice is limited by planned production. However, within that range, an individual is free to choose what he likes most.

  The right to work is guaranteed, but the choice of occupation gets restricted because these are determined by the central planning authority on the basis of certain socio-economic goals before the nation.
- ***Relatively Equal Income Distribution:*** A relative equality of income is an important feature of Socialism. Among other things, differences in income and wealth are narrowed down by lack of opportunities to accumulate private capital. Educational and other facilities are enjoyed more or less equally; thus the basic causes of inequalities are removed.
- ***Minimum role of Price Mechanism or Market forces:*** Price mechanism exists in a socialist economy; but it has only a secondary role, e.g., to secure the disposal of accumulated stocks. Since allocation of productive resources is done according to a predetermined plan, the price mechanism as such does not influence these decisions. In the absence of the profit motive, price mechanism loses its predominant role in economic decisions. The prices prevailing under socialism are 'administered prices'

© The Institute of Chartered Accountants of India

which are set by the central planning authority on the basis of socio-economic objectives.

- ***Absence of Competition:*** Since the state is the sole entrepreneur, there is absence of competition under socialism.

The erstwhile U.S.S.R. was an example of socialist economy from 1917 to 1990.In today's world there is no country which is purely socialist. Other examples include Vietnam, China and Cuba. North Korea, the world's most totalitarian state, is another example of a socialist economy.

2.2.0 Merits of Socialism

- Equitable distribution of wealth and income and provision of equal opportunities for all help to maintain economic and social justice.
- Rapid and balanced economic development is possible in a socialist economy as the central planning authority coordinates all resources in an efficient manner according to set priorities.
- Socialist economy is a planned economy. In a socialistic economy, there will be better utilization of resources and it ensures maximum production. Wastes of all kinds are avoided through strict economic planning. Since competition is absent, there is no wastage of resources on advertisement and sales promotion.
- In a planned economy, unemployment is minimised, business fluctuations are eliminated and stability is brought about and maintained.
- The absence of profit motive helps the community to develop a co-operative mentality and avoids class war. This, along with equality, ensures better welfare of the society.
- Socialism ensures right to work and minimum standard of living to all people.
- Under socialism, the labourers and consumers are protected from exploitation by the employers and monopolies respectively.
- There is provision of comprehensive social security under socialism and this makes citizens feel secure.

2.2.1 Demerits of Socialism

- Socialism involves the predominance of bureaucracy and the resulting inefficiency and delays. Moreover, there may also be corruption, red tapism, favouritism, etc.
- It restricts the freedom of individuals as there is state ownership of the material means of production and state direction and control of nearly all economic activity.
- Socialism takes away the basic rights such as the right of private property.

© The Institute of Chartered Accountants of India

- It will not provide necessary incentives to hard work in the form of profit.
- Administered prices are not determined by the forces of the market on the basis of negotiations between the buyers and the sellers. There is no proper basis for cost calculation. In the absence of such practice, the most economic and scientific allocation of resources and the efficient functioning of the economic system are impossible.
- State monopolies created by socialism will sometimes become uncontrollable. This will become more difficult to regulate than the private monopolies under capitalism.
- Under socialism, the consumers have limited freedom of choice. Therefore, what the state produces has to be accepted by the consumers.
- No importance is given to personal efficiency and productivity. Labourers are not rewarded according to their efficiency. This acts as a disincentive to work.
- The extreme form of socialism is not at all practicable.

2.3 THE MIXED ECONOMY

The mixed economic system depends on both markets and governments for allocation of resources. In fact, every economy in the real world makes use of both **markets and governments** and therefore is mixed economy in its nature. In a mixed economy, the aim is to develop a system which tries to include the best features of both the controlled economy and the market economy while excluding the demerits of both. It appreciates the advantages of private enterprise and private property with their emphasis on self-interest and profit motive. Vast economic development of England, the USA etc. is due to private enterprise. At the same time, it is noticed that private property, profit motive and self-interest of the market economy may not promote the interests of the community as a whole and as such, the Government should remove these defects of private enterprise. For this purpose, the Government itself must run important and selected industries and eliminate the free play of profit motive and self-interest. Private enterprise which has its own significance is also allowed to play a positive role in a mixed economy. However, the state imposes necessary measures to control and to regulate the private sector to ensure that they function in accordance with the welfare objectives of the nation.

2.3.0 Features of Mixed Economy

Co-existence of private and public sector: The first important feature of a mixed economy is the co-existence of both private and public enterprise.

In fact, in a mixed economy, there are three sectors of industries:

© The Institute of Chartered Accountants of India

(a) ***Private sector:*** Production and distribution in this sector are managed and controlled by private individuals and groups. Industries in this sector are based on self-interest and profit motive. The system of private property exists and personal initiative is given full scope. However, private enterprise may be regulated by the government directly and/or indirectly by a number of policy instruments.

(b) ***Public sector:*** Industries in this sector are not primarily profit-oriented, but are set up by the State for the welfare of the community.

(c) ***Combined sector:*** A sector in which both the government and the private enterprises have equal access, and join hands to produce commodities and services, leading to the establishment of joint sectors.

Mixed economy has the following **Merits** available to capitalist economies and socialist economies:

- Economic freedom and existence of private property which ensures incentive to work.
- Price mechanism and competition forces the private sector to promote efficient decision- making and better resource allocation.
- Consumers are benefitted through consumers' sovereignty and freedom of choice.
- Appropriate incentives for innovation and technological progress.
- Encourages enterprise and risk taking.
- Advantages of economic planning and rapid economic development on the basis of plan priorities.
- Comparatively greater economic and social equality and freedom from exploitation due to greater state participation and direction of economic activities.
- Disadvantages of cut-throat competition averted through government's legislative measures such as environment and labour regulations.

However, mixed economy is not always a 'golden path' between capitalism and socialism. It could also suffer from substantial uncertainties.

Mixed economy has the following **Demerits** available to capitalist economies and socialist economies:

- Mixed economy, sometimes, is characterised by excessive controls by the state resulting in reduced incentives and constrained growth of the private sector, poor implementation of planning, higher rates of taxation, lack of efficiency, corruption, wastage of resources, undue delays in economic decisions and poor performance of the public sector.

© The Institute of Chartered Accountants of India

- Moreover, it is very difficult to maintain a proper balance between the public and private sectors.
- In the absence of strong governmental initiatives, the private sector is likely to grow disproportionately. The system would then resemble capitalism with all its disadvantages.

SUMMARY

- The basic problem of scarcity gives rise to many of the economic problems.
- Unlimited human wants and scarcity of resources lead to the central economic problems like what to produce, how to produce and for whom to produce.
- The basic economic problems of what, how and for whom to produce are solved by different economies in different ways.
- A capitalist economy uses the tool of price mechanism, a socialist economy uses the tool of central planning and a mixed economy uses a mix of both price mechanism and central planning to solve its basic economic problems.

TEST YOUR KNOWLEDGE

Multiple Choice Questions

1. *Economists regard decision making as important because:*
   - (a) *The resources required to satisfy our unlimited wants and needs are finite, or scarce.*
   - (b) *It is crucial to understand how we can best allocate our scarce resources to satisfy society's unlimited wants and needs.*
   - (c) *Resources have alternative uses.*
   - (d) *All the above.*
2. *Business Economics is -*
   - (a) *Abstract and applies the tools of Microeconomics.*
   - (b) *Involves practical application of economic theory in business decision making.*
   - (c) *Incorporates tools from multiple disciplines.*
   - (d) *(b) and (c) above.*

© The Institute of Chartered Accountants of India

3. *In Economics, we use the term scarcity to mean -*

   (a) *Absolute scarcity and lack of resources in less developed countries.*

   (b) *Relative scarcity i.e. scarcity in relation to the wants of the society.*

   (c) *Scarcity during times of business failure and natural calamities.*

   (d) *Scarcity caused on account of excessive consumption by the rich.*

4. *What implication(s) does resource scarcity have for the satisfaction of wants?*

   (a) *Not all wants can be satisfied.*

   (b) *We will never be faced with the need to make choices.*

   (c) *We must develop ways to decrease our individual wants.*

   (d) *The discovery of new natural resources is necessary to increase our ability to satisfy wants.*

5. *Which of the following is a normative statement?*

   (a) *Planned economies allocate resources via government departments.*

   (b) *Most transitional economies have experienced problems of falling output and rising prices over the past decade.*

   (c) *There is a greater degree of consumer sovereignty in market economies than planned economies.*

   (d) *Reducing inequality should be a major priority for mixed economies.*

6. *In every economic system, scarcity imposes limitations on*

   (a) *households, business firms, governments, and the nation as a whole.*

   (b) *households and business firms, but not the governments.*

   (c) *local and state governments, but not the federal government.*

   (d) *households and governments, but not business firms.*

7. *Macroeconomics is also called——— economics.*

   (a) *applied*

   (b) *aggregate*

   (c) *experimental*

   (d) *none of the above*

8. *An example of 'positive' economic analysis would be:*

   (a) *an analysis of the relationship between the price of food and the quantity purchased.*

© The Institute of Chartered Accountants of India

(b) *determining how much income each person should be guaranteed.*

(c) *determining the 'fair' price for food.*

(d) *deciding how to distribute the output of the economy.*

9. *A study of how increases in the corporate income tax rate will affect the national unemployment rate is an example of -*

(a) *Macro-Economics.*

(b) *Descriptive Economics.*

(c) *Micro-economics.*

(d) *Normative economics.*

10. *Which of the following does not suggest a macro approach for India?*

(a) *Determining the GNP of India.*

(b) *Finding the causes of failure of ABC Ltd.*

(c) *Identifying the causes of inflation in India.*

(d) *Analyse the causes of failure of industry in providing large scale employment*

11. *Ram: My corn harvest this year is poor.*

Krishan: Don't worry. Price increases will compensate for the fall in quantity supplied.

Vinod: Climate affects crop yields. Some years are bad, others are good.

Madhu: The Government ought to guarantee that our income will not fall.

In this conversation, the normative statement is made by -

(a) *Ram*

(b) *Krishan*

(c) *Vinod*

(d) *Madhu*

12. *Consider the following and decide which, if any, economy is without scarcity:*

(a) *The pre-independent Indian economy, where most people were farmers.*

(b) *A mythical economy where everybody is a billionaire.*

(c) *Any economy where income is distributed equally among its people.*

(d) *None of the above.*

13. *Which of the following is not a subject matter of Micro-economies?*

(a) *The price of mangoes.*

© The Institute of Chartered Accountants of India

(b) *The cost of producing a fire truck for the fire department of Delhi, India.*

(c) *The quantity of mangoes produced for the mangoes market.*

(d) *The national economy's annual rate of growth.*

14. *The branch of economic theory that deals with the problem of allocation of resources is -*

(a) *Micro-Economic theory.*

(b) *Macro-economic theory.*

(c) *Econometrics.*

(d) *None of the above.*

15. *Which of the following is not the subject matter of Business Economics?*

(a) *Should our firm be in this business?*

(b) *How much should be produced and at price should be kept?*

(c) *How will the product be placed in the market?*

(d) *How should we decrease unemployment in the economy?*

16. *Which of the following is a normative economic statement?*

(a) *Unemployment rate decreases with industrialization*

(b) *Economics is a social science that studies human behaviour.*

(c) *The minimum wage should be raised to ₹ 200/- per day*

(d) *India spends a huge amount of money on national defence.*

17. *Which of the following would be considered a topic of study in Macroeconomics?*

(a) *The effect of increase in wages on the profitability of cotton industry*

(b) *The effect on steel prices when more steel is imported*

(c) *The effect of an increasing inflation rate on living standards of people in India*

(d) *The effect of an increase in the price of coffee on the quantity of tea consumed*

18. *The difference between positive and normative Economics is:*

(a) *Positive Economics explains the performance of the economy while normative Economics finds out the reasons for poor performance.*

(b) *Positive Economics describes the facts of the economy while normative Economics involves evaluating whether some of these are good or bad for the welfare of the people.*

© The Institute of Chartered Accountants of India

(c) *Normative Economics describes the facts of the economy while positive Economics involves evaluating whether some of these are good or bad for the welfare of the people.*

(d) *Positive Economics prescribes while normative Economics describes.*

19. *Which of the following is not within the scope of Business Economics?*

(a) *Capital Budgeting*

(b) *Risk Analysis*

(c) *Business Cycles*

(d) *Accounting Standards*

20. *Which of the following statements is incorrect?*

(a) *Business economics is normative in nature.*

(b) *Business Economics has a close connection with statistics.*

(c) *Business Economist need not worry about macro variables.*

(d) *Business Economics is also called Managerial Economics.*

21. *Economic goods are considered scarce resources because they.*

(a) *cannot be increased in quantity.*

(b) *do not exist in adequate quantity to satisfy the requirements of the society.*

(c) *are of primary importance in satisfying social requirements.*

(d) *are limited to man made goods.*

22. *In a free market economy the allocation of resources is determined by*

(a) *voting done by consumers.*

(b) *a central planning authority.*

(c) *consumer preferences.*

(d) *the level of profits of firms.*

23. *A capitalist economy uses _____ as the principal means of allocating resources.*

(a) *demand*

(b) *supply*

(c) *efficiency*

(d) *prices*

© The Institute of Chartered Accountants of India

24. *Which of the following is considered as a disadvantage of allocating resources using the market system?*

    (a) *Income will tend to be unevenly distributed.*

    (b) *People do not get goods of their choice.*

    (c) *Men of Initiative and enterprise are not rewarded.*

    (d) *Profits will tend to be low.*

25. *Which of the following statements does not apply to a market economy?*

    (a) *Firms decide whom to hire and what to produce.*

    (b) *Firms aim at maximizing profits.*

    (c) *Households decide which firms to work for and what to buy with their incomes.*

    (d) *Government policies are the primary forces that guide the decisions of firms and households.*

26. *In a mixed economy -*

    (a) *all economic decisions are taken by the central authority.*

    (b) *all economic decisions are taken by private entrepreneurs.*

    (c) *economic decisions are partly taken by the state and partly by the private entrepreneurs.*

    (d) *none of the above.*

27. *The central problem in economics is that of*

    (a) *comparing the success of command versus market economies.*

    (b) *guaranteering that production occurs in the most efficient manner.*

    (c) *guaranteering a minimum level of income for every citizen.*

    (d) *allocating scarce resources in such a manner that society's unlimited needs or wants are satisfied in the best possible manner.*

28. *Capital intensive technique would get chosen in a*

    (a) *labour surplus economy where the relative price of capital is lower.*

    (b) *capital surplus economy where the relative price of capital is lower.*

    (c) *developed economy where technology is better.*

    (d) *developing economy where technology is poor.*

© The Institute of Chartered Accountants of India

29. *Which of the following is not one of the four central questions that the study of economics is supposed to answer?*

(a) *Who produces what?*

(b) *When are goods produced?*

(c) *Who consumes what?*

(d) *How are goods produced?*

30. *Larger production of ____goods would lead to higher production in future.*

(a) *consumer goods*

(b) *capital goods*

(c) *agricultural goods*

(d) *public goods*

31. *The economic system in which all the means of production are owned and controlled by private individuals for profit.*

(a) *Socialism*

(b) *Capitalism*

(c) *Mixed economy*

(d) *Communism*

32. *Macro Economics is the study of _____.*

(a) *all aspects of scarcity.*

(b) *the national economy and the global economy as a whole.*

(c) *big businesses.*

(d) *the decisions of individual businesses and people.*

33. *Freedom of choice is the advantage of -*

(a) *Socialism*

(b) *Capitalism*

(c) *Communism*

(d) *None of the above*

34. *Exploitation and inequality are minimal under:*

(a) *Socialism*

(b) *Capitalism*

© The Institute of Chartered Accountants of India

(c) *Mixed economy*

(d) *None of the above*

35. *Administered prices refer to:*

(a) *Prices determined by forces of demand and supply*

(b) *Prices determined by sellers in the market*

(c) *Prices determined by an external authority which is usually the government*

(d) *None of the above*

36. *In Economics, the central economic problem means:*

(a) *Output is restricted to the limited availability of resources*

(b) *Consumer do not have as much money as they would wish*

(c) *There will always be certain level of unemployment*

(d) *Resources are not always allocated in an optimum way*

37. *Scarcity definition of Economics is given by-*

(a) *Alfred Marshall*

(b) *Samuelson*

(c) *Robinson*

(d) *Adam Smith*

38. *The definition "Science which deals with wealth of Nation" was given by:*

(a) *Alfred Marshall*

(b) *A C Pigou*

(c) *Adam Smith*

(d) *J B Say*

39. *Which of the following is not one of the features of capitalist economy?*

(a) *Right of private property*

(b) *Freedom of choice by the consumers*

(c) *No profit, No Loss motive*

(d) *Competition*

40. *There is need of economic study, because –*

(a) *The resources are limited*

(b) *The wants are unlimited*

© The Institute of Chartered Accountants of India

(c) *The resources are unlimited*

(d) *Both a and b*

41. *The benefit of economic study is –*

(a) *It ensure that all problems will be appropriately tackled*

(b) *It helps in identifying problems*

(c) *It enable to examine a problem in its right perspective*

(d) *It gives exact solutions to every problem*

42. *The managerial economics –*

(a) *Is Applied Economics that fills the gap between economic theory and business practice*

(b) *Is just a theory concept*

(c) *Trains managers how to behave in recession*

(d) *Provides the tools which explain various concepts*

43. *Which of the following statements is correct?*

(a) *Micro economics is important for study of a particular household and a particular firm*

(b) *Macro economics is important for study of economic conditions of a country*

(c) *None of the above*

(d) *Both a and b*

44. *Mr. Satish hired a business consultant to guide him for growth of his business. The consultant visited his factory and suggested some changes with respect to staff appointment, loan availability and so on. Which approach is that consultant using?*

(a) *Micro economics*

(b) *Macro economics*

(c) *None of the above*

(d) *Both a and b*

45. *Profit motive is a merit of*

(a) *Socialism*

(b) *Capitalism*

(c) *Mixed economy*

(d) *None of the above*

© The Institute of Chartered Accountants of India

46. _____ is also called as command economy

(a) Socialist

(b) Capitalist

(c) Mixed economy

(d) None of the above

47. Which of the following statements is/are correct regarding business economics?

(a) Business economics attempts to indicate how business policies are firmly rooted in economic principles.

(b) Business economics uses micro economic analysis of the business unit and macro economic analysis of business environment.

(c) Business economics takes a pragmatic approach towards facilitating an integration between economic theory and business practices.

(d) All the above.

48. Unlimited ends and limited means together present the problem of _____.

(a) Scarcity of resources

(b) Choice

(c) Distribution

(d) None of the above

ANSWERS

1.	**(d)**	2	**(d)**	3	**(b)**	4.	**(a)**	5.	**(d)**	6.	**(a)**
7.	**(b)**	8.	**(a)**	9.	**(a)**	10.	**(b)**	11.	**(d)**	12.	**(d)**
13.	**(d)**	14.	**(a)**	15.	**(d)**	16.	**(c)**	17.	**(c)**	18.	**(b)**
19.	**(d)**	20.	**(c)**	21.	**(b)**	22.	**(c)**	23.	**(d)**	24.	**(a)**
25.	**(d)**	26.	**(c)**	27.	**(d)**	28.	**(b)**	29.	**(b)**	30.	**(b)**
31.	**(b)**	32.	**(b)**	33.	**(b)**	34.	**(a)**	35.	**(c)**	36.	**(a)**
37.	**(c)**	38.	**(c)**	39.	**(c)**	40.	**(d)**	41.	**(c)**	42.	**(a)**
43.	**(d)**	44.	**(a)**	45.	**(b)**	46.	**(a)**	47.	**(d)**	48.	**(b)**

© The Institute of Chartered Accountants of India

CHAPTER 2

THEORY OF DEMAND AND SUPPLY

UNIT -1: LAW OF DEMAND AND ELASTICITY OF DEMAND

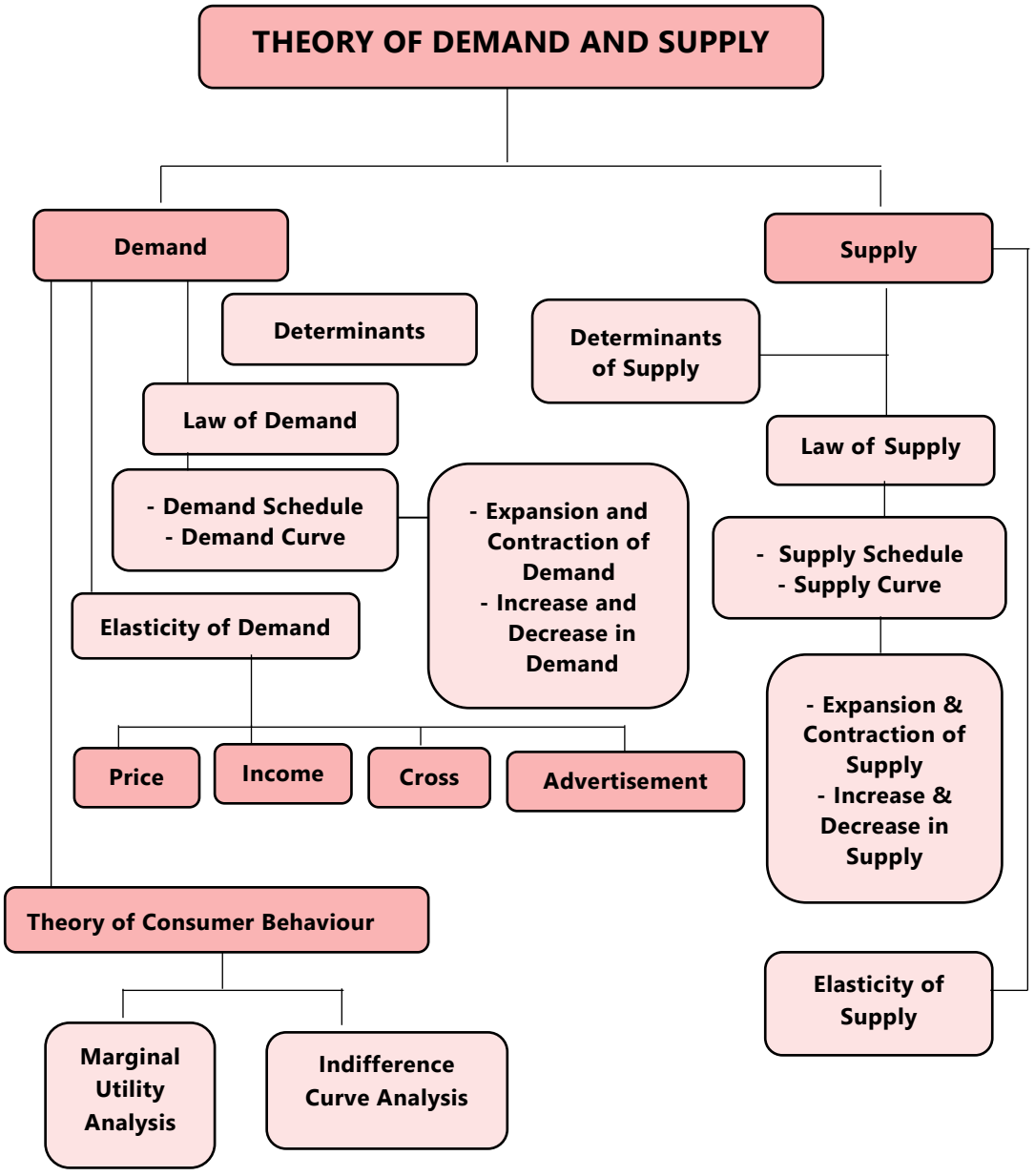
LEARNING OUTCOMES

After studying this unit, you would be able to:

- Explain the meaning of Demand.
- Describe what Determines Demand.
- Explain the Law of Demand.
- Explain the difference between Movement along the Demand Curve and Shift of the Demand Curve.
- Define and Measure Elasticity.
- Apply the Concepts of Price, Cross and Income Elasticities.
- Explain the Determinants of Elasticity.

© The Institute of Chartered Accountants of India

CHAPTER OVERVIEW



© The Institute of Chartered Accountants of India

Consider the following hypothetical situation:

Aroma Tea Limited is considering diversifying its business. A meeting of the board of directors is called. While discussing the matter, Rajeev Aggarwal, the CEO of Aroma Tea Limited asks, Sanjeev Bhandari, the marketing head, "What do you think Sanjeev, should we enter into green tea business also? What does the market pulse say? Who all are there in this market? How will the demand for green tea affect the demand for our black tea? Is green tea a luxury good or is it a necessity now? What are the key determinants of the demand for green tea? Will coffee drinkers or soft drinkers shift to green tea? The answers to these questions will help us better understand how to price and position our brand in the market. "Before we rush into this line, I want a report on exactly why you believe green tea will be the star of our company in the coming five years?"

As an entrepreneur of a firm or as a manager of a company, you would often face situations in which you have to answer questions similar to the above. Why do prices change when events such as weather changes, wars, pandemics or new discoveries occur? Why is it that some producers are able to charge higher prices than others? The answers to these and a thousand other questions can be found in the theory of demand and supply.

The market system is governed by market mechanism. Demand and supply are the forces that make market economies work. These two together determine the price and quantity sold of a commodity or service. While buyers constitute the demand side of the market, sellers make the supply side of that market. Since business firms produce goods and services to be sold in the market, it is important for them to know how much of their products would be wanted by buyers during a given period of time. The buyers include consumers, businesses and even government. The quantity that the buyers buy at a given price determines the size of the market. As we are aware, as far as a firm is concerned, the size of the market is a significant determinant of its prospects.

When a market is competitive, its behaviour is suitably described by the demand and supply model. We understand that the terms demand and supply refer to the behaviour of buyers and sellers respectively as they interact each other in markets. A thorough understanding of the demand and supply theory is therefore essential for any business firm. We shall study the theory of demand in this Unit. The theory of supply will be discussed in Unit-3.

1.0 MEANING OF DEMAND

The term 'demand' refers to the quantity of a good or service that buyers are willing and able to purchase at various prices during a given period of time. It is to be noted that demand, in Economics, is something more than the desire to purchase, though desire is one

© The Institute of Chartered Accountants of India

element of it. For example, people may desire much bigger houses, luxurious cars etc. But there are also constraints that they face such as prices of products and limited means to pay. Thus, wants or desires together with the real world constraints determine what they buy. The effective demand for a thing depends on (i) desire (ii) means to purchase and (iii) willingness to use those means for that purchase. Unless desire is backed by purchasing power or ability to pay and willingness to pay, it does not constitute demand. Effective demand alone would figure in economic analysis and business decisions.

Two things are to be noted about the quantity demanded.

(i) The quantity demanded is always expressed at a given price. At different prices different quantities of a commodity are generally demanded.

(ii) The quantity demanded is a flow. We are concerned not with a single isolated purchase, but with a continuous flow of purchases and we must therefore express demand as 'so much per period of time' i.e., one thousand dozens of oranges per day, seven thousand dozens of oranges per week and so on.

In short "By demand, we mean the various quantities of a given commodity or service which consumers would buy in one market during a given period of time, at various prices, or at various incomes, or at various prices of related goods".

1.1 WHAT DETERMINES DEMAND?

Knowledge of the common determinants of demand for a product or service and the nature of relationship between demand and its determinants are essential for a business firm for estimating the market demand for its products. There are a number of factors which influence the demand for a commodity. All these factors are not equally important. Moreover, some of these factors cannot be easily measured or quantified. The important factors that determine demand are given below.

(i) **Price of the commodity**: Obviously, the good's own price is a key determinant of its demand. Ceteris paribus i.e. other things being equal, the demand for a commodity is inversely related to its price. It implies that a rise in the price of a commodity brings about a fall in the quantity purchased and vice-versa. This happens because of income and substitution effects.

(ii) **Price of related commodities**: Related commodities are of two types: (i) complementary goods and (ii) competing goods or substitutes.

Complementary goods and services are those that are bought or consumed together or simultaneously. Examples are: tea and sugar, automobile and petrol and pen and ink.

© The Institute of Chartered Accountants of India

The increase in the demand for one causes an increase in the demand for the other. When two commodities are complements, a fall in the price of one (other things being equal) will cause the demand for the other to rise. For example, a fall in the price of petrol-driven cars would lead to a rise in the demand for petrol. Similarly, computers and computer software are complementary goods. A fall in the price of computers will cause a rise in the demand for software. The reverse will be the case when the price of a complement rises. An increase in the price of a complementary good reduces the demand for the good in question. Thus, we find that, there is an inverse relation between the demand for a good and the price of its complement.

Two commodities are called competing goods or substitutes when they satisfy the same want and can be used with ease in place of one another. For example, tea and coffee, ink pen and ball pen, different brands of toothpaste etc. are substitutes for each other and can be used in place of one another easily. When goods are substitutes, if the price of a product being purchased goes up, buyers may switch to a cheaper substitute. This decreases the demand for the product at a given price, but increases the demand for the substitute. Similarly, a fall in the price of a product (ceteris paribus) leads to a fall in the quantity demanded of its substitutes. For example, if the price of tea falls, people will try to substitute it for coffee and demand more of it and less of coffee i.e. the demand for tea will rise and that of coffee will fall. Therefore, there is direct or positive relation between the demand for a product and the price of its substitutes.

(iii) **Disposable Income of the consumer**: The purchasing power of a buyer is determined by the level of his disposable income. Other things being equal, the demand for a commodity depends upon the disposable income of the potential purchasers. In general, increase in disposable income tends to increase the demand for particular types of goods and services at any given price. A decrease in disposable income generally lowers the quantity demanded at all possible prices.

The nature of relationship between disposable income and quantity demanded depends upon the nature of goods. A basic description of the nature of goods is useful in describing the effect of income on demand.

Normal goods are those that are demanded in increasing quantities as consumers' income increases. Most goods and services fall under the category of normal goods. Household furniture, clothing, automobiles, consumer durables and semi durables etc. fall in this category. When income is reduced (for example due to recession), demand for normal goods falls.

© The Institute of Chartered Accountants of India

There are some commodities for which the quantity demanded rises only up to a certain level of income and decreases with an increase in money income beyond this level. These goods are called inferior goods.

Essential consumer goods such as food grains, fuel, cooking oil, necessary clothing etc. satisfy the basic necessities of life and are consumed by all individuals in a society. A change in consumers' income, although will cause an increase in demand for these necessities, but this increase will be less than proportionate to the increase in income. This is because as people become richer, there is a relative decline in the importance of food and other non durable goods in the overall consumption basket and a rise in the importance of durable goods such as a TV, car, house etc. Demand for luxury goods and prestige goods arise beyond a certain level of consumers' income and keep rising as income increases.

Business managers should be fully aware of the nature of goods which they produce (or the nature of need which their products satisfy) and the nature of relationship of quantities demanded with changes in buyers' incomes. For assessing the current as well as future demand for their products, they should also recognize the movements in the macro economic variables that affect buyers' incomes.

(iv) **Tastes and preferences of buyers**: The demand for a commodity also depends upon the tastes and preferences of buyers and changes in them over a period of time. Goods which are modern or more in fashion command higher demand than goods which are of old design or are out of fashion. Consumers may perceive a product as obsolete and discard it before it is fully utilised and then prefer another good which is currently in fashion. For example, there is greater demand for the latest digital devices and trendy clothing and we find that more and more people are discarding these goods currently in use even though they could have used it for some more years.

External effects on utility such as' demonstration effect',' bandwagon effect', Veblen effect and 'snob effect' do play important roles in determining the demand for a product. Demonstration effect, a term coined by James Duesenberry, refers to the desire of people to emulate the consumption behaviour of others. In other words, people buy or have things because they see that other people are able to have them. For example, an individual's demand for cell phone may be affected by his seeing a new model of cell phone in his neighbour's or friend's house, either because he likes what he sees or because he figures out that if his neighbour or friend can have it, he too can.

© The Institute of Chartered Accountants of India

Bandwagon effect refers to the extent to which the demand for a commodity is increased due to the fact that others are also consuming the same commodity. It represents the desire of people to purchase a commodity in order to be fashionable or stylish or to conform to the people they wish to be associated with.

By 'snob effect' we refer to the extent to which the demand for a consumers' good is decreased owing to the fact that others are also consuming the same commodity. This represents the desire of people to be exclusive; to be different; to dissociate themselves from the "common herd." For example, when a product becomes common among all, some people decrease or altogether stop its consumption.

Difference between Demonstration/Bandwagon Effect and Snob Effect	
Demonstration/Bandwagon Effect	**Snob Effect**
It is a psychological effect in which people do the same what others are doing. They do not have their own belief and thinking.	It is understood as the desire to possess a unique commodity having a prestige value. It is quite opposite to the bandwagon or demonstration effect.
It leads to increase in demand of a particular commodity.	It leads to decrease in demand of a particular commodity.
Example: When some people start investing money in share market then many people start following the same without considering its advantages and disadvantages.	**Example:** If Miss. X and Miss. Y are rich rivals of each other and if in any party Miss. X wears an expensive dress and on seeing it Miss. Y who also having the same dress decided to reject the use of the same dress further. Rather Miss. Y will try to use even more expensive one.

Highly priced goods are consumed by status seeking rich people to satisfy their need for conspicuous consumption. This is called 'Veblen effect' (named after the American economist Thorstein Veblen). For example, expensive cars and jewels. The distinction between the snob effect and the Veblen effect is that the former is a function of the consumption of others and the latter is a function of price. We conclude that people have tastes and preferences and these do change - sometimes, due to external and sometimes due to internal causes - and influence demand.

Knowledge regarding tastes and preferences is extremely valuable for the manufacturers and marketers as it would help them appropriately design new models of products and services and plan production to suit the changing tastes and needs of the customers.

© The Institute of Chartered Accountants of India

(v) Consumers' Expectations

Consumers' expectations regarding future prices, income, supply conditions etc. influence current demand. If the consumers expect increase in future prices, increase in income and shortages in supply, more quantities will be demanded. If they expect a fall in price or fall in income they will postpone their purchases of nonessential commodities and therefore, the current demand for them will fall. Levels of consumer and business confidence about their future economic situations also affect spending and demand.

Other factors: Apart from the above factors, the demand for a commodity depends upon the following factors:

(a) **Size of population**: Generally, larger the size of population of a country or a region, larger would be the number of buyers and the quantity demanded in the market would be higher at every price. The opposite is the case when population is less.

(b) **Age Distribution of population**: If a larger proportion of people belong to older age groups relative to younger age groups, there will be increased demand for geriatric care services, spectacles, walking sticks, etc. and less demand for children's books. Similarly, if the population consists of more of children, demand for toys, baby foods, toffees, etc. will be more. Likewise, if there is migration from rural areas to urban areas, there will be decrease in demand for goods and services in rural areas.

(c) **The level of National Income and its Distribution**: The level of national income is a crucial determinant of market demand. Higher the national income, higher will be the demand for all normal goods and services. The wealth of a country may be unevenly distributed so that there are a few very rich people while the majority is very poor. Under such conditions, the propensity to consume of the country will be relatively less, because the propensity to consume of the rich people is less than that of the poor people. Consequently, the demand for consumer goods will be comparatively less. If the distribution of income is more equal, then the propensity to consume of the country as a whole will be relatively high indicating higher demand for goods.

(d) **Consumer-credit facility and interest rates:** Availability of credit facilities induces people to purchase more than what their current incomes permit them. Credit facilities mostly determine the demand for investment and for

© The Institute of Chartered Accountants of India

durable goods which are expensive and require bulk payments at the time of purchase. Low rates of interest encourage people to borrow and therefore demand will be more.

(e) **Government policies and regulations:** The governments influence demand through its taxation, purchases, expenditure, and subsidy policies. While taxes increase prices and decrease the quantity demanded, subsidies decrease the prices and increase the quantity demanded. For example taxes on luxurious goods and subsidies for solar panels. Similarly total bans, restrictions and higher taxes may be used by government to restrict the demand for socially undesirable goods and services. Government's policy on international trade also will affect the domestic demand for goods and services.

Apart from above, factors such as weather conditions, business conditions, stage of business cycle, wealth, levels of education, marital status, socioeconomic class, group membership, habits of the consumer, social customs and conventions, salesmanship and advertisements also play important roles in influencing demand.

1.2 THE DEMAND FUNCTION

As we know, a function is a symbolic statement of a relationship between the dependent and the independent variables.

The demand function states in equation form, the relationship between the demand for a product (the dependent variable) and its determinants (the independent or explanatory variables). Any other factors that are not explicitly listed in the demand function are assumed to be irrelevant or held constant. A simple demand function may be expressed as follows:

$$Q_x = f(P_X, Y, P_r,)$$

Where Q_x is the quantity demanded of product X

P_X is the price of the commodity

Y is the money income of the consumer, and

P_r is the price of related goods

The demand function stated as above does not indicate the exact quantitative relationship between Q_x and P_X, M and P_r,. For this, we need to write the demand function in a particular form with specified values of the explanatory variables appearing on the right-hand side. For example; we may write $Q_x = 45 + 2y + 1\ P_r, - 2\ P$. In this unit, we will be studying demand as a function of only price, keeping everything else constant.

© The Institute of Chartered Accountants of India

1.3 THE LAW OF DEMAND

Most of us have an implicit understanding of the law of demand. The law of demand is one of the most important laws of economic theory. The law states the nature of relationship between the quantity demanded of a product and its price. ***Prof. Alfred Marshall defined the Law thus: "The greater the amount to be sold, the smaller must be the price at which it is offered in order that it may find purchasers or in other words the amount demanded increases with a fall in price and diminishes with a rise in price"***.

The law of demand states that other things being equal, when the price of a good rises, the quantity demanded of the good will fall. Thus, there is an inverse relationship between price and quantity demanded, *ceteris paribus*. The 'other things' which are assumed to be equal or constant are the prices of related commodities, income of consumers, tastes and preferences of consumers, and all factors other than price which influence demand.(Refer section 1.1 above).If these factors which determine demand also undergo a change, then the inverse price-demand relationship may not hold good. For example, if incomes of consumers increase, then an increase in the price of a commodity, may not result in a decrease in the quantity demanded of it. Thus, the constancy of these 'other factors' is an important assumption of the law of demand.

The quantity demanded is the amount of a good or service that consumers are willing to buy at a given price, holding constant all the other factors that influence purchases. The quantity demanded of a good or service can exceed the quantity actually sold.

The Law of Demand may be illustrated with the help of a demand schedule and a demand curve.

1.3.0 The Demand Schedule

A demand schedule is a table showing the quantities of a good that buyers would choose to purchase at different prices, per unit of time, with all other variables held constant. To illustrate the relation between the quantity of a commodity demanded and its price, we may take a hypothetical data for prices and quantities of ice-cream. A demand schedule is drawn upon the assumption that all the other influences remain unchanged. It thus attempts to isolate the influence exerted by the price of the good upon the amount sold.

© The Institute of Chartered Accountants of India

Table 1: Demand Schedule of an Individual Buyer

	Price per cup of ice-cream	Quantity of ice-cream demanded (per week)
	(in ₹)	(Cups)
A	60	0
B	50	2
C	40	4
D	30	6
E	20	8
F	10	10
G	0	12

Table 1 shows how many cups of ice-cream this particular buyer buys each week at different prices of ice-cream, holding constant everything else that influences how much of ice-cream this particular consumer wants to buy. If ice-cream is free (price =0), she consumes 12cups of ice-cream per week. As the price rises, she buys fewer and fewer cups of ice-cream. When the price reaches ₹60 per cup, she does not buy ice-cream at all. The above table depicts an inverse relationship between price and quantity of ice-cream demanded. We may note that that the demand schedule obeys the law of demand: As the price of ice-cream increases, ceteris paribus, the quantity demanded falls.

1.3.1 The Demand Curve

A demand curve is a graphical presentation of the demand schedule. By convention, the vertical axis of the graph measures the price per unit of the good. The horizontal axis measures the quantity of the good, which is usually expressed in some physical measure per time period. By plotting each pair of values as a point on a graph and joining the resulting points, we get the individual's demand curve for a commodity. It shows the relationship between the quantities of a good that buyers are willing to buy and the price of the good. We can now plot the data from Table 1 on a graph.

In Fig. 1, we have shown such a graph and plotted the seven points corresponding to each price-quantity combination shown in Table 1. The demand curve hits the vertical axis at price ₹60 indicating that no quantity is demanded when the price is ₹ 60 (or higher). The demand curve hits the horizontal quantity axis at 12, the amount ice-cream that the consumer wants if the price is zero. Point A shows the same information as the first row of Table 1, and Point G shows the same information as does the last row of the table.

© The Institute of Chartered Accountants of India

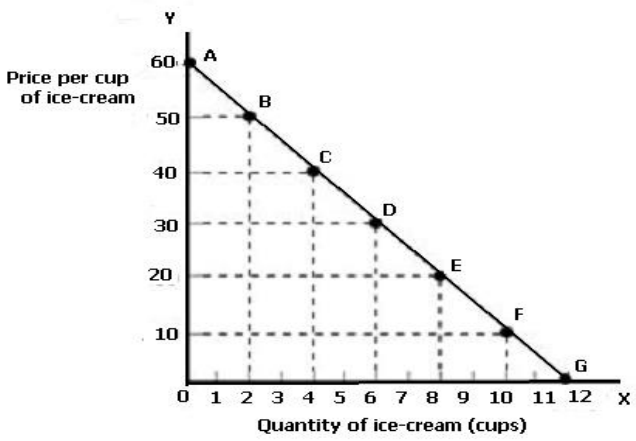


Fig. 1: Demand Curve for Ice-cream

We now draw a smooth curve through these points. The curve is called the demand curve for ice-cream and shows the quantity of ice-cream that the consumer would like to buy at each price. The negative or downward slope indicates that the quantity demanded increases as the price falls. Consumers are usually ready to buy more if the price is lower. Briefly put, more of a good will be purchased at lower prices. Thus, the downward sloping demand curve is in accordance with the law of demand which, as stated above, describes an inverse price-demand relationship.

The slope of a demand curve is - ΔP/ΔQ (i.e the change along the vertical axis divided by the change along the horizontal axis). The negative sign of this slope is consistent with the law of demand.

The demand curve for a good does not have to be linear or a straight line; it can be curvilinear- meaning its slope may vary along the curve. If the change in quantity demanded does not follow a constant proportion, then the demand curve will be non linear. However, linear demand curves provide a convenient tool for analysis.

1.3.2 Market Demand Schedule

The market demand for a commodity gives the alternative amounts of the commodity demanded per time period, at various alternative prices, by all the buyers in the market. In other words, it is the total quantity that all the buyers of a commodity are willing to buy per unit of time at a given price, other things remaining constant. The market demand for a commodity thus depends on all the factors that determine the individual's demand and, in addition, on the number of buyers of the commodity in the market.

© The Institute of Chartered Accountants of India

When we add up the various quantities demanded by different consumers in the market, we can obtain the market demand schedule. How the summation is done is illustrated in Table 2. Suppose there are only two individual buyers of good X in the market namely, A and B. The Table 2 shows their individual demand at various prices.

Table 2: Market Demand Schedule of Good X (per day)

Quantity demanded by			
Price of Good X in (`)	**A**	**B**	**Total Market Demand**
0	3	2	5
10	2	1	3
20	1	0	1
30	0	0	0

When we add the quantities demanded at each price by consumers A and B, we get the total market demand. Thus, when good X is free or price is zero per unit, the market demand for commodity 'X' is 5 units (i.e.3+2). When price rises to ₹ 10, the market demand is 3 units. At a price of ₹ 20, only one unit is demanded in the market. At price ₹ 30, both A and B do not buy good X and therefore, market demand is zero. The market demand schedule also indicates inverse relationship between price and quantity demanded of 'X'.

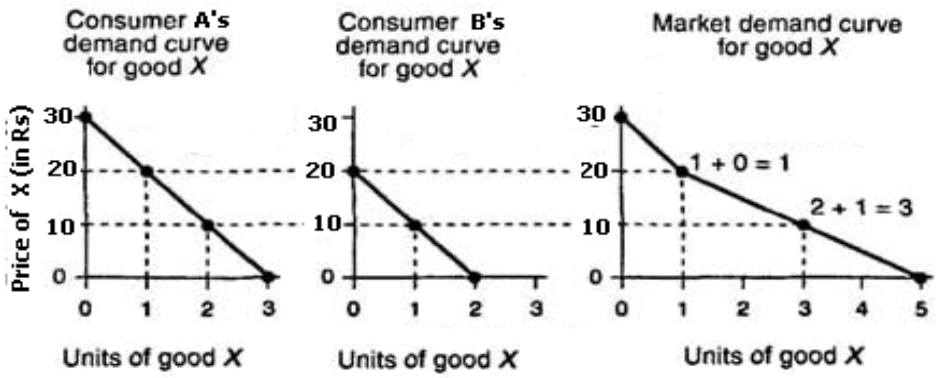


Fig. 2: The Market Demand Curve for Good X

1.3.3 The Market Demand Curve

The market demand curve for good X represents the quantities of good X demanded by all buyers in the market for good X. The market demand curve is obtained by horizontal summation of all individual demand curves.

© The Institute of Chartered Accountants of India

If we plot the market demand schedule on a graph, we get the market demand curve. Figure 2 shows the market demand curve for commodity 'X'. The two consumers A and B have different individual demand curves corresponding to their different preferences for good X. The two individual demand curves are shown in Figure 2 along with the market demand curve for good X. When there are more than two consumers in the market for some good, the same principle continues to apply and the market demand curve would be the horizontal summation of all the market participants' individual demand curves. The market demand curve, like the individual demand curve, slopes downwards to the right because it is nothing but the lateral summation of individual demand curves.

In addition to the demand schedule and the demand curve, the buyers' demand for a good can also be expressed algebraically, using a demand equation**.** The demand equation relates the price of the good, denoted by P**,** to the quantity of the good demanded, denoted by Q.

The straight-line demand curve where we hold everything else constant is described by a linear demand function. We can write a demand function as follows:

$$\mathbf{Q = a - bP}$$

Where 'a' is the vertical intercept and 'b' is the slope.

For example: For a demand function Q = 100 -2P,

$$P = \frac{a}{b} - \frac{Q}{b} : P = 50 - \frac{Q}{2}$$

1.3.4 Rationale of the Law of Demand

Normally, the demand curves slope downwards. This means people buy more at lower prices. We shall now try to understand why do demand curves slope downwards? Put in other words, why do people buy more at lower prices? Different economists have given different explanations for the operation of the law of demand. These are given below:

(1) **Price Effect of a fall in price:** The price effect which indicates the way the consumer's purchases of good X change, when its price changes, is the sum of its two components namely: substitution effect and income effect.

(a) **Substitution effect**: Hicks and Allen have explained the law in terms of substitution effect and income effect. The substitution effect describes the change in demand for a product when its relative price changes. When the price of a commodity falls, the price ratio between items change and it becomes relatively cheaper than other commodities. Assuming that the prices of all other commodities remain constant, it induces consumers to substitute

© The Institute of Chartered Accountants of India

the commodity whose price has fallen for other commodities which have now become relatively expensive. The result is that the total demand for the commodity whose price has fallen increases. This is called substitution effect. When the price falls, the substitution effect is always positive; i.e it will always cause more to be demanded. The substitution effect will be stronger when:

(a) the goods are closer substitutes

(b) there is lower cost of switching to the substitute good

(c) there is lower inconvenience while switching to the substitute good

(b) **Income effect**: The increase in demand on account of an increase in real income is known as income effect. When the price of a commodity falls, the consumer can buy the same quantity of the commodity with lesser money or he can buy more of the same commodity with the same amount of money. In other words, as a result of fall in the price of the commodity, consumer's real income or purchasing power increases. A part or whole of the resulting increase in real income can now be used to buy more of the commodity in question, given that the good is normal. Therefore, the demand for that commodity (whose price has fallen) increases. However, there is one exception. In the case of inferior goods, the income effect works in the opposite direction to the substitution effect. In the case of inferior goods, the expansion in demand due to a price fall will take place only if the substitution effect outweighs the income effect.

(2) **Utility maximising behaviour of Consumers:** A consumer is in equilibrium (i.e. maximises his satisfaction) when the marginal utility of the commodity and its price equalize. According to Marshall, the consumer has diminishing utility for each additional unit of a commodity and therefore, he will be willing to pay only less for each additional unit. A rational consumer will not pay more for lesser satisfaction. He is induced to buy additional units only when the prices are lower. The operation of diminishing marginal utility and the act of the consumer to equalize the utility of the commodity with its price result in a downward sloping demand curve.

(3) **Arrival of new consumers**: When the price of a commodity falls, more consumers start buying it because some of those who could not afford to buy it earlier may now be able to buy it. This raises the number of consumers of a commodity at a lower price and hence the demand for the commodity in question increases.

(4) **Different uses**: Many commodities have multiple uses. When the price of such commodities are high (or rises) they will be put to limited uses only. If the prices of such commodities fall, they will be put to more number of uses and therefore their

© The Institute of Chartered Accountants of India

demand will increase. Thus, the increase in the number of uses consequent to a fall in price make the buyer demand more of such commodities making the demand curve slope downwards. For example: Electricity

1.3.5 Exceptions to the Law of Demand

According to the law of demand, other things being equal, more of a commodity will be demanded at lower prices than at higher prices. The law of demand is valid in most cases; however there are certain cases where this law does not hold good. The following are the important exceptions to the law of demand.

(i) **Conspicuous goods**: Articles of prestige value or snob appeal or articles of conspicuous consumption are used by the rich people as status symbol for enhancing their social prestige or /and for displaying wealth. These articles will not conform to the usual law of demand as they become more attractive only if their prices are high or keep going up. This was found out by Veblen in his doctrine of "Conspicuous Consumption" and hence this effect is called Veblen effect or prestige goods effect. Veblen effect takes place as some consumers measure the utility of a commodity by its price i.e., if the commodity is expensive they think that it has got more utility. As such, they buy less of this commodity at low price and more of it at high price. Diamonds are often given as an example of this case. Higher the price of diamonds, higher is the prestige value attached to them and hence higher is the demand.

(ii) **Giffen goods**: Sir Robert Giffen, a Scottish economist and statistician, was surprised to find out that as the price of bread increased, the British workers purchased more bread and not less of it. This was something against the law of demand. Why did this happen? The reason given for this is that, when the price of bread went up, it caused such a large decline in the purchasing power of the poor people that they were forced to cut down the consumption of meat and other more expensive foods. Since bread, even when its price was higher than before, was still the cheapest food article, people consumed more of it and not less when its price went up.

Such goods which exhibit direct price-demand relationship are called 'Giffen goods'. Generally those goods which are inferior, with no close substitutes available and which occupy a substantial place in consumers' budget are called 'Giffen goods'. All Giffen goods are inferior goods; but all inferior goods are not Giffen goods. Examples of Giffen goods are coarse grains like bajra, low quality rice and wheat etc.

© The Institute of Chartered Accountants of India

(iii) **Conspicuous necessities**: The demand for certain goods is affected by the demonstration effect of the consumption pattern of a social group to which an individual belongs. These goods, due to their constant usage, become necessities of life. For example, in spite of the fact that the prices of television sets, refrigerators, air-conditioners etc. have been continuously rising, their demand does not show any tendency to fall.

(iv) **Future expectations about prices**: It has been observed that when the prices are rising, households, expecting that the prices in the future will be even higher, tend to buy larger quantities of such commodities. For example, when there is wide-spread drought, people expect that prices of food grains would rise in future. They demand greater quantities of food grains even as their price rises. On the contrary, if prices are falling and people anticipate further fall, rather than buying more, they postpone their purchases. However, it is to be noted that here it is not the law of demand which is invalidated. There is a change in one of the factors which was held constant while deriving the law of demand, namely change in the price expectations of the people.

(v) **Incomplete information and irrational behaviour:** The law has been derived assuming consumers to be rational and knowledgeable about market-conditions. However, at times, consumers have incomplete information and therefore make inconsistent decisions regarding purchases. Similarly, in practice, a household may demand larger quantity of a commodity even at a higher price because it may be ignorant of the ruling price of the commodity. Under such circumstances, the law will not remain valid.

Sometimes, consumers tend to be irrational and make impulsive purchases without any rational calculations about the price and usefulness of the product and in such contexts the law of demand fails.

(vi) **Demand for necessaries**: The law of demand does not apply much in the case of necessaries of life. Irrespective of price changes, people have to consume the minimum quantities of necessary commodities.

(vii) **Speculative goods**: In the speculative market, particularly in the market for stocks and shares, more will be demanded when the prices are rising and less will be demanded when prices decline.

The law of demand will also fail if there is any significant change in other factors on which demand of a commodity depends. If there is a change in income of the household, or in the prices of related commodities or in tastes and fashion etc., the inverse demand and price relation may not hold good.

© The Institute of Chartered Accountants of India

1.4 EXPANSION AND CONTRACTION OFDEMAND

The demand schedule, demand curve and the law of demand all show that when the price of a commodity falls, its quantity demanded increases, other things being equal. When, as a result of decrease in price, the quantity demanded increases, in Economics, we say that there is an expansion of demand and when, as a result of increase in price, the quantity demanded decreases, we say that there is a contraction of demand. For example, suppose the price of apples is ₹ 100/ per kilogram and a consumer buys one kilogram at that price. Now, if other things such as income, prices of other goods and tastes of the consumers remain the same but the price of apples falls to ₹ 80 per kilogram and the consumer now buys two kilograms of apples, we say that there is a change in quantity demanded or there is an expansion of demand. On the contrary, if the price of apples rises to ₹ 150 per kilogram and the consumer then buys only half a kilogram, we say that there is a contraction of demand.

The phenomena of expansion and contraction of demand are shown in Figure 3. The figure shows that when price is OP, the quantity demanded is OM, given other things equal. When as a result of increase in price (O P_{II}), the quantity demanded falls to OL, we say that there is 'a fall in quantity demanded' or 'contraction of demand' or 'an upward movement along the same demand curve'. Similarly, as a result of fall in price to OP^{I}, the quantity demanded rises to ON, we say that there is an 'expansion of demand' or 'a rise in quantity demanded' or 'a downward movement on the same demand curve.'

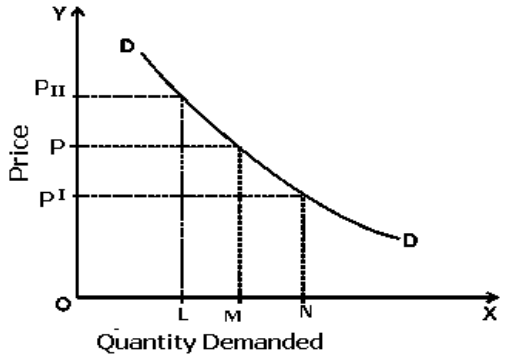


Fig. 3: Expansion and Contraction of Demand

1.4.1 Increase and Decrease in Demand

Till now we have assumed that the other determinants of demand remain constant when we are analysing the demand for a commodity. It should be noted that expansion and contraction of demand take place as a result of changes in the price while all other

© The Institute of Chartered Accountants of India

determinants of price viz. income, tastes, propensity to consume and price of related goods remain constant. The 'other factors remaining constant' means that the position of the demand curve remains the same and the consumer moves downwards or upwards on it.

There are factors other than price (non-price factors) or conditions of demand which might cause either an increase or decrease in the quantity of a particular good or service that buyers are prepared to demand at a given price. What happens if there is a change in consumers' tastes and preferences, income, the prices of the related goods or other factors on which demand depends? As an example, let us consider what happens to the demand for commodity X if the consumer's income increases:

Table 3 shows the possible effect of an increase in income of the consumer on the quantity demanded of commodity X.

Table 3: Two demand schedules for commodity X

	Price (₹)	Quantity of 'X' demanded when average household income is ₹ 5,000 per month	Quantity of 'X' demanded when average household income is ₹ 10,000 per month	
A	5	10	15	A_1
B	4	15	20	B_1
C	3	20	25	C_1
D	2	35	40	D_1
E	1	60	65	E_1

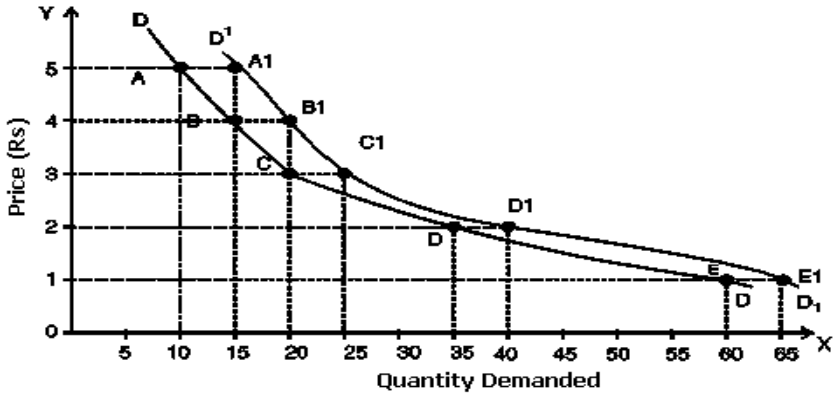


Fig. 4: Figure Showing Two Demand Curves at Different Incomes

The two sets of data are plotted in Figure 4 as DD pertaining to demand when average household income is ₹ 5000/ and D'D' when income is ₹ 10, 000/. We find that with increase in income, the demand curve for X has shifted [in this case it has shifted to the right]. The shift from DD to D'D' indicates an increase in the desire to purchase 'X' at each possible

© The Institute of Chartered Accountants of India

price. For example, at the price of ₹ 4 per unit, 15 units are demanded when average household income is ₹ 5,000 per month. When the average household income rises to ₹ 10,000 per month, 20 units of X are demanded at price ₹ 4. You can find similar increase in demand at each price. Since this increase would occur regardless of what the market price is, the result would be a shift to the right of the entire demand curve.

Alternatively, we can ask what price consumers would be willing to pay to purchase a given quantity, say 15 units of X. With greater income, they should be willing to pay a higher price of ₹ 5 instead of 4. A rise in income thus shifts the demand curve to the right, whereas a fall in income will have the opposite effect of shifting the demand curve to the left.

Any change that increases the quantity demanded at every price shifts the demand curve to the right and is called an increase in demand. Any change that decreases the quantity demanded at every price shifts the demand curve to the left, and is called a decrease in demand.

Figure 5(a) and (b) illustrate increase and decrease in demand respectively. When there is an increase in demand, the demand curve shifts to the right and more quantity will be purchased at a given price (Q1 instead of Q at price P). A decrease in demand causes the entire demand curve to shift to the left and we find that less quantity is bought at the same price P.

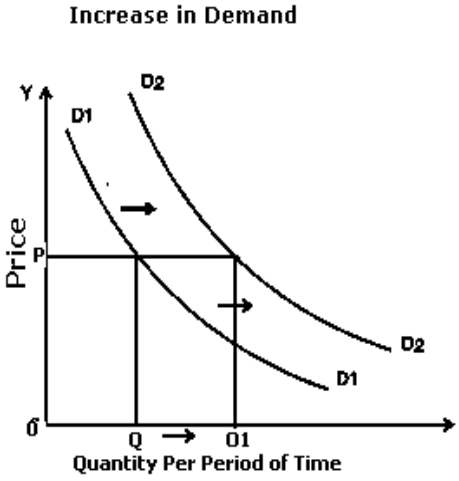


Fig. 5(a): Rightward shift in the demand Curve

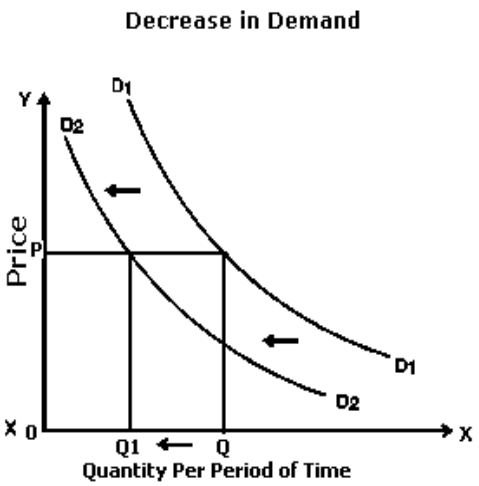


Fig. 5(b): Leftward shift in the demand Curve

The table below summarises the effect of non - price determinants on demand

Changes in determinants other than price that cause increase in demand	Changes in determinants other than price that cause Decrease in Demand (Leftward shift of

© The Institute of Chartered Accountants of India

(Rightward shift of demand curvewhen more is demanded at each price)	demand curvewhen less is demanded at each price)
Rise in income in the case of normal goods	A fall in income in case of normal goods, and a rise in income in case of inferior goods
Increase in wealth in the case of normal goods	Decrease in wealth in case of normal goods, and an increase in wealth in case of inferior goods
Rise in the price of a substitute good	Fall in the price of a substitute good
Fall in the price of a complement	Rise in the price of a complement
An increase in the number of buyers	A decrease in the number of buyers
A change in tastes in favour of the commodity	A change in tastes against the commodity
A redistribution of income to groups of people who favour the commodity	Redistribution of income away from groups of people who favour the commodity.
An expectation that price will rise in the future	An expectation that price will fall in the future
Government policies encouraging consumptionof the good Eg. Grant of consumer subsidies	Government regulations discouraging consumption e.g. ban on cigarette smoking / ban on consumption.

1.4.2 Movements along the Demand Curve vs. Shift of Demand Curve

It is important for the business decision-makers to understand the distinction between a movement along a demand curve and a shift of the whole demand curve.

A movement along the demand curve indicates changes in the quantity demanded because of price changes, other factors remaining constant. A shift of the demand curve indicates that there is a change in demand at each possible price because one or more other factors, such as incomes, tastes or the price of some other goods, have changed.

Thus, when an economist speaks of an increase or a decrease in demand, he refers to a shift of the whole curve because one or more of the factors which were assumed to remain constant earlier have changed. When the economists speak of change in quantity demanded he means movement along the same curve (i.e., expansion or contraction of demand) which has happened due to fall or rise in price of the commodity.

In short 'change in demand' represents shift of the demand curve to right or left resulting from changes in factors such as income, tastes, prices of other goods etc. and 'change in

© The Institute of Chartered Accountants of India

quantity demanded' represents movement upwards or downwards on the same demand curve resulting from a change in the price of the commodity.

When demand increases due to factors other than price, firms can sell more at the existing prices resulting in increased revenue. The objective of advertisements and all other sales promotion activities by any firm is to shift the demand curve to the right and to reduce the elasticity of demand. (The latter will be discussed in the next section). However, the additional demand is not free of cost as firms have to incur expenditure on advertisement and sales promotion devices.

1.5 ELASTICITY OF DEMAND

Till now we were concerned with the direction of the changes in prices and quantities demanded. From the point of view of a business firm, it is more important to know the extent of the relationship or the degree of responsiveness of demand to changes in its determinants.

Often, we would want to know how sensitive is the demand for a product to its price; for example, if price increases by 5 percent, how much will the quantities demanded change? Also, how much change in demand will be there if the average income rises by 5 percent? What effect will an advertising campaign have on sales? Economists use a number of different types of elasticity to answer questions like these so as to make demand predictions and to recommend changes in strategies.

Consider the following situations:

(1) As a result of a fall in the price of headphones from ₹ 500 to ₹ 400, the quantity demanded increases from 100headphones to 150 headphones.

(2) As a result of fall in the price of wheat from ₹ 20 per kilogram to ₹ 18 per kilogram, the quantity demanded increases from 500 kilograms to 520 kilograms.

(3) As a result of fall in the price of salt from ₹ 9 per kilogram to ₹ 7.50, the quantity demanded increases from 1000 kilogram to 1005 kilograms.

What do you notice? You notice that the demand for headphones, wheat and salt responds in the same direction to price changes. The difference lies in the degree of response of demand. The differences in responsiveness of demand can be found out by comparing the percentage changes in prices and quantities demanded. Here lies the concept of elasticity.

The amount of a commodity purchased is a function of many variables such as price of the commodity, prices of the related commodities, income of the consumers and other factors

© The Institute of Chartered Accountants of India

on which demand depends. A change in one of these independent variables will cause a change in the dependent variable, namely, the amount purchased per unit of time. The elasticity of demand measures the relative responsiveness of the amount purchased per unit of time to a change in any one of these independent variables while keeping others constant. In general, the coefficient of elasticity is defined as the proportionate change in the dependent variable divided by the proportionate change in the independent variable.

Elasticity of demand is defined as the degree of responsiveness of the quantity demanded of a good to changes in one of the variables on which demand depends. More precisely, elasticity of demand is the percentage change in quantity demanded divided by the percentage change in one of the variables on which demand depends.

We may find different measures of elasticity such as price elasticity, cross elasticity, income elasticity, advertisement elasticity and elasticity of substitution. It is to be noted that when we talk of elasticity of demand, unless and until otherwise mentioned, we talk of price elasticity of demand. In other words, it is price elasticity of demand which is usually referred to as elasticity of demand.

1.5.1 Price Elasticity of Demand

Perhaps, the most important measure of elasticity of demand is the price elasticity of demand which measures the sensitivity of quantity demanded to 'own price' or the price of the good itself. The concept of price elasticity of demand is important for a firm for two reasons.

- Knowledge of the nature and degree of price elasticity allows firms to predict the impact of price changes on its sales.
- Price elasticity guides the firm's profit-maximizing pricing decisions.

Price elasticity of demand expresses the degree of responsiveness of quantity demanded of a good to a change in its price, given the consumer's income, his tastes and prices of all other goods. In other words, it is measured as the percentage change in quantity demanded divided by the percentage change in price, other things remaining equal. The price elasticity of demand (also referred to as PED) tells us the percentage change in quantity demanded for each one percent (1%) change in price. That is,

$$\text{Price Elasticity} = \text{Ep} = \frac{\%\ \text{change in quantity demaned}}{\%\ \text{change in Price}}$$

The percentage change in a variable is just the absolute change in the variable divided by the original level of the variable.

© The Institute of Chartered Accountants of India

Therefore,

$$\mathbf{Ep} = \frac{\frac{\text{Change in quantity}}{\text{Original Quantity}} \times 100}{\frac{\text{Change in Price}}{\text{Original Price}} \times 100}$$

$$\text{OR } Ep = \frac{\text{Change in quantity}}{\text{Original Quantity}} \times \frac{\text{Original Price}}{\text{Change in price}}$$

In symbolic terms

$$Ep = \frac{\Delta q}{q} \times \frac{p}{\Delta p} = \frac{\Delta q}{\Delta p} \times \frac{p}{q}$$

Where Ep stands for price elasticity

q stands for original quantity

p stands for original price

Δ stands for a change.

A negative sign on the elasticity of demand illustrates the law of demand: less quantity is demanded as the price rises. Notice that the change in quantity was due solely to the price change. The other factors that potentially could affect sales (income and the competitor's price) did not change.

The greater the value of elasticity, the more sensitive quantity demanded is to price. Strictly speaking, the value of price elasticity varies from minus infinity to approach zero. This is because $\frac{\Delta q}{\Delta p}$ has a negative sign. In other words, since price and quantity are inversely related (with a few exceptions) price elasticity is negative.

While interpreting the coefficient of price elasticity, we consider only the magnitude of the price elasticity- i.e. its absolute size. For example, if Ep = -1.22, we say that the elasticity is 1.22 in magnitude. That is, we ignore the negative sign and consider only the numerical value of the elasticity. Thus if a 1% change in price leads to 2% change in quantity demanded of good A and 4% change in quantity demanded of good B, then we get elasticity of A and B as 2 and 4 respectively, showing that demand for B is more elastic or responsive to price changes than that of A. Had we considered minus signs, we would have concluded that the demand for A is more elastic than that for B, which is not correct. Hence, by convention, we take the absolute value of price elasticity and draw conclusions.

© The Institute of Chartered Accountants of India

A numerical example for price elasticity of demand:

ILLUSTRATION 1

The price of a commodity decreases from ₹6 to ₹4 and quantity demanded of the good increases from 10 units to 15 units. Find the coefficient of price elasticity.

SOLUTION

Price elasticity = (-) $\Delta q / \Delta p \times p/q = 5/2 \times 6/10 = (-) 1.5$

ILLUSTRATION 2

A 5% fall in the price of a good leads to a 15% rise in its demand. Determine the elasticity and comment on its value.

SOLUTION

$$\text{Price Elasticity} = Ep = \frac{\%\ \text{change in quantity demanded}}{\%\ \text{change in Price}}$$

$$= 15\% / 5\% \quad = 3$$

Comment: The good in question has elastic demand.

ILLUSTRATION 3

The price of a good decreases from ₹100 to ₹60 per unit. If the price elasticity of demand for it is 1.5 and the original quantity demanded is 30 units, calculate the new quantity demanded.

SOLUTION

$$Ep = \frac{\Delta q}{\Delta p} \times \frac{p}{q}$$

Here $$1.5 = \frac{\Delta q}{40} \times \frac{100}{30} = 18$$

Therefore new quantity demanded = 30+18 = 48 units

ILLUSTRATION 4

The quantity demanded by a consumer at price ₹9 per unit is 800 units. Its price falls by 25% and quantity demanded rises by 160 units. Calculate its price elasticity of demand.

SOLUTION

Change in quantity demanded = 160

© The Institute of Chartered Accountants of India

Therefore, % change in quantity demanded = = 20%

% change in price = 25%

$$E_d = \frac{\%\ \text{change in}\ q}{\%\ \text{change in}\ p}$$

$$E_a = \frac{20}{25} = 0.8$$

ILLUSTRATION 5

A consumer buys 80 units of a good at a price of ₹4 per unit. Suppose price elasticity of demand is - 4. At what price will he buy 60 units?

SOLUTION

$$Ed = \frac{\Delta q}{\Delta p} \times \frac{p}{q}$$

Or $$4 = \frac{20}{x-4} \times \frac{4}{80}$$

Or $$4 = \frac{1}{x-4}$$

$$x = 4.2 \text{ per unit}$$

1.5.2 Point Elasticity

The point elasticity of demand is the price elasticity of demand at a particular point on the demand curve. The concept of point elasticity is used for measuring price elasticity where the change in price is infinitesimal. Price elasticity is a key element in applying marginal analysis to determine optimal prices. Since marginal analysis works by evaluating "small" changes taken with respect to an initial decision, it is useful to measure elasticity with respect to an infinitesimally small change in price.

Point elasticity makes use of derivative rather than finite changes in price and quantity. It may be defined as:

$$Ep = \frac{-dq}{dp} \times \frac{p}{q}$$

Where $\frac{dq}{dp}$ is the derivative of quantity with respect to price at a point on the demand curve, and p and q are the price and quantity at that point. Economists generally use the word

© The Institute of Chartered Accountants of India

"elasticity" to refer to point elasticity.

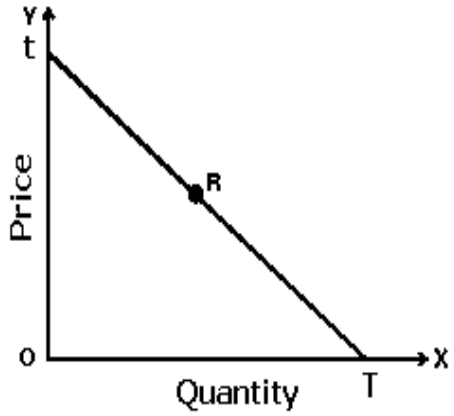


Fig 6: Point Elasticity

Point elasticity is, therefore, the product of price quantity ratio at a particular point on the demand curve and the reciprocal of the slope of the demand line.

1.5.3 Measurement of Elasticity on a Linear Demand Curve – Geometric Method

By definition, the price elasticity of demand is the change in quantity associated with a change in price ($\Delta Q/\Delta P$) times the ratio of price to quantity (P/Q) Therefore, the price elasticity of demand depends not only on the slope of the demand curve but also on the price and quantity. The elasticity, therefore, varies along the curve as price and quantity change. The slope of a linear demand curve is constant. However, the elasticity at different points on a linear demand curve would be different. When price is high price is high and quantity is small, the elasticity is high. The elasticity becomes smaller as we move down the curve.

Given a straight line demand curve tT, (Fig.6 above) point elasticity at any point say R can be found by using the formula

$$\frac{RT}{Rt} = \frac{\text{lower segment}}{\text{upper segment}}$$

Using the above formula we can get elasticity at various points on the demand curve.

© The Institute of Chartered Accountants of India

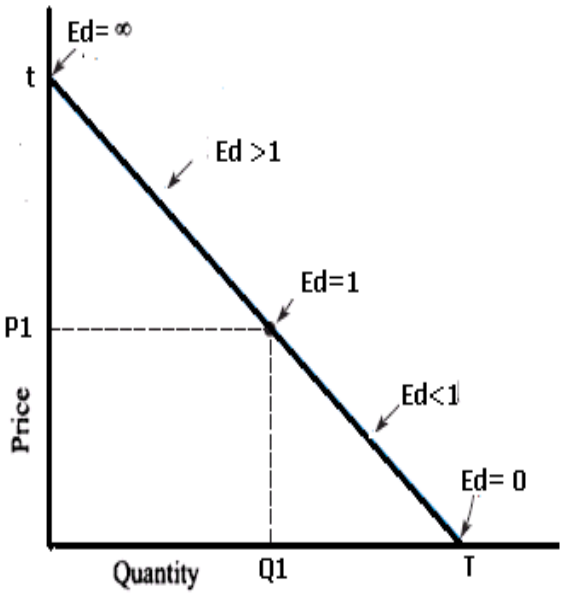


Fig .7: Elasticity at Different Points on the Demand Curve

Thus, we see that as we move from T towards t, elasticity goes on increasing. At the mid-point it is equal to one, at point t, it is infinity and at T it is zero.

1.5.4 Arc-Elasticity

Often we may be required to calculate price elasticity over some portion of the demand curve rather than at a single point. In other words, the elasticity may be calculated over a range of prices. When price and quantity changes are discrete and large we have to measure elasticity over an arc of the demand curve.

When price elasticity is to be found between two prices (or two points on the demand curve say, A and B in figure 8) the question arises as to which price and quantity should be taken as base. This is because elasticity found by using original price and quantity figures as base will be different from the one derived by using new price and quantity figures. Therefore, in order to avoid confusion, rather than choose the initial or the final price and quantity, the mid-point method is used i.e. the averages of the two prices and quantities are taken as (i.e. original and new) base. The midpoint formula is an approximation to the actual percentage change in a variable, but it has the advantage of consistent elasticity values when price moves in either directions.

© The Institute of Chartered Accountants of India

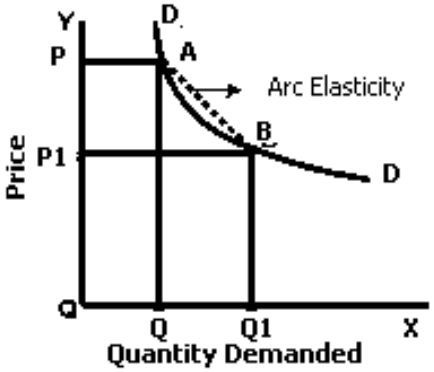


Fig. 8: Arc Elasticity

The arc elasticity can be found out by using the formula: We drop the minus sign and use the absolute value.

$$Ep = \frac{\frac{Q_2 - Q_1}{(Q_2 + Q_1)/2}}{\frac{P_2 - P_1}{(P_2 + P_1)/2}}$$

$$Ep = \frac{Q_2 - Q_1}{Q_2 + Q_1} \times \frac{P_2 + P_1}{P_2 - P_1}$$

WhereP_1, Q_1 are the original price and quantity and P_2, Q_2 are the new ones.

Thus, if we have to find elasticity of demand for headphones between:

P_1= ₹ 500 Q_1= 100

P_2 = ₹ 400 Q_2= 150

We will use the formula

$$Ep = \frac{Q_2 - Q_1}{Q_2 + Q_1} \times \frac{P_2 + P_1}{P_2 - P_1}$$

Or $$Ep = \frac{50}{250} \times \frac{900}{100}$$

or $$Ep = 1.8$$

The arc elasticity will always lie somewhere (but not necessarily in the middle) between the point elasticities calculated at the lower and the higher prices.

© The Institute of Chartered Accountants of India

1.5.5 Interpretation of the Numerical Values of Elasticity of Demand

Economists have found it useful to divide the demand behaviour into different categories, based on values of price elasticity. Since we draw demand curves with price on the vertical axis and quantity on the horizontal axis, $\Delta Q/\Delta P$ = (1/slope of curve). As a result, for any price and quantity combination, the steeper the slope of the curve, the less elastic is demand.

The numerical value of elasticity of demand can assume any value between zero and infinity.

Elasticity is zero, (Ep= 0) if there is no change at all in the quantity demanded when price changes i.e. when the quantity demanded does not respond at all to a price change. In other words, any change in price leaves the quantity demanded unchanged and consumers will buy a fixed quantity of a good regardless of its price. Perfectly inelastic demand is as an extreme case of price insensitivity and is therefore only a theoretical category with less practical significance. The vertical demand curve in figure 8(a) represents perfectly or completely inelastic demand,

Elasticity is one, or unitary, (Ep= 1) if the percentage change in quantity demanded is equal to the percentage change in price. Figure 8 (b) shows special case of unit-elastic demand, where the demand curve is a rectangular hyperbola.

Elasticity is greater than one (Ep > 1) when the percentage change in quantity demanded is greater than the percentage change in price. In such a case, demand is said to be elastic. [Figure8 (d)]. In other words, the quantity demanded is relatively sensitive to price changes. When drawn, the elastic demand line is fairly flat.

Elasticity is less than one (Ep < 1) when the percentage change in quantity demanded is less than the percentage change in price. In such a case, demand is said to be inelastic.[Figure 8 (e)]In this situation, when price falls the buyers are unable or unwilling to significantly contract demand. In other words, the quantity demanded is relatively insensitive to price changes. When drawn, the inelastic demand line is fairly steep.

Elasticity is infinite, (Ep= ∞) when a 'small price reduction raises the demand from zero to infinity. The demand curve is horizontal at the price level (where the demand curve touches the vertical axis). As long as the price stays at one particular level any quantity might be demanded. Moving back and forth along this line, we find that there is a change in the quantity demanded but no change in the price. If there is a slight increase in price, they would not buy anything from the particular seller. That is, even the smallest price rise would cause quantity demanded to fall to zero. Roughly speaking, when you divide a number by zero, you get infinity, denoted by the symbol∞. So a horizontal demand curve implies an infinite price elasticity of demand. This type of demand curve is found in a perfectly

© The Institute of Chartered Accountants of India

competitive market. The horizontal demand curve in figure 8 (c) represents perfectly or infinitely elastic demand,

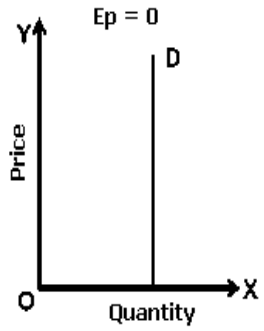


Fig. 8(a)

Demand curve of zero elasticity

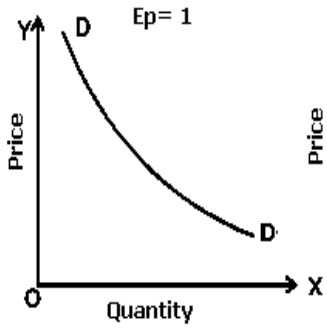


Fig. 8(b)

Demand curve of unitary elasticity

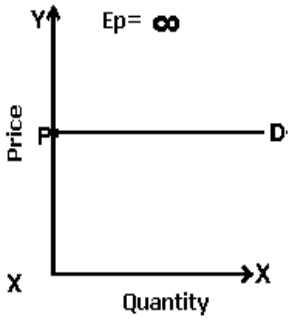


Fig. 8(c)

Demand curve of infinite elasticity

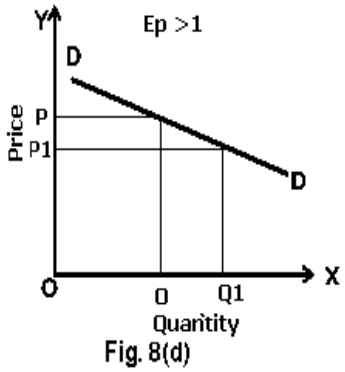


Fig. 8(d)

Demand curve of elasticity greater than one

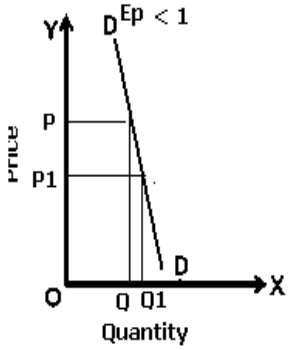


Fig. 8 (e)

Demand curve of Elasticity less than one

Table 4 : Elasticity Measures, Meaning and Nomenclature

Numerical measure of elasticity	Verbal description	Terminology
Zero	Quantity demanded does not change as price changes	Perfectly (or completely) inelastic
Greater than zero, but less than one	Quantity demanded changes by a smaller percentage than does price	Inelastic
One	Quantity demanded changes by exactly the same percentage as does price	Unit elasticity

© The Institute of Chartered Accountants of India

Greater than one, but less than infinity	Quantity demanded changes by a larger percentage than does price	Elastic
Infinity	Purchasers are prepared to buy all they can obtain at some price and none at all at an even slightly higher price	Perfectly (or infinitely) elastic

Now that we are able to classify goods according to their price elasticity, let us see whether the goods mentioned below are price elastic or inelastic.

Sl. No.	Name of the Commodity	Calculation of Elasticity $Ep = \frac{Q_2 - Q_1}{Q_2 + Q_1} \times \frac{P_2 + P_1}{P_2 - P_1}$	Nature of Elasticity
1.	Headphones	$\frac{100-150}{100+150} \times \frac{500+400}{500-400} = 1.8 > 1$	Elastic
2.	Wheat	$\frac{500-520}{500+520} \times \frac{20+18}{20-18} = 0.37 < 1$	Inelastic
3.	Common Salt	$\frac{1000-1005}{1000+1005} \times \frac{9+7.50}{9-7.50} = 0.02743 < 1$	Inelastic

What do we note in the above hypothetical example? We note that the demand for headphones is quite elastic, while demand for wheat is quite inelastic and the demand for salt is almost the same even after a reduction in price.

The price elasticity of demand for the vast majority of goods is somewhere between the two extreme cases of zero and infinity. Generally, in real world situations also, we find that the demand for goods like refrigerators, TVs, laptops, fans, etc. is elastic; the demand for goods like wheat and rice is inelastic; and the demand for salt is highly inelastic or perfectly inelastic. Why do we find such a difference in the behaviour of consumers in respect of different commodities? We shall explain later at length those factors which are responsible for the differences in elasticity of demand for various goods. Before that, we will consider another method of calculating price-elasticity which is called total outlay method.

1.5.6 Total Outlay Method of Calculating Price Elasticity

The price elasticity of demand for a commodity and the total expenditure or outlay made on it are significantly related to each other. As the total expenditure (price of the commodity multiplied by the quantity of that commodity purchased) made on a commodity is the total revenue received by the seller (price of the commodity multiplied by quantity of that

© The Institute of Chartered Accountants of India

commodity sold of that commodity), we can say that the price elasticity and total revenue received are closely related to each other. By analysing the changes in total expenditure (or total revenue) in response to a change in the price of the commodity, we can know the price elasticity of demand for it.

Price Elasticity of demand equals one or Unity: When, as a result of the change in price of a good, the total expenditure on the good or the total revenue received from that good remains the same, the price elasticity for the good is equal to unity. This is because the total expenditure made on the good can remain the same only if the proportional change in quantity demanded is equal to the proportional change in price. Thus, if there is a given percentage increase (or decrease) in the price of a good and if the price elasticity is unitary, total expenditure of the buyer on the good or the total revenue received from it will remain unchanged.

Price elasticity of demand is greater than unity: When, as a result of increase in the price of a good, the total expenditure made on the good or the total revenue received from that good falls or when as a result of decrease in price, the total expenditure made on the good or total revenue received from that good increases, we say that price elasticity of demand is greater than unity. In our example of headphones, as a result of fall in price of headphones from ₹ 500 to ₹ 400, the total revenue received from headphones increases from ₹ 50,000 (500x100) to ₹ 60,000 (400 x 150), indicating elastic demand for headphones. Similarly, had the price of headphones increased from ₹ 400 to ₹ 500, the demand would have fallen from 150 to 100 indicating a fall in the total revenue received from ₹ 60,000 to ₹ 50,000 showing elastic demand for headphones.

Price elasticity of demand is less than unity: When, as a result of increase in the price of a good, the total expenditure made on the good or the total revenue received from that good increases or when as a result of decrease in its price, the total expenditure made on the good or the total revenue received from that good falls, we say that the price elasticity of demand is less than unity. In the example of wheat above, as a result of fall in the price of wheat from ₹ 20 per kg. to ₹ 18 per kg. the total revenue received from wheat falls from ₹ 10,000 (20 x 500) to ₹ 9360 (18 x 520) indicating inelastic demand for wheat. Similarly, we can show that as a result of increase in the price of wheat from ₹ 18 to ₹ 20 per kg, the total revenue received from wheat increase from ₹ 9360 to ₹ 10,000 indicating inelastic demand for wheat.

The main drawback of this method is that by using this we can only say whether the demand for a good is elastic or inelastic; we cannot find out the exact coefficient of price elasticity.

Why should a business firm be concerned about elasticity of demand? The reason is that the degree of elasticity of demand predicts how changes in the price of a good will affect the

© The Institute of Chartered Accountants of India

total revenue earned by the producers from the sale of that good. The total revenue is defined as the total value of sales of a good or service. It is equal to the price multiplied by the quantity sold.

1.5.7 Total Revenue

Total revenue (TR) = Price × Quantity sold

Except in the rare case of a good with perfectly elastic or perfectly inelastic demand, when a seller raises the price of a good, there are two effects which act in opposite directions on revenue.

- **Price effect:** After a price increase (decrease), each unit sold sells at a higher (lower) price, which tends to raise (lower) the revenue.
- **Quantity effect:** After a price increase (decrease), fewer (more) units are sold, which tends to lower (increase) the revenue.

What will be the net effect on total revenue? It depends on which effect is stronger. If the price effect which tends to raise total revenue is the stronger of the two effects, then total revenue goes up. If the quantity effect, which tends to reduce total revenue, is the stronger, then total revenue goes down.

The price elasticity of demand tells us what happens to the total revenue when price changes: its size determines which effect, the price effect or the quantity effect, is stronger.

If demand for a good is unit-elastic (the price elasticity of demand is equal to one; Figure 9), an increase in price or decrease in price does not change total revenue. In this case, the quantity effect and the price effect exactly balance each other. When price rises from P to P1, the gain in revenue (Area A) is equal to loss in revenue due to lost sales (Area B)

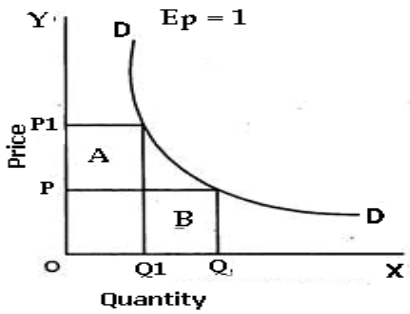


Figure 9: Total revenue when Elasticity = 1

If demand for a good is inelastic (the price elasticity of demand is less than one), a higher price increases total revenue. In this case, the quantity effect is weaker than the price effect.

© The Institute of Chartered Accountants of India

On the contrary, when demand is inelastic, a fall in price reduces total revenue because the quantity effect is dominated by the price effect. Refer Figure 8 (e) above.

If demand for a good is elastic (the price elasticity of demand is greater than one), an increase in price reduces total revenue and a fall in price increases total revenue. In this case, the quantity effect is stronger than the price effect. Refer Figure 8 (d) above.

Table 5 below summarizes the relationship between price elasticity and total revenue.

Table 5: The Relationship between Price elasticity and Total Revenue (TR)

	Demand		
	Elastic	**Unitary Elastic**	**Inelastic**
Price increase	TR Decreases	TR remains same	TR Increases
Price decrease	TR Increases	TR remains same	TR Decreases

1.5.8 Determinants of Price Elasticity of Demand

In the above section we have explained what price elasticity is and how it is measured. Now an important question is: What are the factors which determine whether the demand for a good is elastic or inelastic? We will consider the following important determinants of price elasticity.

(1) **Availability of substitutes**: One of the most important determinants of elasticity is the degree of substitutability and the extent of availability of substitutes. Some commodities like butter, cabbage, car, soft drink etc. have close substitutes. These are margarine, other green vegetables, other brands of cars, other brands of cold drinks respectively. A change in the price of these commodities, the prices of the substitutes remaining constant, can be expected to cause quite substantial substitution – a fall in price leading consumers to buy more of the commodity in question and a rise in price leading consumers to buy more of the substitutes.

Commodities such as salt, housing, and all vegetables taken together, have few, if any, satisfactory substitutes and a rise in their prices may cause a smaller fall in their quantity demanded. Thus, we can say that goods which typically have close or perfect substitutes have highly elastic demand curves. Moreover, wider the range of substitutes available, the greater will be the elasticity. For example, toilet soaps, toothpastes etc have wide variety of brands and each brand is a close substitute for the other.

It should be noted that while as a group, a good or service may have inelastic demand, but when we consider its various brands, we say that a particular brand has

© The Institute of Chartered Accountants of India

elastic demand. Thus, while the demand for a generic good like petrol is inelastic, the demand for Indian Oil's petrol is elastic. Similarly, while there are no general substitutes for health care, there are substitutes for one doctor or hospital. Likewise, the demand for common salt and sugar is inelastic because good substitutes are not available for these.

(2) **Position of a commodity in the consumer's budget**: The greater the proportion of income spent on a commodity; generally the greater will be its elasticity of demand and vice- versa. The demand for goods like common salt, matches, buttons, etc. tend to be highly inelastic because a household spends only a fraction of their income on each of them. On the other hand, demand for goods like rental apartments and clothing tends to be elastic since households generally spend a good part of their income on them. When the good absorbs a significant share of consumers' income, it is worth their time and effort to find a way to reduce their demand when the price goes up.

(3) **Nature of the need that a commodity satisfies**: In general, luxury goods are price elastic because one can easily live without a luxury. In contrast, necessities are price inelastic. Thus, while the demand for a home theatre is relatively elastic, the demand for food and housing, in general, is inelastic. If it is possible to postpone the consumption of a particular good, such good will have elastic demand. Consumption of necessary goods cannot be postponed and therefore, their demand is inelastic.

(4) **Number of uses to which a commodity can be put**: The more the possible uses of a commodity, the greater will be its price elasticity and vice versa. When the price of a commodity which has multiple uses decreases, people tend to extend their consumption to its other uses. To illustrate, milk has several uses. If its price falls, it can be used for a variety of purposes like preparation of curd, cream, ghee and sweets. But, if its price increases, its use will be restricted only to essential purposes like feeding the children and sick persons.

(5) **Time period**: The longer the time-period one has, the more completely one can adjust. Time gives buyers the opportunity to find alternatives or substitutes, or change their habits. A simple example of the effect can be seen in motoring habits. In response to a higher petrol price, one can, in the short run, make fewer trips by car. In the longer run, not only can one make fewer trips, but he can purchase a car with a smaller engine capacity when the time comes for replacing the existing one. Hence one's demand for petrol falls by more when one has made long term adjustments to higher prices.

© The Institute of Chartered Accountants of India

(6) **Consumer habits**: If a person is a habitual consumer of a commodity, no matter how much its price change, the demand for the commodity will be inelastic. If buyers have rigid preferences demand will be less price elastic.

(7) **Tied demand**: The demand for those goods which are tied to others is normally inelastic as against those whose demand is of autonomous nature. For example printers and ink cartridges.

(8) **Price range**: Goods which are in very high price range or in very low price range have inelastic demand, but those in the middle range have elastic demand.

(9) **Minor complementary items:** The demand for cheap, complementary items to be used together with a costlier product will tend to have an inelastic demand.

Knowledge of the price elasticity of demand and the factors that may change it is of key importance to business managers because it helps them recognise the effect of a price change on their total sales and revenues. Firms aim to maximise their profits and their pricing strategy is highly decisive in attaining their goals. Knowledge of the price elasticity of demand for the goods they sell helps them in arriving at an optimal pricing strategy.

If the demand for a firm's product is relatively elastic, the managers need to recognize that lowering the price would expand the volume of sales and result in an increase in total revenue. On the contrary, when the demand is elastic, they have to be very cautious about increasing prices because a price increase will lead to a decline in total revenue as fall in sales would be more than proportionate. If the firm finds that the demand for their product is relatively inelastic, the firm may safely increase the price and thereby increase its total revenue as they can be assured of the fact that the fall in sales on account of a price rise would be less than proportionate.

Knowledge of price elasticity of demand is important for governments while determining the prices of goods and services provided by them, such as, transport and telecommunication. Further, it also helps the governments to understand the nature of responsiveness of demand to increase in prices on account of additional taxes and the implications of such responses on the tax revenues. Elasticity of demand explains why the governments are inclined to raise the indirect taxes on those goods that have a relatively inelastic demand, such as alcohol and tobacco products.

© The Institute of Chartered Accountants of India

1.6 INCOME ELASTICITY OF DEMAND

The income elasticity of demand is a measure of how much the demand for a good is affected by changes in consumers' incomes. Estimates of income elasticity of demand are useful for businesses to predict the possible growth in sales as the average incomes of consumers grow over time.

Income elasticity of demand is the degree of responsiveness of the quantity demanded of a good to changes in the income of consumers. In symbolic form,

$$E_i = \frac{\text{Percentge change in demand}}{\text{Percentge change in income}}$$

This can be given mathematically as follows:

$$E_i = \frac{\Delta Q}{Q} \div \frac{\Delta Y}{Y}$$

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

$$E_i = \frac{\Delta Q}{\Delta Y} \times \frac{Y}{Q}$$

E_i = Income elasticity of demand

ΔQ = Change in demand

Q = Original demand

Y = Original money income

ΔY = Change in money income

There is a useful relationship between income elasticity for a good and the proportion of income spent on it. The relationship between the two is described in the following three propositions:

1. If the proportion of income spent on a good remains the same as income increases, then income elasticity for that good is equal to one.
2. If the proportion of income spent on a good increase as income increases, then the income elasticity for that good is greater than one. The demand for such goods increase faster than the rate of increase in income

© The Institute of Chartered Accountants of India

3. If the proportion of income spent on a good decrease as income rises, then income elasticity for the good is positive but less than one. The demand for income-inelastic goods rises, but substantially slowly compared to the rate of increase in income. Necessities such as food and medicines tend to be income- inelastic

The above stated propositions can be better understood with the help of the below example:

Let, the price of a commodity is ₹ 10 per unit. Initially the consumer's income is ₹ 100 and he spends @10% of his income i.e. ₹ 10 on the commodity demanding 1 unit of the same. Now, as the consumer's income doubled to ₹200 (or increased by 100%), there may be three possibilities causing different degrees of income elasticity of demand as follows:

CASES	Proportion of Income Spent	Expenditure (in ₹)	Quantity Demanded (units)	Income Elasticity	Explanation
Proportion of income spent remains same with increase in income	@ 10%	20 (10% of ₹ 200)	2	$E_i = 1$	% change in quantity demanded = % change in income (i.e. 100% or doubled)
Proportion of income spent increases with increase in income	@ 20%	40 (20% of ₹ 200)	4	$E_i > 1$	% change in quantity demanded > % change in income (i.e. 300%)
Proportion of income spent decreases with increase in income	@ 5%	10 (5% of ₹ 200)	1	$E_i = 0$ Or $E_i < 1$	% change in quantity demanded < % change in income (i.e. 0%)

Income elasticity of goods reveals a few very important features of demand for the goods in question.

If income elasticity is zero, it signifies that the demand for the good is quite unresponsive to changes in income. When income elasticity is greater than zero or positive, then an increase in income leads to an increase in the demand for the good. This happens in the case of most of the goods and such goods are called normal goods. For all normal goods, income elasticity is positive. However, the degree of elasticity varies according to the nature of commodities.

When the income elasticity of demand is negative, the good is an inferior good. In this case, the quantity demanded at any given price decreases as income increases. The reason is that

© The Institute of Chartered Accountants of India

when income increases, consumers choose to consume superior substitutes.

Another significant value of income elasticity is that of unity. When income elasticity of demand is equal to one, the proportion of income spent on goods remains the same as consumer's income increases. This represents a useful dividing line. If the income elasticity for a good is greater than one, it shows that the good bulks larger in consumer's expenditure as he becomes richer. Such goods are called luxury goods. On the other hand, if the income elasticity is less than one, it shows that the good is either relatively less important in the consumer's eye or, it is a good which is a necessity.

The following examples will make the above concepts clear:

(a) The income of a household rises by 10%, the demand for wheat rises by 5%.

(b) The income of a household rises by 10%, the demand for T.V. rises by 20%.

(c) The incomes of a household rises by 5%, the demand for bajra falls by 2%.

(d) The income of a household rises by 7%, the demand for commodity X rises by 7%.

(e) The income of a household rises by 5%, the demand for buttons does not change at all.

Using formula for income elasticity,

i.e. $E_i = \frac{\text{Percentage change in demand}}{\text{Percentage chagne in income}}$

We will find income-elasticity for various goods. The results are as follows:

S. No.	Commodity	Income-elasticity for the household	Remarks
a	Wheat	$\frac{5\%}{10\%} = .5 (E_i < 1)$	Since 0 < .5 < 1, wheat is a normal good and fulfils a necessity.
b	T.V.	$\frac{20\%}{10\%} = 2 (E_i > 1)$	Since 2 > 1, T.V. is a luxurious commodity.
c	Bajra	$\frac{(-)2\%}{5\%} = (-).4 (E_i < 0)$	Since –.4 < 0, Bajra is an inferior commodity in the eyes of the household.
d	X	$\frac{7\%}{7\%} = 1 (E_i = 1)$	Since income elasticity is 1, X has unitary income elasticity.
e	Buttons	$\frac{0\%}{5\%} = 0 (E_i = 0)$	Buttons have zero income-elasticity.

© The Institute of Chartered Accountants of India

It is to be noted that the words 'luxury', 'necessity', 'inferior good' do not signify the strict dictionary meanings here. In economic theory, we distinguish them in the manner shown above.

An important feature of income elasticity is that income elasticity differs in the short run and long run. For nearly all goods and services the income elasticity of demand is larger in the long run than in the short run

Knowledge of income elasticity of demand is very useful for a business firm in estimating the future demand for its products. Knowledge of income elasticity of demand helps firms measure the sensitivity of sales for a given product to incomes in the economy and to predict the outcome of a business cycle on its market demand. For instance, if EY = 1, sales move exactly in step with changes in income. If EY >1, sales are highly cyclical, that is, sales are sensitive to changes in income. For an inferior good, sales are countercyclical, that is, sales move in the opposite direction of income and EY < 0. This knowledge enables the firm to carry out appropriate production planning and management.

ILLUSTRATION 6

Income Elasticity of Demand

A car dealer sells new as well as used cars. Sales during the previous year were as follows:

Car type	*Price*	*Quantity (Nos)*
New	*6 .5 lakhs*	*400*
Used	*60,000*	*4000*

During the previous year, other things remaining the same, the real incomes of the customers rose on average by 10%. During the last year sales of new cars increased to 500, but sales of used cars declined to 3,850.

What is the income elasticity of demand for the new as well as used cars? What inference do you draw from these measures of income elasticity?

SOLUTION

Income Elasticity of demand for new cars

Percentage change in income = 10%, given

Percentage change in quantity of new cars demanded = (Δ Q/Q) X 100 = (100/400) X100 = 25%

Income elasticity of demand = 25%/ 10% = + 2.5

New car is therefore income elastic. Since income elasticity is positive, new car is a normal good.

© The Institute of Chartered Accountants of India

Income Elasticity of demand for used cars

Percentage change in income = 10%, given

% change in quantity of used cars demanded = (Δ Q/Q) X 100 = (-1 50/4000) x100 = - 3.75%-
Income elasticity of demand = – 3.75/10= –.375

Since income elasticity is negative, used car is an inferior good.

1.7. CROSS - PRICE ELASTICITY OF DEMAND

1.7.1 Price of Related Goods and Demand

The demand for a particular commodity may change due to changes in the prices of related goods. These related goods may be either complementary goods or substitute goods. This type of relationship is studied under 'Cross Demand'. Cross demand refers to the quantities of a commodity or service which will be purchased with reference to changes in price, not of that particular commodity, but of other inter-related commodities, other things remaining the same. It may be defined as the quantities of a commodity that consumers buy per unit of time, at different prices of a 'related article', 'other things remaining the same'. The assumption 'other things remaining the same' means that the income of the consumer and also the price of the commodity in question will remain constant.

(a) Substitute Products and Demand

In the case of substitute commodities, the cross-demand curve slopes upwards (i.e. positively), showing that more quantities of a commodity, will be demanded whenever there is a rise in the price of a substitute commodity. In figure 10, the quantity demanded of tea is given on the X axis. Y axis represents the price of coffee which is a substitute for tea. When the price of coffee increases, due to the operation of the law of demand, the demand for coffee falls. The consumers will substitute tea in the place of coffee. The price of tea is assumed to be constant. Therefore, whenever there is an increase in the price of one commodity, the demand for the substitute commodity will increase.

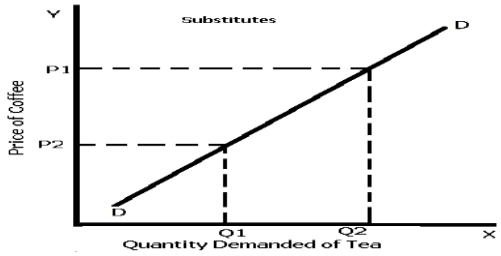


Fig. 10: Substitutes

© The Institute of Chartered Accountants of India

(b) Complementary Goods

In the case of complementary goods, as shown in the figure 11 below, a change in the price of a good will have an opposite reaction on the demand for the other commodity which is closely related or complementary. For instance, an increase in demand for solar panels will necessarily increase the demand for batteries. The same is the case with complementary goods such as bread and butter; car and petrol, electricity and electrical gadgets etc. Whenever there is a fall in the demand for solar panels due to a rise in their prices, the demand for batteries will fall, not because the price of batteries has gone up, but because the price of solar panels has gone up. So, we find that there is an inverse relationship between price of a commodity and the demand for its complementary good (other things remaining the same).

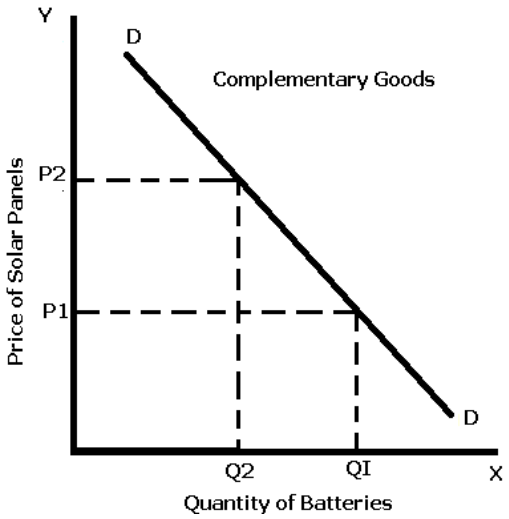


Fig. 11: Complementary Goods

We shall now look into the cross - price elasticity of demand.

The cross-price elasticity of demand between two goods measures the effect of the change in one good's price on the quantity demanded of the other good. Here, we consider the effect of changes in relative prices within a market on the pattern of demand. A change in the demand for one good in response to a change in the price of another good represents cross elasticity of demand of the former good for the latter good. It is equal to the percentage change in the quantity demanded of one good divided by the percentage change in the other good's price.

$$Ec = \frac{\text{Percentage change in quantity demanded of good X}}{\text{Percentage chagne in price of good Y}}$$

© The Institute of Chartered Accountants of India

Symbolically, (mathematically)

$$E_c = \frac{\Delta q_x}{q_x} \div \frac{\Delta p_y}{p_y}$$

$$E_c = \frac{\Delta q_x}{\Delta p_y} \div \frac{p_y}{q_x}$$

Where E_C stands for cross elasticity.

q_x stands for original quantity demanded of X.

Δq_x stands for change in quantity demanded of X

p_y stands for the original price of good Y.

Δp_y stands for a small change in the price of Y.

In the case of the cross-price elasticity of demand, the sign (plus or minus) is very important: it tells us whether the two goods are complements or substitutes.

When two goods X and Y are substitutes, the cross-price elasticity of demand is positive: a rise in the price of Y increases the demand for X and causes a rightward shift of the demand curve. When the cross-price elasticity of demand is positive, its size is a measure of how closely substitutable the two goods are. Greater the cross elasticity, the closer is the substitute. Higher the value of cross elasticity, greater will be the substitutability.

- If two goods are perfect substitutes for each other, the cross elasticity between them is infinite.
- If two goods are close substitutes, the cross-price elasticity will be positive and large.
- If two goods are not close substitutes, the cross-price elasticity will be positive and small.
- If two goods are totally unrelated, the cross-price elasticity between them is zero.

When two goods are complementary (tea and sugar) to each other, the cross elasticity between them is negative so that a rise in the price of one leads to a fall in the quantity demanded of the other causing a leftward shift of the demand curve. The size of the cross-price elasticity of demand between two complements tells us how strongly complementary they are: if the cross-price elasticity is only slightly below zero, they are weak complements; if it is negative and very high, they are strong complements.

However, one need not base the classification of goods on the basis of the above definitions. While the goods between which cross elasticity is positive can be called

© The Institute of Chartered Accountants of India

substitutes, the goods between which cross elasticity is negative are not always complementary. This is because negative cross elasticity is also found when the income effect of the price change is very strong.

The concept of cross elasticity of demand is useful for a manager while making decisions regarding changing the prices of his products which have substitutes and complements. If cross elasticity to change in the price of substitutes is greater than one, the firm may lose by increasing the prices and gain by reducing the prices of his products. With proper knowledge of cross elasticity, the firm can plan policies to safeguard against fluctuating prices of substitutes and complements.

Cross- price elasticity of demand

ILLUSTRATION 7

A shopkeeper sells only two brands of note books Imperial and Royal. It is observed that when the price of Imperial rises by 10% the demand for Royal increases by 15%.What is the cross price elasticity for Royal against the price of Imperial?

SOLUTION

$$Ec = \frac{\text{Percentage change in quantity demanded of good X}}{\text{Percentage chagne in price of good Y}}$$

$$Ec = \frac{15\%}{10\%} = +1.5$$

The two brands of note book Imperial and Royal are substitutes with significant substitutability

ILLUSTRATION 8

The cross price elasticity between two goods X and Y is known to be - 0.8. If the price of good Y rises by 20%, how will the demand for X change?

SOLUTION

Inserting the values in the formula:

-0.8 = X/ 20%

% change in quantity demanded of X = 20% x - 0.8 = - 16%

Since cross elasticity is negative, X and Y are complementary goods

© The Institute of Chartered Accountants of India

ILLUSTRATION 9

The price of 1kg of tea is ₹ 30. At this price 5kg of tea is demanded. If the price of coffee rises from ₹ 25 to ₹ 35 per kg, the quantity demanded of tea rises from 5kg to 8kg. Find out the cross price elasticity of tea.

SOLUTION

$$\text{Cross elasticity} = \frac{\Delta q_x}{\Delta p_y} \times \frac{p_y}{q_x} \quad \text{Here} \begin{matrix} x = \text{tea} \\ y = \text{coffee} \end{matrix}$$

$$Ec = \frac{8-5}{10} \times \frac{25}{5} = \frac{3}{10} \times \frac{25}{5} = +1.5$$

The elasticity of demand of tea is +1.5 showing that the demand of tea is highly elastic with respect to coffee. The positive sign shows that tea and coffee are substitute goods.

ILLUSTRATION 10

The price of 1 kg of sugar is ₹ 50. At this price 10 kg is demanded. If the price of tea falls from 30 to ₹ 25 per kg, the consumption of sugar rises from 10 kg to 12 kg. Find out the cross price elasticity and comment on its value.

SOLUTION

$$\text{Cross elasticity} = \frac{\Delta q_x}{\Delta p_y} \times \frac{p_y}{q_x} \quad \text{Here} \begin{matrix} x = \text{Sugar} \\ y = \text{Tea} \end{matrix}$$

$$= \frac{2}{-5} \times \frac{30}{10} = (-)1.2$$

Since the elasticity is -1.2, we can say that sugar and tea are complementary in nature.

1.8 ADVERTISEMENT ELASTICITY

Advertisement elasticity of sales or promotional elasticity of demand is the responsiveness of a good's demand to changes in the firm's spending on advertising. The advertising elasticity of demand measures the percentage change in demand that occurs given a one percent change in advertising expenditure. Advertising elasticity measures the effectiveness of an advertisement campaign in bringing about new sales.

Advertising elasticity of demand is typically positive. Higher the value of advertising elasticity greater will be the responsiveness of demand to change in advertisement.

© The Institute of Chartered Accountants of India

Advertisement elasticity varies between zero and infinity. It is measured by using the formula;

$$Ea = \frac{\%\ \text{Change in quantity demanded}}{\%\ \text{change in spending on advertising}}$$

$$Ea = \frac{\Delta Qd / Qd}{\Delta A / A}$$

Where Δ Qd denotes increase in demand

Δ A denotes additional expenditure on advertisement

Qd denotes initial demand

A denotes initial expenditure on advertisement

Elasticity	Interpretation
Ea = 0	Demand does not respond at all to increase in advertisement expenditure
Ea>0 but < 1	Increase in demand is less than proportionate to the increase in advertisement expenditure
Ea = 1	Demand increase in the same proportion in which advertisement expenditure increase
Ea> 1	Demand increase at a higher rate than increase in advertisement expenditure

As far as a business firm is concerned, the measure of advertisement elasticity is useful in understanding the effectiveness of advertising and in determining the optimum level of advertisement expenditure.

SUMMARY

- Buyers constitute the demand side of the market; sellers make the supply side of that market. The quantity that consumers buy at a given price determines the size of the market.
- Demand means desire or wish to buy and consume a commodity or service backed by adequate ability to pay and willingness to pay
- The important factors that determine demand are price of the commodity, price of related commodities, income of the consumer, tastes and preferences of consumers, consumer expectations regarding future prices, size of population, composition of

© The Institute of Chartered Accountants of India

population, the level of national income and its distribution, consumer-credit facility and interest rates.

- The law of demand states that people will buy more at lower prices and less at higher prices, other things being equal.
- A demand schedule is a table that shows various prices and the corresponding quantities demanded. The demand schedules are of two types; individual demand schedule and market demand schedule.
- According to Marshall, the demand curve slopes downwards due to the operation of the law of diminishing marginal utility. However, according to Hicks and Allen it is due to income effect and substitution effect.
- The demand curve usually slopes downwards; but exceptionally slopes upwards under certain circumstances as in the case of conspicuous goods, Giffen goods, conspicuous necessities, future expectations about prices, demand for necessaries and speculative goods.
- When the quantity demanded decreases due to a rise in own price, it is contraction of demand. On the contrary, when the price falls and the quantity demanded increases it is extension of demand.
- The demand curve will shift to the right when there is a rise in income (unless the good is an inferior one), a rise in the price of a substitute, a fall in the price of a complement, a rise in population and a change in tastes in favour of commodity. The opposite changes will shift the demand curve to the left.
- Elasticity of demand refers to the degree of sensitiveness or responsiveness of demand to a change in any one of its determinants. Elasticity of demand is classified mainly into four kinds. They are price elasticity of demand, income elasticity of demand, advertisement elasticity and cross elasticity of demand.
- Price elasticity of demand refers to the percentage change in quantity demanded of a commodity as a result of a percentage change in price of that commodity. Because demand curve slopes downwards and to the right, the sign of price elasticity is negative. We normally ignore the sign of elasticity and concentrate on the coefficient. Greater the absolute coefficient, greater is the price elasticity.
- In point elasticity, we measure elasticity at a given point on a demand curve. When the price change is somewhat larger or when price elasticity is to be found between two prices or two points on the demand curve, we use arc elasticity

© The Institute of Chartered Accountants of India

- Income elasticity of demand is the percentage change in quantity demanded of a commodity as a result of a percentage change in income of the consumer. Goods and services are classified as luxuries, normal or inferior, depending on the responsiveness of spending on a product relative to percentage change in income.
- The cross elasticity of demand is the percentage change in the quantity demanded of commodity X as a result of a percentage change in the price of some related commodity Y. Products can be substitutes, and their cross elasticity is then positive; cross elasticity is negative for products that are complements.
- Advertisement elasticity of sales or promotional elasticity of demand measures the responsiveness of a good's demand to changes in the firm's spending on advertising.

© The Institute of Chartered Accountants of India

UNIT -2: THEORY OF CONSUMER BEHAVIOUR

LEARNING OUTCOMES

After studying this unit, you would be able to:

- Explain the meaning of utility.
- Describe how consumers try to maximize their satisfaction by spending on different goods.
- Explain the law of diminishing marginal utility with examples.
- Describe the concept of consumer surplus with examples.
- Describe the meaning of indifference curve and the price line and show how these help in explaining consumer equilibrium.

2.0 NATURE OF HUMAN WANTS

In economics, the term 'want' refers to a wish, desire or motive to own or/and use goods and services that give satisfaction. Wants may arise due to physical, psychological or social factors. Since the resources are limited, we need to make a choice between the urgent wants and the not so urgent wants.

- All wants of human beings exhibit some characteristic features.
- Wants are unlimited in number. All wants cannot be satisfied.
- Wants differ in intensity. Some are urgent, others are less intensely felt
- "Utility" depends on intensity of wants.
- In general, Utility is satisfaction. But in economic sense, Utility is a want satisfying power of a commodity.
- Each want is satiable

© The Institute of Chartered Accountants of India

- Wants are competitive. They compete each other for satisfaction because resources are scarce in relation to wants
- Wants are complementary. Some wants can be satisfied only by using more than one good or group of goods
- A particular want may be satisfied in alternative ways
- Wants are subjective and relative. And hence, utility is also subjective or relative concept.
- Wants vary with time, place, and person and hence utility.
- Some wants recur again whereas others do not occur again and again
- Wants may become habits and customs
- Wants are affected by income, taste, fashion, advertisements and social norms and customs
- Wants arise from multiple causes such as physical and psychological instincts, social obligations and individual's economic and social status
- Utility is a psychological concept. It is different from usefulness and has no concern with moral or ethical values.
- The two important concepts of utility are Total Utility (TU) and Marginal Utility (MU) which are useful in theories of consumer behaviour.
- TU refers to the sum total of utilities derived from the consumption of all the units of a commodity consumed by a consumer at a given time. In other words, it is a sum of marginal utilities up to the units consumed by a consumer. **$TU = \sum MU$**
- MU is the additional utility derived from the consumption of an additional unit of the commodity. **$MU = TU_n - TU_{n-1}$ Or $MU = \Delta TU / \Delta N$**

2.1 CLASSIFICATION OF WANTS

In Economics, wants are classified into three categories, viz., necessaries, comforts and luxuries.

Necessaries:

Necessaries are those which are essential for living. Necessaries are further sub-divided into necessaries for life or existence, necessaries for efficiency and conventional necessaries. Necessaries for life are things necessary to meet the minimum physiological needs for the maintenance of life such as minimum amount of food, clothing and shelter. Man requires

© The Institute of Chartered Accountants of India

something more than the necessities of life to maintain longevity, energy and efficiency of work, such as nourishing food, adequate clothing, clean water, comfortable dwelling, education, recreation etc. These are necessaries for efficiency. Conventional necessaries arise either due to pressure of habit or due to compelling social customs and conventions. They are not necessary either for existence or for efficiency.

Comforts:

While necessaries make life possible comforts make life comfortable and satisfying. Comforts are less urgent than necessaries. Tasty and wholesome food, good house, clothes that suit different occasions, audio-visual and labour saving equipments etc .make life more comfortable.

Luxuries:

Luxuries are those wants which are superfluous and expensive. They are not essential for living. Items such as expensive clothing, exclusive vintage cars, classy furniture and goods used for vanity etc. fall under this category.

The above categorization is not rigid as a thing which is a comfort or luxury for one person or at one point of time may become a necessity for another person or at another point of time. As all of us are aware, the things which were considered luxuries in the past have become comforts and necessaries today.

2.2 RELATIONSHIP BETWEEN TU & MU

There is a unique relationship between TU and MU which can be explained with the help of below schedule and diagram.

Total and Marginal Utility Schedule

UNITS	Total Utility (TU)	Marginal Utility (MU)
0	0	-
1	10	10
2	18	8
3	23	5
4	25	2
5	25	0
6	23	-2

© The Institute of Chartered Accountants of India

- Both TU and MU are interrelated.

  $TU = \sum MU$ & **$MU = TU_n - TU_{n-1}$**
- At first unit, TU = MU.
- Initially, when TU is increasing at decreasing rate, MU is decreasing but remains positive.
- When TU is maximum and constant, MU = 0 (zero).
- When TU starts decreasing, MU becomes negative.

2.3 LAW OF DIMINISHING MARGINAL UTILITY

The law of diminishing marginal utility is based on an important fact that while total wants of a person are virtually unlimited, each single want is satiable i.e. each want is capable of being satisfied.

Since each want is satiable, as a consumer consumes more and more units of a good, the intensity of his want for the good goes on decreasing and a point is reached where the consumer no longer wants it.

In simple words it says that as a consumer takes more units of a good, the extra satisfaction that he derives from an extra unit of a good goes on falling. It is to be noted that it is the marginal utility and not the total utility which declines with the increase in the consumption of a good.

Total and Marginal Utility Schedule

Quantity of tea consumed (cups per day)	Total Utility	Marginal Utility
1	30	30
2	50	20
3	65	15
4	75	10
5	83	8
6	89	6
7	93	4
8	96	3
9	98	2
10	99	1
11	95	- 4

© The Institute of Chartered Accountants of India

Let us illustrate the law with the help of an example. Consider table in which we have presented the total utility and marginal utility derived by a person from cups of tea consumed per day. When one cup of tea is taken per day, the total utility derived by the person is 30 **utils (unit of utility)** and marginal utility derived is also 30 utils with the consumption of 2nd cup per day the total utility rises to 50 but marginal utility falls to 20.

However, when the cups of tea consumed per day increases to 11, then instead of giving positive marginal utility, the eleventh cup gives negative marginal utility because it may cause him sickness.

The law of diminishing marginal utility is applicable only under certain **assumptions:**

(i) The different units consumed should be identical in all respects. The habit, taste, treatment and income of the consumer also remain unchanged.

(ii) The different units consumed should consist of standard units. If a thirsty man is given water by successive spoonful, the utility of second spoonful may conceivably be greater than the utility of the first.

(iii) There should be no time gap or interval between the consumption of one unit and another unit i.e. there should be continuous consumption.

(iv) The law may not apply to articles like gold, cash where a greater quantity may increase the lust for it.

(v) The shape of the utility curve may be affected by the presence or absence of articles which are substitutes or complements.

2.4 CONSUMER SURPLUS

The concept of consumer surplus was propounded by Alfred Marshall. Consumer surplus is a measure of welfare that people gain from consuming goods and services. It measures the benefits buyers receive from participating in a market. This concept occupies an important place not only in economic theory but also in economic policies of government and in decision-making of business firms.

The demand for a commodity depends on the utility of that commodity to a consumer. If a consumer gets more utility from a commodity, he would be willing to pay a higher price and vice-versa. The willingness to pay of each individual consumer based on his utility determines the demand curve. When price is less than or equal to the willingness to pay, the potential consumer purchases the good.

© The Institute of Chartered Accountants of India

It is common knowledge that consumers generally are ready to pay more for certain goods than what they actually pay for them. This extra satisfaction which consumers get from their purchase of a good is referred to as consumer surplus by Alfred Marshall. Consumer surplus is defined as the difference between the total amount that consumers are willing and able to pay for a good or service (indicated by the demand curve) and the total amount that they actually do pay (i.e. the market price).

Marshall defined the concept of consumer surplus as the "excess of the price which a consumer would be willing to pay rather than go without a thing over that which he actually does pay", is called consumers surplus."

Thus, consumer surplus = what a consumer is ready to pay - what he actually pays.

The concept of consumer surplus is derived from the law of diminishing marginal utility. As we know, according to the law of diminishing marginal utility, the more of a thing we have, the lesser the marginal utility it has. In other words, as we purchase more of a good, its marginal utility goes on diminishing. The consumer is in equilibrium when the marginal utility of a good is equal to its price i.e., he purchases that many number of units of a good at which marginal utility is equal to price (It is assumed that perfect competition prevails in the market). Since the price is the same for all units of the good he purchases, he gets extra utility for all units consumed by him except for the one at the margin. This extra utility or extra surplus for the consumer is called consumer surplus.

Consider Table 7 in which we have illustrated the measurement of consumer surplus in case of commodity X. There is only one price for a commodity in the market at a particular point of time. The price of X is assumed to be ₹ 20.

Table 7: Measurement of Consumer Surplus

No. of units	Marginal Utility (worth ₹)	Price (₹)	Consumer Surplus
1	30	20	10
2	28	20	8
3	26	20	6
4	24	20	4
5	22	20	2
6	20	20	0
7	18	20	–

We see from the above table that when the consumer's consumption increases from 1 to 2 units, his marginal utility falls from 30 to 28. His marginal utility goes on diminishing as he increases his consumption of good X. Since marginal utility for a unit of good indicates the

© The Institute of Chartered Accountants of India

price the consumer is willing to pay for that unit, and since market price is assumed to be at ₹20, the consumer enjoys a surplus on every unit of purchase till the 6th unit. Thus, when the consumer is purchasing 1 unit of X, the marginal utility is worth ₹30 and price fixed is ₹20, thus he is deriving a surplus of ₹ 10. Similarly, when he purchases 2 units of X, he enjoys a surplus of8 [28 – 20]. This continues and he enjoys consumer surplus equal to 6, 4, 2 respectively from 3rd, 4th and 5th unit. When he buys 6 units, he is in equilibrium because his marginal utility is equal to the market price or he is willing to pay a sum equal to the actual market price and therefore, he enjoys no surplus. Thus, given the price of ₹ 20 per unit, the total surplus which the consumer will get, is worth 10 + 8 + 6 + 4 + 2 + 0 = 30.

The concept of consumer surplus is closely related to the demand curve for a product. The demand curve reflects buyer's willingness to pay; we can also use it to measure consumer surplus. As we know, the height of the demand curve measures the value buyers place on the good as measured by their willingness to pay for it. We have already seen above that the difference between the willingness to pay and the market price is each buyer's consumer surplus. The difference between his willingness to pay and the price that he actually pays is the net gain to the consumer, the individual consumer surplus.

The total consumer surplus in a market which is the sum of all individual consumer surpluses in a market is equal to the area below the market demand curve but above the price. The term consumer surplus is often used to refer to both individual and total consumer surplus.

Thus, the total area below the demand curve and above the price is the sum of the consumer surplus of all buyers in the market.

The concept of consumer surplus can be illustrated graphically. Consider figure 15. On the X-axis we measure the amount of the commodity and on the Y-axis the marginal utility and the price of the commodity. MU is the marginal utility curve which slopes downwards, indicating that as the consumer buys more units of the commodity, its marginal utility falls. Marginal utility shows the price which a person is willing to pay for the different units rather than go without them. If OP is the price that prevails in the market, then the consumer will be in equilibrium when he buys OQ units of the commodity, since at OQ units, marginal utility is equal to the given price OP. The last unit, i.e., Q^{th} unit does not yield any consumer surplus because here price paid is equal to the marginal utility of the Q^{th} unit. For all units before the Q^{th} unit, the marginal utility is greater than price and thus these units fetch consumer surplus to the consumer.

© The Institute of Chartered Accountants of India

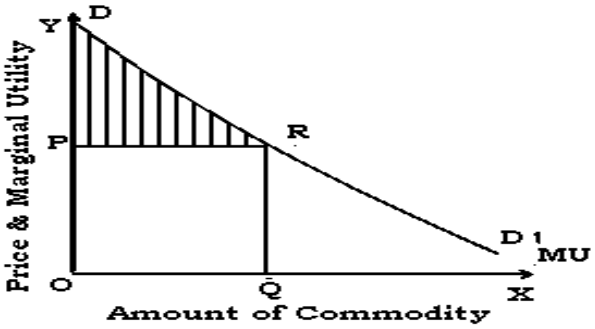


Fig. 15: Marshall's Measure of Consumer Surplus

In Figure 15, the total utility is equal to the area under the marginal utility curve up to point Q i.e. ODRQ. But, given the price equal to OP, the consumer actually pays OPRQ. The consumer derives extra utility equal to DPR which is nothing but consumer surplus.(The portion of demand curve RD1 is not relevant for our consumer as MUx is less than Px in this part and therefore, the consumer will not buy any quantity beyond Q.)

The consumer welfare derived from a good is the benefit a consumer gets from consuming that good minus what the consumer paid to buy the good. Consumer surplus is the buyer's net gain from purchasing a good. Graphically, it is the triangular area below the demand curve and above the price line. The size of the consumer surplus triangle depends on the price of the good. A rise in the price of a good reduces consumer surplus; a fall in the price increases consumer surplus. Thus, a higher price results in a smaller consumer surplus and a lower price generates a larger consumer surplus. The change in consumer surplus on account of a fall in price can be illustrated with the help of figure 16.

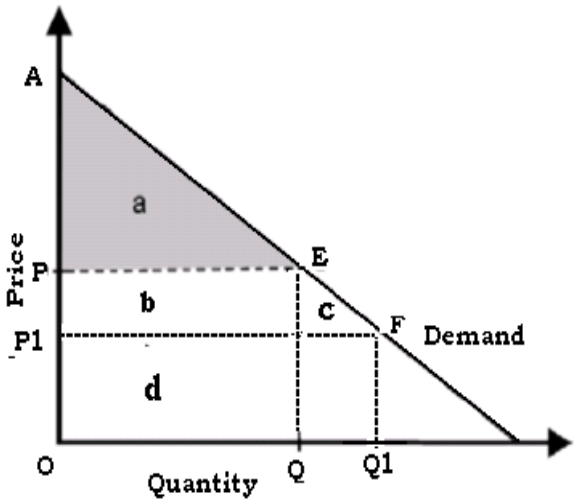


Fig.16: Change in Consumer Surplus Due to a Fall in Price

© The Institute of Chartered Accountants of India

A fall in price from P to P1 increases consumer surplus from APE to A P1F.The increase in consumer surplus has two components.

(a) The increase in consumer surplus of existing buyers who were earlier paying price P (the rectangle marked b).

(b) The consumer surplus now available to the new buyers who started buying the commodity due to lower prices (the triangle c)

2.4.1 Applications

The concept of consumer surplus has important practical applications. Few such applications are listed below:

(1) Consumer surplus is a measure of the welfare that people gain from consuming goods and services. It is very important to a business firm to reflect on the amount of consumer surplus enjoyed by different segments of their customers because consumers who perceive large surplus are more likely to repeat their purchases.

(2) Understanding the nature and extent of surplus can help business managers make better decisions about setting prices. If a business can identify groups of consumers with different elasticity of demand within their market and the market segments which are willing and able to pay higher prices for the same products, then firms can profitably use price discrimination.

(3) Large scale investment decisions involve cost benefit analysis which takes into account the extent of consumer surplus which the projects may fetch.

(4) Knowledge of consumer surplus is also important when a firm considers raising its product prices Customers who enjoyed only a small amount of surplus may no longer be willing to buy products at higher prices. Firms making such decisions should expect to make fewer sales if they increase prices.

(5) Consumer surplus usually acts as a guide to finance ministers when they decide on the products on which taxes have to be imposed and the extent to which a commodity tax has to be raised. It is always desirable to impose taxes or increase the rates of taxes on commodities yielding high consumer surplus because the loss of welfare to citizens will be minimal.

© The Institute of Chartered Accountants of India

2.4.2 Limitations

It is often argued that this concept of consumer surplus is hypothetical and illusory. In real life, the surplus satisfaction cannot be measured accurately.

- Consumer surplus cannot be measured precisely - because it is difficult to measure the marginal utilities of different units of a commodity consumed by a person.
- In the case of necessaries, the marginal utilities of the earlier units are infinitely large. In such case the consumer surplus is always infinite.
- The consumer surplus derived from a commodity is affected by the availability of substitutes.
- There is no simple rule for deriving the utility scale of articles which are used for their prestige value (e.g., diamonds).
- Consumer surplus cannot be measured in terms of money because the marginal utility of money changes as purchases are made and the consumer's stock of money diminishes. (Marshall assumed that the marginal utility of money remains constant. But this assumption is unrealistic).
- The concept can be accepted only if it is assumed that utility can be measured in terms of money or otherwise. Many modern economists believe that this cannot be done.

2.5 INDIFFERENCE CURVE ANALYSIS

In the last section, we have discussed the marginal utility analysis of demand. A very popular alternative and a more realistic method of explaining consumer demand is the ordinal utility approach. This approach uses a different tool namely indifference curve to analyse consumer behaviour and is based on consumer preferences. The approach is based on the belief that that human satisfaction, being a psychological phenomenon, cannot be measured quantitatively in monetary terms as was attempted in Marshall's utility analysis. Therefore, it is scientifically more sound to order preferences than to measure them in terms of money. The consumer preference approach is, therefore, an ordinal concept based on ordering of preferences compared with Marshall's approach of cardinality.

2.5.0 Assumptions Underlying Indifference Curve Approach

(i) The foundation of consumer behaviour theory is the assumption that the consumer knows his own tastes and preferences and possesses full information about all the relevant aspects of economic environment in which he lives.

© The Institute of Chartered Accountants of India

(ii) The consumer is rational and tends to take rational actions that result in a more preferred consumption bundle over a less preferred bundle.

(ii) The indifference curve analysis assumes that utility is only ordinally expressible. The consumer is capable of ranking all conceivable combinations of goods according to the satisfaction they yield. Thus, if he is given various combinations say A, B, C, D and E, he can rank them as first preference, second preference and so on. However, if a consumer happens to prefer A to B, he cannot tell quantitatively how much he prefers A to B.

(iii) Consumer choices are assumed to be transitive. If the consumer prefers combination A to B, and B to C, then he must prefer combination A to C. In other words, he has a consistent consumption pattern.

(iv) If combination A has more commodities than combination B, then A must be preferred to B. This is sometimes referred to as the "more is better" assumption or the assumption of non-satiation.

2.5.1 Indifference Curves

The ordinal analysis of demand (here we will discuss the one given by Hicks and Allen) is based on indifference curve which represent the consumer's preferences graphically. An indifference curve is a curve which represents all those combinations of two goods which give same satisfaction to the consumer. Since all the combinations on an indifference curve give equal satisfaction to the consumer, the consumer is completely indifferent among them. Or, it represents the set of all bundles of goods that a consumer views as being equally desirable. In other words, since all the combinations provide the same level of satisfaction the consumer prefers them equally and does not mind which combination he gets. An Indifference curve is also called iso-utility curve or equal utility curve.

To understand indifference curves, let us consider the example of a consumer who has one unit of food and 12 units of clothing. Now, we ask the consumer how many units of clothing he is prepared to give up to get an additional unit of food, so that his level of satisfaction does not change. Suppose the consumer says that he is ready to give up 6 units of clothing to get an additional unit of food. We will have then two combinations of food and clothing giving equal satisfaction to the consumer: Combination A which has 1 unit of food and 12 units of clothing, and combination B which has 2 units of food and 6 units of clothing. Similarly, by asking the consumer further how much of clothing he will be prepared to forgo for successive increments in his stock of food so that his level of satisfaction remains unaltered, we get various combinations as given in table 8:

© The Institute of Chartered Accountants of India

Table 8: Indifference Schedule

Combination	Food	Clothing	MRS
A	1	12	-
B	2	6	6
C	3	4	2
D	4	3	1

Now, if we plot the above schedule, we will get the following figure.

In Figure 17, an indifference curve IC is drawn by plotting the various combinations given in the indifference schedule. The quantity of food is measured on the X axis and the quantity of clothing on the Y axis. As in indifference schedule, the combinations lying on an indifference curve will give the consumer the same level of satisfaction.

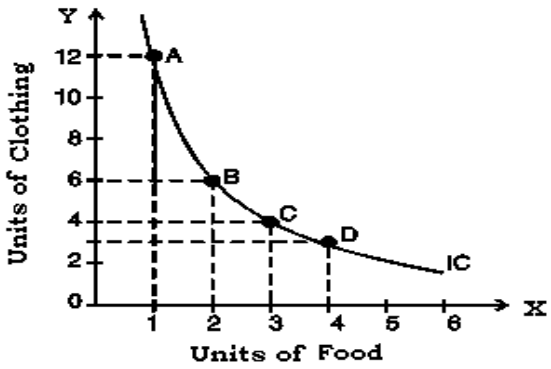


Fig. 17: A Consumer's Indifference Curve

2.5.2 Indifference Curve Map

The entire utility function of an individual can be represented by an indifference curve map which is a collection of indifference curves in which each curve corresponds to a different level of satisfaction. In short, a set of indifference curves is called an indifference curve map. Each indifference curve is a set of points and each point shares a common level of utility with the others. Combinations of goods lying on indifference curves which are farther from the origin are preferred to those on indifference curves which are closer to the origin. Moving upward and to the right from one indifference curve to the next represents an increase in utility, and moving down and to the left represents a decrease. An indifference curve map thus depicts the complete picture of consumer tastes and preferences.

In Figure 18, an indifference curve map of a consumer is shown which consists of three indifference curves.

© The Institute of Chartered Accountants of India

We have marked good X on X-axis and good Y on Y-axis. It should be noted that while the consumer is indifferent among the combinations lying on the same indifference curve, he certainly prefers the combinations on the higher indifference curve to the combinations lying on a lower indifference curve because a higher indifference curve signifies a higher level of satisfaction. Thus, while all combinations of IC_1 give him the same satisfaction, all combinations lying on IC_2 give him greater satisfaction than those lying on IC_1.

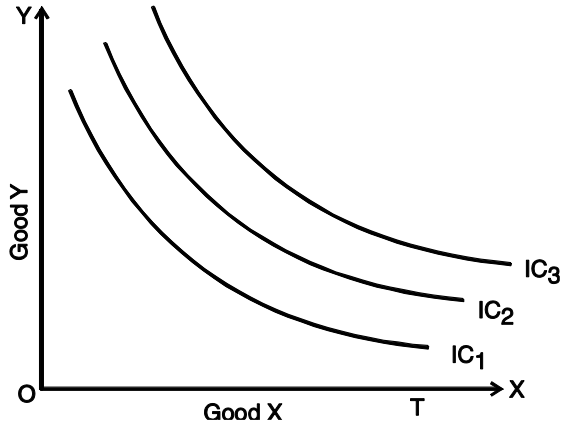


Fig. 18 : Indifference Map

2.5.3. Marginal Rate of Substitution

The Marginal Rate of Substitution (MRS) is the rate at which a consumer is prepared to exchange goods X and Y, holding the level of satisfaction constant (i.e., moving along an indifference curve).

The marginal rate of substitution along *any segment* of an indifference curve refers to the maximum rate at which a consumer would willingly exchange units of Y for units of X. The MRS at *any point* on the indifference curve is equal to the (absolute value of) the slope of the curve at that point. When measured at a point, the MRSxy tells us the maximum rate at which a consumer would willingly trade good Y for a infinitesimal bit more of good X.

Consider Table-8. In the beginning the consumer is consuming 1 unit of food and 12 units of clothing. Subsequently, he gives up 6 units of clothing to get an extra unit of food, his level of satisfaction remaining the same. The MRS here is 6. Likewise when he moves from B to C and from C to D in his indifference schedule, the MRS are 2 and 1 respectively. Thus, we can define MRS of X for Y as the amount of Y whose loss can just be compensated by a unit gain of X in such a manner that the level of satisfaction remains the same.

© The Institute of Chartered Accountants of India

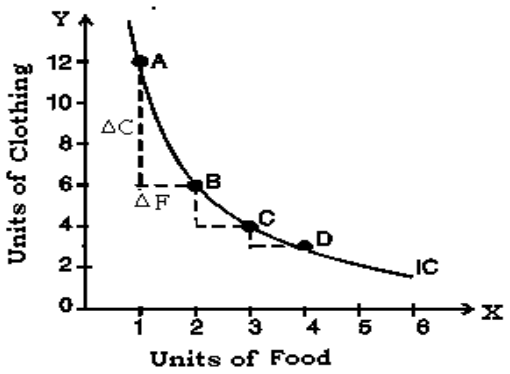


Figure 19: Diminishing Marginal Rate of Substitution

We notice that MRS is falling i.e., as the consumer has more and more units of food, the trade –off or rate of substitution becomes smaller and smaller; i.e. he is prepared to give up less and less units of clothing.(Refer figure 19). When a consumer moves down his indifference curve, he gains utility from the consumption of additional units of good X, but loses an equal amount of utility due to reduced consumption of Y. But at each step, the utility levels from which the consumer begins is different. At point A in figure 19, the consumer consumes only a small quantity of food; and therefore his marginal utility of food at that point is high. At A, then, an additional unit of food adds a lot to his total utility. But at A he already consumes a large quantity of clothing; his marginal utility of clothing at that point is low. This means that it takes a large reduction in the quantity of clothing consumed to counterbalance the increased utility he gets from the extra unit of food.

On the contrary, consider point C. we find that the consumer consumes a much larger quantity of food and a much smaller quantity of clothing than at point A. This means that an additional unit of food adds only lesser utility, and a unit of clothing forgone costs more utility, than at point A. So the consumer is willing to give up less units of clothing in return for another unit of food at C(he gives up only 2 units of clothing for 1unit of food, whereas he gives up 6 units of clothing at point A for one unit of food).

Moving down the indifference curve—reducing consumption of clothing and increasing food consumption—will produce two opposing effects on the consumer's total utility: reduction in total utility due to reduced consumption of clothing, and increase in total utility due to higher food consumption. In order to keep the levels of satisfaction constant, these two effects must exactly cancel out as the consumer moves down the indifference curve. The principle of diminishing marginal rate of substitution thus states that the more of good Y a person consumes in proportion to good X, the less Y he or she is willing to substitute for another unit of X.

© The Institute of Chartered Accountants of India

There are two reasons for this.

1. The want for a particular good is satiable so that when a consumer has more of it, his intensity of want for it decreases. Thus, in our example, when the consumer has more units of food, his intensity of desire for additional units of food decreases.
2. Most goods are imperfect substitutes of one another. MRS would remain constant if they could substitute one another perfectly.

We know that along the indifference curve:

(Change in total utility due to lower clothing consumption) = (Change in total utility due to higher food consumption)

Change in total utility due to a change in clothing consumption = MU c × ΔQ c

Change in total utility due to a change in food consumption = MUf× ΔQf

Therefore, along the indifference curve:−MUc× ΔQc= MUf× ΔQf

Note that the left-hand side of the equation has a minus sign as it represents the loss in total utility from decreased clothing consumption. This must equal the gain in total utility from increased food consumption, represented by the right-hand side of the equation. Along the indifference curve:

$$\frac{\Delta Qc}{\Delta Qf} = \frac{-MUf}{MUc}$$

To generalize, the marginal rate of substitution of X for Y (MRSxy) is the slope of the indifference curve.

$$MRS_{xy} = \frac{MU_x}{MU_y}$$

As the number of units of Y the consumer is willing to sacrifice gets lesser and lesser, the marginal rate of substitution gets smaller and smaller as we move down and to the right along an indifference curve. That is, the indifference curve becomes flatter (less sloped) as we move down and to the right.

2.5.4 Properties of Indifference Curves

The following are the main characteristics or properties of indifference curves:

(i) ***Indifference curves slope downward to the right:*** This property implies that the two commodities can be substituted for each other and when the amount of one

© The Institute of Chartered Accountants of India

good in the combination is increased, the amount of the other good is reduced. This is essential if the level of satisfaction is to remain the same on an indifference curve.

(ii) ***Indifference curves are always convex to the origin:*** It has been observed that as more and more of one commodity (X) is substituted for another (Y), the consumer is willing to part with less and less of the commodity being substituted (i.e. Y). This is called diminishing marginal rate of substitution. Thus, in our example of food and clothing, as a consumer has more and more units of food, he is prepared to forego less and less units of clothing. This happens mainly because of the want for a particular good is satiable and as a person has more and more of a good, his intensity of want for that good goes on diminishing. In other words, the subjective value attached to the additional quantity of a commodity decreases fast in relation to the other commodity whose total quantity is decreasing. This diminishing marginal rate of substitution gives convex shape to the indifference curves.

However, there are two extreme situations.

(1) When two goods are perfect substitutes of each other, the consumer is completely indifferent as to which to consume and is willing to exchange one unit of X for one unit of Y. His indifference curves for these two goods are therefore straight, parallel lines with a constant slope along the curve, or the indifference curve has a constant MRS.[Figure 20(A)].

(2) Goods are perfect complements when a consumer is interested in consuming these only in fixed proportions. When two goods are perfect complementary goods (e.g. left shoe and right shoe), the consumer consumes only bundles like A and B in figure 20(B) in which both X and Y in equal proportions. With a bundle like A or B, he will not substitute X for Y because an extra piece of the other good (here a single shoe) is worthless for him. The reason is that neither an additional left shoe nor a right shoe without a paired one of each, adds to his total utility. In such a case, the indifference curve will consist of two straight lines with a right angle bent which is convex to the origin, or in other words, it will be L shaped. [Figure 20(B)] Avery interesting fact about this is that in the case of perfect complements, the marginal rate of substitution is undefined because an individual's preferences do not allow any substitution between goods.

© The Institute of Chartered Accountants of India

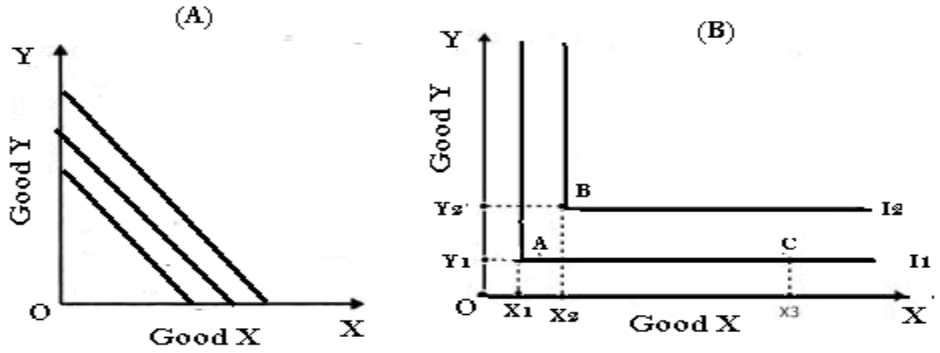


Fig. 20: Indifference Curve of Perfect Substitutes and perfect Complements

(iii) ***Indifference curves can never intersect each other:*** No two indifference curves will intersect each other although it is not necessary that they are parallel to each other. In case of intersection the relationship becomes logically absurd because it would show that higher and lower levels are equal, which is not possible. This property will be clear from Figure 21.

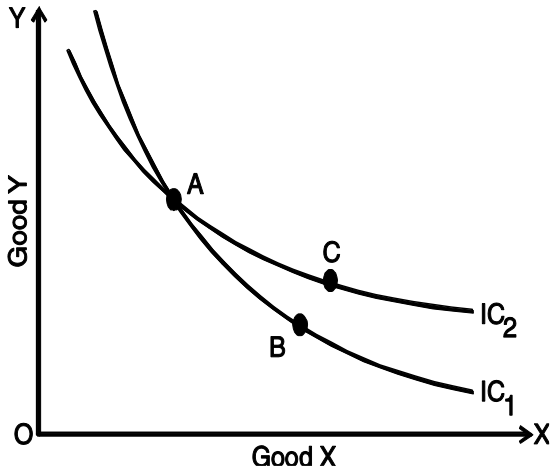


Fig. 21 : Intersecting Indifference Curves

In figure21, IC_1 and IC_2 intersect at A. Since A and B lie on IC_1, they give same satisfaction to the consumer. Similarly since A and C lie on IC_2, they give same satisfaction to the consumer. This implies that combination B and C are equal in terms of satisfaction. But a glance will show that this is an absurd conclusion because certainly combination C is better than combination B because it contains more units of commodities X and Y. Thus we see that no two indifference curves can touch or cut each other.

© The Institute of Chartered Accountants of India

(iv) ***A higher indifference curve represents a higher level of satisfaction than the lower indifference curve:*** This is because combinations lying on a higher indifference curve contain more of either one or both goods and more goods are preferred to less of them.

(v) **Indifference curve will not touch either axes**: Another characteristic feature of indifference curve is that it will not touch the X axis or Y axis. This is born out of our assumption that the consumer is considering different combination of two commodities. If an indifference curve touches the Y axis at a point P as shown in the figure 22, it means that the consumer is satisfied with OP units of Y commodity and zero units of X commodity. This is contrary to our assumption that the consumer wants both commodities although in smaller or larger quantities. Therefore an indifference curve will not touch either the X axis or Y axis.

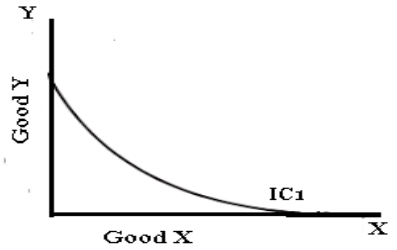


Fig. 22: Impossible Indifference Curve

2.5.5 The Budget Line

From the ordinal utility analysis discussed above, we have understood one part of a person's consumption behavior namely, consumer preference. A higher indifference curve shows a higher level of satisfaction than a lower one. Therefore, a consumer, in his attempt to maximize satisfaction will try to reach the highest possible indifference curve. But in his pursuit of buying more and more goods and thus obtaining more and more satisfaction, he has to work under two constraints: first, he has to pay the prices for the goods and, second, he has a limited money income with which to purchase the goods.

Consumers maximize their well-being subject to constraints. The most important constraint all of us face in deciding what to consume is the budget constraint. In other words, consumers almost always have limited income, which constrains how much they can consume. A consumer's choices are limited by the budget available to him. As we know, his total expenditure for goods and services can fall short of the budget constraint, but may not exceed it.

Algebraically, we can write the budget constraint for two goods X and Y as:

$$P_X Q_X + P_Y Q_Y \leq B$$

© The Institute of Chartered Accountants of India

Where

P_X and P_Y are the prices of goods X and Y and Q_X and Q_Y are the quantities of goods X and Y chosen and B is the total money available to the consumer.

The requirement illustrated by the equation above that a consumer must choose a consumption bundle that costs no more than his or her income is known as the consumer's budget constraint. A consumer's consumption possibilities are the set of all consumption bundles that can be consumed given the consumer's income and prevailing prices.

We assume that the consumer in our analysis uses up his entire nominal money income to purchase the commodities. So that his budget constraint is

$$P_XQ_X + P_YQ_Y = B$$

The following table shows the combinations of Ice cream and chocolates a consumer can buy spending the entire fixed money income of ₹100, with the prices ₹ 20 and ₹10 respectively.

Table: 9 Consumption Possibilities

	Ice Cream	Chocolate
A	0	10
B	1	8
C	2	6
D	3	4
E	4	2
F	5	0

The budget constraint can be explained by the budget line or price line. In simple words, a budget line shows all those combinations of two goods which the consumer can buy spending his given money income on the two goods at their given prices. All those combinations which are within the reach of the consumer (assuming that he spends all his money income) will lie on the budget line. The consumer could, of course, buy any bundle that cost less than ₹ 100.(e.g. Point K)

© The Institute of Chartered Accountants of India

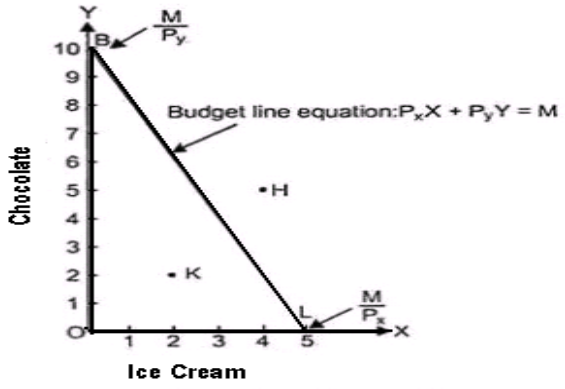


Fig. 23: Price Line or the Budget Line

It should be noted that any point outside the given price line, say H, will be beyond the reach of the consumer and any combination lying within the line, say K, shows under spending by the consumer.

The slope of the budget line is determined by the relative prices of the two goods. It is equal to 'Price Ratio' of two goods i.e. P_X /P_Y i.e. It measures the rate at which the consumer can trade one good for the other.

The budget line will shift when there is:

- A change in the prices of one or both products with the nominal income of the buyer (budget) remaining the same.
- A change in the level of nominal income of the consumer with the relative prices of the two goods remaining the same.
- A change in both income and relative prices

2.5.6 Consumer Equilibrium

Having explained indifference curves and budget line, we are in a position to explain how a consumer reaches equilibrium position by choosing his optimal consumption bundle, given the constraints. A consumer is in equilibrium when he is deriving maximum possible satisfaction from the goods and therefore is in no position to rearrange his purchases of goods. We assume that:

(i) The consumer has a given indifference map which shows his scale of preferences for various combinations of two goods X and Y.

(ii) He has a fixed money income which he has to spend wholly on goods X and Y.

(iii) Prices of goods X and Y are given and are fixed.

© The Institute of Chartered Accountants of India

(iv) All goods are homogeneous and divisible, and

(v) The consumer acts 'rationally' and maximizes his satisfaction.

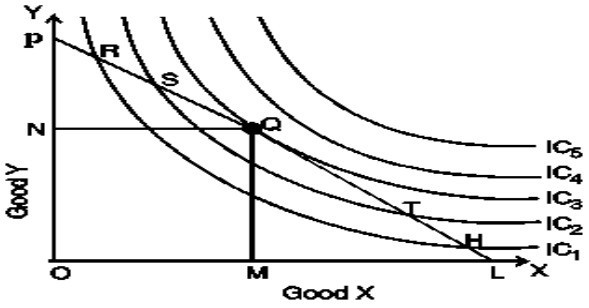


Fig. 24 : Consumer's Equilibrium

To show which combination of two goods X and Y the consumer will buy to be in equilibrium we bring his indifference map and budget line together.

We know by now, that the indifference map depicts the consumer's preference scale between various combinations of two goods and the budget line shows various combinations which he can afford to buy with his given money income and prices of the two goods. Consider Figure 24, in which IC_1, IC_2, IC_3, IC_4 and IC_5 are shown together with budget line PL for good X and good Y. Every combination on the budget line PL costs the same. Thus combinations R, S, Q, T and H cost the same to the consumer. The consumer's aim is to maximise his satisfaction and for this, he will try to reach the highest indifference curve.

Since there is a budget constraint, he will be forced to remain on the given budget line, that is he will have to choose combinations from among only those which lie on the given price line. Which combination will our hypothetical consumer choose? A consumer's optimal choice should satisfy two criteria:

1. It will be a point on his budget line; and

2. It will lie on the highest indifference curve possible

The consumer can arrive this choice moving down his budget line starting from point R. While doing this, he will pass through a variety of indifference curves (To make the diagram simple, we have drawn only a few). Suppose he chooses R. We see that R lies on a lower indifference curve IC_1, when he can very well afford S, Q or T lying on higher indifference curves. Similar is the case for other combinations on IC_1, like H. Again, suppose he chooses combination S (or T) lying on IC_2. But here again we see that the consumer can still reach a higher level of satisfaction remaining within his budget constraints i.e., he can afford to have

© The Institute of Chartered Accountants of India

combination Q lying on IC_3 because it lies on his budget line. Now, what if he chooses combination Q? We find that this is the best choice because this combination lies not only on his budget line but also puts him on the highest possible indifference curve i.e., IC_3. The consumer can very well wish to reach IC_4 or IC_5, but these indifference curves are beyond his reach given his money income. Thus, the consumer will be at equilibrium at point Q on IC_3. What do we notice at point Q? We notice that at this point, his budget line PL is tangent to the indifference curve IC_3. In this equilibrium position (at Q), the consumer will buy OM of X and ON of Y.

At the tangency point Q, the slopes of the price line PL and the indifference curve IC_3 are equal. The slope of the indifference curve shows the marginal rate of substitution of X for Y (MRSxy) which is equal to $\frac{MU_x}{MU_y}$ while the slope of the price line indicates the ratio between the prices of two goods i.e., $\frac{P_x}{P_y}$

At equilibrium point Q,

$$MRS_{xy} = \frac{MU_x}{MU_y} = \frac{P_x}{P_y}$$

Thus, we can say that the consumer is in equilibrium position when the price line is tangent to the indifference curve or when the marginal rate of substitution of goods X and Y is equal to the ratio between the prices of the two goods.

We have seen that the consumer attains equilibrium at the point where the budget line is tangent to the indifference curve and

$$\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$$

In fact the slope of the indifference curve points to the rate at which the consumer is willing to give up good Y for good X. The slope of the budget line tells us the rate at which the consumer is actually able to trade good X and good Y. When both these are equal, he will be maximizing his satisfaction given the constraints.

The indifference curve analysis is superior to utility analysis: (i) it dispenses with the assumption of measurability of utility (ii) it studies more than one commodity at a time (iii) it does not assume constancy of marginal utility of money (iv) it segregates income effect from substitution effect.

© The Institute of Chartered Accountants of India

SUMMARY

- The existence of human wants is the basis for all economic activities in the society. All desires, tastes and motives of human beings are called wants in Economics.
- In Economics, wants are classified in to necessaries, comforts and luxuries.
- Utility refers to the want satisfying power of goods and services. It is not absolute but relative. It is a subjective concept and it depends upon the mental attitude of people.
- There are two important theories of utility, the cardinal utility analysis and ordinal utility analysis.
- The law of diminishing marginal utility states that as a consumer increases the consumption of a commodity, every successive unit of the commodity gives lesser and lesser satisfaction to the consumer.
- Consumer surplus is the difference between what a consumer is willing to pay for a commodity and what he actually pays for it.
- Consumer surplus is the buyer's net gain from purchasing a good. Graphically, it is the triangular area below the demand curve and above the price line.
- A rise in the price of a good reduces consumer surplus; a fall in the price increases consumer surplus
- The indifference curve theory, which is an ordinal theory, shows the household's preference between alternative bundles of goods by means of indifference curves.
- Marginal rate of substitution is the rate at which the consumer is prepared to exchange goods X and Y.
- The important properties of an Indifference curve are: Indifference curve slopes downwards to the right, it is always convex to the origin, two ICs never intersect each other, it will never touch the axes and higher the indifference curve higher is the level of satisfaction.
- When two goods are perfect substitutes of each other, indifference curves for these two goods are straight, parallel lines with a constant slope along the curve, or the indifference curve has a constant MRS
- Goods are perfect complements when a consumer is interested in consuming only in fixed proportions. In such a case, the indifference curve will consist of two straight lines with a right angle bent which is convex to the origin, or in other words, it will be L shaped.

© The Institute of Chartered Accountants of India

- Budget line or price line shows all those combinations of two goods which the consumer can buy spending his given money income on the two goods at their given prices.
- The slope of the budget line is determined by the relative prices of the two goods. It is equal to 'Price Ratio' of two goods. i.e. PX/PY i.e .It measures the rate at which the consumer can trade one good for the other .
- The budget line will shift when there is a change in the prices of one or both products with the nominal income of the buyer (budget) remaining the same or when there is a change in the level of nominal income of the consumer with the relative prices of the two goods remaining the same.
- A consumer is said to be in equilibrium when he is deriving maximum possible satisfaction from the goods and is in no position to rearrange his purchase of goods.
- The consumer attains equilibrium at the point where the budget line is tangent to the indifference curve and $MU_x / P_x = MU_y / P_y = MU_z / P_z$

© The Institute of Chartered Accountants of India

UNIT -3: SUPPLY

LEARNING OUTCOMES

After studying this unit, you would be able to:

- Explain the meaning of supply.
- List and provide specific examples of determinants of supply and elasticity of supply.
- Describe the law of supply.
- Describe the difference between movements on the supply curve and shift of the supply curve.
- Explain the concept of elasticity of supply with examples.
- Illustrate how the concepts of demand and supply can be used to determine price.

3.0 INTRODUCTION

In a market economy, sellers of products and services constitute the supply side. The sellers may include individuals, firms and governments. As the term 'demand' refers to the quantity of a good or service that the consumers are willing and able to purchase at various prices during a given period of time, the term 'supply' refers to the amount of a good or service that the producers are willing and able to offer to the market at various prices during a given period of time.

Three important points apply to supply:

(i) Supply refers to what a firm offer for sale in the market, not necessarily to what they succeed in selling. What is offered may not get sold.

© The Institute of Chartered Accountants of India

(ii) Supply requires both willingness and ability to supply. Production cost is often the primary influence on ability.

(iii) Supply is a flow. Supply is identified for a specified time period. The quantity supplied is 'so much' per unit of time, per day, per week, or per year.

3.1 DETERMINANTS OF SUPPLY

Although price is an important consideration in determining the willingness and desire to part with commodities, there are many other factors which determine the supply of a product or a service. These are discussed below:

(i) **Price of the good:** Other things being equal, the higher the relative price of a good the greater the quantity of it that will be supplied. This is because goods and services are produced by the firm in order to earn profits and, *ceteris paribus*, profits rise if the price of its product rises.

(ii) **Prices of related goods:** If the prices of other goods rise, they become relatively more profitable to the firm to produce and sell than the good in question. When a seller can get a higher price for a good, producing and selling it becomes more profitable. Producers will allocate more resources towards its production even by drawing resources from other goods they produce. For example, a rise in the price of comic books will encourage publishers to shift resources out of the production of other books (such as novels) and use them in the production of comic books. As another example, if price of wheat rises, the farmers may shift their land to wheat production away from corn and soya beans. It implies that, if the price of Y rises, the quantity supplied of X will fall.

(iii) **Prices of factors of production:** Cost of production is a significant factor that affects supply. If the firm's cost exceeds what it can earn from selling the good, the firm sells nothing. A rise in the price of an input causes a decrease in supply. When the cost of resources such as wages, raw material prices and interest rates increase, producers decrease the amount they are willing to supply. Lower input costs indeed, make production more profitable, encourage existing firms to expand production and new firms to enter the market.

A rise in the price of a particular factor of production will cause an increase in the cost of making those goods that use a great deal of that factor than in the costs of producing those that use relatively small amount of the factor. For example, a rise in the cost of land will have a large effect on the cost of producing wheat and a very small effect on the cost of producing automobiles. Thus, a change in the price of one

© The Institute of Chartered Accountants of India

factor of production will cause changes in the relative profitability of different lines of production and will cause producers to shift from one line to another and thus supplies of different commodities will change.

(iv) **State of technology:** The supply of a particular product depends upon the state of technology also. The use of new technology in an industry (such as automation) increases production efficiency and reduces production costs.

Inventions and innovations tend to make it possible to produce more or better goods with the same resources, and thus they tend to increase the quantity supplied of some products and to reduce the quantity supplied of products that are displaced. Availability of spare production capacity and the ease with which factor substitution can be made and the cost of such substitution also determine supply.

(v) **Government Policy:** Government rules and regulations affect how much firms want to sell or are allowed to sell. The production of a good may be subject to the imposition of commodity taxes such as excise duty, sales tax and import duties. These taxes raise the cost of production and so the quantity supplied of a good would increase only when its price in the market rises. Subsidies and other funding programmes to producers, on the other hand, reduce the cost of production and thus provide an incentive to the firm to increase supply. When government imposes restrictions such as import quota on consumer products and inputs, rationing of input supply etc, production tends to fall.

(vi) **Nature of competition and size of industry:** Under competitive conditions, supply will be more than that under monopolized conditions.

(vii) **Expectations**: Choices of firms in respect of selling the product now or later depends on expectations of future prices. Sellers compare current prices with future prices. An increase in the anticipated future price of a good or service reduces its supply today; and if sellers expect a fall in prices in future, more will be supplied now.

(viii) **Number of sellers:** If there are large number of firms in the market, supply will be more. Besides, entry of new firms, either domestic or foreign, causes the industry supply curve to shift rightwards.

Other Factors: The quantity supplied of a good also depends upon government's industrial and foreign policies, goals of the firm, infrastructural facilities, natural factors such as weather, floods, earthquake and man- made factors such as war, labour strikes, communal riots etc.

© The Institute of Chartered Accountants of India

3.2 THE LAW OF SUPPLY

In general, producers are prepared to sell their product for a price if that price is at least as high as the cost to produce an additional unit of the product. Therefore, the willingness to supply depends on the price at which the good can be sold as well as the cost of production for an additional unit of the good. The greater the difference between those two values, the greater is the willingness of producers to supply the good.

Supply refers to the relationship of quantity supplied of a good with one or more related variables which have an influence on the supply of the good. Normally, supply is related with price, but it can also be related with other factors such as the type of technology used, scale of operations etc.

The law of supply can be stated as: Other things remaining constant, the quantity of a good produced and offered for sale will increase as the price of the good rises and decrease as the price falls.

This law is based upon common sense, because the higher the price of the good, the greater the profits that can be earned and thus greater the incentive to produce the good and offer it for sale. The law is known to be correct in a large number of cases. There is an exception however. If we take the supply of labour at very high wages, we may find that the supply of labour has decreased instead of increasing. Thus, the behaviour of supply depends upon the phenomenon considered and the degree of possible adjustment in supply.

The behaviour of supply is also affected by the time period under consideration. In the short run, it may not be easy to increase supply, but in the long run supply can be easily adjusted in response to changes in price.

The law of supply can be explained through a supply schedule and a supply curve. A supply schedule is the tabular presentation of the law of supply. It shows the different prices of a commodity and the corresponding quantities that suppliers are willing to offer for sale, with all other variables held constant. Consider the following hypothetical supply schedule of good X.

Table 10: Supply Schedule of Good 'X'

Price (₹) (per kg)	Quantity supplied (kg)
1	5
2	35
3	45
4	55
5	65

© The Institute of Chartered Accountants of India

The table shows the quantities of good X that would be produced and offered for sale at a number of alternative prices. At Re 1, for example, 5 kilograms of good X are offered for sale and at ₹ 3 per kg. 45 kg. would be forthcoming for sale.

We can now plot the data in table 10 on a graph. In Figure 25, price is plotted on the vertical axis and quantity on the horizontal axis, and various price-quantity combinations of the schedule 10 are plotted.

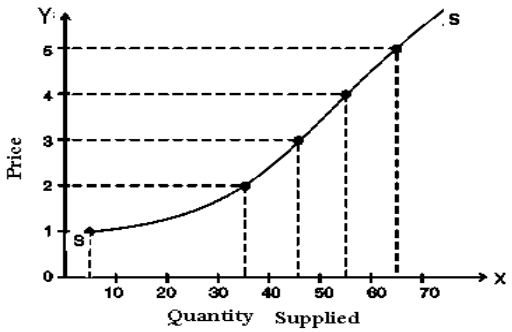


Fig. 25: Supply Curve

When we draw a smooth curve through the plotted points, what we get is the supply curve of good X. The supply curve is a graphical presentation of the supply schedule. The supply curve shows the quantity of a good that producers are willing to sell at a given price, holding constant any other factor that might affect the quantity supplied. The supply curve is thus a relationship between the quantity supplied and the price. To be more precise, the supply curve shows simultaneously:

(a) the highest quantity willingly supplied by the suppliers at each price and

(b) the minimum price which will induce suppliers to offer the various quantities for sale

The supply curve slopes upwards towards right (positive slope) showing that as price increases, the quantity supplied of X increases and vice-versa. This direct relationship between price and quantity is reflected in the positive slope of the supply curve.

The market supply, like market demand, is the sum of supplies of a commodity made by all individual firms or their supply agencies. The market supply of a commodity gives the amounts of the commodity supplied per time period at various alternative prices by all the producers of this commodity in the market. It is derived by adding the quantity supplied by each seller at different prices. The market supply curve for 'X' can be obtained by adding horizontally the supply curves of various firms. The market supply is governed by the law of supply and depends on all the factors that determine the individual producer's supply and, in addition, on the number of producers of the commodity in the market.

© The Institute of Chartered Accountants of India

3.3 MOVEMENTS ON THE SUPPLY CURVE – INCREASE OR DECREASE IN THE QUANTITY SUPPLIED

When the supply of a good increase as a result of an increase in its price, we say that there is an increase in the quantity supplied and there is an upward movement on the supply curve. A rise in market price causes an expansion of supply; there is a upward movement on the supply curve and producers offer more for sale. When market price falls, there is contraction of supply as producers have less incentive to offer products for sale in the market. (See Figure 26)

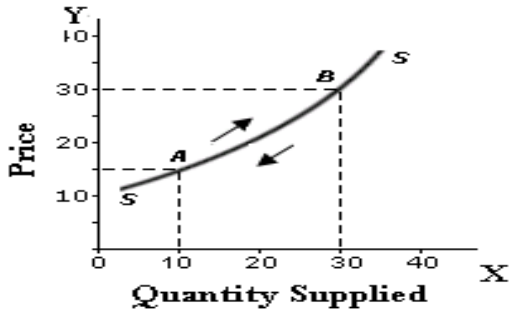


Fig. 26: Figure Showing Change in Quantity Supplied as a Result of Price Change

3.4 SHIFTS IN SUPPLY CURVE – INCREASE OR DECREASE IN SUPPLY

While a change in quantity supplied is a movement along a given supply curve, a change in supply is a shift of the supply curve. When the supply curve bodily shifts towards the right as a result of a change in one of the factors that influence the quantity supplied other than the commodity's own price, we say there is an increase in supply. When the supply curve shifts to the right, more is offered for sale at each price. In figure 27(i), we find that at price P, the quantity supplied rises from Q to Q1. When the factors other than price change and cause the supply curve to shift to the left, we call it decrease in supply. When the supply curve shifts to the left, less quantity is offered for sale at each price. In figure 27(ii), we find that at price P the quantity supplied falls from Q to Q1.

© The Institute of Chartered Accountants of India

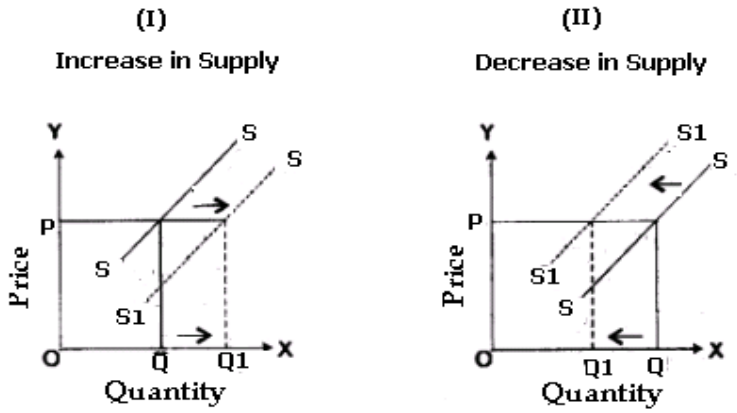


Fig. 27: Shifts in Supply Curves

Just as in the case of demand curves, a change in the price of a good itself will result in a movement along the supply curve and a change in quantity supplied, a change in any variable other than own-price will cause a shift in the supply curve, called a change in supply.

3.5 ELASTICITY OF SUPPLY

The elasticity of supply is defined as the responsiveness of the quantity supplied of a good to a change in its price. Elasticity of supply is measured by dividing the percentage change in quantity supplied of a good by the percentage change in its price i.e.,

$$E_s = \frac{\text{Percentage change in quantity supplied}}{\text{Percentage change in Price}}$$

Or

$$\frac{\dfrac{\text{Change in quantity supplied}}{\text{quantity supplied}}}{\dfrac{\text{Change in price}}{\text{Price}}}$$

or

$$\frac{\Delta\frac{q}{q}}{\Delta\frac{p}{p}} = \frac{q}{p} \times \frac{p}{q}$$

Where q denotes original quantity supplied.

Δq denotes change in quantity supplied.

p denotes original price.

© The Institute of Chartered Accountants of India

Δp denotes change in price.

Example

a. Suppose the price of commodity X increases from ₹ 2,000 per unit to ₹ 2,100 per unit and consequently the quantity supplied rises from 2,500 units to 3,000 units. Calculate the elasticity of supply.

Here Δq = 500 units Δp = ₹100

p = ₹ 2000 q = 2500 units

$$\therefore E_s = \frac{500}{100} \times \frac{2000}{2500} = 4$$

Elasticity of Supply = 4.

3.5.0 Types of Supply Elasticity

The elasticity of supply can be classified as under:

(i) **Perfectly inelastic supply:** If as a result of a change in price, the quantity supplied of a good remains unchanged, we say that the elasticity of supply is zero or the good has perfectly inelastic supply (Es = 0.). The vertical supply curve in Figure 28 shows that irrespective of price change, the quantity supplied remains unchanged. In other words, the quantity supplied is unaffected by any change in price. As the elasticity rises, the supply curve gets flatter, which shows that the quantity supplied responds more to changes in price.

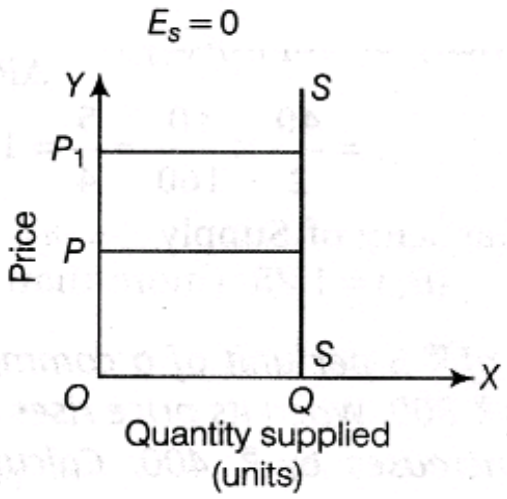


Fig. 28: Supply Curve of Zero Elasticity

© The Institute of Chartered Accountants of India

(ii) **Relatively less-elastic supply:** If as a result of a change in the price of a good its supply changes less than proportionately, we say that the supply of the good is relatively less elastic or elasticity of supply is less than one. In this case, the coefficient of elasticity falls in the range 0 < Es < 1. The percentage change in quantity is less than the percentage change in price. In other words, the quantity is not very responsive to price. Figure 29 shows that the relative change in the quantity supplied (Δ*Q*) is less than the relative change in the price (Δ*P*).

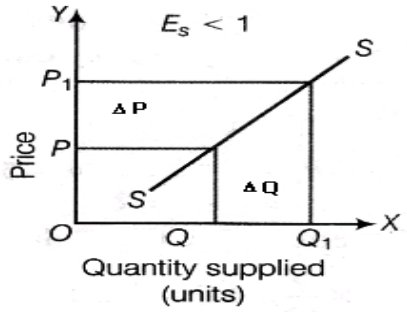


Fig. 29: Showing Relatively Less Elastic Supply

(iii) **Relatively greater-elastic supply :**If elasticity of supply is greater than one i.e., when the quantity supplied of a good changes substantially in response to a small change in the price of the good we say that supply is relatively elastic. The percentage change in quantity is greater than the percentage change in price. The coefficient of elasticity falls in the range 1 < E < ∞.Figure 30, shows that the relative change in the quantity supplied (Δ*Q*) is greater than the relative change in the price.

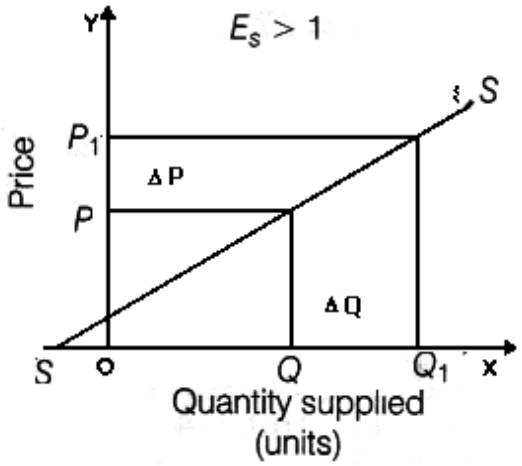


Fig. 30: Showing Relatively Greater Elastic Supply

© The Institute of Chartered Accountants of India

(iv) **Unit-elastic:** In this case, the coefficient of elasticity is one.(Es = 1). If the relative change in the quantity supplied is exactly equal to the relative change in the price, the supply is said to be unitary elastic. The percentage change in quantity is equal to the percentage change in price. Unit elasticity is essentially a dividing line or boundary between the elastic and inelastic ranges. In Figure31, the relative change in the quantity supplied (ΔQ) is equal to the relative change in the price (ΔP).

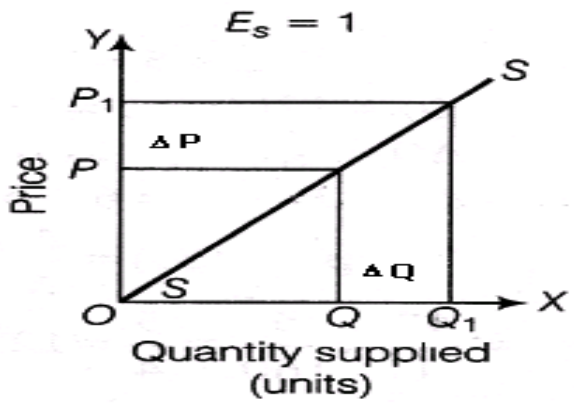


Fig. 31: Showing Unitary Elasticity

(v) **Perfectly elastic supply:** At the opposite extreme of zero elasticity supply is perfectly elastic. This occurs as the price elasticity of supply approaches infinity and the supply curve becomes horizontal. Elasticity of supply is said to be infinite (E = ∞)or perfectly elastic when nothing is supplied at a lower price and an infinitesimally small change in price results in an infinitely large change in quantity supplied indicating that producers will supply any quantity demanded at that price. Figure 32 shows infinitely elastic supply.

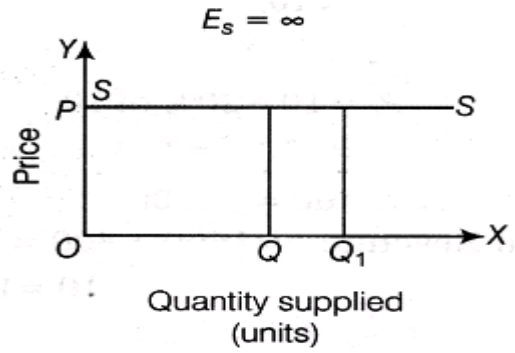


Fig. 32: Supply Curve of Infinite Elasticity

© The Institute of Chartered Accountants of India

In some cases, the elasticity of supply is not constant but varies over the supply curve. Figure33 shows the case of an industry with limited capacity for production. For low levels of quantity supplied, firms respond substantially to changes in price. When there is a small rise in price from P1 to P2, the quantity supplied increases more than proportionately (Q1 to Q2). In this region, firms have idle capacity and therefore when price rises, they respond by increase in quantity supplied using the idle capacity available. Once firms reach their full capacity, further increase in production is possible only by building new plants and incurring expenses towards this. To induce firms to increase output, price must rise substantially (P3 to P4) and supply becomes less elastic.

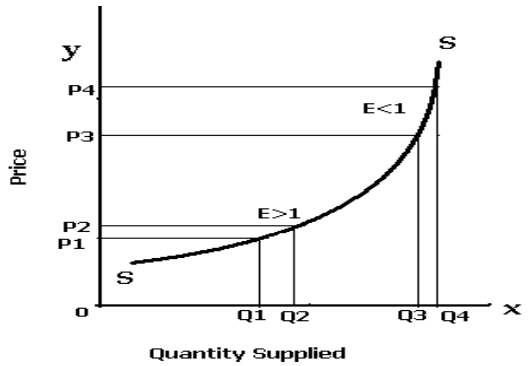


Fig. 33: Supply curve of Industry with Limited Production Capacity

3.5.1 Measurement of supply-elasticity

The elasticity of supply can be considered with reference to a given point on the supply curve or between two points on the supply curve. When elasticity is measured at a given point on the supply curve, it is called point elasticity. Just as in demand, point-elasticity of supply can be measured with the help of the following formula:

$$E_s = \frac{dp}{dp} \times \frac{p}{q}$$

Es: The Supply function is given as q = -100 + 10p. Find the elasticity of supply using point method, when price is ₹ 15.

$$E_s = \frac{dq}{dp} \times \frac{p}{q}$$

Since $\frac{dq}{dp}$ = 10, p = ₹ 15, q = - 100 + 10 (15)

$$q = 50$$

© The Institute of Chartered Accountants of India

$$\therefore E_s = 10 \times \frac{15}{50}$$

or $E_S = 3$

Where $\frac{dq}{dp}$ is differentiation of the supply function with respect to price and p and q refer to price and quantity respectively.

Arc-Elasticity: Arc-elasticity i.e. elasticity of supply between two prices can be found out with the help of the following formula:

$$E_s = \frac{Q_2 - Q_1}{Q_2 + Q_1} \times \frac{P_2 + P_1}{P_2 - P_1}$$

Where P_1 & Q_1 are original price and quantity and P_2 &Q_2 are new price and quantity supplied.

Thus, if we have to find elasticity of supply when P_1= ₹12, P_2 = ₹ 15, Q_1 = 20 units and Q_2= 50 units.

Then using the above formula, we will get supply elasticity as:

$$E_s = \frac{50 - 20}{50 + 20} \times \frac{15 + 12}{15 - 12}$$

$$= \frac{30}{70} \times \frac{27}{3} = +3.85$$

3.5.2 Determinants of Elasticity of Supply

The price elasticity of supply depends on the flexibility sellers have, to change the amount of the good they produce and sell. The more easily sellers can change the quantity they produce, the greater the price elasticity of supply. Following are the general determinants of elasticity of supply:

- If increase in production causes substantial increase in costs, producers will have less incentive to increase quantity supplied in response to increase in price and therefore, price elasticity of supply would be less. If there are constant costs or negligible rise in costs as output increases, supply will be elastic. Products that involve more complex production processes or require relatively longer time to produce exhibit lower elasticity of supply. For example the supply of aircrafts and cruise ships is less elastic compared to supply of motor bikes.
- The longer the period of time, the more responsive the quantity supplied to changes in price and the greater the supply elasticity. A shorter time period does not allow sellers sufficient time to find resources and alternatives and to adjust their production decisions

© The Institute of Chartered Accountants of India

to changes in price. In the long run, firms can build new plants or new firms may be able to enter the market and increase the supply.

- Supply is more elastic when there is large number of producers and there is high degree of competition among them. Supply elasticity is also higher when there are fewer barriers of entry into the market.
- Supply will be elastic if firms are not working to full capacity. If spare production capacity is available with the firms, they can increase output without a rise in costs. The greater the spare capacity available, the greater will be the elasticity of supply.
- If key raw materials and inputs are easily and cheaply available, then supply will be elastic. If drawing productive resources into the industry is easier, the supply curve is more elastic. In case it is difficult to procure resources economically, the cost of production increases and supply will become less elastic.
- If firms have adequate stocks of raw materials, components and finished products, they will be able to respond with higher supply as price rises. Generally, those commodities which can be easily and inexpensively stored without losing value may have elastic supply.
- The ease with which factor substitution can be made and the costs of such factor substitution also determine price elasticity of supply. If the factors of production used in the production of the commodity are commonly available and can be easily substituted or increased, then the firms will be able to produce quickly and respond to an increase in price. If a production process involves use of materials which are in short supply, or those that take longer delivery period or which are highly specialized, then supply elasticity will be low. If the labour employed is scarce or are required to be highly skilled and specific and if they require longer training period, then elasticity of supply will be low. For example, physicians in healthcare industry and chartered accountants in accounting service.
- If both capital and labour are occupationally mobile, then the elasticity of supply for a product is higher than if capital and labour cannot be easily switched. For example, a printing press can easily switch between printing magazines and greeting cards. Similarly falling prices of a particular vegetable encourage farmers to switch to the production of another. Products which are more continuously produced have greater supply elasticity than those which are produced infrequently.
- Expectations about future prices also affect elasticity of supply. Expectation of substantial rise in prices in future will make the sellers respond less to a current rise in price.

© The Institute of Chartered Accountants of India

3.6. EQUILIBRIUM PRICE

In the previous sections, we have discussed both demand and supply theories. We shall now use demand and supply to determine equilibrium market price. The equilibrium price in a market is determined by the intersection between demand and supply. It is also called the market equilibrium. At this price, the amount that the buyers want to buy is equal to the amount that sellers want to sell. The competitive market equilibrium represents the 'unique' point at which both consumers and suppliers are satisfied with price and quantity. Equilibrium price is also called market clearing price.

The determination of market price is the central theme of micro economic analysis. Hence, micro-economic theory is also called price theory.

The following table presents the concept of the equilibrium price

Table 11: Supply and Demand Schedule

Price (₹)	Quantity Demanded	Quantity Supplied	Impact on price
5	6	31	Downward
4	12	25	Downward
3	19	19	Equilibrium
2	25	12	Upward
1	31	6	Upward

The equilibrium between demand and supply is depicted in the diagram below. Demand and supply are in equilibrium at point E where the two curves intersect each other. It means that only at price ₹ 3 the quantity demanded is equal to the quantity supplied. The equilibrium quantity is 19 units and these are exchanged at price ₹ 3. If the price is more than the equilibrium level, excess supply will push the price downwards as there are few takers in the market at this price. For example, in Table 11, if price is say ₹ 5, quantity demanded is 6 units which is quite less than the quantity supplied (31 units). There will be excess supply in the market which will force the sellers to reduce price if they want to sell off their product. Hence the price will fall and continue falling till it reaches the level where the quantity demanded becomes equal to the quantity supplied. Opposite will happen when quantity demanded is more than the quantity supplied at a particular price.

© The Institute of Chartered Accountants of India

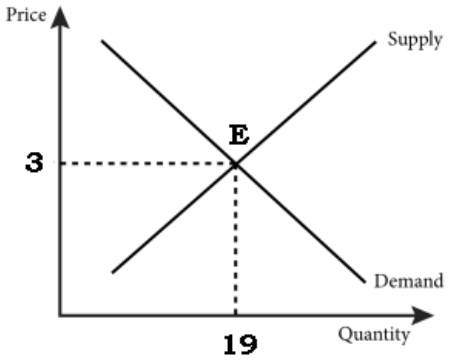


Fig. 34: Equilibrium Price

3.6.1 Market Equilibrium and Social Efficiency

Social efficiency represents the net gains to society from all exchanges that are made in a particular market. It consists of two components: consumer surplus and producer surplus. We have already learned that consumer surplus is a measure of consumer welfare. There is welfare gain to producers as well when they participate in the market, namely producer surplus. Producer surplus is the benefit derived by producers from the sale of a unit above and beyond their cost of producing that unit. This occurs when the price they receive in the market is more than the minimum price at which they would be prepared to supply. It is represented by the area above the supply curve and below the price line

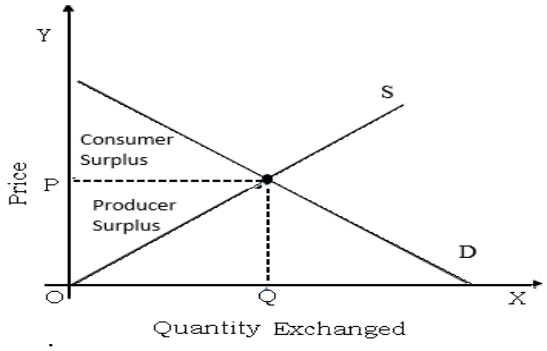


Fig. 35: Equilibrium Price and Social Efficiency

For all quantities below OQ, we find that there is a difference between the price that producers are willing to accept for supplying the good and the price that prevails in the market (P). Producer surplus disappears when market price is at equilibrium i.e the price at which sellers are willing to offer for sale is equal to the price that they receive.

From figure 35, we find that at price P, when the market is in equilibrium, social efficiency is achieved with both producers and consumers enjoying maximum possible surplus.

© The Institute of Chartered Accountants of India

SUMMARY

- Supply means the quantity of goods (or commodities) offered for sale at a particular price at a certain point of time. Supply always relates to price.
- The determinants of supply other than its own price are: prices of the related goods, prices of factors of production, state of technology, government policy and other factors.
- The law of supply states that when the price of the good rises, the corresponding quantity supplied increases and when the price reduces, the quantity supplied also reduces. There is a direct relationship between price and quantity supplied.
- The supply curve establishes the relationship between the amount of supply and the price. It is an upward sloping curve showing a positive relationship between price and quantity supplied.
- When the supply of a good increases as a result of an increase in its price we say that there is an increase in the quantity supplied and there is an upward movement on the supply curve. The reverse is the case when there is a fall in the price of the good.
- Elasticity of supply means the responsiveness of supply to change in the price of the commodity.
- The elasticity of supply can be classified in to perfectly inelastic supply, relatively less-elastic supply, relatively greater-elastic supply, unit-elastic and perfectly elastic supply.
- The measurement of supply-elasticity is of two types- point elasticity and arc-elasticity.
- Elasticity of supply can be considered with reference to a given point on the supply curve (point elasticity) or between two points on the supply curve (arc elasticity).
- The general determinants of elasticity of supply are change in costs as output changes, complexity of production processes, the time period, number of producers and degree of competition, barriers of entry into the market, availability of spare production capacity, availability and stocks of key raw materials and inputs, the ease of factor substitution and mobility and expectations about future prices
- Equilibrium price is one at which the wishes of both the buyers and the sellers are satisfied. At this price, the amount that buyers want to buy and sellers want to sell will be equal.

© The Institute of Chartered Accountants of India

- The welfare gain to producers is producer surplus, which is the benefit derived by producers from the sale of a unit above and beyond their cost of producing that unit. This occurs when the price they receive in the market is more than the minimum they would be prepared to supply for.
- At equilibrium price, when the market is in equilibrium, social efficiency is achieved with maximum social surplus to both producers and consumers enjoying maximum possible surplus.

TEST YOUR KNOWLEDGE

Multiple Choice Questions

1. *Demand for a commodity refers to:*
   - *(a) desire backed by ability to pay for the commodity.*
   - *(b) need for the commodity and willingness to pay for it*
   - *(c) the quantity demanded of that commodity at a certain price.*
   - *(d) the quantity of the commodity demanded at a certain price during any particular period of time.*
2. *Contraction of demand is the result of :*
   - *(a) decrease in the number of consumers.*
   - *(b) increase in the price of the good concerned.*
   - *(c) increase in the prices of other goods.*
   - *(d) decrease in the income of purchasers.*
3. *All but one of the following are assumed to remain the same while drawing an individual's demand curve for a commodity. Which one is it?*
   - *(a) The preference of the individual.*
   - *(b) His monetary income.*
   - *(c) Price of the commodity*
   - *(d) Price of related goods.*
4. *Which of the following pairs of goods is an example of substitutes?*
   - *(a) Tea and sugar.*

© The Institute of Chartered Accountants of India

(b) *Tea and coffee.*

(c) *Pen and ink.*

(d) *Shirt and trousers.*

5. *In the case of a straight line demand curve meeting the two axes, the price-elasticity of demand at the mid-point of the line would be:*

(a) *0*

(b) *1*

(c) *1.5*

(d) *2*

6. *The Law of Demand, assuming other things to remain constant, establishes the relationship between:*

(a) *income of the consumer and the quantity of a good demanded by him.*

(b) *price of a good and the quantity demanded.*

(c) *price of a good and the demand for its substitute.*

(d) *quantity demanded of a good and the relative prices of its complementary goods.*

7. *Identify the factor which generally keeps the price-elasticity of demand for a good low:*

(a) *Variety of uses for that good.*

(b) *Very low price of a commodity*

(c) *Close substitutes for that good.*

(d) *High proportion of the consumer's income spent on it.*

8. *Identify the coefficient of price-elasticity of demand when the percentage increase in the quantity of a good demanded is smaller than the percentage fall in its price:*

(a) *Equal to one.*

(b) *Greater than one.*

(c) *Less than one.*

(d) *Zero.*

9. *In the case of an inferior good, the income elasticity of demand is:*

(a) *positive.*

© The Institute of Chartered Accountants of India

(b) *Zero.*

(c) *Negative.*

(d) *infinite.*

10. *If the demand for a good is inelastic, an increase in its price will cause the total expenditure of the consumers of the good to:*

(a) *Remain the same.*

(b) *Increase.*

(c) *Decrease.*

(d) *Any of these.*

11. *If regardless of changes in its price, the quantity demanded of a good remains unchanged, then the demand curve for the good will be:*

(a) *horizontal.*

(b) *Vertical.*

(c) *positively sloped.*

(d) *negatively sloped.*

12. *Suppose the price of Pepsi increases, we will expect the demand curve of Coca Cola to:*

(a) *Shift towards left since these are substitutes*

(b) *Shift towards right since these are substitutes*

(c) *Remain at the same level*

(d) *None of the above*

13. *All of the following are determinants of demand except:*

(a) *Tastes and preferences.*

(b) *Quantity supplied.*

(c) *Income of the consumer*

(d) *Price of related goods.*

14. *A movement along the demand curve for soft drinks is best described as:*

(a) *An increase in demand.*

(b) *A decrease in demand.*

© The Institute of Chartered Accountants of India

(c) *A change in quantity demanded.*

(d) *A change in demand.*

15. *If the price of Pepsi decreases relative to the price of Coke and 7-UP, the demand for:*

(a) *Coke will decrease.*

(b) *7-Up will decrease.*

(c) *Coke and 7-UP will increase.*

(d) *Coke and 7-Up will decrease.*

16. *If a good is a luxury, its income elasticity of demand is:*

(a) *Positive and less than 1.*

(b) *Negative but greater than -1.*

(c) *Positive and greater than 1.*

(d) *Zero.*

17. *The price of hot dogs increases by 22% and the quantity of hot dogs demanded falls by 25%. This indicates that demand for hot dogs is:*

(a) *Elastic.*

(b) *Inelastic.*

(c) *Unitarily elastic.*

(d) *Perfectly elastic.*

18. *If the quantity demanded of mutton increases by 5% when the price of chicken increases by 20%, the cross-price elasticity of demand between mutton and chicken is*

(a) *-0.25*

(b) *0.25*

(c) *-4*

(d) *4*

19. *Given the following four possibilities, which one results in an increase in total consumer expenditure?*

(a) *Demand is unitary elastic and price falls.*

(b) *Demand is elastic and price rises.*

(c) *Demand is inelastic and price falls.*

© The Institute of Chartered Accountants of India

(d) *Demand is inelastic and prices rises.*

20. *Which of the following statements about price elasticity of supply is correct?*

(a) *Price elasticity of supply is a measure of how much the quantity supplied of a good responds to a change in the price of that good*

(b) *Price elasticity of supply is computed as the percentage change in quantity supplied divided by the percentage change in price*

(c) *Price elasticity of supply in the long run would be different from that of the short run*

(d) *All the above*

21. *Which of the following is an incorrect statement?*

(a) *When goods are substitutes, a fall in the price of one (ceteris paribus) leads to a fall in the quantity demanded of its substitutes.*

(b) *When commodities are complements, a fall in the price of one (other things being equal) will cause the demand of the other to rise*

(c) *As the income of the consumer increases, the demand for the commodity increases always and vice versa.*

(d) *When a commodity becomes fashionable people prefer to buy it and therefore its demand increases*

22. *Suppose the price of movies seen at a theatre rises from ₹ 120 per person to ₹ 200 per person. The theatre manager observes that the rise in price causes attendance at a given movie to fall from 300 persons to 200 persons. What is the price elasticity of demand for movies? (Use Arc Elasticity Method)*

(a) *.5*

(b) *.8*

(c) *1.0*

(d) *1.2*

23. *Suppose a department store has a sale on its silverware. If the price of a plate-setting is reduced from ₹ 300 to ₹ 200 and the quantity demanded increases from 3,000 plate-*

© The Institute of Chartered Accountants of India

settings to 5,000 plate-settings, what is the price elasticity of demand for silverware? (Use Arc Elasticity Method)

(a) .8

(b) 1.0

(c) 1.25

(d) 1.50

24. *When the numerical value of cross elasticity between two goods is very high, it means*

(a) The goods are perfect complements and therefore have to be used together

(b) The goods are perfect substitutes and can be used with ease in place of one another

(c) There is a high degree of substitutability between the two goods

(d) The goods are neutral and therefore cannot be considered as substitutes

25. *If the local pizzeria raises the price of a medium pizza from ₹ 60 to ₹ 100 and quantity demanded falls from 700 pizzas a night to 100 pizzas a night, the price elasticity of demand for pizzas is :(Use Arc Elasticity Method)*

(a) .67

(b) 1.5

(c) 2.0

(d) 3.0

26. *If electricity demand is inelastic, and electricity charges increase, which of the following is likely to occur?*

(a) Quantity demanded will fall by a relatively large amount.

(b) Quantity demanded will fall by a relatively small amount.

(c) Quantity demanded will rise in the short run, but fall in the long run.

(d) Quantity demanded will fall in the short run, but rise in the long run.

27. *Suppose the demand for meals at a medium-priced restaurant is elastic. If the management of the restaurant is considering raising prices, it can expect a relatively:*

(a) Large fall in quantity demanded.

(b) Large fall in demand.

(c) Small fall in quantity demanded.

© The Institute of Chartered Accountants of India

(d) *Small fall in demand.*

28. *Point elasticity is useful for which of the following situations?*

(a) *The bookstore is considering doubling the price of notebooks.*

(b) *A restaurant is considering lowering the price of its most expensive dishes by 50 percent.*

(c) *An auto producer is interested in determining the response of consumers to the price of cars being lowered by ₹ 100.*

(d) *None of the above.*

29. *A decrease in price will result in an increase in total revenue if:*

(a) *The percentage change in quantity demanded in less than the percentage change in price.*

(b) *The percentage change in quantity demanded is greater than the percentage change in price.*

(c) *Demand is inelastic.*

(d) *The consumer is operating along a linear demand curve at a point at which the price is very low and the quantity demanded is very high.*

30. *An increase in price will result in an increase in total revenue if:*

(a) *The percentage change in quantity demanded is less than the percentage change in price.*

(b) *The percentage change in quantity demanded is greater than the percentage change in price.*

(c) *Demand is elastic.*

(d) *The consumer is operating along a linear demand curve at a point at which the price is very high and the quantity demanded is very low.*

31. *Demand for a good will tend to be more elastic if it exhibits which of the following characteristics?*

(a) *It represents a small part of the consumer's income.*

(b) *The good has many substitutes available.*

(c) *It is a necessity (as opposed to a luxury).*

(d) *There is little time for the consumer to adjust to the price change.*

© The Institute of Chartered Accountants of India

32. *Demand for a good will tend to be more inelastic if it exhibits which of the following characteristics?*

(a) *The good has many substitutes.*

(b) *The good is a luxury (as opposed to a necessity).*

(c) *The good is a small part of the consumer's income.*

(d) *There is a great deal of time for the consumer to adjust to the change in prices.*

33. *Suppose a consumer's income increases from ₹ 30,000 to ₹ 36,000. As a result, the consumer increases her purchases of compact discs (CDs) from 25 CDs to 30 CDs. What is the consumer's income elasticity of demand for CDs? (Use Arc Elasticity Method)*

(a) *0.5*

(b) *1.0*

(c) *1.5*

(d) *2.0*

34. *Total utility is maximum when:*

(a) *Marginal utility is zero.*

(b) *Marginal utility is at its highest point.*

(c) *Marginal utility is negative*

(d) *None of the above*

35. *Which one is not an assumption of the theory of demand based on analysis of indifference curves?*

(a) *Given scale of preferences as between different combinations of two goods.*

(b) *Diminishing marginal rate of substitution.*

(c) *Diminishing marginal utility of money*

(d) *Consumers would always prefer more of a particular good to less of it, other things remaining the same.*

36. *An indifference curve slopes down towards right since more of one commodity and less of another result in:*

(a) *Same level of satisfaction.*

(b) *Greater satisfaction.*

(c) *Maximum satisfaction.*

© The Institute of Chartered Accountants of India

(d) *Any of the above*

37. *Suppose that workers in a steel plant managed to force a significant increase in their wage package. How would the new wage contract be likely to affect the market supply of steel, other things remaining the same?*

(a) *Supply curve will shift to the left.*

(b) *Supply curve will shift to the right.*

(c) *Supply will not shift, but the quantity of cars produced per month will decrease.*

(d) *Supply will not shift, but the quantity of cars produced per month will increase.*

38. *Which of the following statements is incorrect?*

(a) *An indifference curve must be downward-sloping to the right.*

(b) *Convexity of a curve implies that the slope of the curve diminishes as one moves from left to right.*

(c) *The income elasticity for inferior goods to a consumer is positive*

(d) *The total effect of a change in the price of a good on its quantity demanded is called the price effect.*

39. *The successive units of stamps collected by a little boy give him greater and greater satisfaction. This is a clear case of*

(a) *Operation of the law of demand.*

(b) *Consumer surplus enjoyed in hobbies and rare collections*

(c) *Exception to the law of diminishing utility.*

(d) *None of the above*

40. *What will happen in the rice market if buyers are expecting higher rice prices in the near future?*

(a) *The demand for rice will increase and the demand curve will shift to the right*

(b) *The demand for rice will decrease and the demand curve will shift to the left*

(c) *The demand for rice will be unaffected as it is a necessity*

(d) *The demand for wheat will increase and the demand curve will shift to the right*

41. *In the case of a Giffen good, the demand curve will usually be:*

(a) *horizontal.*

© The Institute of Chartered Accountants of India

(b) *downward-sloping to the right.*

(c) *vertical.*

(d) *upward-sloping to the right.*

42. *By consumer surplus, economists mean*

(a) *The area inside the budget line above the price of the commodity*

(b) *The area between the average revenue and marginal revenue curves.*

(c) *The difference between the maximum amount that a person is willing to pay for a good and its market price.*

(d) *The difference between the market price and the supply curve*

43. *Which of the following is a property of an indifference curve?*

(a) *It is convex to the origin due to diminishing marginal rate of substitution*

(b) *The marginal rate of substitution is constant as you move along an indifference curve.*

(c) *Marginal utility is constant as you move along an indifference curve.*

(d) *Total utility is greatest where the budget line cuts the indifference curve.*

44. *When economists speak of the utility of a certain good, they are referring to*

(a) *The demand for the good.*

(b) *The usefulness of the good in consumption.*

(c) *The expected satisfaction derived from consuming the good.*

(d) *The rate at which consumers are willing to exchange one good for another.*

45. *A vertical supply curve parallel to Y axis implies that the elasticity of supply is:*

(a) *Zero*

(b) *Infinity*

(c) *Equal to one*

(d) *Greater than zero but less than infinity.*

46. *For a normal good with a downward sloping demand curve:*

(a) *The price elasticity of demand is negative; the income elasticity of demand is negative.*

© The Institute of Chartered Accountants of India

(b) *The price elasticity of demand is positive; the income elasticity of demand is negative.*

(c) *The price elasticity of demand is positive; the income elasticity of demand is positive.*

(d) *The price elasticity of demand is negative; the income elasticity of demand is positive.*

47. *An increase in the supply of a good is caused by :*

(a) *Improvements in its production technology*

(b) *Fall in the prices of other goods which can be produced using the same inputs.*

(c) *Fall in the prices of factors of production used in its production.*

(d) *all of the above.*

48. *Elasticity of supply refers to the degree of responsiveness of supply of a good to changes in its:*

(a) *Demand.*

(b) *Price.*

(c) *Cost of production.*

(d) *State of technology.*

49. *A horizontal supply curve parallel to the quantity axis implies that the elasticity of supply is:*

(a) *Zero.*

(b) *Infinite.*

(c) *Equal to one.*

(d) *Greater than zero but less than one.*

50. *Contraction of supply is the result of:*

(a) *Decrease in the number of producers.*

(b) *Decrease in the price of the good concerned.*

(c) *Increase in the prices of other goods.*

(d) *Decrease in the outlay of sellers.*

© The Institute of Chartered Accountants of India

51. *Conspicuous goods are also known as*

(a) *Prestige goods*

(b) *Snob goods*

(c) *Veblen goods*

(d) *All of the above*

52. *The quantity purchased remains constant irrespective of the change in income. This is known as*

(a) *negative income elasticity of demand*

(b) *income elasticity of demand less than one*

(c) *zero income elasticity of demand*

(d) *income elasticity of demand is greater than one*

53. *As income increases, the consumer will go in for superior goods and consequently the demand for inferior goods will fall. This means inferior goods have*

(a) *income elasticity of demand less than one*

(b) *negative income elasticity of demand*

(c) *zero income elasticity of demand*

(d) *unitary income elasticity of demand*

54. *When income increases the money spent on necessaries of life may not increase in the same proportion. This means*

(a) *income elasticity of demand is zero*

(b) *income elasticity of demand is one*

(c) *income elasticity of demand is greater than one*

(d) *income elasticity of demand is less than one*

55. *The luxury goods like jewellery and fancy articles will have*

(a) *low income elasticity of demand*

(b) *high income elasticity of demand*

(c) *zero income elasticity of demand*

(d) *none of the above*

© The Institute of Chartered Accountants of India

56. *A good which cannot be consumed more than once is known as*

(a) *Durable good*

(b) *Non-durable good*

(c) *Producer good*

(d) *None of the above*

57. *A relative price is*

(a) *price expressed in terms of money*

(b) *what you get paid for babysitting your cousin*

(c) *the ratio of one money price to another*

(d) *equal to a money price*

58. *A point below the budget line of a consumer*

(a) *Represents a combination of goods which costs the whole of consumer's income*

(b) *Represents a combination of goods which costs less than the consumer's income*

(c) *Represents a combination of goods which is unattainable to the consumer given his/her money income*

(d) *Represents a combination of goods which costs more than the consumers' income*

59. *Demand is the*

(a) *the desire for a commodity given its price and those of related commodities*

(b) *the entire relationship between the quantity demanded and the price of a good other things remaining the same*

(c) *willingness to pay for a good if income is larger enough*

(d) *ability to pay for a good*

60. *Suppose potatoes have (-).0.4 as income elasticity. We can say from the data given that:*

(a) *Potatoes are superior goods.*

(b) *Potatoes are necessities.*

(c) *Potatoes are inferior goods.*

(d) *There is a need to increase the income of consumers so that they can purchase potatoes.*

© The Institute of Chartered Accountants of India

61. *The price of tomatoes increases and people buy tomato puree. You infer that tomato puree and tomatoes are*

(a) *Normal goods*

(b) *Complements*

(c) *Substitutes*

(d) *Inferior goods*

62. *Chicken and fish are substitutes. If the price of chicken increases, the demand for fish will*

(a) *Increase or decrease but the demand curve for chicken will not change*

(b) *Increase and the demand curve for fish will shift rightwards.*

(c) *Not change but there will be a movement along the demand curve for fish.*

(d) *Decrease and the demand curve for fish will shift leftwards.*

63. *Potato chips and popcorn are substitutes. A rise in the price of potato chips will ———— the demand for popcorn and the quantity of popcorn sold will ————*

(a) *increase; increase*

(b) *increase; decrease*

(c) *decrease; decrease*

(d) *decrease; increase*

64. *If the price of orange Juice increases, the demand for apple Juice will _____.*

(a) *increase because they are substitutes*

(b) *decrease because they are substitutes*

(c) *remain the same because real income is increased*

(d) *decrease as real income decreases*

65. *An increase in the demand for computers, other things remaining same, will:*

(a) *Increase the number of computers bought.*

(b) *Decrease the price but increase the number of computers bought.*

(c) *Increase the price of computers.*

(d) *Increase the price and number of computers bought.*

66. *When total demand for a commodity whose price has fallen increases, it is due to:*

(a) *Income effect.*

© The Institute of Chartered Accountants of India

(b) *Substitution effect*

(c) *Complementary effect*

(d) *Price effect*

67. *With a fall in the price of a commodity:*

(a) *Consumer's real income increases*

(b) *Consumer's real income decreases*

(c) *There is no change in the real income of the consumer*

(d) *None of the above*

68. *With an increase in the price of diamond, the quantity demanded also increases. This is because it is a:*

(a) *Substitute good*

(b) *Complementary good*

(c) *Conspicuous good*

(d) *None of the above*

69. *An example of goods that exhibit direct price-demand relationship is*

(a) *Giffen goods*

(b) *Complementary goods*

(c) *Substitute goods*

(d) *None of the above*

70. *In Economics, when demand for a commodity increases with a fall in its price it is known as:*

(a) *Contraction of demand*

(b) *Expansion of demand*

(c) *No change in demand*

(d) *None of the above*

71. *The quantity supplied of a good or service is the amount that*

(a) *is actually bought during a given time period at a given price*

(b) *producers wish they could sell at a higher price*

© The Institute of Chartered Accountants of India

(c) *producers plan to sell during a given time period at a given price*

(d) *people are willing to buy during a given time period at a given price*

72. *Supply is the*

(a) *limited resources that are available with the seller*

(b) *cost of producing a good*

(c) *entire relationship between the quantity supplied and the price of good.*

(d) *Willingness to produce a good if the technology to produce it becomes available*

73. *In the book market, the supply of books will decrease if any of the following occurs except*

(a) *a decrease in the number of book publishers*

(b) *a decrease in the price of the book*

(c) *an increase in the future expected price of the book*

(d) *an increase in the price of paper used.*

74. *If price of computers increases by 10% and supply increases by 25%. The elasticity of supply is :*

(a) *2.5*

(b) *0.4*

(c) *(-) 2.5*

(d) *(-) 0.4*

75. *An increase in the number of sellers of bikes will increase the*

(a) *The price of a bike*

(b) *Demand for bikes*

(c) *The supply of bikes*

(d) *Demand for helmets*

76. *If the supply of bottled water decreases, other things remaining the same, the equilibrium price ———————————— and the equilibrium quantity ————————*

(a) *increases; decreases*

(b) *decreases; increases*

(c) *decreases; decreases*

© The Institute of Chartered Accountants of India

(d) *increases; increases*

77. *A decrease in the demand for cameras, other things remaining the same will*

(a) *Increase the number of cameras bought*

(b) *Decrease the price but increase the number of cameras bought*

(c) *Decrease in quantity of camera demanded*

(d) *Decrease the price and decrease in the number of cameras bought.*

78. *Which of the following statements about inferior goods is/are false?*

I. Inferior goods are those that we will never buy, no matter how cheap they are.

II. Inferior goods are those that we buy more of, if we become poorer.

III. Inferior goods are those that we buy more of, if we become richer.

(a) *I and III only.*

(b) *I only*

(c) *III only.*

(d) *I, II, and III.*

79. *Comforts lie between*

(a) *inferior goods and necessaries*

(b) *luxuries and inferior goods*

(c) *necessaries and luxuries*

(d) *none of the above*

80. *In a very short period, the supply*

(a) *can be changed*

(b) *can not be changed*

(c) *can be increased*

(d) *none of the above*

81. *When supply curve moves to the left, it means*

(a) *lesser quantity is supplied at a given price*

(b) *larger quantity is supplied at a given price*

© The Institute of Chartered Accountants of India

(c) *prices have fallen and quantity is supplied at a lower price*

(d) *none of the above*

82. *When supply curve moves to right, it means*

(a) *supply increases and more quantity is supplied at a given price*

(b) *supply decreases and less quantity is supplied at a given price*

(c) *supply remains constant at a given price*

(d) *none of the above*

83. *The elasticity of supply is defined as the*

(a) *responsiveness of the quantity supplied of a good to a change in its price*

(b) *responsiveness of the quantity supplied of a good without change in its price*

(c) *responsiveness of the quantity demanded of a good to a change in its price*

(d) *responsiveness of the quantity demanded of a good without change in its price*

84. *Elasticity of supply is measured by dividing the percentage change in quantity supplied of a good by ————————————*

(a) *Percentage change in income*

(b) *Percentage change in quantity demanded of goods*

(c) *Percentage change in price*

(d) *Percentage change in taste and preference*

85. *Elasticity of supply is zero means*

(a) *perfectly inelastic supply*

(b) *perfectly elastic supply*

(c) *imperfectly elastic supply*

(d) *none of the above*

86. *Elasticity of supply is greater than one when*

(a) *Proportionate change in quantity supplied is more than the proportionate change in price.*

(b) *Proportionate change in price is greater than the proportionate change in quantity supplied.*

(c) *change in price and quantity supplied are equal*

© The Institute of Chartered Accountants of India

(d) None of the above

87. If the quantity supplied is exactly equal to the relative change in price then the elasticity of supply is

(a) Less than one

(b) Greater than one

(c) One

(d) None of the above

88. The price of a commodity decreases from ₹ 6 to ₹ 4 and the quantity demanded of the good increases from 10 units to 15 units. Find the coefficient of price elasticity.

(a) 1.5

(b) 2.5

(c) -1.5

(d) 0.5

89. The supply function is given as Q= -100 + 10P. Find the elasticity using point method, when price is ₹ 15.

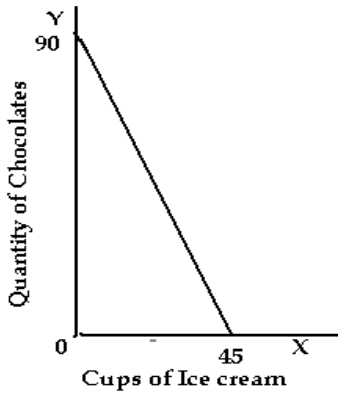
(a) 4

(b) -3

(c) -5

(d) 3

90. The figure below shows the budget constraint of a consumer with an income of ₹ 900/- to spend on two commodities, namely ice cream and chocolates.



© The Institute of Chartered Accountants of India

The prices of these two commodities respectively are:

(a) ₹ 10 and ₹ 20

(b) ₹ 20 and ₹ 10

(c) ₹ 10 and ₹ 5

(d) Any of the above

91. *'No matter what the price of coffee is, Arjun always spend a total of exactly 100 per week on coffee.' The statement implies that:*

(a) Arjun is very fond of coffee and therefore he has an inelastic demand for coffee

(b) Arjun has elastic demand for coffee

(c) Arjun's demand for coffee is relatively less elastic

(d) Arjun's demand for coffee is unit elastic

92. *A firm learns that the own price elasticity of a product it manufactures is 3.5. What would be the correct action for this firm to take if it wishes to raise its total revenue?*

(a) Lower the price because demand for the good is elastic.

(b) Raise the price because demand for the product is inelastic.

(c) Raise the price because demand is elastic.

(d) We need information in order to answer this question.

93. *At higher prices people demand more of certain goods not for their worth but for their prestige value – This is called*

(a) Veblen effect

(b) Giffens paradox

(c) Speculative effect

(d) None of the above

94. *If the price of air-conditioner increases from ₹ 30,000 to ₹ 30,010 and resultant change in demand is negligible, we use the measure of _____ to measure elasticity.*

(a) Point elasticity of demand since it is a small change

(b) Arc elasticity of demand since it is a small change

(c) Price elasticity based on average prices method

(d) Any of the above

© The Institute of Chartered Accountants of India

95. *Given the following four possibilities, which one will result in an increase in total expenditure of the consumer?*

(a) *Demand is unit elastic and price rises*

(b) *Demand is elastic and price rises*

(c) *Demand is inelastic and price falls*

(d) *demand is inelastic and price rises*

96. *The supply curve shifts to the right because of*————————

(a) *improved technology*

(b) *increased price of factors of production*

(c) *increased excise duty*

(d) *all of the above*

97. *Which of the following statements is correct?*

(a) *When the price falls the quantity demanded falls*

(b) *Seasonal changes do not affect the supply of a commodity*

(c) *Taxes and subsidies do not influence the supply of the commodity*

(d) *With lower cost, it is profitable to supply more of the commodity.*

98. *If the demand is more than supply, then the pressure on price will be*

(a) *Upward*

(b) *Downward*

(c) *Constant*

(d) *None of the above*

99. *The supply curve for highly perishable commodities during very short period is generally* ——

(a) *Elastic*

(b) *Inelastic*

(c) *Perfectly elastic*

(d) *Perfectly inelastic*

© The Institute of Chartered Accountants of India

100. *Supply is a _____ concept.*

(a) *Stock*

(b) *Flow and stock*

(c) *Flow*

(d) *None of the above*

101. *The cross elasticity between Rye bread and Whole Wheat bread is expected to be:*

(a) *Positive*

(b) *Negative*

(c) *Zero*

(d) *Can't say*

102. *The cross elasticity between personal computers and soft wares is:*

(a) *Positive*

(b) *Zero*

(c) *Negative*

(d) *One*

103. *The cross elasticity between Bread and DVDs is:*

(a) *Positive*

(b) *Negative*

(c) *Zero*

(d) *One*

104. *Which of the following statements is correct?*

(a) *With the help of statistical tools, the demand can be forecasted with perfect accuracy*

(b) *The more the number of substitutes of a commodity, the more elastic is the demand.*

(c) *Demand for butter is perfectly elastic.*

(d) *Gold jewellery will have negative income elasticity.*

105. *Suppose the income elasticity of education in private school in India is 3.6. What does this indicate:*

(a) *Private school education is highly wanted by rich*

© The Institute of Chartered Accountants of India

(b) *Private school education is a necessity.*

(c) *Private school education is a luxury.*

(d) *We should have more private schools.*

106. *If the organizers of an upcoming cricket match decide to increase the ticket price in order to raise its revenues, what they have learned from past experience is;*

(a) *The percentage increase in ticket rates will be always equal the percentage decrease in tickets sold*

(b) *The percentage increase in ticket rates will be always greater than the percentage decrease in tickets sold*

(c) *The percentage increase in ticket rates will be less than the percentage decrease in tickets sold*

(d) *(a) and (c) above are true*

107. *Data on production of vegetables for the past two years showed that, despite stable prices, there is a substantial decline in output of cabbage leading to lower supply into the market. Which of the following can possibly be the reason?*

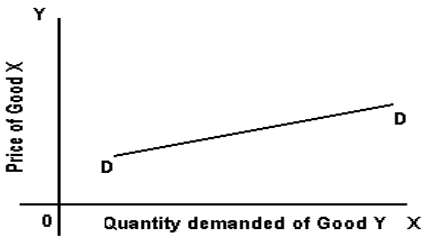
(a) *An increase in the price of cauliflower which is equally preferred by consumers*

(b) *Announcement of a subsidy by government on vegetable production*

(c) *More farmers producing cabbage and the increasing competition among them*

(d) *A substantial decrease in the price of capsicum*

108. *The following diagram shows the relationship between price of Good X and quantity demanded of Good Y. What we infer from the diagram is;*



(a) *Good X and Good Y are perfect complements*

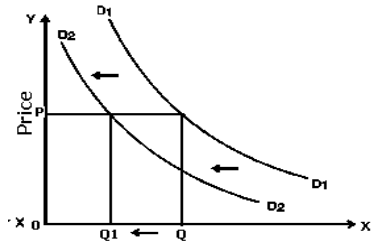
(b) *Good X and Good Y are perfect substitutes*

(c) *Good X and Good Y are remote substitutes*

© The Institute of Chartered Accountants of India

(d) *Good X and Good Y are close substitutes*

109. *The diagram given below shows*



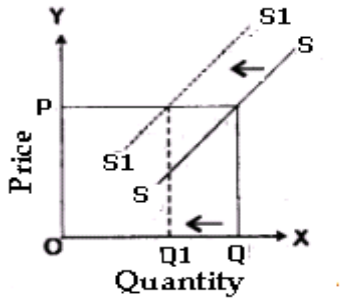
(a) *A change in demand which may be caused by a rise in income and the good is a normal good*

(b) *A shift of demand curve caused by a fall in the price of a complementary good*

(c) *A change in demand which is caused by a rise in income and the good is an inferior good*

(d) *A shift of demand curve caused by a rise in the price of a substitute and the good is a normal good.*

110. *Which of the following alternatives would be true if the event presented in the following diagram occurs?*



(a) *A fall in wage costs of the firm along with a fall in consumer incomes*

(b) *A shortage of raw materials and consequent increase in raw material price*

(c) *An increase in subsidy by the government and a reduction in taxes*

(d) *Decrease in the market price of the commodity in question*

111. *The demand curve of a normal good has shifted to the right. Which of the four events would have caused the shift?*

(a) *A fall in the price of a substitute with the price of the good unchanged*

© The Institute of Chartered Accountants of India

(b) *A fall in the nominal income of the consumer and a fall in the price of the normal good*

(c) *A fall in the price of a complementary good with the price of the normal good unchanged*

(d) *A fall in the price of the normal good, other things remaining the same*

112. *If roller- coaster ride is a function of amusement park visit, then, if the price of amusement park entry falls*

(a) *The demand for roller- coaster rides will rise and the demand curve will shift to right*

(b) *The demand for roller coaster ride cannot be predicted as it depends on the tastes of consumers for the ride*

(c) *There will be an expansion in the demand for roller coaster drive as it complementary*

(d) *None of the above*

113. *If a short run supply curve is plotted for the following table which presents price and quantity of fighter aircrafts, what will be its shape?*

Price in millions of $	***Number of Aircrafts***
124	*28*
140	*28*
150	*28*
160	*28*
175	*28*

(a) *Horizontal straight line parallel to the quantity axis*

(b) *Steeply rising with elasticity less than one*

(c) *Vertical straight line parallel to Y axis*

(d) *A perfectly elastic supply curve*

© The Institute of Chartered Accountants of India

114. *The average income of residents of two cities A and B and the corresponding change in demand for two goods is given in the following table. Which of the following statements is true?*

City	%Increase In Income	% change in demand for Good X	% change in demand for Good Y
A	12	6.5	- 2.3
B	9	5.6	1.6

(a) Both goods are normal goods in both cities A and B

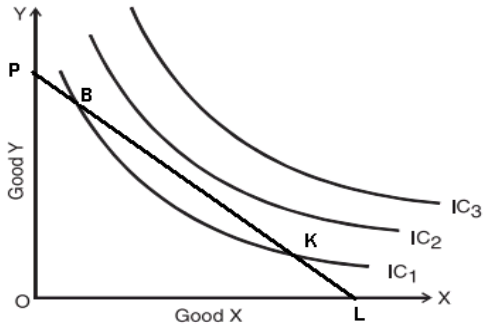
(b) Good X is a normal good in both cities; good Y is an inferior good in city A

(c) Good X is a normal good in both cities; good Y is an inferior good in city B

(d) Need more information to make an accurate comment

Refer to the figure below. Answer questions 115 and 116

115. *If this consumer is spending her entire income and consuming at point B, what advise will you give her?*



(a) No advise needed, as she is maximizing her utility at B

(b) Consume more of Good X and less of Good Y

(c) Consume more of X and less of Y and reach point K

(d) Consume same quantity of Good Y and more of Good X

116. *Which of the following statements is true about this consumer?*

(a) The consumer is not maximizing her utility at point K

(b) The consumer is spending her entire income on both goods

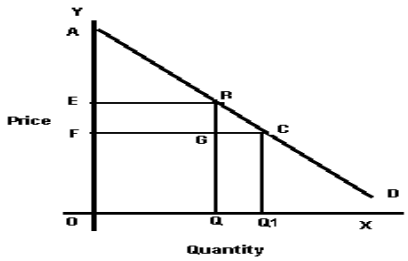
(c) The consumer gets equal pleasure at points B and K

(d) All the above

© The Institute of Chartered Accountants of India

Refer to the figure below. Answer questions 117 and 118

117. The effect on consumer surplus of a fall in price from E to F is



(a) A decrease in consumer surplus by EFGR

(b) A decrease in consumer surplus by AER

(c) A decrease in consumer surplus by EFCR

(d) None of the above

118. When price rises from F to E, the increase in revenue earned by the seller is

(a) Equivalent to area EFGR

(b) Equivalent to area EFCR

(c) Equivalent to area AER

(d) None of the above

119. How would that budget line be affected if the price of both goods fell?

(a) The budget line would not shift.

(b) The new budget line must be parallel to the old budget line.

(c) The budget line must be shifting to the left

(d) The new budget line will have the same slope as the original so long as the prices of both goods change in the same proportion.

120. During a recession, economies experience increased unemployment and a reduced level of income. How would a recession likely to affect the market demand for new cars?

(a) Demand curve will shift to the right.

(b) Demand curve will shift to the left.

(c) Demand will not shift, but the quantity of cars sold per month will decrease.

(d) Demand will not shift, but the quantity of cars sold per month will increase.

© The Institute of Chartered Accountants of India

ANSWERS

1.	**(d)**	2.	**(b)**	3.	**(c)**	4.	**(b)**	5.	**(b)**	6.	**(b)**
7.	**(b)**	8.	**(c)**	9.	**(c)**	10.	**(b)**	11.	**(b)**	12.	**(b)**
13.	**(b)**	14.	**(c)**	15.	**(d)**	16.	**(c)**	17.	**(a)**	18.	**(b)**
19.	**(d)**	20.	**(d)**	21.	**(c)**	22.	**(b)**	23.	**(c)**	24.	**(c)**
25.	**(d)**	26.	**(b)**	27.	**(a)**	28.	**(c)**	29.	**(b)**	30.	**(a)**
31.	**(b)**	32.	**(c)**	33.	**(b)**	34.	**(a)**	35.	**(c)**	36.	**(a)**
37.	**(a)**	38.	**(c)**	39.	**(c)**	40.	**(a)**	41.	**(d)**	42.	**(c)**
43.	**(a)**	44.	**(c)**	45.	**(a)**	46.	**(d)**	47.	**(d)**	48.	**(b)**
49.	**(b)**	50.	**(b)**	51.	**(d)**	52.	**(c)**	53.	**(b)**	54.	**(d)**
55.	**(b)**	56.	**(b)**	57.	**(c)**	58.	**(b)**	59.	**(b)**	60.	**(c)**
61.	**(c)**	62.	**(b)**	63.	**(a)**	64.	**(a)**	65.	**(d)**	66.	**(d)**
67.	**(a)**	68.	**(c)**	69.	**(a)**	70.	**(b)**	71.	**(c)**	72.	**(c)**
73.	**(b)**	74.	**(a)**	75.	**(c)**	76.	**(a)**	77.	**(c)**	78.	**(a)**
79.	**(c)**	80.	**(b)**	81.	**(a)**	82.	**(a)**	83.	**(a)**	84.	**(c)**
85.	**(a)**	86.	**(a)**	87.	**(c)**	88.	**(a)**	89.	**(d)**	90.	**(b)**
91.	**(d)**	92.	**(a)**	93.	**(a)**	94.	**(a)**	95.	**(d)**	96	**(a)**
97.	**(d)**	98.	**(a)**	99.	**(d)**	100.	**(c)**	101	**(a)**	102	**(c)**
103.	**(c)**	104	**(b)**	105	**(c)**	106.	**(b)**	107	**(a)**	108.	**(d)**
109	**(c)**	110	**(b)**	111	**(c)**	112	**(a)**	113	**(c)**	114	**(b)**
115	**(b)**	116	**(d)**	117	**(d)**	118	**(a)**	119	**(d)**	120	**(b)**

© The Institute of Chartered Accountants of India

© The Institute of Chartered Accountants of India

CHAPTER 3

THEORY OF PRODUCTION AND COST

UNIT -1: THEORY OF PRODUCTION

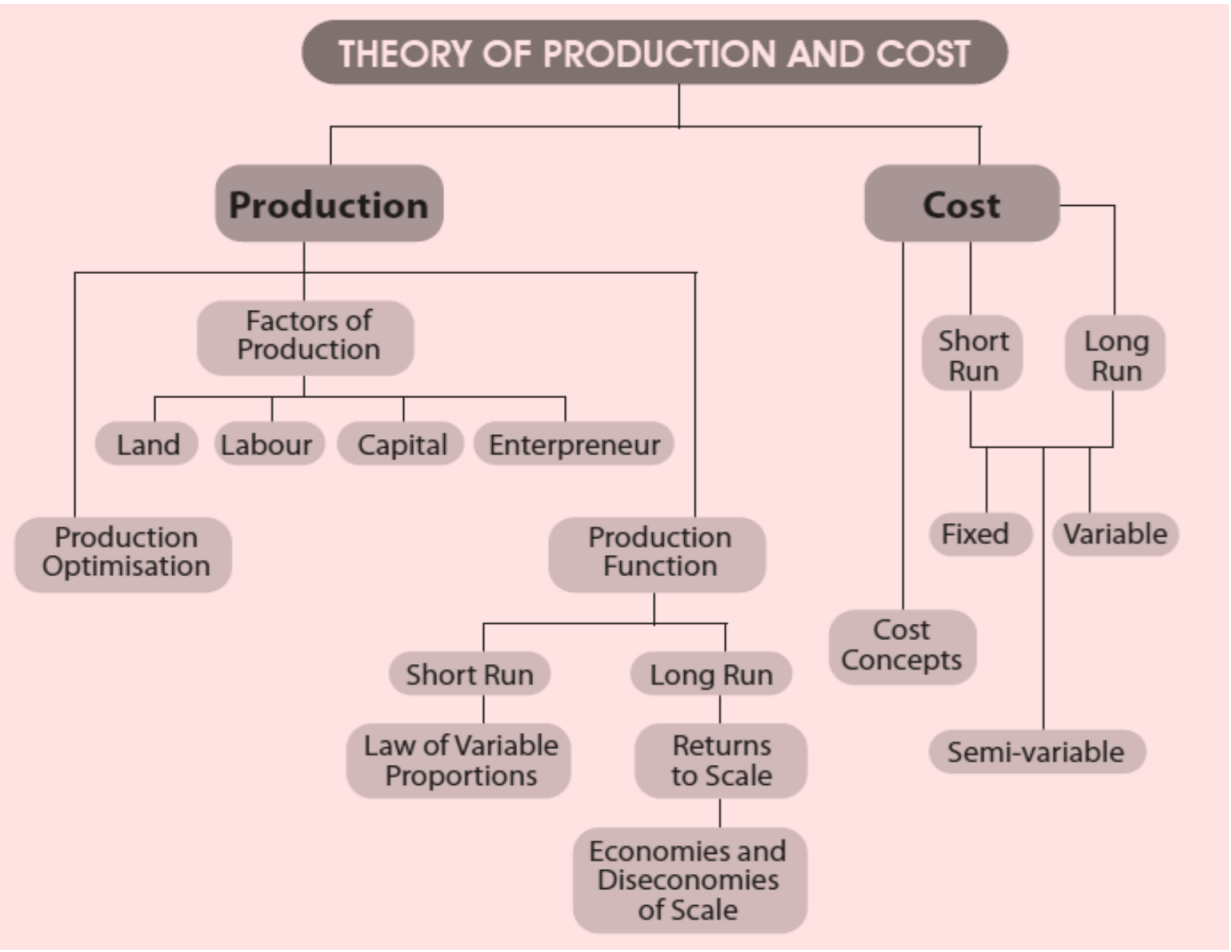
LEARNING OUTCOMES

After studying this unit, you would be able to:

- Define Production and Describe Production Function.
- Describe the Characteristics of various Factors of Production.
- Distinguish between Short run and Long run Production Functions.
- Illustrate the Law of Diminishing Returns and Returns to Scale.
- Describe Production Optimisation using Isoquants and Iso-cost curves.

© The Institute of Chartered Accountants of India

CHAPTER OVERVIEW



1.0 MEANING OF PRODUCTION

Production is a very important economic activity. As we are aware, the survival of any firm in a competitive market depends upon its ability to produce goods and services at a competitive cost. One of the principal concerns of business managers is the achievement of optimum efficiency in production by minimising the cost of production. The performance of an economy is judged by the level of its production. The amount of goods and services an economy is able to produce determines the richness or poverty of that economy. In fact, the standard of living of people depends on the volume and variety of goods and services produced in a country. Thus, the U.S.A. is a rich country just because its level of production is high.

© The Institute of Chartered Accountants of India

In common parlance, the term 'production' is used to indicate an activity of making something material. The growing of wheat, rice or any other agricultural crop by farmers and manufacturing of cement, radio-sets, wool, machinery or any other industrial product is often referred to as production. What exactly do we mean by production in Economics? In Economics the word 'production' is used in a wider sense to denote the process by which man utilises resources such as men, material, capital, time etc, working upon them to transform them into commodities and services so as to make them satisfy human wants. In other words, production is any economic activity which converts inputs into outputs which are capable of satisfying human wants. Whether it is making of material goods or providing a service, it is included in production provided it satisfies the wants of some people. Therefore, in Economics, activities such as making of cloth by an industrial worker, the services of the retailer who delivers it to consumers, the work of doctors, lawyers, teachers, actors, dancers, etc. are production.

According to James Bates and J.R. Parkinson "Production is the organized activity of transforming resources into finished products in the form of goods and services; and the objective of production is to satisfy the demand of such transformed resources".

It should be noted that production should not be taken to mean as creation of matter because, according to the fundamental law of science, man cannot create matter. What a man can do is only to create or add utility to things that already exist in nature. Production can also be defined as creation or addition of utility. For example, when a carpenter produces a table, he does not create the matter of which the wood is composed of; he only transforms wood into a table. By doing so, he adds utility to wood which did not have utility before.

Production consists of various processes to add utility to natural resources for gaining greater satisfaction from them by:

(i) Changing the form of natural resources. Most manufacturing processes consist of use of physical inputs such as raw materials and transforming them into physical products possessing utility, e.g., changing the form of a log of wood into a table or changing the form of iron into a machine. This may be called conferring utility of form.

(ii) Changing the place of the resources from a place where they are of little or no use to another place where they are of greater use. This utility of place can be obtained by:

  (a) Extraction from earth e.g., removal of coal, minerals, gold and other metal ores from mines and supplying them to markets.

  (b) Transferring goods from where they give little or no satisfaction, to places where their utility is more, e.g., tin in Malaya is of little use until it is brought

© The Institute of Chartered Accountants of India

to the industrialised centres where necessary machinery and technology are available to produce metal boxes for packing. Another example is: apples in Kashmir orchards have a little utility to farmers. But when the apples are transported to markets where human settlements are thick and crowded like the city centres, they afford more satisfaction to greater number of people. These examples emphasise the additional utility conferred on goods, by all forms of transportation systems, by transport workers and by the agents who assist in the movement and marketing of goods.

(iii) Making available materials at times when they are not normally available e.g., harvested food grains are stored for use till next harvest. Canning of seasonal fruits is undertaken to make them available during off-season. This may be called conferring of utility of time.

(iv) Making use of personal skills in the form of services, e.g., those of organisers, merchants, transport workers etc.

The fundamental purpose of all these activities is the same, namely to create utility in some manner. Thus, production is nothing but creation of utilities in the form of goods and services. For example, in the production of a woollen suit, utility is created in some form or the other. Firstly wool is changed into woollen cloth at the spinning and weaving mill (utility created by changing the form). Then, it is taken to a place where it is to be sold (utility added by transporting it). Since woollen clothes are used only in winter, they will be retained until such time when they are required by purchasers (time utility). In the whole process, the services of various groups of people are utilised (as that of mill workers, shopkeepers, agents etc.) to contribute to the enhancement of utility. Thus, the entire process of production is nothing but creation of form utility, place utility, time utility and/or personal utility.

It should be noted that the production process need not necessarily involve conversion of physical inputs into physical output. For example, production of services such as those of lawyers, doctors, musicians, consultants etc. involves intangible inputs to produce intangible output. But, production does not include work done within a household by anyone out of love and affection, voluntary services and goods produced for self-consumption. Intention to exchange in the market is an essential component of production.

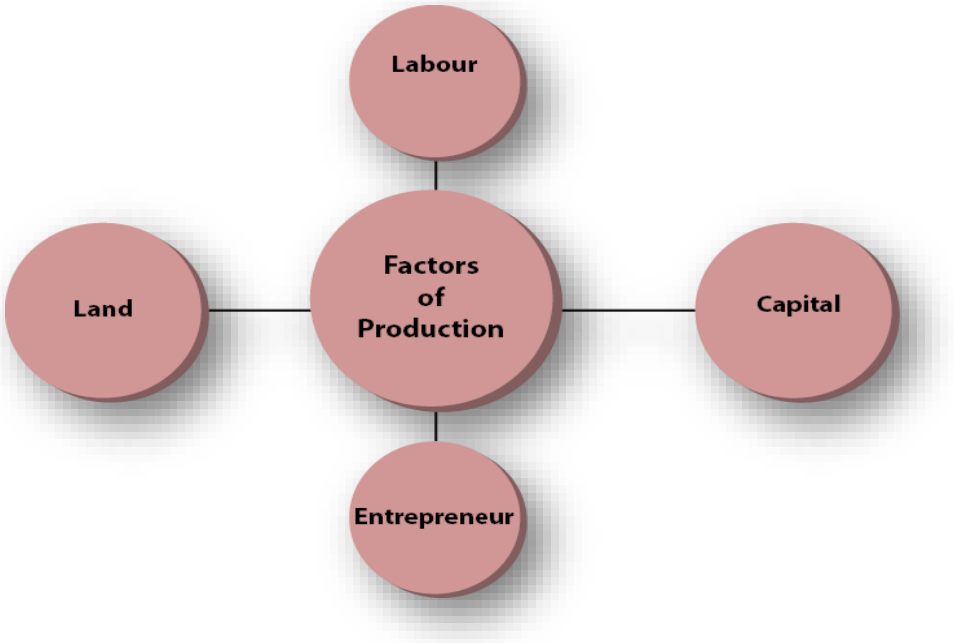
The money expenses incurred in the process of production, i.e., for transforming resources into finished products constitute the cost of production. Although cost of production is not taken into account for a pure production analysis, it is an extremely vital matter for any business decision-making. Nevertheless, in the theory of production, we would confine ourselves to laws of production, production function and methods of production optimisation. However, it is necessary to remember that a production decision cannot

© The Institute of Chartered Accountants of India

depend merely on physical productivity based on operating efficiency alone. The profitability of a productive activity would depend upon the revenue realised from the output and the costs incurred in raising that output. Aspects of cost and revenue will be discussed in the following units.

1.1 FACTORS OF PRODUCTION

Factors of production refer to inputs. An input is a good or service which a firm buys for use in its production process. Production process requires a wide variety of inputs, depending on the nature of output. The process of producing goods in a modern economy is very complex. A good has to pass through many stages and many hands until it reaches the consumers' hands in a finished form. Land, labour, capital and entrepreneurial ability are the four factors or resources which make it possible to produce goods and services. Even a small piece of bread cannot be produced without the active participation of these factors of production. While land is a free gift of nature and refers to natural resources, the human endeavour is classified functionally and qualitatively into three main components namely, labour, capital and entrepreneurial skills.



We may discuss these factors of production briefly in the following paragraphs.

© The Institute of Chartered Accountants of India

1.1.0 Land

The term 'land' is used in a special sense in Economics. It does not mean soil or earth's surface alone, but refers to all free gifts of nature which would include besides land in common parlance, natural resources, fertility of soil, water, air, light, heat natural vegetation etc. It becomes difficult at times to state precisely as to what part of a given factor is due solely to gift of nature and what part belongs to human effort made on it in the past. Therefore, as a theoretical concept, we may list the following characteristics which would qualify a given factor to be called land:

(i) **Land is a free gift of nature:** No human effort is required for making land available for production. It has no supply price in the sense that no payment has been made to mother nature for obtaining land

(ii) **Supply of land is fixed:** Land is strictly limited in quantity. It is different from other factors of production in that, no change in demand can affect the amount of land in existence. In other words, the total supply of land is perfectly inelastic from the point of view of the economy. However, it is relatively elastic from the point of view of a firm.

(iii) **Land is permanent and has indestructible powers:** Land is permanent in nature and cannot be destroyed. According to Ricardo, land has certain original and indestructible powers and these properties of land cannot be destroyed.

(iv) **Land is a passive factor:** Land is not an active factor. Unless human effort is exercised on land, it does not produce anything on its own.

(v) **Land is immobile:** in the geographical sense. Land cannot be shifted physically from one place to another. The natural factors typical to a given place cannot be shifted to other places.

(vi) **Land has multiple uses:** and can be used for varied purposes, though its suitability in all the uses is not the same.

(vii) **Land is heterogeneous:** No two pieces of land are alike. They differ in fertility and situation.

1.1.1 Labour

The term 'labour', means any mental or physical exertion directed to produce goods or services. All human efforts of body or of mind undergone partly or wholly with a view to secure an income apart from the pleasure derived directly from the work is termed as labour. In other words, it refers to various types of human efforts which require the use of physical exertion, skill and intellect. It is, however, difficult to say that in any human effort all

© The Institute of Chartered Accountants of India

the three are not required; the proportion of each might vary. Labour, to have an economic significance, must be one which is done with the motive of some economic reward. Anything done out of love and affection, although very useful in increasing human well-being, is not labour in the economic sense of the term. It implies that any work done for the sake of pleasure or love does not represent labour in Economics. It is for this reason that the services of a house-wife are not treated as labour, while those of a maid servant are treated as labour. If a person sings just for the sake of pleasure, it is not considered as labour despite the exertion involved in it. On the other hand, if a person sings against payment of some fee, then this activity signifies labour.

Characteristics of labour:

- **Human Effort:** Labour, as compared with other factors is different. It is connected with human efforts whereas others are not directly connected with human efforts. As a result, there are certain human and psychological considerations which may come up unlike in the case of other factors. Therefore, leisure, fair treatment, favourable work environment etc. are essential for labourers.
- **Labour is perishable:** Labour is highly 'perishable' in the sense that a day's labour lost cannot be completely recovered by extra work on any other day. In other words, a labourer cannot store his labour.
- **Labour is an active factor:** Without the active participation of labour, land and capital may not produce anything.
- **Labour is inseparable from the labourer:** A labourer is the source of his own labour power. When a labourer sells his service, he has to be physically present where they are delivered. The labourer sells his labour against wages, but retains the capacity to work.
- **Labour power differs from labourer to labourer:** Labour is heterogeneous in the sense that labour power differs from person to person. Labour power or efficiency of labour depends upon the labourers' inherent and acquired qualities, characteristics of work environment, and incentive to work.
- **All labour may not be productive:** (i.e.) all efforts are not sure to produce resources.
- **Labour has poor bargaining power:** Labour has a weak bargaining power. Labour has no reserve price. Since labour cannot be stored, the labourer is compelled to work at the wages offered by the employers. For this reason, when compared to employers, labourers have poor bargaining power and can be exploited and forced to accept lower wages. The labourer is economically weak while the employer is

© The Institute of Chartered Accountants of India

economically powerful although things have changed a lot in favour of labour during 20th and 21st centuries.

- **Labour is mobile:** Labour is a mobile factor. Apparently, workers can move from one job to another or from one place to another. However, in reality there are many obstacles in the way of free movement of labour from job to job or from place to place.
- **There is no rapid adjustment of supply of labour to the demand for it:** The total supply of labour cannot be increased or decreased instantly.
- **Choice between hours of labour and hours of leisure:** A labourer can make a choice between the hours of labour and the hours of leisure. This feature gives rise to a peculiar backward bending shape to the supply curve of labour. The supply of labour and wage rate is directly related. It implies that, as the wage rate increases the labourer tends to increase the supply of labour by reducing the hours of leisure. However, beyond a desired level of income, the labourer reduces the supply of labour and increases the hours of leisure in response to further rise in the wage rate. That is, he prefers to have more of rest and leisure than earning more money.

1.1.2 Capital

We may define capital as that part of wealth of an individual or community which is used for further production of wealth. In fact, capital is a stock concept which yields a periodical income which is a flow concept. It is necessary to understand the difference between capital and wealth. Whereas wealth refers to all those goods and human qualities which are useful in production and which can be passed on for value, only a part of these goods and services can be characterised as capital because if these resources are lying idle they will constitute wealth but not capital.

Capital has been rightly defined as 'produced means of production' or 'man-made instruments of production'. In other words, capital refers to all man made goods that are used for further production of wealth. This definition distinguishes capital from both land and labour because both land and labour are not produced factors. They are primary or original factors of production, but capital is not a primary or original factor; it is a produced factor of production. It has been produced by man by working with nature. Machine tools and instruments, factories, dams, canals, transport equipment etc., are some of the examples of capital. All of them are produced by man to help in the production of further goods.

Types of Capital:

Fixed capital is that which exists in a durable shape and renders a series of services over a period of time. For example tools, machines, etc.

© The Institute of Chartered Accountants of India

Circulating capital is another form of capital which performs its function in production in a single use and is not available for further use. For example, seeds, fuel, raw materials, etc.

Real capital refers to physical goods such as building, plant, machines, etc.

Human capital refers to human skill and ability. This is called human capital because a good deal of investment goes into creation of these abilities in humans.

Tangible capital can be perceived by senses whereas intangible capital is in the form of certain rights and benefits which cannot be perceived by senses. For example, copyrights, goodwill, patent rights, etc.

Individual capital is personal property owned by an individual or a group of individuals.

Social Capital is what belongs to the society as a whole in the form of roads, bridges, etc.

Capital Formation: Capital formation means a sustained increase in the stock of real capital in a country. In other words, capital formation involves production of more capital goods like, machines, tools, factories, transport equipments, electricity etc. which are used for further production of goods. Capital formation is also known as investment.

The need for capital formation or investment is realised not merely for replacement and renovation but for creating additional productive capacity. In order to accumulate capital goods, some current consumption has to be sacrificed and savings of current income are to be made. Savings are also to be channelised into productive investment. The greater the extent that people are willing to abstain from present consumption, the greater the extent of savings and investment that society will devote to new capital formation. If a society consumes all what it produces and saves nothing, the future productive capacity of the economy will fall when the present capital equipment wears out. In other words, if the whole of the current present capacity is used to produce consumer goods and no new capital goods are made, production of consumer goods in the future will greatly decline. It is prudent to cut down some of the present consumption and direct part of it to the making of capital goods such as, tools and instruments, machines and transport facilities, plant and equipment etc. Higher rate of capital formation will enhance production and productive capacity, increase the efficacy of production efforts, accelerate economic growth and add to opportunities for employment.

Stages of capital formation: There are mainly three stages of capital formation which are as follows:

1. **Savings:** The basic factor on which formation of capital depends is the ability to save. The ability to save depends upon the income of an individual. Higher incomes are generally followed by higher savings. This is because, with an increase in income, the propensity to consume comes down and the propensity to save increases. This is true

© The Institute of Chartered Accountants of India

not only for an individual but also for the economy as a whole. A rich country has greater ability to save and thereby can get richer quickly compared to a poor country which has no ability to save and therefore has limited capacity for growth in national income, given the capital output ratio.

It is not only the ability to save, but the willingness to save also counts a great deal. Willingness to save depends upon the individual's concern about his future as well as upon the social set-up in which he lives. If an individual is far sighted and wants to make his future secure, he will save more. Moreover, the government can enforce compulsory savings on employed people by making insurance and provident fund compulsory. Government can also encourage saving by allowing tax deductions on income saved. In recent years, business community's savings and government's savings are also becoming important.

2. **Mobilisation of savings:** It is not enough that people save money; the saved money should enter into circulation and facilitate the process of capital formation. Availability of appropriate financial products and institutions is a necessary precondition for mobilisation of savings. There should be a wide spread network of banking and other financial institutions to collect public savings and to take them to prospective investors. In this process, the state has a very important and positive role to play both in generating savings through various fiscal and monetary incentives and in channelising the savings towards priority needs of the community so that there is not only capital generation but also socially beneficial type of capital formation.

3. **Investment:** The process of capital formation gets completed only when the real savings get converted into real capital assets. An economy should have an entrepreneurial class which is prepared to bear the risk of business and invest savings in productive avenues so as to create new capital assets.

1.1.3 Entrepreneur

Having explained the three factors namely land, labour and capital, we now turn to the description of the fourth factor of production, namely, the entrepreneur. It is not enough to say that production is a function of land, capital and labour. There must be some factor which mobilises these factors, combines them in the right proportion, initiates the process of production and bears the risks involved in it. This factor is known as the entrepreneur. He has also been called the organiser, the manager or the risk taker. But, in these days of specialisation and separation of ownership and management, the tasks performed by a manager or organiser have become different from that of the entrepreneur. While organisation and management involve decision-making of routine and non-routine types,

© The Institute of Chartered Accountants of India

the task of the entrepreneur is to initiate production work and to bear the risks involved in it.

Functions of an entrepreneur: In general, an entrepreneur performs the following functions:

(i) ***Initiating business enterprise and resource co-ordination*:** An entrepreneur senses business opportunities, conceives project ideas, decides on scale of operation, products and processes and builds up, owns and manages his own enterprise. The first and the foremost function of an entrepreneur is to initiate a business enterprise. An entrepreneur perceives opportunity, organizes resources needed for exploiting that opportunity and exploits it. He undertakes the dynamic process of obtaining different factors of production such as land, labour and capital, bringing about co-ordination among them and using these economic resources to secure higher productivity and greater yield. An entrepreneur hires the services of various other factors of production and pays them fixed contractual rewards: labour is hired at predetermined rate of wages, land or factory building at a fixed rent for its use and capital at a fixed rate of interest. The surplus, if any, after paying for all factors of production hired by him, accrues to the entrepreneur as his reward for his efforts and risk-taking. Thus, the reward for an entrepreneur, that is a profit, is not certain or fixed. He may earn profits, or incur losses. Other factors get the payments agreed upon, irrespective of whether the entrepreneur makes profits or losses.

(ii) ***Risk bearing or uncertainty bearing*:** The ultimate responsibility for the success and survival of business lies with the entrepreneur. What is planned and anticipated by the entrepreneur may not come true and the actual course of events may differ from what was anticipated and planned. The economy is dynamic and changes occur every day. The demand for a commodity, the cost structure, fashions and tastes of the people and government's policy regarding taxation, credit, interest rate etc. may change. All these changes bring about changes in the cost and/or demand conditions of a business firm. It may happen that as a result of certain broad changes which were not anticipated by the entrepreneur, the firm has to incur losses. Thus, the entrepreneur has to bear these financial risks. Apart from financial risks, the entrepreneur also faces technological risks which arise due to the inventions and improvement in techniques of production, making the existing techniques and machines obsolete. The entrepreneur has to assess and bear the risks. However, Frank Knight is of the opinion that profit is the reward for bearing uncertainties. An entrepreneur need not bear the foreseeable risks such as of fire, theft, burglary etc. as these can be insured against. Uncertainties are different from risks in the sense that these cannot be insured against and therefore, the entrepreneur has to bear them. For example genuine business uncertainties such as change in tastes,

© The Institute of Chartered Accountants of India

emergence of competition etc. cannot be foreseen or insured against. Thus, an entrepreneur earns profits because he bears uncertainty in a dynamic economy where changes occur every day. While nearly all functions of an entrepreneur can be delegated or entrusted with paid managers, risk bearing cannot be delegated to anyone. Therefore, risk bearing is the most important function of an entrepreneur

(iii) ***Innovations*****:** According to Schumpeter, the true function of an entrepreneur is to introduce innovations. Innovation refers to commercial application of a new idea or invention to better fulfilment of business requirements. Innovations, in a very broad sense, include the introduction of new or improved products, devices and production processes, utilisation of new or improved source of raw-materials, adoption of new or improved technology, novel business models, extending sales to unexplored markets etc. According to Schumpeter, the task of the entrepreneur is to continuously introduce new innovations. These innovations may bring in greater efficiency and competitiveness in business and bring in profits to the innovator. A successful innovation will be imitated by others in due course of time. Therefore, an innovation may yield profits for the entrepreneur for a short time but when it is widely adopted by others, the profits tend to disappear. The entrepreneurs promote economic growth of the country by introducing new innovations from time to time and contributing to technological progress. But innovations involve risks and only a few individuals in the society are capable of introducing new innovations. The greater the innovating ability, the greater the supply of entrepreneurs in the economy, and greater will be the rate of technological progress.

Enterprise's objectives and constraints

The standard assumption about an enterprise is that its business activity is carried out with the sole objective of earning profits. However, in the real world, enterprises do not make decisions based exclusively on profit maximisation objective alone. Since an enterprise functions in the economic, social, political and cultural environment, its objectives will have to be set up in relation to its survival and growth in such environments.

Thus, the objectives of an enterprise may be broadly categorised under the following heads:

(1) Organic objectives

(2) Economic objectives

(3) Social objectives

(4) Human objectives

(5) National objectives

© The Institute of Chartered Accountants of India

1. ***Organic objectives*:** The basic minimum objective of all kinds of enterprises is to survive or to stay alive. An enterprise can survive only if it is able to produce and distribute products or services at a price which enables it to recover its costs. If an enterprise does not recover its costs of staying in business, it will not be in a position to meet its obligations to its creditors, suppliers and employees with the result that it will be forced into bankruptcy. Therefore, survival of an enterprise is essential for the continuance of its business activity. Once the enterprise is assured of its survival, it will aim at growth and expansion.

   Growth as an objective has assumed importance with the rise of professional managers. R.L. Marris's theory of firm assumes that the goal that managers of a corporate firm set for themselves is to maximise the firm's balanced growth rate subject to managerial and financial constraints. In corporate firms, the structural division of ownership and management, yields opportunity for mangers to set goals which may not conform to the utility function of owner shareholders. It is pointed out that ability or success of the managers is judged by their performance in promoting the growth or expansion of the firm and rewards obtained by them are reflection of their success is achieving growth of the firms managed by them. While owners want to maximise their utility function which relate to profit, capital, market share and public reputation, the managers want to maximise their utility function which includes variables such as salary, power, and status and job security. Although there is divergence and some degree of conflict between these utility functions, Marris argues that most of the variables incorporated in both of them are positively related to size of the firm and therefore, the two utility functions converge into a single variable, namely, a steady growth in the size of the firm. The managers do not aim at optimising profits; rather they aim at optimisation of the balanced rate of growth of the firm which involves optimisation of the rate of increase of demand for the commodities of the firm and the rate of increase of capital supply.

2. ***Economic objectives*:** The profit maximising behaviour of the firm has been the most basic assumption made by economists over the last more than two hundred years and is still at the heart of neo classical micro economic theory. This assumption is simple, rational and quantitative and is amenable to equilibrium analysis. Under this assumption, the firm determines the price and output policy in such a way as to maximize profits within the constraints imposed upon it such as technology, finance etc. The investors expect that their company will earn sufficient profits in order to ensure fair dividends to them and to improve the prices of their stocks. Not only investors but creditors and employees are also interested in a profitable enterprise. Creditors will be reluctant to lend money to an enterprise which is not making

© The Institute of Chartered Accountants of India

profits. Similarly, any increase in salaries, wages and perquisite of employees can come only out of profits.

The definition of profits in Economics is different from the accountants' definition of profits. Profit, in the accounting sense, is the difference between total revenue and total costs of the firm. Economic profit is the difference between total revenue and total costs, but total costs here costs include both explicit and implicit costs. Accounting profit considers only explicit costs while economic profit reflects explicit and implicit costs i.e. the cost of self-owned factors used by the entrepreneur in his own business. Since economic profit includes these opportunity costs associated with self-owned factors, it is generally lower than the accounting profit. When the economist speaks of profits, s/he means profits after taking into account the capital and labour provided by the owners i.e. s/he differentiates between normal profits and super normal profits. Normal profits include normal rate of return on capital invested by the entrepreneur, remuneration for the labour and the reward for risk bearing function of the entrepreneur.

Normal profit (zero economic profit) is a component of costs and therefore what a business owner considers as the minimum necessary to continue in the business. Supernormal profit, also called economic profit or abnormal profit is over and above normal profits. It is earned when total revenue is greater than the total costs. Total costs in this case include a reward to all the factors, including normal profit.

The profit maximisation objective has been subject to severe criticism in recent years. Many economists have pointed out that all firms do not aim to maximise profits. Some firms try to achieve security, subject to reasonable level of profits. H A Simon argues that firms have 'satisfying' behaviour and strive for profits that are satisfactory. Baumol's theory of sales maximisation holds that sales revenue maximisation rather than profit maximisation is the ultimate goal of the business firms. He cites empirical evidence for his hypothesis that sales rank ahead of profits as the main objective of the enterprise. He asserts that it is quite a common experience that when an executive is asked about his business, he will answer that his sales have been increasing (or decreasing) and talks about profits only as an afterthought. He, however, points out that in their attempt to maximise sales, businessmen do not completely ignore costs incurred on output and profits to be made.

In 1932, A. A. Berle and G.C. Means pointed out that in large business corporations, management is separated from ownership and therefore the managers enjoy discretionary powers to set goals of the firm they manage. Williamson's model of maximisation of managerial utility function is an important contribution to

© The Institute of Chartered Accountants of India

managerial theory of firms' behaviour. The owners (shareholders) of joint stock companies prefer profit maximisation; but managers maximise their own utility function subject to a minimum profit, rather than maximising profit.

The objective of utility maximization has been discussed in the context of two types of firms: First in case of firms owned and managed by the entrepreneur himself, utility maximisation implies that in choosing an output level, the entrepreneur owner considers not only the money profits which he will make, but also the sacrifice of leisure which he would have to make in doing the necessary activity for producing that level of output. Second, in case of large joint stock companies, the utility function of managers or executives of these companies includes not only the profits which they earn for the shareholders but also the promotion of sales, maintaining lavish offices, seeking to have a larger member of staff under their supervision etc. In this case, the manager will maximise his utility by attaining a best combination of profits and the above mentioned other objectives. Cyert and March suggests four possible functional goals in addition to profit goal namely, production goal, inventory goal, sales goal and market share goal.

3. ***Social objectives*:** Since an enterprise lives in a society, it cannot grow unless it meets the needs of the society. Some of the important social objectives of business are:

   - To maintain a continuous and sufficient supply of unadulterated goods and articles of standard quality.
   - To avoid profiteering and anti-social practices.
   - To create opportunities for gainful employment for the people in the society.
   - To ensure that the enterprise's output does not cause any type of pollution - air, water or noise.

   An enterprise should consistently endeavour to contribute to the quality of life of its community in particular and the society in general. If it fails to do so, it may not survive for long.

4. ***Human objectives*:** Human beings are the most precious resources of an organisation. If they are ignored, it will be difficult for an enterprise to achieve any of its other objectives. Therefore, the comprehensive development of its human resource or employees' should be one of the major objectives of an organisation. Some of the important human objectives are:

   - To provide fair deal to the employees at different levels

© The Institute of Chartered Accountants of India

- To develop new skills and abilities and provide a work climate in which they will grow as mature and productive individuals.
- To provide the employees an opportunity to participate in decision-making in matters affecting them.
- To make the job contents interesting and challenging.

If the enterprise is conscious of its duties towards its employees, it will be able to secure their loyalty and support.

5. ***National objectives*:** An enterprise should endeavour for fulfilment of national needs and aspirations and work towards implementation of national plans and policies. Some of the national objectives are:

- To remove inequality of opportunities and provide fair opportunity to all to work and to progress.
- To produce according to national priorities.
- To help the country become self-reliant and avoid dependence on other nations.
- To train young men as apprentices and thus contribute in skill formation for economic growth and development.

Since all the enterprises have multiple goals, they need to set priorities. This requires appropriate balancing of the objectives in order to determine the relative importance of each.

Various objectives of an enterprise may conflict with one another. For example, the profit maximisation objective may not be wholly consistent with the marketing objective of increasing its market share which may involve improvement in quality, slashing down of product prices, improved customer service, etc. Similarly, its social responsibility objective may run into conflict with the introduction of technological changes which may cause unemployment or environmental pollution. In such situations, the manager has to strike a balance between the two so that both can be achieved with reasonable success.

In the above paragraphs, we have discussed the different objectives of an enterprise. However, no comprehensive economic theory explaining the multitudes of behaviour of firms under various market conditions (perfect competition, monopoly, etc.) has been developed so far. Therefore, in rest of this book, we shall continue to assume that firms aim at maximising profits until and unless otherwise mentioned.

© The Institute of Chartered Accountants of India

In the pursuit of this objective, an enterprise's actions may get constrained by many factors. Important among them are:

- Lack of knowledge and information: The enterprise functions in an uncertain world where due to lack of accurate information, many variables that affect the performance of the firm cannot be correctly predicted for the current month or the current year, let alone for the future years. Similarly, the firms may not know about the prices of all inputs and the characteristics of all relevant technologies. Under such circumstances, it is very difficult to determine what the profit maximising price is.
- There may be other constraints such as restrictions imposed in the public interest by the state on the production, price and movement of factors. In practice, there are several hindrances for free mobility of labour and capital. For example, trade unions may place several restrictions on the mobility of labour or specialised training may be required to enable workers to change occupation. These contingencies may make attainment of maximum profits a difficult task.
- There may be infrastructural inadequacies and consequent supply chain bottlenecks resulting in shortages and unanticipated emergencies. For example, there could be frequent power cuts, irregular supply of raw-materials or non-availability of proper transport. This could put limitations on the power of enterprises to maximise profits.
- Changes in business and economic conditions which become contagious due to the highly connected nature of economies, place constraints by causing demand fluctuations and instability in firms' sales and revenues. Besides, external factors such as sudden change in government policies with regard to location, prices, taxes, production, etc. or natural calamities like fire, flood etc. may place additional burdens on the business firms and defeat their plans. When firms are forced to implement policies in response to fiscal limitations, legal, regulatory, or contractual requirements, these have adverse consequences on the firms' profitability and growth plans.
- Events such as inflation, rising interest rates, unfavourable exchange rate fluctuations cause increased raw material, capital and labour costs and affect the budgets and financial plans of firms. Significant constraints are also imposed by the inability of firms to find skilled workforce at competitive wages as well as due to the recurring need for personnel training.

Enterprise's Problems

An enterprise faces a number of problems from its inception, through its life time and till its closure. We shall try to get a few insights about them from the following discussion.

© The Institute of Chartered Accountants of India

***Problems relating to objectives*:** As mentioned earlier, an enterprise functions in the economic, social, political and cultural environment. Therefore, it has to set its objectives in relation to its environment. The problem is that these objectives are multifarious and very often conflict with one another. For example, the objective of maximising profits is in conflict with the objective of increasing the market share which generally involves improving the quality, slashing the prices etc. Thus the enterprise faces the problem of not only choosing its objectives but also striking a balance among them.

***Problems relating to location and size of the plant*:** An enterprise has to decide about the location of its plant. It has to decide whether the plant should be located near the source of raw material or near the market. It has to consider costs such as cost of labour, facilities and cost of transportation. Of course, the entrepreneur will have to weigh the relevant factors against one another in order to choose the right location which is most economical.

Another problem relates to the size of the firm. It has to decide whether it is to be a small scale unit or large scale unit. Due consideration will have to be given to technical, managerial, marketing and financial aspects of the proposed business before deciding on the scale of operations. It goes without saying that the management must make a realistic evaluation of its strengths and limitations while choosing a particular size for a new unit.

***Problems relating to selecting and organising physical facilities*:** A firm has to make decision on the nature of production process to be employed and the type of equipments to be installed. The choice of the process and equipments will depend upon the design chosen and the required volume of production. As a rule, production on a large scale involves the use of elaborate, specialized and complicated machinery and processes. Quite often, the entrepreneur has to choose from among different types of equipments and processes of production. Such a choice will be based on the evaluation of their relative cost and efficiency. Having determined the equipment to be used and the processes to be employed, the entrepreneur will prepare a layout illustrating the arrangement of equipments and buildings and the allocation for each activity.

***Problems relating to Finance*:** An enterprise has to undertake not only physical planning but also expert financial planning. Financial planning involves (i) determination of the amount of funds required for the enterprise with reference to the physical plans already prepared (ii) assessment of demand and cost of its products (iii) estimation of profits on investment and comparison with the profits of comparable existing concerns to find out whether the proposed investment will be profitable enough and (iv) determining capital structure and the appropriate time for financing the enterprise etc.

Problems relating to organisation structure: An enterprise also faces problems relating to the organisational structure. It has to divide the total work of the enterprise into major specialised functions and then constitute proper departments for each of its specialized

© The Institute of Chartered Accountants of India

functions. Not only this, the functions of all the positions and levels would have to be clearly laid down and their inter-relationship (in terms of span of control, authority, responsibility, etc) should be properly defined. In the absence of clearly defined roles and relationships, the enterprise may not be able to function efficiently.

***Problems relating to marketing*:** Proper marketing of its products and services is essential for the survival and growth of an enterprise. For this, the enterprise has to discover its target market by identifying its actual and potential customers, and determine tactical marketing tools it can use to produce desired responses from its target market. After identifying the market, the enterprise has to make decision regarding 4 P's namely,

- **Product:** variety, quality, design, features, brand name, packaging, associated services, utility etc.
- **Promotion:** Methods of communicating with consumers through personal selling, social contacts, advertising, publicity etc.
- **Price:** Policies regarding pricing, discounts, allowance, credit terms, concessions, etc.
- **Place:** Policy regarding coverage, outlets for sales, channels of distribution, location and layout of stores, inventory, logistics etc.

***Problems relating to legal formalities*:** A number of legal formalities have to be carried out during the time of launching of the enterprise as well as during its life time and its closure. These formalities relate to assessing and paying different types of taxes (corporate tax, excise duty, sales tax, custom duty, etc.), maintenance of records, submission of various types of information to the relevant authorities from to time, adhering to various rules and laws formulated by government (for example, laws relating to location, environmental protection and control of pollution, size, wages and bonus, corporate management licensing, prices) etc.

Problems relating to industrial relations: With the emergence of the present day factory system of production, the management has to devise special measures to win the co-operation of a large number of workers employed in industry. Misunderstanding and conflict of interests have assumed enormous dimensions that these cannot be easily and promptly dealt with. Industrial relations at present are much more involved and complicated. Various problems which an enterprise faces with regard to industrial relations are - the problem of winning workers' cooperation, the problem of enforcing proper discipline among workers, the problem of dealing with organised labour and the problem of establishing a state of democracy in the industry by associating workers with the management of industry.

© The Institute of Chartered Accountants of India

1.2 PRODUCTION FUNCTION

The production function is a statement of the relationship between a firm's scarce resources (i.e. its inputs) and the output that results from the use of these resources. More specifically, it states technological relationship between inputs and output. The production function can be algebraically expressed in the form of an equation in which the output is the dependent variable and inputs are the independent variables. The equation can be expressed as:

$$Q = f(a, b, c, d \ldots\ldots n)$$

Where 'Q' stands for the rate of output of given commodity and a, b, c, d.....n, are the different factors (inputs) and services used per unit of time.

Assumptions of Production Function: There are three main assumptions underlying any production function.

First we assume that the relationship between inputs and outputs exists for a specific period of time. In other words, Q is not a measure of accumulated output over time.

Second, it is assumed that there is a given "state-of-the-art" in the production technology. Any innovation would cause change in the relationship between the given inputs and their output. For example, use of robotics in manufacturing or a more efficient software package for financial analysis would change the input-output relationship.

Third assumption is that whatever input combinations are included in a particular function, the output resulting from their utilization is at the maximum level.

The production function can be defined as:

The relationship between the maximum amount of output that can be produced and the input required to make that output. It is defined for a given state of technology i.e., the maximum amount of output that can be produced with given quantities of inputs under a given state of technical knowledge. (Samuelson)

It can also be defined as the minimum quantities of various inputs that are required to yield a given quantity of output.

The output takes the form of volume of goods or services and the inputs are the different factors of production i.e., land, labour, capital and enterprise. To illustrate, for a company which produces beverages, the inputs could be fixed assets such as plant and machinery; raw materials such as carbonated water, sweeteners and flavourings and labour such as assembly line workers, support-staff and supervisory personnel.

For the purpose of analysis, the whole array of inputs in the production function can be reduced to two; L and K. Restating the equation given above, we get:

© The Institute of Chartered Accountants of India

Q = f (L, K). Where Q = Output

L= Labour

K= Capital

Short-Run Vs Long-Run Production Function

The production function of a firm can be studied in the context of short period or long period. It is to be noted that in economic analysis, the distinction between short-run and long-run is not related to any particular measurement of time (e.g. days, months, or years). In fact, it refers to the extent to which a firm can vary the amounts of the inputs in the production process. A period will be considered short-run period if the amount of at least one of the inputs used remains unchanged during that period. Thus, short-run production function shows the maximum amount of a good or service that can be produced by a set of inputs, assuming that the amount of at least one of the inputs used remains fixed (or unchanged). Generally, it has been observed that during the short period or in the short run, a firm cannot install a new capital equipment to increase production. It implies that capital is a fixed factor in the short run. Thus, in the short-run, the production function is studied by holding the quantities of capital fixed, while varying the amount of other factors (labour, raw material etc.) This is done when the law of variable proportion is studied.

The production function can also be studied in the long run. The long run is a period of time (or planning horizon) in which all factors of production are variable. It is a time period when the firm will be able to install new machines and capital equipments apart from increasing the variable factors of production. A long-run production function shows the maximum quantity of a good or service that can be produced by a set of inputs, assuming that the firm is free to vary the amount of all the inputs being used. The behaviour of production when all factors are varied is the subject matter of the law of returns to scale.

1.2.0 Cobb-Douglas Production Function

A famous statistical production function is Cobb-Douglas production function. Paul H. Douglas and C.W. Cobb of the U.S.A. studied the production function of the American manufacturing industries. In its original form, this production function applies not to an individual firm but to the whole of manufacturing in the United States. In this case, output is manufacturing production and inputs used are labour and capital.

Cobb-Douglas production function is stated as:

$$Q = KL^{a} C^{(1-a)}$$

where 'Q' is output, 'L' the quantity of labour and 'C' the quantity of capital. 'K' and 'a' are positive constants.

© The Institute of Chartered Accountants of India

The conclusion drawn from this famous statistical study is that labour contributed about 3/4th and capital about 1/4th of the increase in the manufacturing production. Although, the Cobb-Douglas production function suffers from many shortcomings, it is extensively used in Economics as an approximation.

1.2.1 The Law of Variable Proportions or The Law of Diminishing Returns

In the short run, the input output relations are studied with one variable input (labour) with all other inputs held constant. The laws of production under these conditions are known under various names as the law of variable proportions (as the behaviour of output is studied by changing the proportion in which inputs are combined) the law of returns to a variable input (as any change in output is taken as resulting from the additional variable input) or the law of diminishing returns (as returns eventually diminish).

The law states that as we increase the quantity of one input which is combined with other fixed inputs, the marginal physical productivity of the variable input must eventually decline. In other words, an increase in some inputs relative to other fixed inputs will, in a given state of technology, cause output to increase; but after a point, the extra output resulting from the same addition of extra input will become less and less.

Before discussing this law, if would be appropriate to understand the meaning of total product, average product and marginal product.

Total Product (TP): Total product is the total output resulting from the efforts of all the factors of production combined together at any time. If the inputs of all but one factor are held constant, the total product will vary with the quantity used of the variable factor. Column (1) of Table 1 presents the quantity of variable factor (labour) used along with the factors whose quantity is held constant and column (2) represent the total product at various levels of use of the variable input.

Table 1: Product Schedule

Quantity of labour	Total Product (TP)	Average Product (AP)	Marginal Product (MP)
(1)	(2)	(3)	(4)
1	100	100.0	100
2	210	105.0	110
3	330	110.0	120
4	440	110.0	110
5	520	104.0	80

© The Institute of Chartered Accountants of India

6	600	100.0	80
7	670	95.7	70
8	720	90.0	50
9	750	83.3	30
10	750	75.0	0
11	740	67.3	–10

We find that when one unit of labour is employed along with other factors of production, the total product is 100 units. When two units of labour are employed, the total product rises to 210 units. The total product goes on rising as more and more units of labour are employed. With 9 or 10 units of labour, the total product rises to maximum level of 750 units. When 11 units of labour are employed, total product falls to 740 units due to negative returns from the 11^{th} unit of labour.

Average Product (AP): Average product is the total product per unit of the variable factor.

$$AP = \frac{\text{Total Product}}{\text{No. of units of Variable Factors}}$$

It is shown as a schedule in column (3) of Table 1. When one unit of labour is employed, average product is 100, when two units of labour are employed, average product rises to 105. This goes on, as shown in Table 1.

Marginal Product (MP): Marginal product is the change in total product per unit change in the quantity of variable factor. In other words, it is the addition made to the total production by an additional unit of input. Symbolically,

$$MP_n = TP_n - TP_{n-1}$$

The computed value of the marginal product appears in the last column of Table 1. For example, the MP corresponding to 4 units is given as 110 units. This reflects the fact that an increase in labour from 3 to 4 units, has increased output from 330 to 440 units.

Relationship between Average Product and Marginal Product: Both average product and marginal product are derived from the total product. Average product is obtained by dividing total product by the number of units of the variable factor and marginal product is the change in total product resulting from a unit increase in the quantity of variable factor. The relationship between average product and marginal product can be summed up as follows:

(i) when average product rises as a result of an increase in the quantity of variable input, marginal product is more than the average product.

© The Institute of Chartered Accountants of India

(ii) when average product is maximum, marginal product is equal to average product. In other words, the marginal product curve cuts the average product curve at its maximum.

(iii) when average product falls, marginal product is less than the average product.

Table 1 and Figure 1 confirm the above relationship.

The Law of Variable Proportions or the Law of Diminishing Returns examines the production function with one factor variable, keeping quantities of other factors fixed. In other words, it refers to input-output relationship, when the output is increased by varying the quantity of one input. This law operates in the short run 'when all factors of production cannot be increased or decreased simultaneously (for example, we cannot build a plant or dismantle a plant in the short run).

The law operates under certain assumptions which are as follows:

1. The state of technology is assumed to be given and unchanged. If there is any improvement in technology, then marginal product and average product may rise instead of falling.

2. There must be some inputs whose quantity is kept fixed. This law does not apply to cases when all factors are proportionately varied. When all the factors are proportionately varied, laws of returns to scale are applicable.

3. The law does not apply to those cases where the factors must be used in fixed proportions to yield output. When the various factors are required to be used in fixed proportions, an increase in one factor would not lead to any increase in output i.e., marginal product of the variable factor will then be zero and not diminishing.

4. We consider only physical inputs and outputs and not economic profitability in monetary terms.

The behaviour of output when the varying quantity of one factor is combined with a fixed quantity of the others can be divided into three distinct stages or laws. In order to understand these three stages or laws, we may graphically illustrate the production function with one variable factor. This is done in Figure 1.

In this figure, the quantity of variable factor is depicted on the X axis and the Total Product (TP), Average Product (AP) and Marginal Product (MP) are shown on the Y-axis. As the figure shows, the TP curve goes on increasing upto to a point and after that it starts declining. AP and MP curves first rise and then decline; MP curve starts declining earlier than the AP curve.

© The Institute of Chartered Accountants of India

The behaviour of these Total, Average and Marginal Products of the variable factor consequent on the increase in its amount is generally divided into three stages (laws) which are explained below.

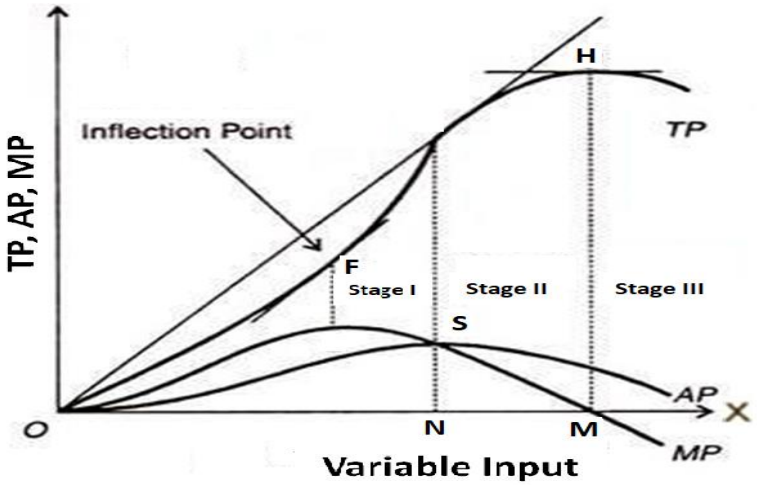


Fig. 1: Law of Variable Proportions

Stage 1: The Stage of Increasing Returns: In this stage, the total product increases at an increasing rate upto a point (in figure upto point F), marginal product also rises and is maximum at the point corresponding to the point of inflexion and average product goes on rising. From point F onwards during the stage one, the total product goes on rising but at a diminishing rate. Marginal product falls but is positive. The stage 1 ends where the AP curve reaches its highest point.

Thus, in the first stage, the AP curve rises throughout whereas the marginal product curve first rises and then starts falling after reaching its maximum. It is to be noted that the marginal product although starts declining, remains greater than the average product throughout the stage so that average product continues to rise.

Explanation of law of increasing returns: The law of increasing returns operates because in the beginning, the quantity of fixed factors is abundant relative to the quantity of the variable factor. As more units of the variable factor are added to the constant quantity of the fixed factors, the fixed factors are more intensively and effectively utilised i.e., the efficiency of the fixed factors increases as additional units of the variable factors are added to them. This causes the production to increase at a rapid rate. For example, if a machine can be efficiently operated when four persons are working on it and if in the beginning we are operating it only with three persons, production is bound to increase if the fourth person is also put to work on the machine since the machine will be effectively utilised to its optimum. This happens because, in the beginning some amount of fixed factor remained unutilised and, therefore, when the variable factor is increased, fuller utilisation of the fixed factor becomes possible and it results in increasing returns. A question arises as to why the fixed

© The Institute of Chartered Accountants of India

factor is not initially taken in a quantity which suits the available quantity of the variable factor. The answer is that, generally, those factors which are indivisible are taken as fixed. Indivisibility of a factor means that due to technological requirements, a minimum amount of that factor must be employed whatever be the level of output. Thus, as more units of the variable factor are employed to work with an indivisible fixed factor, output greatly increases due to fuller utilisation of the latter. The second reason why we get increasing returns at the initial stage is that as more units of the variable factor are employed, the efficiency of the variable factor increases. This is because introduction of division of labour and specialisation becomes possible with sufficient quantity of the variable factor and these results in higher productivity.

Stage 2: **Stage of Diminishing Returns:** In stage 2, the total product continues to increase at a diminishing rate until it reaches its maximum at point H, where the second stage ends. In this stage, both marginal product and average product of the variable factor are diminishing but are positive. At the end of this stage i.e., at point M (corresponding to the highest point H of the total product curve), the marginal product of the variable factor is zero. Stage 2, is known as the stage of diminishing returns because both the average and marginal products of the variable factors continuously fall during this stage. This stage is very important because the firm will seek to produce within its range.

Explanation of law of diminishing returns: The question arises as to why we get diminishing returns after a certain amount of the variable factor has been added to the fixed quantity of that factor. As explained above, increasing returns occur primarily because of more efficient use of fixed factors as more units of the variable factor are combined to work with it. Once the point is reached at which the amount of variable factor is sufficient to ensure efficient utilisation of the fixed factor, any further increases in the variable factor will cause marginal and average product to decline because the fixed factor then becomes inadequate relative to the quantity of the variable factor. Continuing the above example, when four men were put to work on one machine, the optimum combination was achieved. Now, if the fifth person is put on the machine, his contribution will be nil. In other words, the marginal productivity will start diminishing.

The phenomenon of diminishing returns, like that of increasing returns, rests upon the indivisibility of the fixed factor. Just as the average product of the variable factor increases in the first stage when better utilisation of the fixed indivisible factor is being made, so the average product of the variable factor diminishes in the second stage when the fixed indivisible factor is being worked too hard. Another reason offered for the operation of the law of diminishing returns is the imperfect substitutability of one factor for another. Had the perfect substitute of the scarce fixed factor been available, then the paucity of the scarce fixed factor during the second stage would have been made up by increasing the supply of

© The Institute of Chartered Accountants of India

its perfect substitute with the result that output could be expanded without diminishing returns.

Stage 3: Stage of Negative Returns: In Stage 3, total product declines, MP is negative, average product is diminishing. This stage is called the stage of negative returns since the marginal product of the variable factor is negative during this stage.

Explanation the law of negative returns: As the amount of the variable factor continues to be increased to a constant quantity of the other, a stage is reached when the total product declines and marginal product becomes negative. This is due to the fact that the quantity of the variable factor becomes too excessive relative to the fixed factor so that they get in each other's ways with the result that the total output falls instead of rising. In such a situation, a reduction in the units of the variable factor will increase the total output.

Stage of Operation: An important question is in which stage a rational producer will seek to produce. A rational producer will never produce in stage 3 where marginal product of the variable factor is negative. This being so, a producer can always increase his output by reducing the amount of variable factor. Even if the variable factor is free of cost, a rational producer stops before the beginning of the third stage.

A rational producer will also not produce in stage 1 as he will not be making the best use of the fixed factors and he will not be utilising fully the opportunities of increasing production by increasing the quantity of the variable factor whose average product continues to rise throughout stage 1. Even if the fixed factor is free of cost in this stage, a rational entrepreneur will continue adding more variable factors.

It is thus clear that a rational producer will never produce in stage 1 and stage 3. These stages are called stages of 'economic absurdity' or 'economic non-sense'.

A rational producer will always produce in stage 2 where both the marginal product and average product of the variable factors are diminishing. At which particular point in this stage, the producer will decide to produce depends upon the prices of factors. The optimum level of employment of the variable factor (here labour) will be determined by applying the principle of marginalism in such a way that the marginal revenue product of labour is equal to the marginal wages. (The principle of marginalism is explained in detail in the chapter discussing equilibrium in different types of markets.)

1.2.2 Returns to Scale

We shall now study about changes in output when all factors of production in a particular production function are increased together. In other words, we shall study the behaviour of output in response to a change in the scale. A change in scale means that all factors of production are increased or decreased in the same proportion. Change in scale is different

© The Institute of Chartered Accountants of India

from changes in factor proportions. Changes in output as a result of the variation in factor proportions, as seen before, form the subject matter of the law of variable proportions. On the other hand, the study of changes in output as a consequence of changes in scale forms the subject matter of returns to scale which is discussed below.It should be kept in mind that the returns to scale faced by a firm are solely technologically determined and are not influenced by economic decisions taken by the firm or by market conditions.

Returns to scale may be constant, increasing or decreasing. If we increase all factors i.e., scale in a given proportion and output increases in the same proportion, returns to scale are said to be constant. Thus, if doubling or trebling of all factors causes a doubling or trebling of output, then returns to scale are constant. But, if the increase in all factors leads to more than proportionate increase in output, returns to scale are said to be increasing. Thus, if all factors are doubled and output increases more than double, then the returns to scale are said to be increasing. On the other hand, if the increase in all factors leads to less than proportionate increase in output, returns to scale are decreasing. It is needless to say that this law operates in the long run when all the factors can be changed in the same proportion simultaneously.

It should be remembered that increasing returns to scale is not the same as increasing marginal returns. Increasing returns to scale applies to 'long run' in which all inputs can be changed. Increasing marginal returns refers to the short run in which at least one input is fixed. The existence of fixed inputs in the short run gives rise to increasing and later to diminishing marginal returns.

Constant Returns to Scale: As stated above, constant returns to scale means that with the increase in the scale in some proportion, output increases in the same proportion. Constant returns to scale, otherwise called as "Linear Homogeneous Production Function", may be expressed as follows:

$$kQx = f(kK, kL)$$

$$= k(K, L)$$

If all the inputs are increased by a certain amount (say k) output increases in the same proportion (k). It has been found that an individual firm passes through a long phase of constant returns to scale in its lifetime.

Increasing Returns to Scale: As stated earlier, increasing returns to scale means that output increases in a greater proportion than the increase in inputs. When a firm expands, increasing returns to scale are obtained in the beginning. For example, a wooden box of 3 ft. cube contains 9 times greater wood than the wooden box of 1 foot-cube. But the capacity of the 3 foot- cube box is 27 times greater than that of the one foot cube. Many such examples are found in the real world. Another reason for increasing returns to scale is the indivisibility

© The Institute of Chartered Accountants of India

of factors. Some factors are available in large and lumpy units and can, therefore, be utilised with utmost efficiency at a large output. If all the factors are perfectly divisible, increasing returns may not occur. Returns to scale may also increase because of greater possibilities of specialisation of land and machinery.

Decreasing Returns to Scale: When output increases in a smaller proportion relative to an increase in all inputs, decreasing returns to scale are said to prevail. When a firm goes on expanding by increasing all inputs, decreasing returns to scale set in. Decreasing returns to scale eventually occur because of increasing difficulties of management, coordination and control. When the firm has expanded to a very large size, it is difficult to manage it with the same efficiency as earlier.

The Cobb-Douglas production function, explained earlier is used to explain "returns to scale" in production. Originally, Cobb and Douglas assumed that returns to scale are constant. The function was constructed in such a way that the exponents summed to a+1-a=1. However, later they relaxed the requirement and rewrote the equation as follows:

$$Q = K L^{a} C^{b}$$

Where 'Q' is output, 'L' the quantity of labour and 'C' the quantity of capital, 'K' and 'a' and 'b' are positive constants.

If a + b > 1 Increasing returns to scale result i.e. increase in output is more than the proportionate increase in the use of factors (labour and capital).

a + b = 1 Constant returns to scale result i.e. the output increases in the same proportion in which factors are increased.

a + b < 1 decreasing returns to scale result i.e. the output increases less than the proportionate increase in the labour and capital.

1.3 PRODUCTION OPTIMISATION

Normally, a profit maximising firm is interested to know what combination of factors of production (or inputs) would minimise its cost of production for a given output. This can be known by combining the firm's production and cost functions, namely isoquants and iso-cost lines respectively.

Isoquants: Isoquants are similar to indifference curves in the theory of consumer behaviour. An isoquant represents all those combinations of inputs which are capable of producing the same level of output. Since an isoquant curve represents all those combination of inputs which yield an equal quantity of output, the producer is indifferent as to which combination he chooses. Therefore, Isoquants are also called equal-product curves, production

© The Institute of Chartered Accountants of India

indifference curves or iso-product curves. The concept of isoquant can be easily understood with the help of the following schedule.

Table 2 : Various combinations of X and Y to produce a given level of output

Factor combination	Factor X	Factor Y	MRTS
A	1	12	
B	2	08	4
C	3	05	3
D	4	03	2
E	5	02	1

When we plot the various combinations of factor X and factor Y, we get a curve IQ as shown in Figure 2.

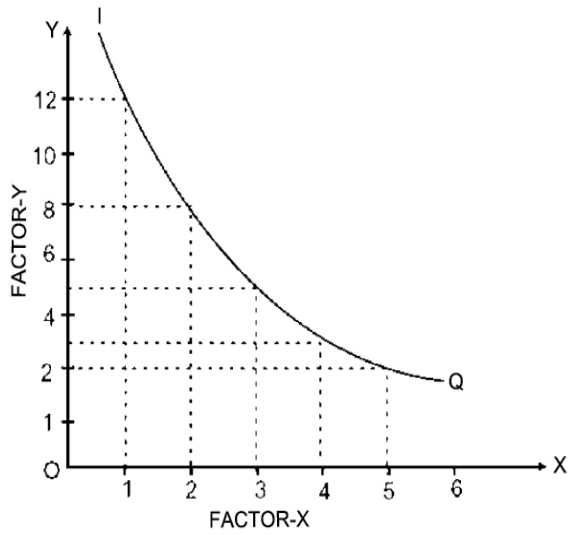


Fig. 2 : Equal Product Curve or Isoquant

Isoquants have properties similar to indifference curves. Isoquants are negatively sloped, convex to the origin due to diminishing marginal rate of technical substitution (MRTS) and are non-intersecting. However, there is one important difference between the two: whereas in an indifference curve it is not possible to quantify the level of satisfaction acquired by the consumer, the level of production acquired by the producer is easily quantified. Thus, while isoquant IQ1 represents 100 units, curves IQ2, IQ3 etc. representing higher levels of production can be drawn. While a curve on the right represents a higher level of output that on the left represents a lower level of output.

Isocost or Equal-cost Lines: Isocost line, also known as budget line or the budget constraint line, shows the various alternative combinations of two factors which the firm can buy with

© The Institute of Chartered Accountants of India

given outlay. Suppose a firm has ₹ 1,000 to spend on the two factors X and Y. If the price of factor X is ₹ 10 and that of Y is ₹ 20, the firm can spend its outlay on X and Y in various ways. It can spend the entire amount on X and thus buy 100 units of X and zero units of Y or it can spend the entire outlay on Y and buy 50 units of it with zero units of X factor. In between, it can have any combination of X and Y. Whatever be the combination of factors the firm chooses, the total cost to the firm remains the same. In other words, all points on a budget line would cost the firm the same amount.

We can show the iso-cost line diagrammatically also. The X-axis shows the units of factor X and Y-axis the units of factor Y. When the entire ₹ 1,000 is spent on factor X, we get OB of factor X and when the entire amount is spent on factor Y we get OA of factor Y. The straight line AB which joins points A and B will pass through all combinations of factors X and Y which the firm can buy with outlay of ₹ 1,000. The line AB is called iso-cost line.

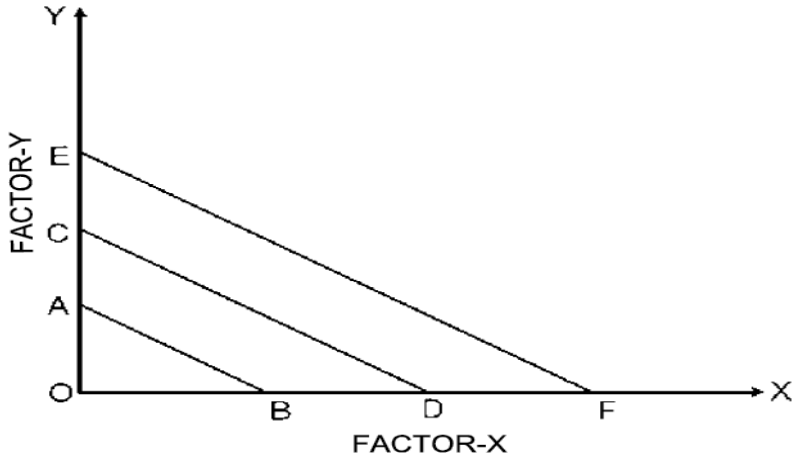


Fig. 3: Iso-cost lines

Figure 3 shows various iso-cost lines representing different combinations of factors with different outlays. Isoquants, which represent the technical conditions of production for a product and iso-cost lines which represent various 'levels of cost or outlay' (given the prices of two factors) can help the firm to optimize its production. It may try to minimise its cost for producing a given level of output or it may try to maximise the output for a given cost or outlay. Suppose the firm has already decided about the level of output to be produced. Then the question is with which factor combination the firm should try to produce the pre-decided level of output. The firm will try to use the least-cost combination of factors. The least cost combination of factors can be found by super-imposing the isoquant that represents the pre decided level of output on the iso-cost lines. This is shown in Figure 4.

© The Institute of Chartered Accountants of India

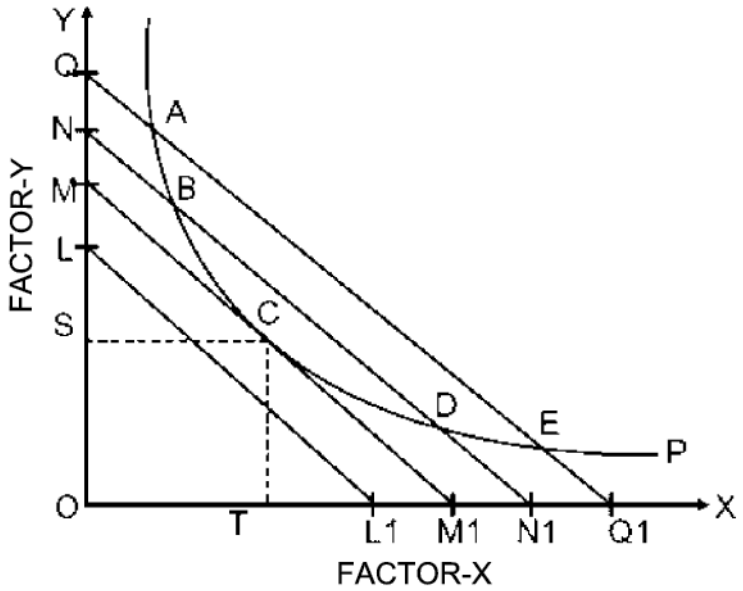


Fig. 4 : Least-cost Combination of Factors: Producer's Equilibrium

Suppose the firm has decided to produce 1,000 units (represented by iso-quant P). These units can be produced by any factor combination lying on P such as A, B, C, D, E, etc. The cost of producing 1,000 units would be minimum at the factor combination represented by point C where the iso-cost line MM1 is tangent to the given isoquant P. At all other points such as A, B, D, E the cost is more as these points lie on higher iso-cost lines Compared to MM1. Thus, the factor combination represented by point C is the optimum combination for the producer. It represents the least-cost of producing 1,000 units of output. It is thus clear that the tangency point of the given isoquant with an iso-cost line represents the least cost combination of factors for producing a given output.

SUMMARY

- Production is the outcome of the combined activity of the four factors of production viz, land, labour, capital and organization. In simple terms production, means 'creation of utility'. i.e. Utility of form, utility of place, utility of time and personal utility.
- Production does not include work done out of love and affection, voluntary services and goods produced for self-consumption. Intention to exchange in the market is an essential component of production.
- Land includes all those free natural resources whose supply for the economy as a whole is fixed.

© The Institute of Chartered Accountants of India

- Labour is all human efforts of body or of mind undergone partly or wholly with a view to secure an income apart from the pleasure derived directly from the work.
- Capital is that part of wealth of an individual or community which is used for further production of wealth. Capital, a stock concept, refers to produced means of production and it comprises of man-made machines and materials which are used for further production.
- Capital formation, also known as investment, means a sustained increase in the stock of real capital in a country. There are mainly three stages of capital formation viz. Savings which depends on ability to save and willingness to save; Mobilisation of savings which depends on availability of financial institutions and products; and Investment i.e. the process whereby the real savings get converted into real capital assets.
- Entrepreneur is the person who organises business; initiates production, remunerates other factors of production, introduces innovations and bears the risk and uncertainties of business.
- The objectives of an enterprise may be broadly categorised under the following heads. (i) Organic objectives (ii) Economic objectives (iii) Social objectives (iv) Human objectives (v) National objectives.
- An enterprise faces a number of problems from its inception, through its life time and till its closure. These may relate to objectives, location, size, physical facilities, finance, organization structure, marketing, legal formalities and industrial relations.
- Factors of production can be divided into two categories – Fixed factors are those factors whose quantity remains unchanged with changes in output within a capacity and variable factors are those the quantity of which change with a change in the level of output.
- Production function is the technical relationship between inputs and output. Samuelson describes production function as the relationship between the maximum amount of output that can be produced and the input required to make that output. It is defined for a given state of technology.
- The law of variable proportion or the law of diminishing returns is relevant when some factors are kept fixed and others are varied. It is applicable to the short-run.
- There are three stages of the law of variable proportion – where law of increasing returns, law of diminishing returns and law of negative returns operate.
- Total product is the total output resulting from the efforts of all the factors of production combined together at any time.

© The Institute of Chartered Accountants of India

- Marginal product is the change in total product per unit change in the quantity of variable factor.
- Average product is the total product per unit of the variable factor.
- The Law of returns to scale describes the relationship between inputs and output in the long run when all inputs are changed in the same proportion. Returns to scale may be constant, increasing and decreasing.
- Constant returns to scale occur when the inputs increase by some proportion and the output also increases by the same proportion. It is also called linear homogeneous production function.
- Increasing returns to scale occur when the inputs increase by some proportion and the output increases more than proportionately.
- Decreasing returns to scale occur when the inputs increase by some proportion and the output increases less than proportionately.
- Isoquants or product indifference curves show all those combinations of different factors of production which give the same output to the producer.
- Iso-cost lines show various combinations of two factors which the firm can buy with given expenditure or outlay.
- By combining Isoquants and iso-cost lines, a producer can find out the combination of factors of production which is optimum i.e. the combination of factors of production which would minimise his cost of production.
- For producing a given output, the tangency point of the relevant isoquant (representing the output) with an iso-cost line represents the least cost combination of factors.

© The Institute of Chartered Accountants of India

UNIT - 2: THEORY OF COST

LEARNING OUTCOMES

AFTER STUDYING THIS UNIT, YOU WOULD BE ABLE TO:

- Explain the Meaning and Different Types of Costs.
- Define Cost Function and Explain the Difference between a Short-Run and Long-Run Cost Function.
- Explain the linkages between the Production Function and the Cost Function.
- Explain Economies and Diseconomies of Scale and Reasons for Their Existence.

In the previous unit, we have discussed the relationship between inputs and output in physical quantities. However, as we are aware, business decisions are generally based on cost of production i.e. the money value of inputs and output is considered. Cost analysis refers to the study of behaviour of cost in relation to one or more production criteria, namely, size of output, scale of operations, prices of factors of production and other relevant economic variables. In other words, cost analysis is concerned with the financial aspects of production relations as against physical aspects which were considered in production analysis. In order to have a clear understanding of the cost function, it is important for a businessman to understand various concepts of costs.

2.0 COST CONCEPTS

Accounting Costs and Economic costs: An entrepreneur has to pay price for the factors of production which he employs for production. He thus pays wages to workers employed, prices for the raw materials, fuel and power used, rent for the building he hires and interest on the money borrowed for doing business. All these are included in his cost of production and are termed as accounting costs. Accounting costs relate to those costs which involve cash payments by the entrepreneur of the firm. Thus, accounting costs are explicit costs and

© The Institute of Chartered Accountants of India

includes all the payments and charges made by the entrepreneur to the suppliers of various productive factors. Accounting costs are expenses already incurred by the firm. Accountants record these in the financial statements of the firm.

However, it generally happens that an entrepreneur invests a certain amount of capital in his business. If the capital invested by the entrepreneur in his business had been invested elsewhere, it would have earned a certain amount of interest or dividend. Moreover, an entrepreneur may devote his time to his own work of production and contributes his entrepreneurial and managerial ability to do business. Had he not set up his own business, he would have sold his services to others for some positive amount of money. Accounting costs do not include these costs. These costs form part of economic cost. Thus, economic costs include: (1) the normal return on money capital invested by the entrepreneur himself in his own business; (2) the wages or salary not paid to the entrepreneur, but could have been earned if the services had been sold somewhere else. Likewise, the monetary rewards for all factors owned by the entrepreneur himself and employed by him in his own business are also considered a part of economic costs. Economic costs take into account these accounting costs; in addition, they also take into account the amount of money the entrepreneur could have earned if he had invested his money and sold his own services and other factors in the next best alternative uses. Accounting costs are also called explicit costs whereas the cost of factors owned by the entrepreneur himself and employed in his own business is called implicit costs. Thus, economic costs include both accounting costs and implicit costs. Therefore, economic costs are useful for businessmen while making decisions.

The concept of economic cost is important because an entrepreneur must cover his economic cost if he wants to earn normal profits. Normal profit is part of implicit costs. If the total revenue received by an entrepreneur just covers both implicit and explicit costs, then he has zero economic profits. Super normal profits or positive economic profits (abnormal profits) are over and above these normal profits. In other words, an entrepreneur is said to be earning positive economic profits (abnormal profits) only when his revenues are greater than the sum of his explicit costs and implicit costs.

Outlay costs and Opportunity costs: Outlay costs involve actual expenditure of funds on, say, wages, materials, rent, interest, etc. Opportunity cost, on the other hand, is concerned with the cost of the next best alternative opportunity which was foregone in order to pursue a certain action. It is the cost of the missed opportunity and involves a comparison between the policy that was chosen and the policy that was rejected. For example, the opportunity cost of using capital is the interest that it can earn in the next best use with equal risk.

A distinction between outlay costs and opportunity costs can be drawn on the basis of the nature of the sacrifice. Outlay costs involve financial expenditure at some point of time and hence are recorded in the books of account. Opportunity cost is the amount or subjective

© The Institute of Chartered Accountants of India

value that is foregone in choosing one activity over the next best alternative. It relates to sacrificed alternatives; it is, in general not recorded in the books of account.

The opportunity cost concept is generally very useful for business managers and therefore it has to be considered whenever resources are scarce and a decision involving choice of one option over other(s) is involved. e.g., in a cloth mill which spins its own yarn, the opportunity cost of yarn to the weaving department is the price at which the yarn could be sold. This has to be considered while measuring profitability of the weaving operations.

In long-term cost calculations also opportunity cost is a useful concept e.g., while calculating the cost of higher education, it is not the tuition fee and cost of books alone that are relevant. One should also take into account the earnings foregone, other foregone uses of money which is paid as tuition fees and the value of missed activities etc. as the cost of attending classes.

Direct or Traceable costs and Indirect or Non-Traceable costs: Direct costs are those which have direct relationship with a component of operation like manufacturing a product, organizing a process or an activity etc. Since such costs are directly related to a product, process or machine, they may vary according to the changes occurring in these. Direct costs are costs that are readily identified and are traceable to a particular product, operation or plant. Even overhead costs can be direct as to a department; manufacturing costs can be direct to a product line, sales territory, customer class etc. We must know the purpose of cost calculation before considering whether a cost is direct or indirect.

Indirect costs are those which are not easily and definitely identifiable in relation to a plant, product, process or department. Therefore, such costs are not visibly traceable to specific goods, services, operations, etc.; but are nevertheless charged to different jobs or products in standard accounting practice. The economic importance of these costs is that these, even though not directly traceable to a product, may bear some functional relationship to production and may vary with output in some definite way. Examples of such costs are electric power and common costs incurred for general operation of business benefiting all products jointly.

Incremental costs and Sunk costs: Theoretically, incremental costs are related to the concept of marginal cost. Incremental cost refers to the additional cost incurred by a firm as result of a business decision. For example, incremental costs will have to be incurred by a firm when it makes a decision to change its product line, replace worn out machinery, buy a new production facility or acquire a new set of clients. Sunk costs refer to those costs which are already incurred once and for all and cannot be recovered. They are based on past commitments and cannot be revised or reversed if the firm wishes to do so. Examples of sunk costs are expenses incurred on advertising, R& D, specialised equipments and fixed

© The Institute of Chartered Accountants of India

facilities such as railway lines. Sunk costs act as an important barrier to entry of firms into business.

Historical costs and Replacement costs: Historical cost refers to the cost incurred in the past on the acquisition of a productive asset such as machinery, building etc. Replacement cost is the money expenditure that has to be incurred for replacing an old asset. Instability in prices make these two costs differ. Other things remaining the same, an increase in price will make replacement costs higher than historical cost.

Private costs and Social costs: Private costs are costs actually incurred or provided for by firms and are either explicit or implicit. They normally figure in business decisions as they form part of total cost and are internalised by the firm. Social cost, on the other hand, refers to the total cost borne by the society on account of a business activity and includes private cost and external cost. It includes the cost of resources for which the firm is not required to pay price such as atmosphere, rivers, roadways etc. and the cost in terms of dis-utility created such as air, water and environment pollution.

Fixed and Variable costs: Fixed or constant costs are not a function of output; they do not vary with output upto a certain level of activity. These costs require a fixed expenditure of funds irrespective of the level of output, e.g., rent, property taxes, interest on loans and depreciation when taken as a function of time and not of output. However, these costs vary with the size of the plant and are a function of capacity. Therefore, fixed costs do not vary with the volume of output within a capacity level.

Fixed costs cannot be avoided. These costs are fixed so long as operations are going on. They can be avoided only when the operations are completely closed down. These are, by their very nature, inescapable or uncontrollable costs. But, there are some costs which will continue even after the operations are suspended, as for example, for storing of old machines which cannot be sold in the market. These are called shut down costs. Some of the fixed costs such as costs of advertising, etc. are programmed fixed costs or discretionary expenses, because they depend upon the discretion of management whether to spend on these services or not.

Variable costs are costs that are a function of output in the production period. For example, wages of casual labourers and cost of raw materials and cost of all other inputs that vary with output are variable costs. Variable costs vary directly and sometimes proportionately with output. Over certain ranges of production, they may vary less or more than proportionately depending on the utilization of fixed facilities and resources during the production process.

© The Institute of Chartered Accountants of India

2.1 COST FUNCTION

Cost function refers to the mathematical relation between cost of a product and the various determinants of costs. In a cost function, the dependent variable is unit cost or total cost and the independent variables are the price of a factor, the size of the output or any other relevant phenomenon which has a bearing on cost, such as technology, level of capacity utilization, efficiency and time period under consideration. Cost function is a function which is obtained from production function and the market supply of inputs. It expresses the relationship between costs and output. Cost functions are derived from actual cost data of the firms and are presented through cost curves. The shape of the cost curves depends upon the cost function. Cost functions are of two kinds: They are short-run cost functions and long-run cost functions.

2.2 SHORT RUN TOTAL COSTS

Total, fixed and variable costs: There are some factors which can be easily adjusted with changes in the level of output. A firm can readily employ more workers if it has to increase output. Similarly, it can purchase more raw materials if it has to expand production. Such factors which can be easily varied with a change in the level of output are called variable factors. On the other hand, there are some factors such as building, capital equipment, or top management team which cannot be so easily varied. It requires comparatively longer time to make changes in them. It takes time to install new machinery. Similarly, it takes time to build a new factory. Such factors which cannot be readily varied and require a longer period to adjust are called fixed factors.

Corresponding to the distinction between variable and fixed factors, we distinguish between short run and long run periods of time. Short run is a period of time in which output can be increased or decreased by changing only the amount of variable factors such as, labour, raw materials, etc. In the short run, quantities of fixed factors cannot be varied in accordance with changes in output. If the firm wants to increase output in the short run, it can do so only by increasing the variable factors, i.e., by using more labour and/or by buying more raw materials. Thus, short run is a period of time in which only variable factors can be varied, while the quantities of fixed factors remain unaltered. On the other hand, long run is a period of time in which the quantities of all factors may be varied. In other words, all factors become variable in the long run.

Thus, we find that fixed costs are those costs which are independent of output, i.e., they do not change with changes in output. These costs are a "fixed amount" which is incurred by a firm in the short run, whether the output is small or large. Even if the firm closes down for

© The Institute of Chartered Accountants of India

some time in the short run but remains in business, these costs have to be borne by it. Fixed costs include such charges as contractual rent, insurance fee, maintenance cost, property taxes, interest on capital employed, managers' salary, watchman's wages etc. The fixed cost curve is presented in figure 5.

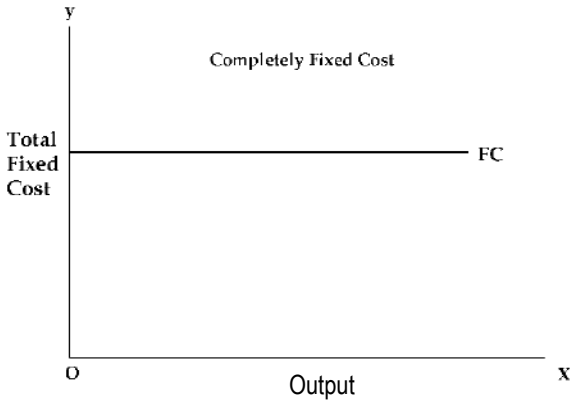


Fig. 5 : Completely Fixed Cost

Variable costs, on the other hand are those costs which change with changes in output. These costs include payments such as wages of casual labour employed, prices of raw material, fuel and power used, transportation cost etc. If a firm shuts down for a short period, it may not use the variable factors of production and therefore, will not therefore incur any variable cost. Figure 6 presents completely variable cost curve drawn under the assumption that variable costs change linearly with changes in output.

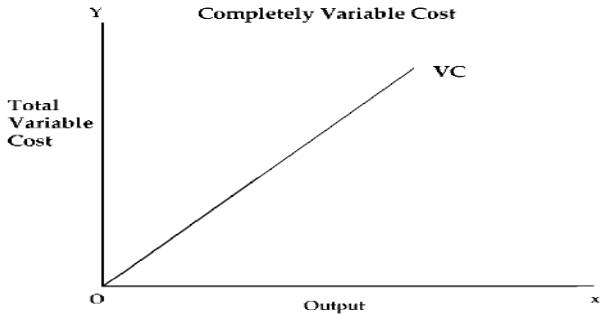


Fig. 6 : Completely Variable Cost

There are some costs which are neither perfectly variable, nor absolutely fixed in relation to the changes in the size of output. They are known as semi-variable costs. It is well reflected in the Fig. 7. Example: Electricity charges include both a fixed charge and a charge based on consumption.

© The Institute of Chartered Accountants of India

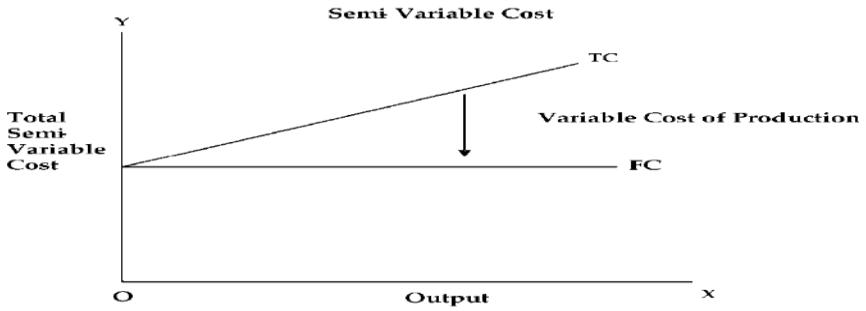


Fig. 7: Semi Variable Cost

There are some costs which may increase in a stair-step fashion, i.e., they remain fixed over certain range of output; but suddenly jump to a new higher level when output goes beyond a given limit. E.g. Costs incurred towards the salary of foremen will have a sudden jump if another foreman is appointed when the output crosses a particular limit.

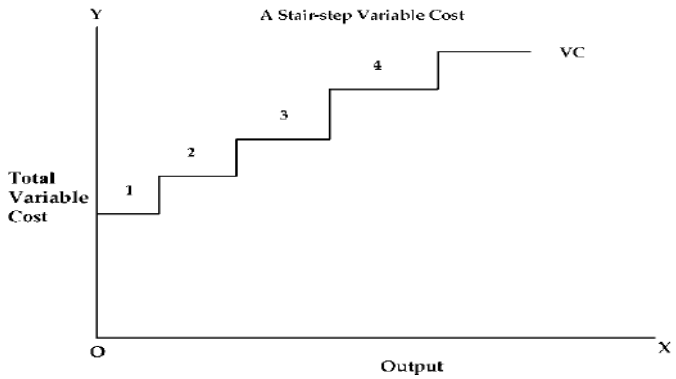


Fig. 8: A Stair-step Variable Cost

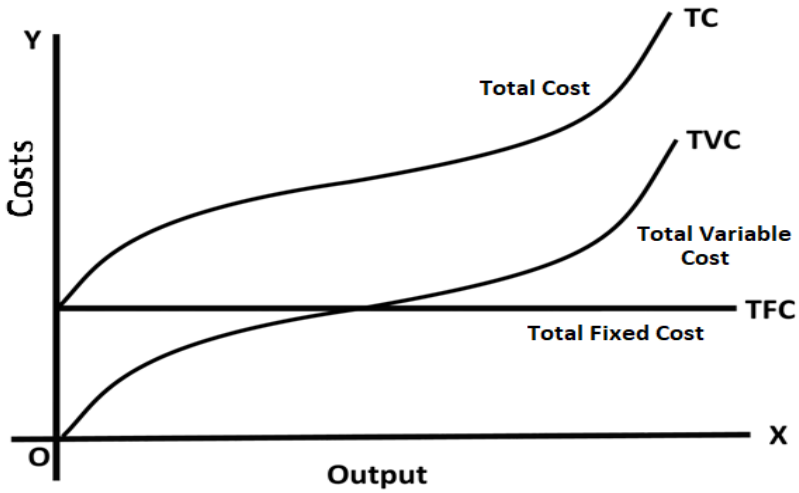


Fig. 9: Short run Total Cost Curves

© The Institute of Chartered Accountants of India

The total cost of a business is defined as the actual cost that must be incurred for producing a given quantity of output. The short run total cost is composed of two major elements namely, total fixed cost and total variable cost. Symbolically TC = TFC + TVC. We may represent total cost, total variable cost and fixed cost diagrammatically.

In the diagram above, the total fixed cost curve (TFC) is a horizontal straight line parallel to X-axis as TFC remains fixed for the whole range of output. This curve starts from a point on the Y-axis meaning thereby that fixed costs will be incurred even if the output is zero. On the other hand, the total variable cost curve rises upward indicating that as output increases, total variable cost increases. The total variable cost curve starts from the origin because variable costs are zero when the output is zero. It should be noted that the total variable cost initially increases at a decreasing rate and then at an increasing rate with increases in output. This pattern of change in the TVC occurs due to the operation of the law of increasing and diminishing returns to the variable inputs. Due to the operation of diminishing returns, as output increases, larger quantities of variable inputs are required to produce the same quantity of output. Consequently, variable cost curve is steeper at higher levels of output. The total cost curve has been obtained by adding vertically the total fixed cost curve and the total variable cost curve. The slopes of TC and TVC are the same at every level of output and at each point the two curves have vertical distance equal to total fixed cost. Its position reflects the amount of fixed costs and its slope reflects variable costs.

Short run average costs

Average fixed cost (AFC): AFC is obtained by dividing the total fixed cost by the number of units of output produced. i.e. AFC= $\frac{TFC}{Q}$ where Q is the number of units produced. Thus, average fixed cost is the fixed cost

per unit of output. For example, if a firm is producing with a total fixed cost of ₹ 2,000/-. When output is 100 units, the average fixed cost will be ₹ 20. And now, if the output increases to 200 units, average fixed cost will be ₹ 10. Since total fixed cost is a constant amount, average fixed cost will steadily fall as output increases. Therefore, if we draw an average fixed cost curve, it will slope downwards throughout its length but will not touch the X-axis as AFC cannot be zero. (Fig. 10)

Average variable cost (AVC): Average variable cost is found out by dividing the total variable cost by the number of units of output produced, i.e. AVC= $\frac{TVC}{Q}$ where Q is the number of units produced. Thus, average variable cost is the variable cost per unit of output. Average variable cost normally falls as output increases from zero to normal capacity output due to occurrence of increasing returns to variable factors. But beyond the normal capacity

© The Institute of Chartered Accountants of India

output, average variable cost will rise steeply because of the operation of diminishing returns (the concepts of increasing returns and diminishing returns have already been discussed earlier). If we draw an average variable cost curve, it will first fall, then reach a minimum and then rise. (Fig. 10)

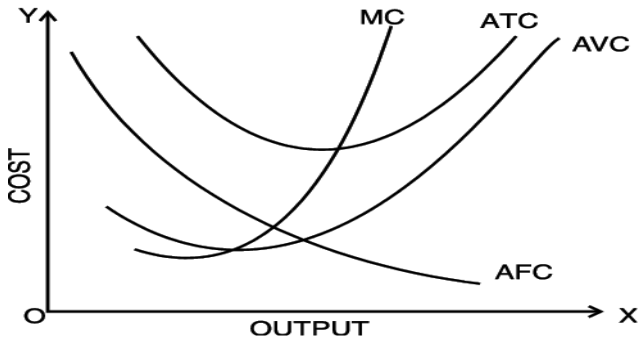


Fig. 10: Short run Average and Marginal Cost Curves

Average total cost (ATC): Average total cost is the sum of average variable cost and average fixed cost. i.e., ATC = AFC + AVC. It is the total cost divided by the number of units produced, i.e. ATC = TC/Q. The behaviour of average total cost curve depends upon the behaviour of the average variable cost curve and the average fixed cost curve. In the beginning, both AVC and AFC curves fall, therefore, the ATC curve will also fall sharply. When AVC curve begins to rise, but AFC curve still falls steeply, ATC curve continues to fall. This is because, during this stage, the fall in AFC curve is greater than the rise in the AVC curve, but as output increases further, there is a sharp rise in AVC which more than offsets the fall in AFC. Therefore, ATC curve first falls, reaches its minimum and then rises. Thus, the average total cost curve is a "U" shaped curve. (Fig. 10)

Marginal cost: Marginal cost is the addition made to the total cost by the production of an additional unit of output. In other words, it is the total cost of producing t units instead of t-1 units, where t is any given number. For example, if we are producing 5 units at a cost of ₹ 200 and now suppose the 6th unit is produced and the total cost is ₹ 250, then the marginal cost is ₹ 250 - 200 i.e., ₹ 50. And marginal cost will be ₹ 24, if 10 units are produced at a total cost of ₹ 320 [(320-200) / (10-5)]. It is to be noted that marginal cost is independent of fixed cost. This is because fixed costs do not change with output. It is only the variable costs which change with a change in the level of output in the short run. Therefore, marginal cost is in fact due to the changes in variable costs. Symbolically marginal cost may be written as:

$$MC = \frac{\Delta TC}{\Delta Q}$$

ΔTC = Change in Total cost

© The Institute of Chartered Accountants of India

ΔQ = Change in Output

or

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

Marginal cost curve falls as output increases in the beginning. It starts rising after a certain level of output. This happens because of the influence of the law of variable proportions. The MC curve becomes minimum corresponding to the point of inflexion on the total cost curve. The fact that marginal product rises first, reaches a maximum and then declines ensures that the marginal cost curve of a firm declines first, reaches its minimum and then rises. In other words marginal cost curve of a firm is "U" shaped (see Figure 10).

The behaviour of these costs has also been shown in Table 3.

Table 3 : Various Costs

Units of output	Total fixed cost	Total variable cost	Total cost	Average fixed cost	Average variable cost	Average total cost	Marginal cost
0	1000	0	1000	-	-	-	-
1	1000	50	1050	1000.00	50.00	1050.00	50
2	1000	90	1090	500.00	45.00	545.00	40
3	1000	140	1140	333.33	46.67	380.00	50
4	1000	196	1196	250.00	49.00	299.00	56
5	1000	255	1255	200.00	51.00	251.00	59
6	1000	325	1325	166.67	54.17	220.83	70
7	1000	400	1400	142.86	57.14	200.00	75
8	1000	480	1480	125.00	60.00	185.00	80
9	1000	570	1570	111.11	63.33	174.44	90
10	1000	670	1670	100.00	67.00	167.00	100
11	1000	780	1780	90.91	70.91	161.82	110
12	1000	1080	2080	83.33	90.00	173.33	300

The above table shows that:

(i) Fixed costs do not change with increase in output upto a given level. Average fixed cost, therefore, comes down with every increase in output.

(ii) Variable costs increase, but not necessarily in the same proportion as the increase in output. In the above case, average variable cost comes down gradually till 4 units are produced. Thereafter it starts increasing.

© The Institute of Chartered Accountants of India

(iii) Marginal cost is the additional cost divided by the additional units produced. This also comes down first and then starts increasing.

Relationship between Average Cost and Marginal Cost: The relationship between marginal cost and average cost is the same as that between any other marginal-average quantities. The following are the points of relationship between the two.

(1) When average cost falls as a result of an increase in output, marginal cost is less than average cost.

(2) When average cost rises as a result of an increase in output, marginal cost is more than average cost.

(3) When average cost is minimum, marginal cost is equal to the average cost. In other words, marginal cost curve cuts average cost curve at its minimum point (i.e. optimum point).

Figure 10 confirms the above points of relationship.

2.3 LONG RUN AVERAGE COST CURVE

As stated above, long run is a period of time during which the firm can vary all of its inputs; unlike short run in which some inputs are fixed and others are variable. In other words, whereas in the short run the firm is tied with a given plant, in the long run the firm can build any size or scale of plant and therefore, can move from one plant to another; it can acquire a big plant if it wants to increase its output and a small plant if it wants to reduce its output. The long run being a planning horizon, the firm plans ahead to build the most appropriate scale of plant to produce the future level of output. It should be kept in mind that once the firm has built a particular scale of plant, its production takes place in the short run. Briefly put, the firm actually operates in the short run and plans for the long run. Long run cost of production is the least possible cost of producing any given level of output when all individual factors are variable. A long run cost curve depicts the functional relationship between output and the long run cost of production.

In order to understand how the long run average cost curve is derived, we consider three short run average cost curves as shown in Figure 11. These short run average cost curves (SACs) are also called 'plant curves'. In the short run, the firm can be operating on any short run average cost curve, given the size of the plant. Suppose that there are the only three plants which are technically possible. Given the size of the plant, the firm will be increasing or decreasing its output by changing the amount of the variable inputs. But in the long run, the firm chooses among the three possible sizes of plants as depicted by short run average curves (SAC_1, SAC_2, and SAC_3). In the long run, the firm will examine with which size of plant

© The Institute of Chartered Accountants of India

or on which short run average cost curve it should operate to produce a given level of output, so that the total cost is minimum. It will be seen from the diagram that up to OB amount of output, the firm will operate on the SAC_1, though it could also produce with SAC_2. Up to OB amount of output, the production on SAC_1 results in lower cost than on SAC_2. For example, if the level of output OA is produced with SAC_1, it will cost AL per unit and if it is produced with SAC_2 it will cost AH and we can see that AH is more than AL. Similarly, if the firm plans to produce an output which is larger than OB but less than OD, then it will not be economical to produce on SAC_1. For this, the firm will have to use SAC_2. Similarly, the firm will use SAC_3 for output larger than OD. It is thus clear that, in the long run, the firm has a choice in the employment of plant and it will employ that plant which yields minimum possible unit cost for producing a given output.

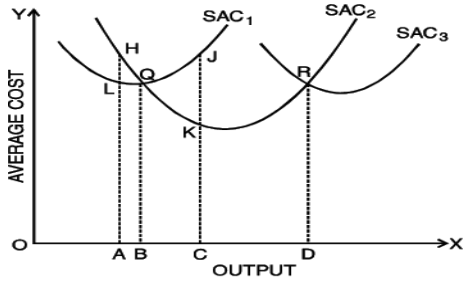


Fig. 11: Short Run Average Cost Curves

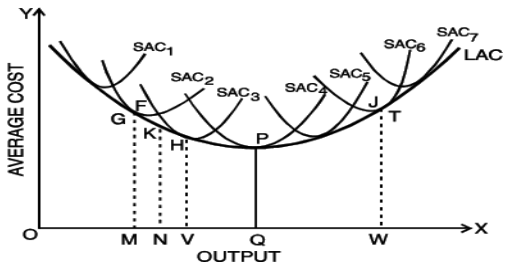


Fig. 12: Long Run Average Cost Curves

Suppose, the firm has a choice so that a plant can be varied by infinitely small gradations so that there are infinite number of plants corresponding to which there are numerous average cost curves. In such a case the long run average cost curve will be a smooth curve enveloping all these short run average cost curves.

As shown in Figure 12, the long run average cost curve is so drawn as to be tangent to each of the short run average cost curves. Every point on the long run average cost curve will be a tangency point with some short run AC curve. If a firm desires to produce any particular output, it then builds a corresponding plant and operates on the corresponding short run average cost curve. As shown in the figure, for producing OM, the corresponding point on the LAC curve is G and the short run average cost curve SAC_2 is tangent to the long run AC at this point. Thus, if a firm desires to produce output OM, the firm will construct a plant corresponding to SAC_2 and will operate on this curve at point G. Similarly, the firm will produce other levels of output choosing the plant which suits its requirements of lowest possible cost of production. It is clear from the figure that larger output can be produced at the lowest cost with larger plant whereas smaller output can be produced at the lowest cost with smaller plants. For example, to produce OM, the firm will be using SAC_2 only; if it uses SAC_3, it will result in higher unit cost than SAC_2. But, larger output OV can be produced most economically with a larger plant represented by the SAC_3. If we produce OV with a smaller

© The Institute of Chartered Accountants of India

plant, it will result in higher cost per unit. Similarly, if we produce larger output with a smaller plant it will involve higher costs because of its limited capacity.

It is to be noted that LAC curve is not tangent to the minimum points of the SAC curves. When the LAC curve is declining, it is tangent to the falling portions of the short run cost curves and when the LAC curve is rising, it is tangent to the rising portions of the short run cost curves. Thus, for producing output less than "OQ" at the lowest possible unit cost, the firm will construct the relevant plant and operate it at less than its full capacity, i.e., at less than its minimum average cost of production. On the other hand, for outputs larger than OQ the firm will construct a plant and operate it beyond its optimum capacity. "OQ" is the optimum output. This is because "OQ" is being produced at the minimum point of LAC and corresponding SAC i.e., SAC_4. Other plants are either used at less than their full capacity or more than their full capacity. Only SAC_4 is being operated at the minimum point.

The long run average cost curve is often called as 'planning curve' because a firm plans to produce any output in the long run by choosing a plant on the long run average cost curve corresponding to the given output. The long run average cost curve helps the firm in the choice of the size of the plant for producing a specific output at the least possible cost.

Explanation of the "U" shape of the long run average cost curve: As has been seen in the diagram LAC curve is a "U" shaped curve. This shape of LAC curve has nothing to do with the U shaped SAC which is due to variable factor ratio because in the long run all factors are variable. U shaped LAC arises due to returns to scale. As discussed earlier, when the firm expands, returns to scale increase. After a range of constant returns to scale, the returns to scale finally decrease. On the same line, the LAC curve first declines and then finally rises. Increasing returns to scale cause fall in the long run average cost and decreasing returns to scale result in rise in long run average cost. Falling long run average cost and increasing economies of scale result from internal and external economies of scale and rising long run average cost and diminishing returns to scale result from internal and external diseconomies of scale. (Economies of scale will be discussed in the next section.)

The long run average cost curve initially falls with increase in output and after a certain point it rises making a boat shape. The long-run average cost (LAC) curve is also called the planning curve of the firm as it helps in choosing an appropriate a plant on the decided level of output. The long-run average cost curve is also called "Envelope curve", because it envelopes or supports a family of short run average cost curves from below.

The above figure depicting long-run average cost curve is arrived at on the basis of traditional economic analysis. It is flattened 'U' shaped. This type of curve could exist only when the state of technology remains constant. But, empirical evidence shows modern firms face 'L-shaped' cost curve over a considerable quantity of output. The L-shaped long run cost curve implies that initially when the output is increased due to increase in the size of

© The Institute of Chartered Accountants of India

plant (and associated variable factors), per unit cost falls rapidly due to economies of scale. The long-run average cost curve does not increase even after a sufficiently large scale of output as it continues to enjoy economies of scale.

2.4 ECONOMIES AND DISECONOMIES OF SCALE

The Scale of Production

Production on a large scale is a very important feature of modern industrial society. As a consequence, the size of business undertakings has greatly increased. Large-scale production offers certain advantages which help in reducing the cost of production. Economies arising out of large-scale production can be grouped into two categories; viz., internal economies and external economies. Internal economies are those economies of production which accrue to the firm when it expands its output, so that the cost of production would come down considerably and place the firm in a better position to compete in the market effectively. Internal economies arise purely due to endogenous factors relating to efficiency of the entrepreneur or his managerial talents or the type of machinery used or the marketing strategy adopted. These economies arise within the firm and are available exclusively to the expanding firm. On the other hand, external economies are the benefits accruing to each member firm of the industry as a result of expansion of the industry.

Internal Economies and Diseconomies: We saw that returns to scale increase in the initial stages and after remaining constant for a while, they decrease. The question arises as to why we get increasing returns to scale due to which cost falls and why after a certain point we get decreasing returns to scale due to which cost rises. The answer is that initially a firm enjoys internal economies of scale and beyond a certain limit it suffers from internal diseconomies of scale. Internal economies and diseconomies are of the following main kinds:

(i) Technical economies and diseconomies: Large-scale production is associated with economies of superior techniques. As the firm increases its scale of operations, it becomes possible to use more specialised and efficient form of all factors, specially capital equipment and machinery. For producing higher levels of output, there is generally available a more efficient machinery which when employed to produce a large output yields a lower cost per unit of output. The firm is able to take advantage of \composite technology whereby the whole process of production of a commodity is done as one composite unit. Secondly, when the scale of production is increased and the amount of labour and other factors become larger, introduction of greater degree of division of labour and specialisation becomes possible and as a result cost

© The Institute of Chartered Accountants of India

per unit declines. There are some advantages available to a large firm on account of performance of a number of linked processes. The firm can reduce the inconvenience and costs associated with the dependence on other firms by undertaking various processes from the input supply stage to the final output stage.

However, beyond a certain point, a firm experiences net diseconomies of scale. This happens because when the firm has reached a size large enough to allow utilisation of almost all the possibilities of division of labour and employment of more efficient machinery, further increase in the size of the plant will bring about high long-run cost because of difficulties of management. When the scale of operations becomes too large, it becomes difficult for the management to exercise control and to bring about proper coordination.

(ii) ***Managerial economies and diseconomies:*** Managerial economies refer to reduction in managerial costs. When output increases, specialisation and division of labour can be applied to management. It becomes possible to divide its management into specialised departments under specialised personnel, such as production manager, sales manager, finance manager etc. If the scale of production increases further, each department can be further sub-divided; for e.g. sales can be split into separate sections such as for advertising, exports and customer service. Since individual activities come under the supervision of specialists, management's efficiency and productivity will greatly improve. Decentralisation of decision making and mechanisation of managerial functions further enhance the efficiency and productivity of managers. Thus, specialisation of management enables large firms to achieve reduction in managerial costs.

However, as the scale of production increases beyond a certain limit, managerial diseconomies set in. Communication at different levels such as between the managers and labourers and among the managers become difficult resulting in delays in decision making and implementation of decisions already made. Management finds it difficult to exercise control and to bring in coordination among its various departments. The managerial structure becomes more complex and is affected by greater bureaucracy, red tapism, lengthening of communication lines and so on. All these affect the efficiency and productivity of management and that of the firm itself.

(iii) ***Commercial economies and diseconomies:*** Production of large volumes of goods requires large amount of materials and components. A large firm is able to place bulk orders for materials and components and enjoy lower prices for them. Economies can also be achieved in marketing of the product. If the sales staff is not being worked to full capacity, additional output can be sold at little or no extra cost. Moreover, large

© The Institute of Chartered Accountants of India

firms can benefit from economies of advertising. As the scale of production increases, advertising costs per unit of output fall. In addition, a large firm may also be able to sell its by-products or process it profitably; something which might be unprofitable for a small firm. There are also economies associated with transport and storage.

These economies become diseconomies after an optimum scale. For example, advertisement expenditure and other marketing overheads will increase more than proportionately after the optimum scale.

(iv) ***Financial economies and diseconomies:*** A large firm has advantages over small firms in matters related to procurement of finance for its business activities. It can, for instance, offer better security to bankers and avail of advances with greater ease. On account of the goodwill enjoyed by large firms, investors have greater confidence in them and therefore would prefer their shares which can be readily sold on the stock exchange. A large firm can thus raise capital at lower cost.

However, these costs of raising finance will rise more than proportionately after the optimum scale of production. This may happen because of relatively greater dependence on external finances.

(v) ***Risk bearing economies and diseconomies:*** It is said that a large business with diverse and multi-production capability is in a better position to withstand economic ups and downs, and therefore, enjoys economies of risk bearing. However, risk may increase if diversification, instead of giving a cover to economic disturbances, increases these.

External Economies and Diseconomies: Internal economies are economies enjoyed by a firm on account of use of greater degree of division of labour and specialised machinery at higher levels of output. They are internal in the sense that they accrue to the firm due to its own efforts. Besides internal economies, there are external economies which are very important for a firm. External economies and diseconomies are those economies and diseconomies which accrue to firms as a result of expansion in the output of the whole industry and they are not dependent on the output level of individual firms. They are external in the sense that they accrue to firms not out of their internal situation but from outside i.e. due to expansion of the industry. These are available to one or more of the firms in the form of:

1. ***Cheaper raw materials and capital equipment:*** The expansion of an industry may result in exploration of new and cheaper sources of raw material, machinery and other types of capital equipments. Expansion of an industry results in greater demand for various kinds of materials and capital equipments required by it. The firm

© The Institute of Chartered Accountants of India

can procure these on a large scale at competitive prices from other industries. This reduces their cost of production and consequently the prices of their output.

2. ***Technological external economies:*** When the whole industry expands, it may result in the discovery of new technical knowledge and in accordance with that, the use of improved and better machinery and processes than before. This will change the technical co-efficient of production and enhance productivity of firms in the industry and reduce their cost of production.

3. ***Development of skilled labour:*** When an industry expands in an area, the labourers in that area are well accustomed with the different productive processes and tend to learn a good deal from experience. As a result, with the growth of an industry in an area, a pool of trained labour is developed which has a favourable effect on the level of productivity and cost of the firms in that industry.

4. ***Growth of ancillary industries:*** Expansion of industry encourages the growth of a number of ancillary industries which specialise in the production and supply of raw materials, tools, machinery, components, repair services etc. Input prices go down in a competitive market and the benefits of it accrue to all firms in the form of reduction in cost of production. Likewise, new units may come up for processing or recycling of the waste products of the industry. This will tend to reduce the cost of production in general.

5. ***Better transportation and marketing facilities:*** The expansion of an industry resulting from entry of new firms may make possible the development of an efficient transportation and marketing network. These will greatly reduce the cost of production of the firms by avoiding the need for establishing and running these services by themselves. Similarly, communication systems may get modernised resulting in better and speedy information dissemination.

6. **Economies of Information*:*** Necessary information regarding technology, labour, prices and products may be easily and cheaply made available to the firms on account of publication of information booklets and bulletins by industry associations or by governments in public interest.

However, external economies may cease if there are certain disadvantages which may neutralise the advantages of expansion of an industry. We call them external diseconomies. External diseconomies are disadvantages that originate outside the firm, especially in the input markets. An example of external diseconomies is rise in various factor prices. When an industry expands the requirement of various factors of production, such as raw materials, capital goods, skilled labour etc increases. Increasing demand for inputs puts pressure on the input markets. This may result in an increase in the prices of factors of production,

© The Institute of Chartered Accountants of India

especially when they are short in supply. Moreover, too many firms in an industry at one place may also result in higher transportation cost, marketing cost and high pollution control cost. The government may also, through its location policy, prohibit or restrict the expansion of an industry at a particular place.

SUMMARY

- Cost analysis refers to the study of behaviour of cost in relation to one or more production criteria. It is concerned with the financial aspects of production.
  - Accounting costs are explicit costs and includes all the payments and charges made by the entrepreneur to the suppliers of various productive factors.
  - Economic costs take into account explicit costs as well as implicit costs. A firm has to cover its economic cost if it wants to earn normal profits.
  - Outlay costs involve actual expenditure of funds.
  - Opportunity cost is concerned with the cost of the next best alternative opportunity which was foregone in order to pursue a certain action.
  - Direct costs are those which have direct relationship with a component of operation. They are readily identified and are traceable to a particular product, operation or plant.
  - Indirect costs are those which cannot be easily and definitely identifiable in relation to a plant, product, process or department. They not visibly traceable to any specific goods, services, processes, departments or operations.
  - Incremental cost refers to the additional cost incurred by a firm as a result of a business decision.
  - Sunk costs are already incurred once and for all, and cannot be recovered.
  - Historical cost refers to the cost incurred in the past on the acquisition of a productive asset.
  - Replacement cost is the money expenditure that has to be incurred for replacing an old asset.
  - Private costs are costs actually incurred or provided for by firms and are either explicit or implicit.
  - Social cost, on the other hand, refers to the total cost borne by the society on account of a business activity and includes private cost and external cost.

© The Institute of Chartered Accountants of India

- The cost function refers to the mathematical relation between cost and the various determinants of cost. It expresses the relationship between cost and output.
- Economists are generally interested in two types of cost functions; the short run cost function and the long run cost function.
- **Short-run cost functions are**
  - Fixed or constant costs which are not a function of output. These are inescapable or uncontrollable.
  - Variable costs are a function of output in the production period.
  - Short run is a period of time in which output can be increased or decreased by changing only the amount of variable factors such as, labour, raw material, etc.
  - Long run is a period of time in which the quantities of all factors may be varied. In other words, all factors become variable in the long run.
  - Semi-variable costs are neither perfectly variable, nor absolutely fixed in relation to the changes in the size of output.
  - Stair-step costs remain fixed over certain range of output; but suddenly jump to a new higher level when output goes beyond a given limit.
  - Total cost of a business is defined as the actual cost that must be incurred for producing a given quantity of output.
  - AFC is obtained by dividing the total fixed cost by the number of units of output produced.
  - Average variable cost is found out by dividing the total variable cost by the number of units of output produced.
  - Average total cost is the sum of average fixed cost and average variable cost.
  - Marginal cost is the addition made to the total cost by the production of an additional unit of output.
- Long run cost of production is the least possible cost of producing any given level of output when all individual factors are variable.
  - A long run cost curve depicts the functional relationship between output and the long run cost of production.
  - The long run average cost curve, often called a planning curve, is so drawn as to be tangent to each of the short run average cost curves.

© The Institute of Chartered Accountants of India

- LAC curve is not tangent to the minimum points of the SAC curves.
- Empirical evidence shows that the state of technology changes in the long-run. Therefore, modern firms face 'L-shaped' cost curve over a considerable quantity of output.

♦ Economies of scale are of two kinds - external economies of scale and internal economies of scale.

- External economies of scale accrue to a firm due to factors which are external to a firm.
- Internal economies of scale accrue to a firm when it engages in large scale production.
- Increase in scale, beyond the optimum level, results in diseconomies of scale.

TEST YOUR KNOWLEDGE

Multiple Choice Questions

1. *Which of the following is considered production in Economics?*

   (a) Tilling of soil.

   (b) Singing a song before friends.

   (c) Preventing a child from falling into a manhole on the road.

   (d) Painting a picture for pleasure.

2. *Identify the correct statement:*

   (a) The average product is at its maximum when marginal product is equal to average product.

   (b) The law of increasing returns to scale relates to the effect of changes in factor proportions.

   (c) Economies of scale arise only because of indivisibilities of factor proportions.

   (d) Internal economies of scale can accrue when industry expands beyond optimum.

3. *Which of the following is not a characteristic of land?*

   (a) Its supply for the economy is limited.

   (b) It is immobile.

© The Institute of Chartered Accountants of India

(c) *Its usefulness depends on human efforts.*

(d) *It is produced by our forefathers.*

4. *Which of the following statements is true?*

(a) *Accumulation of capital depends solely on income of individuals.*

(b) *Savings can be influenced by government policies.*

(c) *External economies go with size and internal economies with location.*

(d) *The supply curve of labour is an upward slopping curve.*

5. *In the production of wheat, all of the following are variable factors that are used by the farmer except:*

(a) *the seed and fertilizer used when the crop is planted.*

(b) *the field that has been cleared of trees and in which the crop is planted.*

(c) *the tractor used by the farmer in planting and cultivating not only wheat but also corn and barley.*

(d) *the number of hours that the farmer spends in cultivating the wheat fields.*

6. *The marginal product of a variable input is best described as:*

(a) *total product divided by the number of units of variable input.*

(b) *the additional output resulting from a one unit increase in the variable input.*

(c) *the additional output resulting from a one unit increase in both the variable and fixed inputs.*

(d) *the ratio of the amount of the variable input that is being used to the amount of the fixed input that is being used.*

7. *Diminishing marginal returns implies:*

(a) *decreasing average variable costs.*

(b) *decreasing marginal costs.*

(c) *increasing marginal costs.*

(d) *decreasing average fixed costs.*

8. *The short run, as economists use the phrase, is characterized by:*

(a) *at least one fixed factor of production and firms neither leaving nor entering the industry.*

(b) *generally a period which is shorter than one year.*

© The Institute of Chartered Accountants of India

(c) *all factors of production are fixed and no variable inputs.*

(d) *all inputs are variable and production is done in less than one year.*

9. *The marginal, average, and total product curves encountered by the firm producing in the short run exhibit all of the following relationships except:*

(a) *when total product is rising, average and marginal product may be either rising or falling.*

(b) *when marginal product is negative, total product and average product are falling.*

(c) *when average product is at a maximum, marginal product equals average product, and total product is rising.*

(d) *when marginal product is at a maximum, average product equals marginal product, and total product is rising.*

10. *To economists, the main difference between the short run and the long run is that:*

(a) *In the short run all inputs are fixed, while in the long run all inputs are variable.*

(b) *In the short run the firm varies all of its inputs to find the least-cost combination of inputs.*

(c) *In the short run, at least one of the firm's input levels is fixed.*

(d) *In the long run, the firm is making a constrained decision about how to use existing plant and equipment efficiently.*

11. *Which of the following is the best definition of "production function"?*

(a) *The relationship between market price and quantity supplied.*

(b) *The relationship between the firm's total revenue and the cost of production.*

(c) *The relationship between the quantities of inputs needed to produce a given level of output.*

(d) *The relationship between the quantity of inputs and the firm's marginal cost of production.*

12. *The "law of diminishing returns" applies to:*

(a) *the short run, but not the long run.*

(b) *the long run, but not the short run.*

(c) *both the short run and the long run.*

(d) *neither the short run nor the long run.*

© The Institute of Chartered Accountants of India

13. *Diminishing returns occur:*

(a) *when units of a variable input are added to a fixed input and total product falls.*

(b) *when units of a variable input are added to a fixed input and marginal product falls.*

(c) *when the size of the plant is increased in the long run.*

(d) *when the quantity of the fixed input is increased and returns to the variable input falls.*

Use the following information to answer questions 14-16.

Hours of Labour	***Total Output***	***Marginal Product***
0	*–*	*–*
1	*100*	*100*
2	*–*	*80*
3	*240*	*–*

14. *What is the total output when 2 hours of labour are employed?*

(a) *80*

(b) *100*

(c) *180*

(d) *200*

15. *What is the marginal product of the third hour of labour?*

(a) *60*

(b) *80*

(c) *100*

(d) *240*

16. *What is the average product of the first three hours of labour?*

(a) *60*

(b) *80*

(c) *100*

(d) *240*

© The Institute of Chartered Accountants of India

17. *Which cost increases continuously with the increase in production?*

(a) *Average cost.*

(b) *Marginal cost.*

(c) *Fixed cost.*

(d) *Variable cost.*

18. *Which of the following cost curves is never 'U' shaped?*

(a) *Average cost curve.*

(b) *Marginal cost curve.*

(c) *Average variable cost curve.*

(d) *Average fixed cost curve.*

19. *Total cost in the short run is classified into fixed costs and variable costs. Which one of the following is a variable cost?*

(a) *Cost of raw materials.*

(b) *Cost of equipment.*

(c) *Interest payment on past borrowings.*

(d) *Payment of rent on building.*

20. *In the short run, when the output of a firm increases, its average fixed cost:*

(a) *increases.*

(b) *decreases.*

(c) *remains constant.*

(d) *first declines and then rises.*

21. *Which one of the following is also known as planning curve?*

(a) *Long run average cost curve.*

(b) *Short run average cost curve.*

(c) *Average variable cost curve.*

(d) *Average total cost curve.*

22. *If a firm moves from one point on a production isoquant to another, which of the following will not happen.*

(a) *A change in the ratio in which the inputs are combined to produce output.*

© The Institute of Chartered Accountants of India

(b) A change in the ratio of marginal products of the inputs.

(c) A change in the marginal rate of technical substitution.

(d) A change in the level of output.

23. With which of the following is the concept of marginal cost closely related?

(a) Variable cost.

(b) Fixed cost.

(c) Opportunity cost.

(d) Economic cost.

24. Which of the following statements is correct?

(a) When the average cost is rising, the marginal cost must also be rising.

(b) When the average cost is rising, the marginal cost must be falling.

(c) When the average cost is rising, the marginal cost is above the average cost.

(d) When the average cost is falling, the marginal cost must be rising.

25. Which of the following is an example of "explicit cost"?

(a) The wages a proprietor could have made by working as an employee of a large firm.

(b) The income that could have been earned in alternative uses by the resources owned by the firm.

(c) The payment of wages by the firm.

(d) The normal profit earned by a firm.

26. Which of the following is an example of an "implicit cost"?

(a) Interest that could have been earned on retained earnings used by the firm to finance expansion.

(b) The payment of rent by the firm for the building in which it is housed.

(c) The interest payment made by the firm for funds borrowed from a bank.

(d) The payment of wages by the firm.

Use the following data to answer questions 27-29.

Output (O)	**0**	**1**	**2**	**3**	**4**	**5**	**6**
Total Cost (TC)	₹ 240	₹ 330	₹ 410	₹ 480	₹ 540	₹ 610	₹ 690

© The Institute of Chartered Accountants of India

27. *The average fixed cost of 2 units of output is:*

(a) ₹ 80

(b) ₹ 85

(c) ₹ 120

(d) ₹ 205

28. *The marginal cost of the sixth unit of output is:*

(a) ₹ 133

(b) ₹ 75

(c) ₹ 80

(d) ₹ 450

29. *Diminishing marginal returns start to occur between units:*

(a) 2 and 3.

(b) 3 and 4.

(c) 4 and 5.

(d) 5 and 6.

30. *Marginal cost is defined as:*

(a) the change in total cost due to a one unit change in output.

(b) total cost divided by output.

(c) the change in output due to a one unit change in an input.

(d) total product divided by the quantity of input.

31. *Which of the following is true of the relationship between the marginal cost function and the average cost function?*

(a) If MC is greater than ATC, then ATC is falling.

(b) The ATC curve intersects the MC curve at minimum MC.

(c) The MC curve intersects the ATC curve at minimum ATC.

(d) If MC is less than ATC, then ATC is increasing.

32. *Which of the following statements is true of the relationship among the average cost functions?*

(a) ATC = AFC – AVC.

© The Institute of Chartered Accountants of India

(b) *AVC = AFC + ATC.*

(c) *AFC = ATC + AVC.*

(d) *AFC = ATC – AVC.*

33. *Which of the following is not a determinant of the firm's cost function?*

(a) *The production function.*

(b) *The price of labour.*

(c) *Taxes.*

(d) *The price of the firm's output.*

34. *Which of the following statements is correct concerning the relationships among the firm's cost functions?*

(a) *TC = TFC – TVC.*

(b) *TVC = TFC – TC.*

(c) *TFC = TC – TVC.*

(d) *TC = TVC – TFC.*

35. *Suppose output increases in the short run. Total cost will:*

(a) *increase due to an increase in fixed costs only.*

(b) *increase due to an increase in variable costs only.*

(c) *increase due to an increase in both fixed and variable costs.*

(d) *decrease if the firm is in the region of diminishing returns.*

36. *Which of the following statements concerning the long-run average cost curve is false?*

(a) *It represents the least-cost input combination for producing each level of output.*

(b) *It is derived from a series of short-run average cost curves.*

(c) *The short-run cost curve at the minimum point of the long-run average cost curve represents the least–cost plant size for all levels of output.*

(d) *As output increases, the amount of capital employed by the firm increases along the curve.*

37. *The negatively-sloped (i.e. falling) part of the long-run average total cost curve is due to which of the following?*

(a) *Diseconomies of scale.*

© The Institute of Chartered Accountants of India

(b) *Diminishing returns.*

(c) *The difficulties encountered in coordinating the many activities of a large firm.*

(d) *The increase in productivity that results from specialization.*

38. *The positively sloped (i.e. rising) part of the long run average total cost curve is due to which of the following?*

(a) *Diseconomies of scale.*

(b) *Increasing returns.*

(c) *The firm being able to take advantage of large-scale production techniques as it expands its output.*

(d) *The increase in productivity that results from specialization.*

39. *A firm's average total cost is ₹ 300 at 5 units of output and ₹ 320 at 6 units of output. The marginal cost of producing the 6th unit is:*

(a) *₹ 20*

(b) *₹ 120*

(c) *₹ 320*

(d) *₹ 420*

40. *A firm producing 7 units of output has an average total cost of ₹ 150 and has to pay ₹ 350 to its fixed factors of production whether it produces or not. How much of the average total cost is made up of variable costs?*

(a) *₹ 200*

(b) *₹ 50*

(c) *₹ 300*

(d) *₹ 100*

41. *A firm has a variable cost of ₹ 1000 at 5 units of output. If fixed costs are ₹ 400, what will be the average total cost at 5 units of output?*

(a) *₹ 280*

(b) *₹ 60*

(c) *₹ 120*

(d) *₹ 1400*

© The Institute of Chartered Accountants of India

42. *A firm's average fixed cost is ₹ 20 at 6 units of output. What will it be at 4 units of output?*

(a) ₹ 60

(b) ₹ 30

(c) ₹ 40

(d) ₹ 20

43. *Which of the following statements is true?*

(a) The services of a doctor are considered production.

(b) Man can create matter.

(c) The services of a housewife are considered production.

(d) When a man creates a table, he creates matter.

44. *Which of the following is a function of an entrepreneur?*

(a) Initiating a business enterprise.

(b) Risk bearing.

(c) Innovating.

(d) All of the above.

45. *In describing a given production technology, the short run is best described as lasting:*

(a) up to six months from now.

(b) up to five years from now.

(c) as long as all inputs are fixed.

(d) as long as at least one input is fixed.

46. *If decreasing returns to scale are present, then if all inputs are increased by 10% then:*

(a) output will also decrease by 10%.

(b) output will increase by 10%.

(c) output will increase by less than 10%.

(d) output will increase by more than 10%.

47. *The production function is a relationship between a given combination of inputs and:*

(a) another combination that yields the same output.

(b) the highest resulting output.

© The Institute of Chartered Accountants of India

(c) *the increase in output generated by one-unit increase in one output.*

(d) *all levels of output that can be generated by those inputs.*

48. *If the marginal product of labour is below the average product of labour, it must be true that:*

(a) *the marginal product of labour is negative.*

(b) *the marginal product of labour is zero.*

(c) *the average product of labour is falling.*

(d) *the average product of labour is negative.*

49. *The average product of labour is maximized when marginal product of labour:*

(a) *equals the average product of labour.*

(b) *equals zero.*

(c) *is maximized.*

(d) *none of the above.*

50. *The law of variable proportions is drawn under all of the assumptions mentioned below except the assumption that:*

(a) *the technology is changing.*

(b) *there must be some inputs whose quantity is kept fixed.*

(c) *we consider only physical inputs and not economically profitability in monetary terms.*

(d) *the technology is given and stable.*

51. *What is a production function?*

(a) *Technical relationship between physical inputs and physical output.*

(b) *Relationship between fixed factors of production and variable factors of production.*

(c) *Relationship between a factor of production and the utility created by it.*

(d) *Relationship between quantity of output produced and time taken to produce the output.*

52. *Laws of production does not include .....*

(a) *returns to scale.*

(b) *law of diminishing returns to a factor.*

© The Institute of Chartered Accountants of India

(c) *law of variable proportions.*

(d) *least cost combination of factors.*

53. *An iso quant shows*

(a) *All the alternative combinations of two inputs that can be produced by using a given set of output fully and in the best possible way.*

(b) *All the alternative combinations of two products among which a producer is indifferent because they yield the same profit.*

(c) *All the alternative combinations of two inputs that yield the same total product.*

(d) *Both (b) and (c).*

54. *Economies of scale exist because as a firm increases its size in the long run:*

(a) *Labour and management can specialize in their activities more.*

(b) *As a larger input buyer, the firm can get finance at lower cost and purchase inputs at a lower per unit cost.*

(c) *The firm can afford to employ more sophisticated technology in production.*

(d) *All of these.*

55. *The production function:*

(a) *is the relationship between the quantity of inputs used and the resulting quantity of a product.*

(b) *Tells us the maximum attainable output from a given combination of inputs.*

(c) *Expresses the technological relationship between inputs and output of a product.*

(d) *All the above.*

56. *The production process described below exhibits.*

Number of Workers	Output
0	0
1	23
2	40
3	50

(a) *constant marginal product of labour.*

(b) *diminishing marginal product of labour.*

© The Institute of Chartered Accountants of India

(c) *increasing return to scale.*

(d) *increasing marginal product of labour.*

57. *Which of the following is a variable cost in the short run?*

(a) *rent of the factory.*

(b) *wages paid to the factory labour.*

(c) *interest payments on borrowed financial capital.*

(d) *payment on the lease for factory equipment.*

58. *The efficient scale of production is the quantity of output that minimizes*

(a) *average fixed cost.*

(b) *average total cost.*

(c) *average variable cost.*

(d) *marginal cost.*

59. *In the short run, the firm's product curves show that*

(a) *Total product begins to decrease when average product begins to decrease but continues to increase at a decreasing rate.*

(b) *When marginal product is equal to average product, average product is decreasing but at its highest.*

(c) *When the marginal product curve cuts the average product curve from below, the average product is equal to marginal product.*

(d) *In stage two, total product increases at a diminishing rate and reaches maximum at the end of this stage.*

60. *A fixed input is defined as*

(a) *That input whose quantity can be quickly changed in the short run, in response to the desire of the company to change its production.*

(b) *That input whose quantity cannot be quickly changed in the short run, in response to the desire of the company to change its production.*

(c) *That input whose quantities can be easily changed in response to the desire to increase or reduce the level of production.*

(d) *That input whose demand can be easily changed in response to the desire to increase or reduce the level of production.*

© The Institute of Chartered Accountants of India

61. *Average product is defined as*

(a) *total product divided by the total cost.*

(b) *total product divided by marginal product.*

(c) *total product divided by the number of units of variable input.*

(d) *marginal product divided by the number of units of variable input.*

62. *Which of the following statements is true?*

(a) *After the inflection point of the production function, a greater use of the variable input induces a reduction in the marginal product.*

(b) *Before reaching the inevitable point of decreasing marginal returns, the quantity of output obtained can increase at an increasing rate.*

(c) *The first stage corresponds to the range in which the AP is increasing as a result of utilizing increasing quantities of variable inputs.*

(d) *All the above.*

63. *Marginal product, mathematically, is the slope of the*

(a) *total product curve.*

(b) *average product curve.*

(c) *marginal product curve.*

(d) *implicit product curve.*

64. *Suppose the first four units of a variable input generate corresponding total outputs of 200, 350, 450, 500. The marginal product of the third unit of input is:*

(a) *50*

(b) *100*

(c) *150*

(d) *200*

65. *Which of the following statements is false in respect of fixed cost of a firm?*

(a) *As the fixed inputs for a firm cannot be changed in the short run, the TFC are constant, except when the prices of the fixed inputs change.*

(b) *TFC continue to exist even when production is stopped in the short run, but they exist in the long run even when production is not stopped.*

© The Institute of Chartered Accountants of India

(c) *Total Fixed Costs (TFC) can be defined as the total sum of the costs of all the fixed inputs associated with production in the short run.*

(d) *In the short run, a firm's fixed cost cannot be escaped even when production is stopped.*

66. *Diminishing marginal returns for the first four units of a variable input is exhibited by the total product sequence:*

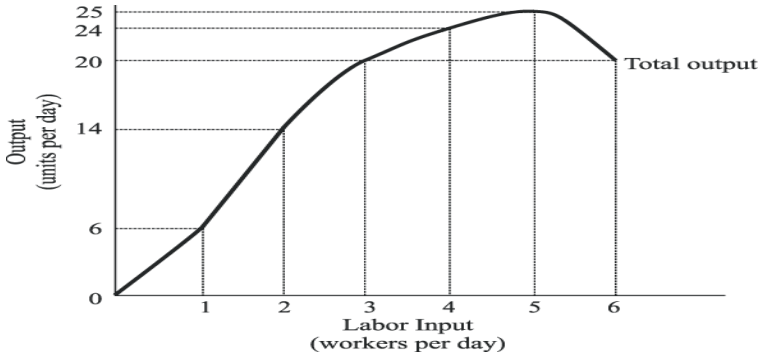
(a) *50, 50, 50, 50*

(b) *50, 110, 180, 260*

(c) *50, 100, 150, 200*

(d) *50, 90, 120, 140*

67. *Use the following diagram to answer the question given below it*



The marginal physical product of the third unit of labour is _____, the MP of the _____ labour is Negative

(a) *Six; fourth*

(b) *Six; third*

(c) *Six; fifth*

(d) *Six; sixth*

68. *In the third of the three stages of production:*

(a) *the marginal product curve has a positive slope.*

(b) *the marginal product curve lies completely below the average product curve.*

(c) *total product increases.*

(d) *marginal product is positive.*

© The Institute of Chartered Accountants of India

69. *When marginal costs are below average total costs,*

(a) *average fixed costs are rising.*

(b) *average total costs are falling.*

(c) *average total costs are rising.*

(d) *average total costs are minimized.*

70. *A firm's long-run average total cost curve is*

(a) *Identical to its long-run marginal-cost curve.*

(b) *Also its long-run supply curve because it explains the relationship between price and quantity supplied.*

(c) *In fact the average total cost curve of the optimal plant in the short run as it tries to produce at least cost.*

(d) *Tangent to all the curves of short-run average total cost.*

71. *In the long run, if a very small factory were to expand its scale of operations, it is likely that it would initially experience*

(a) *an increase in pollution level.*

(b) *diseconomies of scale.*

(c) *economies of scale.*

(d) *constant returns to scale.*

72. *A firm's long-run average total cost curve is.*

(a) *Identical to its long-run marginal-cost curve as all factors are variable.*

(b) *Also its long-run total cost curve because it explains the relationship cost and quantity supplied in the long run.*

(c) *In fact the average total cost curve of the optimal plant in the short run as it tries to produce at least cost.*

(d) *Tangent to all short-run average total cost the curves and represents the lowest average total cost for producing each level of output.*

73. *Which of the following statements describes increasing returns to scale?*

(a) *Doubling of all inputs used leads to doubling of the output.*

(b) *Increasing the inputs by 50% leads to a 25% increase in output.*

(c) *Increasing inputs by 1/4 leads to an increase in output of 1/3.*

© The Institute of Chartered Accountants of India

(d) None of the above.

74. The marginal cost for a firm of producing the 9th unit of output is ₹ 20. Average cost at the same level of output is ₹ 15. Which of the following must be true?

(a) marginal cost and average cost are both falling

(b) marginal cost and average cost are both rising

(c) marginal cost is rising and average cost is falling

(d) it is impossible to tell if either of the curves are rising or falling

75. Implicit cost can be defined as

(a) Money payments made to the non-owners of the firm for the self-owned factors employed in the business and therefore not entered into books of accounts.

(b) Money not paid out to the owners of the firm for the self-owned factors employed in a business and therefore not entered into books of accounts.

(c) Money payments which the self-owned and employed resources could have earned in their next best alternative employment and therefore entered into books of accounts.

(d) Money payments which the self-owned and employed resources earn in their best use and therefore entered into book of accounts.

76. The most important function of an entrepreneur is to _____.

(a) Innovate

(b) Bear the sense of responsibility

(c) Finance

(d) Earn profit

77. Economic costs of production differ from accounting costs of production because

(a) Economic costs include expenditures for hired resources while accounting costs do not.

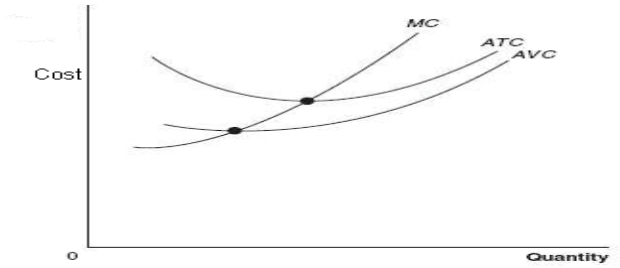
(b) Accounting costs include opportunity costs which are deducted later to find paid out costs.

(c) Accounting costs include expenditures for hired resources while economic costs do not.

(d) Economic costs add the opportunity cost of a firm which uses its own resources.

© The Institute of Chartered Accountants of India

78. *In figure below, possible reason why the average variable cost curve approaches the average total cost curve as output rises is:*



(a) *Fixed costs are falling while total costs are rising at rising output.*

(b) *Total costs are rising and average costs are also rising.*

(c) *Marginal costs are above average variable costs as output rises.*

(d) *Average fixed costs are falling as output rises.*

79. *Marginal cost changes due to changes in* ————————

(a) *Total cost*

(b) *Average cost*

(c) *Variable cost*

(d) *Quantity of output*

80. *Which of the following statements is correct?*

(a) *Fixed costs vary with change in output.*

(b) *If we add total variable cost and total fixed cost we get the average cost.*

(c) *Marginal cost is the result of total cost divided by number of units produced.*

(d) *Total cost is obtained by adding up the fixed cost and total variable cost.*

81. *Which of the following statements is incorrect?*

(a) *The LAC curve is also called the planning curve of a firm.*

(b) *Total revenue = price per unit × number of units sold.*

(c) *Opportunity cost is also called alternative cost.*

(d) *If total revenue is divided by the number of units sold we get marginal revenue.*

82. *The vertical difference between TVC and TC is equal to-*

(a) *MC*

(b) *AVC*

© The Institute of Chartered Accountants of India

(c) *TFC*

(d) *None of the above*

83. *The falling part of long run average cost curve is tangent to the _____ of corresponding short run average cost curve(s).*

(a) *falling part*

(b) *rising part*

(c) *minimum point*

(d) *None of the above*

84. *Which one of the following is an external economies of scale in long run?*

(a) *Risk bearing economies*

(b) *Financial economies*

(c) *Development of skill labour*

(d) *None of the above*

ANSWERS

1.	**(a)**	2.	**(a)**	3.	**(d)**	4.	**(b)**	5.	**(b)**	6.	**(b)**
7.	**(c)**	8.	**(a)**	9.	**(d)**	10.	**(c)**	11.	**(c)**	12.	**(a)**
13.	**(b)**	14.	**(c)**	15.	**(a)**	16.	**(b)**	17.	**(d)**	18.	**(d)**
19.	**(a)**	20.	**(b)**	21.	**(a)**	22.	**(d)**	23.	**(a)**	24.	**(c)**
25.	**(c)**	26.	**(a)**	27.	**(c)**	28.	**(c)**	29.	**(c)**	30.	**(a)**
31.	**(c)**	32.	**(d)**	33.	**(d)**	34.	**(c)**	35.	**(b)**	36.	**(c)**
37.	**(d)**	38.	**(a)**	39.	**(d)**	40.	**(d)**	41.	**(a)**	42.	**(b)**
43.	**(a)**	44.	**(d)**	45.	**(d)**	46.	**(c)**	47.	**(b)**	48.	**(c)**
49.	**(a)**	50.	**(a)**	51.	**(a)**	52.	**(d)**	53.	**(c)**	54.	**(d)**
55.	**(d)**	56.	**(b)**	57.	**(b)**	58.	**(b)**	59.	**(d)**	60.	**(b)**
61.	**(c)**	62.	**(d)**	63.	**(a)**	64.	**(b)**	65.	**(b)**	66.	**(d)**
67.	**(d)**	68.	**(b)**	69.	**(b)**	70.	**(d)**	71.	**(c)**	72.	**(d)**
73.	**(c)**	74.	**(b)**	75.	**(b)**	76.	**(a)**	77.	**(d)**	78.	**(d)**
79.	**(c)**	80.	**(d)**	81.	**(d)**	82.	**(c)**	83.	**(a)**	84	**(c)**

© The Institute of Chartered Accountants of India

CHAPTER 4

PRICE DETERMINATION IN DIFFERENT MARKETS

UNIT - 1: MEANING AND TYPES OF MARKETS

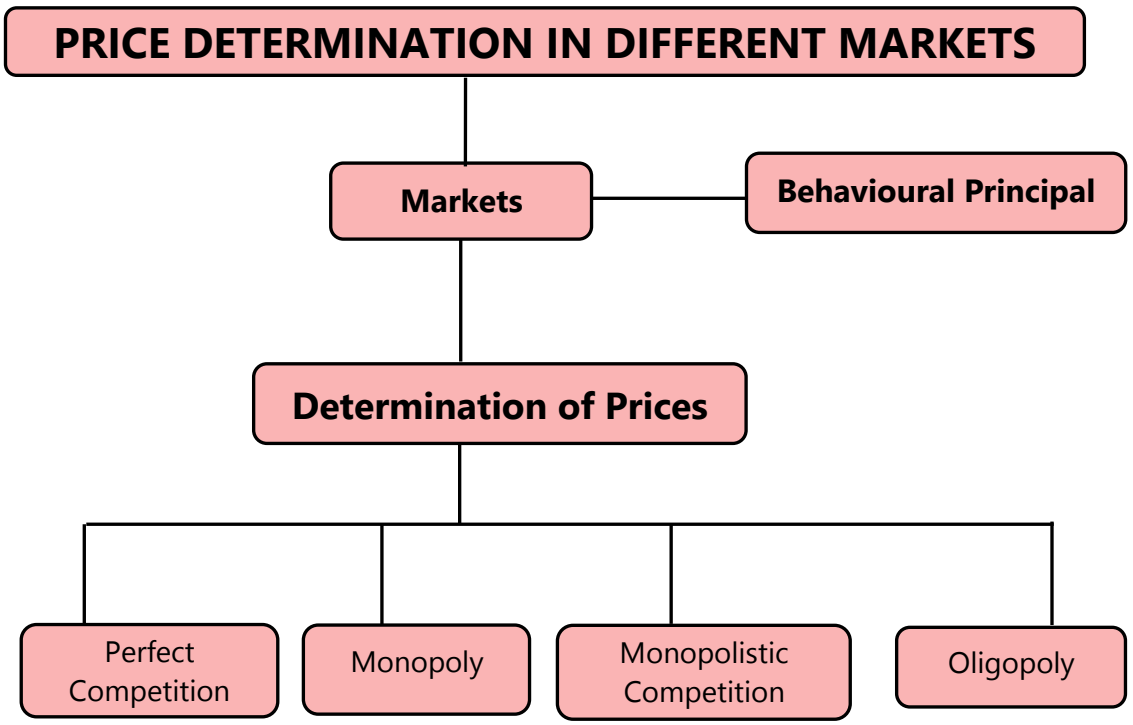
LEARNING OUTCOMES

After studying this unit, you would be able to:

- Explain the Meaning of Market in Economics.
- Describe the key Characteristics of the Four Basic market Types Used in Economic Analysis.
- Provide Explicit Real Examples of the Four Types of Markets.
- Explain the Behavioural Principles Underlying these Markets.

© The Institute of Chartered Accountants of India

CHAPTER OVERVIEW



1.0 MEANING OF MARKET

We have seen in Chapter 1 that people cannot have all that they want because they need to pay price for goods and services and the resources at their disposal are scarce. We have come across some goods which are free or having zero prices i.e. we need not make any payment for them. Example: air, sunlight etc. These are called free goods. Free goods being abundant in supply do not have scarcity and need no cost to obtain them. In contrast, economic goods are scarce in relation to their demand and have an opportunity cost. Unlike free goods, they are exchangeable in the market and command a price. What do we understand by the term price and why do people pay a price?

In common parlance, price signifies the quantity of money necessary to acquire a good or service. Price connotes money-value i.e. the purchasing power of an article expressed in terms of money. In other words, price expresses the value of a thing in relation to money i.e. the quantity of money for which it will be exchanged. Value in exchange or exchange value,

© The Institute of Chartered Accountants of India

according to Ricardo, means command over commodities in general, or power in exchange over purchasable commodities in general.

We need to distinguish between two important concepts namely, 'value in use' and 'value in exchange'. Value in use refers to usefulness or utility i.e the attribute which a thing may have to satisfy human needs. Value in exchange or economic value is the amount of goods and services which we may obtained in the market in exchange of a particular thing. It is measured by the amount someone is willing to give up in other goods and services in order to obtain a good or service. In a market economy, the amount of currency (e.g. Dollar, Rupees) is a universally accepted measure of economic value, because the number of units of money that a person is willing to pay for something tells how much of all other goods and services they are willing to give up to get that item.

In Economics, we are only concerned with exchange value. Considerations such as sentimental value mean little in a market economy. Sentimental value is subjective and reflects an exaggerated judgment about the worth of a commodity. For example, If a person says to his best friend that I like your car and if you give it to me then I will be lifetime obliged to you. In this case, lifetime obligation is a sentimental value and has no meaning as against monetary consideration.

Exchange value is determined in the market where exchange of goods and services takes place. In our day to day life, we come across many references to markets such as oil market, wheat market, vegetable market etc. These have connotations of a place where buyers and sellers gather to exchange goods at a price. In Economics, markets are crucial focus of analysis, and therefore we need to understand how this term is used. A market is a collection of buyers and sellers with the potential to trade. The actual or potential interactions of the buyers and sellers determine the price of a product or service.

A market need not be formal or held in a particular place. Second-hand cars are often bought and sold through newspaper advertisements. Second-hand goods may be disposed off by listing it in an online shop or by placing a card in the local shop window. In the present high tech world, goods and services are effortlessly bought and sold online. Online shopping has revolutionized the business world by making nearly everything people want available by the simple click of a mouse button.

While studying about market economy, it is essential to understand how price is determined. Since this is done in the market, we can define the market simply as all those buyers and sellers of a good or service who influence price.

The elements of a market are:

(i) Buyers and sellers;

(ii) A product or service;

© The Institute of Chartered Accountants of India

(iii) Bargaining for a price;

(iv) Knowledge about market conditions; and

(v) One price for a product or service at a given time.

1.0.0 Classification of Market

Markets are generally classified into product markets and factor markets. Product markets are markets for goods and services in which households buy the goods and services they want from firms. Factor markets, on the other hand, are those in which firms buy the resources they need – land, labour, capital and entrepreneurship- to produce goods and services. While product markets allocate goods to consumers, factor markets allo-cate productive resources to producers and help ensure that those resources are used efficiently. The prices in factor markets are known as factor prices.

In Economics, generally the classification of markets is made on the basis of

(a) Geographical Area

(b) Time

(c) Nature of transaction

(d) Regulation

(e) Volume of business

(f) Type of Competition.

On the basis of geographical area

From the marketing perspective, the geographical area in which the product sales should be undertaken has vast implications for the firm. On the basis of geographical area covered, markets are classified into:-

Local Markets: When buyers and sellers are limited to a local area or region, the market is called a local market. Generally, highly perishable goods and bulky articles, the transport of which over a long distance is uneconomical' command a local market. In this case, the extent of the market is limited to a particular locality. For example, locally supplied services such as those of hair dressers and retailers have a narrow customer base.

Regional Markets: Regional markets cover a wider area such as a few adjacent cities, parts of states, or cluster of states. The size of the market is generally large and the nature of buyers may vary in their demand characteristics. For eg. Mekhela Chador (Traditional Assamese Saree) is primarily worn by women in Assam and adjoining areas.

© The Institute of Chartered Accountants of India

National Markets: When the demand for a commodity or service is limited to the national boundaries of a country, we say that the product has a national market. The trade policy of the government may restrict the trading of a commodity to within the country. For example Hindi books may have national markets in India; outside India one may not have market for Hindi books.

International markets: A commodity is said to have international market when it is exchanged internationally. Usually, high value and small bulk commodities are demanded and traded internationally. For example Gold and Silver are examples of commodities that have international market.

The above classification has become more or less out-dated as we find that in modern days even highly perishable goods have international market.

On the basis of Time

Alfred Marshall conceived the 'Time' element in markets and on the basis of this, markets are classified into:

Very short period market: Market period or very short period refers to a period of time in which supply is fixed and cannot be increased or decreased. Commodities like vegetables, flower, fish, eggs, fruits, milk, etc., which are perishable and the supply of which cannot be changed in the very short period come under this category. Since supply is fixed, very short period price is dependent on demand. An increase in demand will raise the prices vice versa.

Short-period Market: Short period is a period which is slightly longer than the very short period. In this period, the supply of output may be increased by increasing the employment of variable factors with the given fixed factors and state of technology. Since supply can be moderately adjusted, the changes in the short period prices on account of changes in demand are less compared to market period.

Long-period Market: In the long period, all factors become variable and the supply of commodities may be changed by altering the scale of production. As such, supply may be fully adjusted to changes in demand conditions. The interaction between long run supply and demand determines long run equilibrium price or 'normal price'.

Very long-period or secular period is one when secular movements are recorded in certain factors over a period of time. The period is very long. The factors include the size of the population, capital supply, supply of raw materials etc.

On the basis of Nature of Transactions

a. **Spot or cash Market**: Spot transactions or spot markets refer to those markets where goods are exchanged for money payable either immediately or within a short

© The Institute of Chartered Accountants of India

span of time. For example, grains sold in the *Mandi* at the current prices and cash is payable immediately are thus part of Spot Market.

b. **Forward or Future Market**: In this market, transactions involve contracts with a promise to pay and deliver goods at some future date. For example, purchase of foreign currency contract at future rate from bank.

On the basis of Regulation

a. **Regulated Market**: In this market, transactions are statutorily regulated so as to put an end to unfair practices. Such markets may be established for specific products or for a group of products. For example, stock exchange.

b. **Unregulated Market**: It is also called a free market as there are no stipulations on the transactions. For example. Weekly markets (*Haat Bazaar).*

On the basis of volume of Business

a. **Wholesale Market**: The wholesale market is the market where the commodities are bought and sold in bulk or large quantities. Transactions generally take place between traders. i.e. Business to Business (B2B).

b. **Retail Market**: When the commodities are sold in small quantities, it is called retail market. This is the market for ultimate consumers i.e. Business to Consumer (B2C).

On the basis of Competition

Based on the type of competition markets are classified into a) perfectly competitive market and b) imperfectly competitive market.

We shall study these markets in greater detail in the following paragraphs.

1.1 TYPES OF MARKET STRUCTURES

For a consumer, a market consists of those firms from which he can buy a well-defined product; for a producer, a market consists of those buyers to whom he can sell a single well-defined product. If a firm knows precisely the demand curve it faces, it would know its potential revenue. If it also knows its costs, it can readily discover the profit that would be associated with different levels of output and therefore can choose the output level that maximizes profit. But, suppose the firm knows its own product's costs and the market demand curve for the product but does not know its own demand curve. In other words, it does not know its own total sales. In order to find this, the firm needs to answer the following questions. How many competitors are there in the market selling similar products? If one firm changes its price, will its market share change? If it reduces its price, will other firms follow it or not? There are many other related questions that need to be answered.

© The Institute of Chartered Accountants of India

Answers to questions of this type will be different in different circumstances. For example, if there is only one firm in the market, the whole of the market demand will be satisfied by this particular firm. But, if there are two large firms in the industry, they will share the market demand in some proportion. A firm has to be very cautious of the reactions of the other firm to every decision it makes. But if there are, say, more than 5,000 small firms in an industry, each firm will be less worried about the reactions of other firms to its decisions because each firm sells only a small proportion of the market. Thus, we find that the market behaviour is greatly affected by the structure of the market. We can conceive of more than thousand types of market structures, but we shall focus on a few theoretical market types which mostly cover a high proportion of cases actually found in the real world. These are:

Perfect Competition: Perfect competition is characterised by many sellers selling identical products to many buyers.

Monopolistic Competition: It differs in only one respect, namely, there are many sellers offering differentiated products to many buyers. For example, shampoo manufacturers.

Monopoly: It is a situation where there is a single seller producing for many buyers. Its product is necessarily extremely differentiated since there are no competing sellers producing products which are close substitutes. For example: Indian Railways.

Oligopoly: There are a few sellers selling competing products to many buyers. For example: Telecom Industry. Table 1 summarises the major distinguishing characteristics of these four major market forms.

Table 1 - Distinguishing Features of Major Types of Markets

Assumption	Market Types			
	Perfect Competition	Monopolistic Competition	Oligopoly	Monopoly
Number of sellers	Very large	Large	Small numbers	One
Product differentiation	None	Slight	None to substantial	Extreme
Price elasticity of demand of a firm	Infinite	Large	Small	Small
Degree of control over price	None	Some	Some	Very considerable

Before discussing each market form in greater detail, it is worthwhile to know the concepts of total, average and marginal revenue and the behavioural principles which apply to all market conditions.

© The Institute of Chartered Accountants of India

1.2 CONCEPTS OF TOTAL REVENUE, AVERAGE REVENUE AND MARGINAL REVENUE

Total Revenue: If a firm sells 100 units for ₹ 10 each, what is the amount which it realises? It realises ₹ 1,000 (100 x 10), which is nothing but the total revenue for the firm. Thus, we may state that total revenue or the total expenditure incurred by the purchasers of the firm's product refers to the amount of money which a firm realises by selling certain units of a commodity. Symbolically, total revenue may be expressed as TR = P x Q.

Where,TR is total revenue

P is price of a commodity sold.

Q is quantity of a commodity sold.

This may be represented by the following diagrams. In figure A, when the price of the product is ₹ 30, the quantity sold is 40 units. The total revenue is P x Q = ₹ 1200. Panel B shows the total revenue curve of a competitive firm having a perfectly elastic demand curve. Since the firm can sell any quantity at market determined prices, the TR curve is linear and starts from the origin.

(A) **(B)**

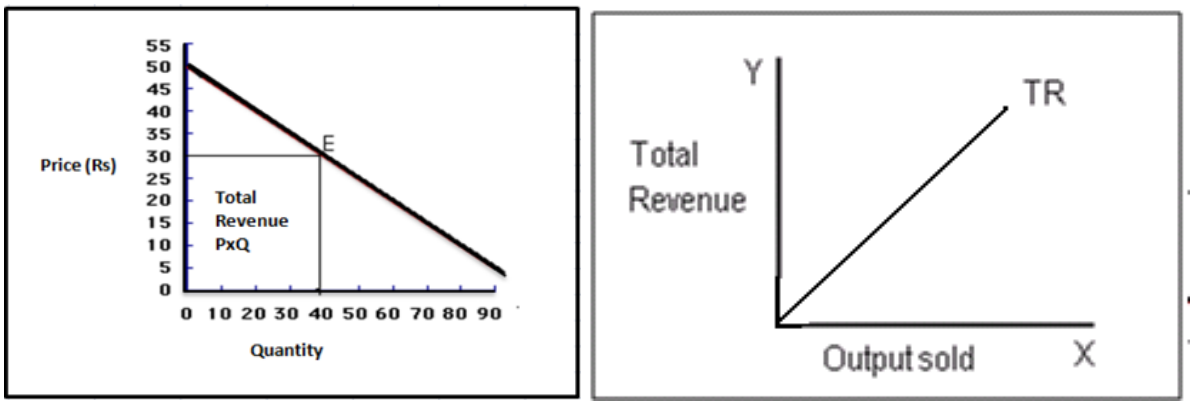


Figure 1: Total Revenue

Average Revenue: Average revenue is the revenue earned per unit of output. It is nothing but price of one unit of output because price is always per unit of a commodity. For this reason, average revenue curve is also the firms demand curve. Symbolically, average revenue is:

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

Where AR is average revenue

© The Institute of Chartered Accountants of India

TR is the total revenue

Q is quantity of a commodity sold

Or AR= $\frac{P \times Q}{Q}$

Or AR = P

If, for example, a firm realises total revenue of ₹ 1,000 by the sale of 100 units, it implies that the average revenue is ₹ 10 (1,000/100) or the firm has sold the commodity at a price of ₹ 10 per unit.

Marginal Revenue: Marginal revenue (MR) is the change in total revenue resulting from the sale of an additional unit of the commodity. Thus, if a seller realises ₹ 1,000 while selling 100 units and ₹ 1,200 while selling 101 units, we say that the marginal revenue is ₹ 200. We can say that MR is the rate of change in total revenue resulting from the sale of an additional unit of output. MR= $\frac{\Delta TR}{\Delta Q}$

Where MR is marginal revenue

TR is total revenue

Q is quantity of a commodity sold

• stands for a small change

For one unit change in output

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

Where TR is the total revenue when sales are at the rate of n units per period.

TR_{n-1} is the total revenue when sales are at the rate of (n – 1) units per period.

In order to understand the above concepts clearly, look at Table -2. In column 1, the number of units sold of commodity X is given. Column 2 shows the total revenue fetched by selling different units. Column 3 shows average revenue which is nothing but price per unit. Column 4 shows marginal revenue which is addition to the total revenue by the sale of an additional unit of output.

Table 2: Total Revenue, Average Revenue and Marginal Revenue

Units	Total Revenue	Average Revenue	Marginal Revenue
1	10	10	10
2	18	9	8

© The Institute of Chartered Accountants of India

3	24	8	6
4	28	7	4
5	30	6	2
6	30	5	0
7	28	4	-2
8	24	3	-4
9	18	2	-6
10	10	1	-8

Note that the total revenue is maximum when 5 units of X are sold. It stays constant for one more unit and then begins to fall. Average revenue keeps on falling showing inverse relationship between price and quantity demanded. It represents demand function of X to the firm. Marginal revenue keeps on falling and after becoming zero it becomes negative. Also note that TR at any particular level of output is the sum of marginal revenues till that level of output which can be expressed as:-

$$TR = \sum MR$$

The question which arises is: why is the marginal revenue due to the third unit (₹ 6) not equal to price of ₹ 8 at which the third unit is sold. The answer is that when price is reduced for selling an additional unit, the two units which could be sold for ₹ 9 before will have to be sold at the reduced price of ₹ 8 per unit. The total loss on previous two units due to price fall will be equal to ₹ 2. Thus, for any falling average revenue (or price) schedule, marginal revenue is always less than the price. In the case of constant average revenue (or price) schedule, the marginal revenue is equal to average revenue (or uniform price). If TR stands for total revenue and q stands for output, marginal revenue (MR) can be expressed as:

$$MR = dTR/dQ$$

dTR/ dQ indicates the slope of the total revenue curve.

When the demand curve of the firm is a normal downward sloping one, there is a well-defined relationship between average revenue, marginal revenue and total revenue. This can be shown by the following figure presenting total revenue (TR), average revenue (AR) and marginal revenue (MR) curves. The average revenue curve in panel B is sloping downwards depicting the inverse relationship between price and quantity demanded. MR curve lies below AR curve showing that marginal revenue declines more rapidly than average revenue. Total revenue increases as long as marginal revenue is positive and declines (has a negative slope) when marginal revenue is negative. Total revenue curve initially increases at a diminishing rate due to diminishing marginal revenue and reaches maximum and then it

© The Institute of Chartered Accountants of India

falls. When marginal revenue becomes zero, the total revenue is maximum and the slope of TR is zero.

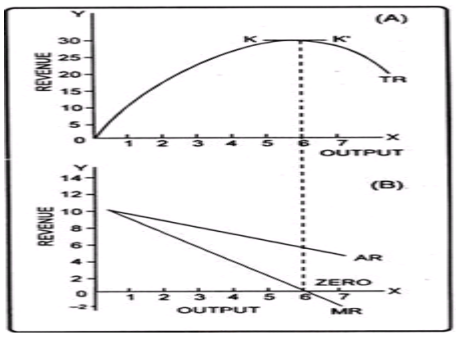
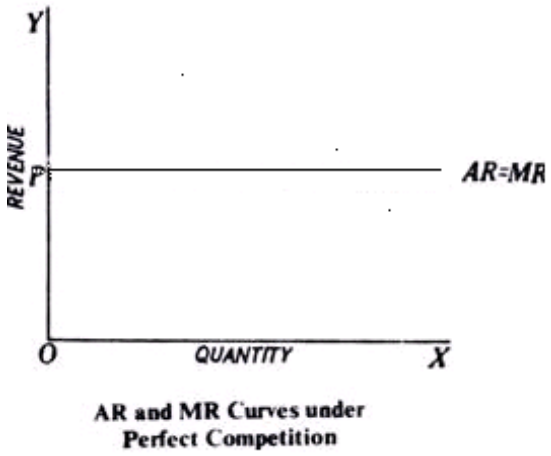


Fig. 2: Total Revenue, Average Revenue and Marginal Revenue Curves of a Firm which has downward Sloping Demand Curve

It may be noted that in all forms of imperfect competition, the average revenue curve of an individual firm slopes downwards as in these market forms, when a firm increases the price of its product, its quantity demanded decreases and vice versa. Under perfect competition, however, since the firms are price takers, the average revenue (or price) curve or demand curve is perfectly elastic. Perfectly elastic average revenue curve means that an individual firm has constant average revenue (or price). When price remains constant, marginal revenue will be equal to average revenue and thus AR curve and MR curve will coincide and will be horizontal curves as shown in figure 3 below:



AR and MR Curves under Perfect Competition

Fig 3: Average Revenue and Marginal Revenue Curves of a Perfectly Competitive Firm

1.2.0 Relationship between AR, MR, TR and Price Elasticity of Demand

It is to be noted that marginal revenue, average revenue and price elasticity of demand are uniquely related to one another through the formula:

© The Institute of Chartered Accountants of India

$$MR = AR \times \frac{e-1}{e}$$

Where e = price elasticity of demand

Thus if e = 1, $MR = AR \times \frac{1-1}{1} = 0$

and if e >1, MR will be positive

and if e <1, MR will be negative

In a straight line downward falling demand curve, we know that the coefficient of price elasticity at the middle point is equal to one. It follows that the marginal revenue corresponding to the middle point of the demand curve (or AR curve) will be zero. On the upper portion of the demand curve, where the elasticity is more than one, marginal revenue will be positive and on the lower portion of the demand curve where elasticity is less than one, marginal revenue will be negative. These can be shown in diagram:

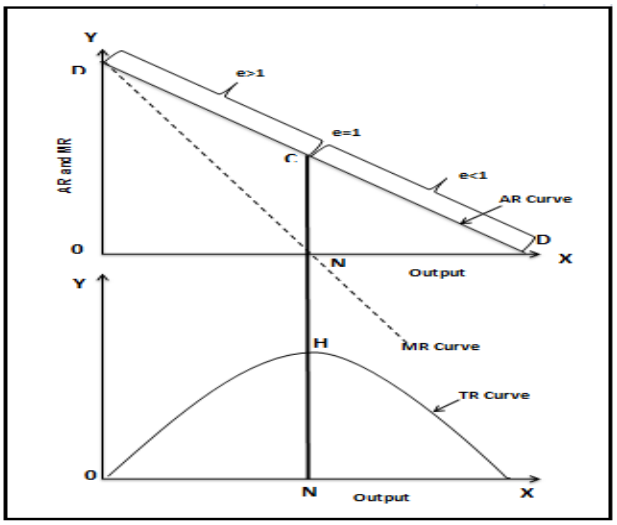


Fig.4: Relationship between AR, MR, TR and Price Elasticity of Demand

In fig. 4, DD is the AR or demand curve. At point C, elasticity is equal to one. Corresponding to C on the AR curve, the marginal revenue is zero. Thus, MR curve is touching X-axis at N (corresponding to C on the AR curve). At a greater quantity than ON, the elasticity of the AR curve is less than one and the marginal revenue is negative. Negative marginal revenue means MR curve goes below the X-axis to the fourth quadrant. Marginal revenue being negative means that total revenue will diminish if a quantity greater than ON is sold. Total revenue will be rising up to ON output since up to this the marginal revenue remains positive. It follows that total revenue will be maximum where elasticity is equal to one. Thus, TR is shown to be at its highest level at ON level of output (corresponding to the point C on AR curve). Beyond ON Level of output, the TR curve has a negative slope.

© The Institute of Chartered Accountants of India

1.2.1 Behavioural principles

Principle 1- A firm should not produce at all if its total variable costs are not met.

It is a matter of common sense that a firm should produce only if it will do better by producing than by not producing. The firm always has the option of not producing at all. If a firm's total revenues are not enough to make good even the total variable costs, it is better for the firm to shut down. In other words, a competitive firm should shut down if the price is below AVC. In that case, it will minimise loss because then its total cost will be equal to its fixed costs and it will have an operating loss equal to its fixed cost. The sunk fixed cost is irrelevant to the shutdown decision because fixed costs are already incurred. This means that the minimum average variable cost is equal to the shut-down price, the price at which the firm ceases production in the short run. Shutting down is temporary and does not necessarily mean going out of business.

If price (AR) is greater than minimum AVC, but less than minimum ATC, the firm covers its variable cost and some but not all of fixed cost. If price is equal to minimum ATC, the firm covers both fixed and variable costs and earns normal profit or zero economic profit. If price is greater than minimum ATC, the firm not only covers its full cost, but also earns positive economic profit or super normal profit.

Principle 2 - The firm will be making maximum profits by expanding output to the level where marginal revenue is equal to marginal cost.

In other words, it will pay the firm to go on producing additional units of output so long as the marginal revenue exceeds marginal cost i.e., additional units add more to revenues than to cost. At the point of equality between marginal revenue and marginal cost, it will earn maximum profits.

The above principle can be better understood with the help of figure 5 which shows a set of hypothetical marginal revenue and marginal cost curves. Marginal revenue curve slopes downwards and marginal cost curve slopes upwards. They intersect each other at point E (MC= MR) which corresponds to output Q.* Up to Q* level of output, marginal revenue is greater than marginal cost and at output level *Q they are equal. The firm will be maximizing profits at E (or at Q* level of output). For all levels of output less than Q*, additional units of output add more to revenue than to cost (as their MR is more than MC) and thus it will be profitable for the firm to produce them. The firm will be foregoing profit equal to the area EFG if it stops at A. Similarly profits will fall, if a greater output than OQ is produced as they will add more to cost than to revenues. On the units from Qth to Bth, the firm will be incurring a loss equal to the area EHI.

© The Institute of Chartered Accountants of India

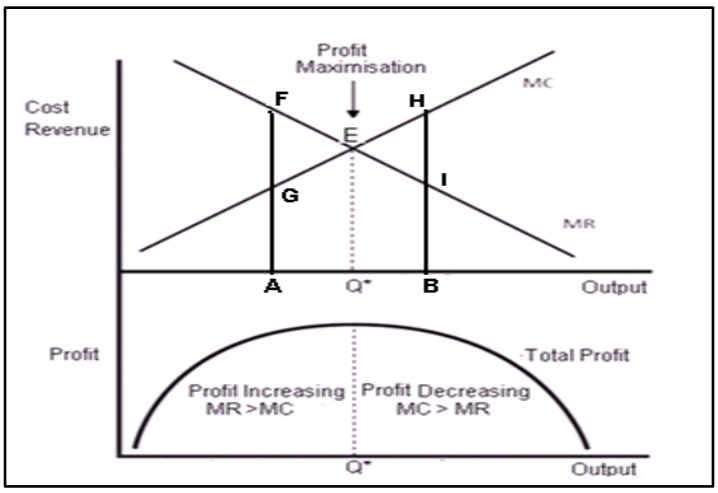


Fig: 5: Equilibrium of the Firm: Maximization of Profits

To conclude, the firm will maximize profits at the point at which marginal revenue is equal to marginal cost.

SUMMARY

- Economic goods are scarce in relation to their demand and have an opportunity cost. Unlike free goods, they are exchangeable in the market and command price.
- Price connotes money-value i.e. the purchasing power of an article expressed in terms of money.
- Value in exchange or exchange value, according to Ricardo, means command over commodities in general, or power in exchange over purchasable commodities in general.
- Market is the whole set of arrangements for buying and selling of a commodity or service. Here buyers and sellers bargain over a commodity for a price.
- The elements of a market are: buyers and sellers, a product or service, bargaining for a price, knowledge about market conditions and one price for a product or service at a given time.
- Markets are generally classified into product markets and factor markets.
- The factors which determine the type of market are: nature of commodity, size of production and extent of demand.
- Markets can be classified on the basis of area, time, nature of transaction, regulation, volume of business and types of competition.

© The Institute of Chartered Accountants of India

- On the basis of area: markets are classified into four i.e. local, regional, national and international.
- On the basis of time: markets are classified into four i.e. very short period or market period, short period, long period and very long period or secular period.
- On the basis of nature of transaction: markets are classified into spot market and future market.
- On the basis of regulation: markets are classified into regulated and unregulated markets.
- On the basis of volume of business: markets are classified into wholesale and retail markets.
- On the basis of competition: On the basis of competition we have perfectly competitive market and imperfect market. The imperfect market is further divided into monopoly, monopolistically competitive market and oligopoly market.
- Total revenue refers to the amount of money which a firm realizes by selling certain units of a commodity.
- Average revenue is the revenue earned per unit of output.
- Marginal revenue is the change in total revenue resulting from the sale of an additional unit of the commodity.
- Marginal revenue, average revenue and price elasticity of demand are uniquely related to one another
- MR = AR $\times \frac{e-1}{e}$ Where e = price elasticity of demand.
- Total revenue will be maximum where elasticity is equal to one.
- If a firm's total revenues are not enough to make good even the total variable costs, it is better for the firm to shut down. In other words, a competitive firm should shut down if the price is below AVC.
- At the point of equality between marginal revenue and marginal cost, a firm will earn maximum profits.

© The Institute of Chartered Accountants of India

UNIT - 2: DETERMINATION OF PRICES

LEARNING OUTCOMES

After studying this unit, you would be able to:

- Explain how the prices are generally determined.
- Describe how changes in demand and supply affect prices and quantities demanded and supplied.

2.0 INTRODUCTION

Prices of goods express their exchange value. Prices are also used for expressing the value of various services rendered by different factors of production such as land, labour, capital and organization in the form of rent, wages, interest and profit respectively. Therefore, the concept of price, especially the process of price determination, is of vital importance in Economics.

In this unit, we shall learn how demand and supply interact to strike a balance so that equilibrium price is determined in a free market. A free market is one in which the forces of demand and supply are free to take their own course and there is no intervention from outside by government or any other entity. It is to be noted that, generally, it is the interaction between demand and supply that determines the price, but sometimes Government intervenes and determines the price either fully or partially. For example, the Government of India fixes the price of petrol, diesel, kerosene, coal, fertilizers, etc. which are critical inputs. It also fixes the procurement prices of wheat, rice, sugarcane, etc. in order to protect the interests of both producers and consumers. While determining these prices, the Government takes into account factors like cost of inputs, risks of business, nature of the product etc.

© The Institute of Chartered Accountants of India

One of the main reasons for studying the demand and supply model is that the model is particularly useful in explaining how markets work. A comprehensive knowledge of the movements of these market forces enables us to explain the observed changes in equilibrium prices and quantities of all types of products and factors. We will be able to anticipate the possible market outcomes in real markets by applying the principles underlying the interactions of demand and supply. Business firms can use the model of demand and supply to predict the probable effects of various economic as well as non-economic factors on equilibrium prices and quantities. For example, the market outcomes of government intervention in the form of taxation, subsidies, price ceiling and floor prices etc. can be analysed with the help of equilibrium analysis.

2.1 DETERMINATION OF PRICES - A GENERAL VIEW

In an open competitive market, it is the interaction between demand and supply that tends to determine equilibrium price and quantity. In the context of market analysis, the term equilibrium refers to a state of market in which the quantity demanded of a commodity equals the quantity supplied of the commodity. In an equilibrium state, the aggregate quantity that all firms wish to sell equals the total quantity that all buyers in the market wish to buy and therefore, the market clears. Equilibrium price or market clearing price is the price at which the quantity demanded of a commodity equals the quantity supplied of the commodity i.e. at this price there is no unsold stock or no unsupplied demand.

To analyse how equilibrium price is determined in a market, we need to bring together demand for and supply of the commodity in the market, for this we have the following schedule:

Table – 3: Determination of Price

S. No.	Price (₹)	Demand Units	Supply (Units)
1	1	60	5
2	2	35	35
3	3	20	45
4	4	15	55
5	5	10	65

When we plot the above points on a single graph with price on Y-axis and quantity demanded and supplied on X-axis, we get a figure as shown below:

© The Institute of Chartered Accountants of India

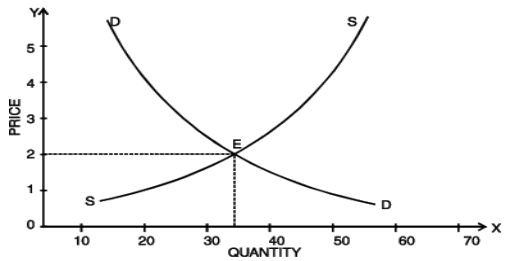


Fig. 6: Determination of Equilibrium Price

It is easy to see what will be the market price of the article. It cannot be ₹ 1, because at that price there would be 60 units in demand, but only 5 units on offer. Competition among buyers would force the price up. On the other hand, it cannot ₹ 5, for at that price, there would be 65 units on offer for sale but only 10 units in demand. Competition among sellers would force the price down. At ₹ 2, demand and supply are equal (35 units) and the market price will tend to settle at this figure. This is equilibrium price and quantity – the point at which price and output will tend to stay. Once this point is reached, we will have stable equilibrium. Equilibrium is said to be stable if any disturbance to it is self-adjusting so that the original equilibrium is restored. In other words, if the equilibrium be disrupted, the market returns to equilibrium. It should be noted that it would be stable only if other things are equal.

Figure 7 will demonstrate how stable equilibrium is achieved through price mechanism or market mechanism. If the market price is above the equilibrium price, say ₹ 15, the market supply is greater than market demand and there is an excess supply or surplus in the market. Competing sellers will lower prices in order to clear their unsold stock. As we know, *other things remaining constant,* as price falls quantity demanded rises and quantity supplied falls. In this process the supply-demand gap is reduced and eventually eliminated thus restoring equilibrium.

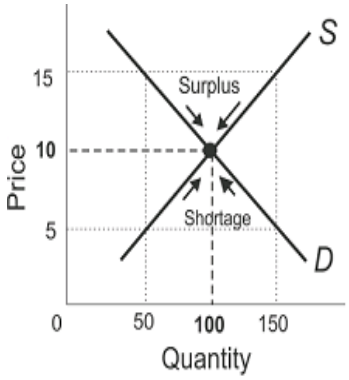


Fig 7: Stable Equilibrium

Likewise, if the prevailing market price is below equilibrium, say ₹ 5 in our example, a shortage arises as quantity demanded exceeds the quantity supplied. The shortage prompts

© The Institute of Chartered Accountants of India

the price to rise, as the buyers, who are unable to obtain as much of the good as they desire, bid the price higher. The market price tends to increase. Other things remaining the same, the price rise causes a decrease in the quantity demanded by the buyers and an increase in the quantity supplied by the sellers and vice versa. This process will continue as long as demand exceeds supply. The market thus achieves a state where the quantity that firms sell is equal to the quantity that the consumers desire to buy. At equilibrium price (₹ 10), the supply decisions of the firms tend to match the demand decisions of the buyers. Thus, the equilibrium is restored automatically, through the fundamental working of the market and price movements eliminate shortage or surplus.

2.2 CHANGES IN DEMAND AND SUPPLY

The above analysis of market equilibrium was done by us under the ceteris paribus assumption. The facts of the real world, however, are such that the determinants of demand other than price of the commodity under consideration (like income, tastes and preferences, population, technology, prices of factors of production etc.) always change causing shifts in demand and supply. Such shifts affect equilibrium price and quantity. The four possible changes in demand and supply are:

(i) An increase (shift to the right) in demand;

(ii) A decrease (shift to the left) in demand;

(iii) An increase (shift to the right) in supply;

(iv) A decrease (shift to the left) in supply.

We will consider each of the above changes one by one.

(i) ***An increase in demand:*** In figure 8, the original demand curve of a normal good is DD and supply curve is SS. At equilibrium price OP, demand and supply are equal to OQ.

Now suppose the money income of the consumer increases and the demand curve shifts to D_1D_1 and the supply curve remains the same. We will see that on the new demand curve D_1D_1 at OP price, demand increases to OQ_2 while supply remains the same i.e. OQ and there is excess demand in the market equal to $Q\ Q_2$. Since supply is short of demand, price will go up to OP_1. With the higher price, supply will also shoot up generating an increase in the quantity supplied or an upward movement along the supply curve. Ultimately, a new equilibrium between demand and supply will be reached. At this equilibrium point, OP_1 is the price and OQ_1 is the quantity which is demanded and supplied.

© The Institute of Chartered Accountants of India

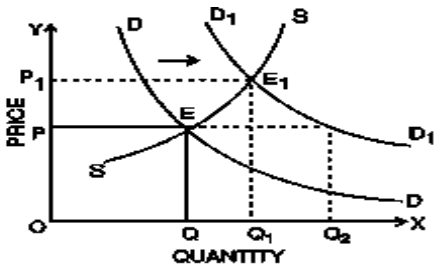


Fig. 8: Increase in Demand, causing an increase in equilibrium price and quantity

Thus, we see that, with an increase in demand, there is an increase in equilibrium price, as a result of which the quantity supplied rises. As such, the quantity sold and purchased also increases.

(ii) ***Decrease in Demand:*** The opposite will happen when demand falls as a result of a fall in income, while the supply remains the same. The demand curve will shift to the left and become D_1D_1 while the supply curve remains as it is. With the new demand curve D_1D_1, at original price OP, OQ_2 is demanded and OQ is supplied. As the supply exceeds demand, price will come down and quantity demanded will go up. A new equilibrium price OP_1 will be settled in the market where demand OQ_1 will be equal to supply OQ_1.

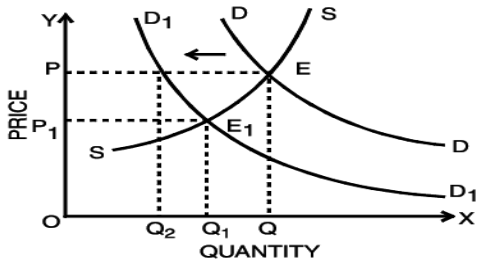


Fig. 9: Decrease in Demand Resulting in a Decrease in Price and Quantity Demanded

Thus, with a decrease in demand, there is a decrease in the equilibrium price and quantity demanded and supplied.

(iii) ***Increase in Supply:*** Let us now assume that demand does not change, but there is an increase in supply say, because of improved technology.

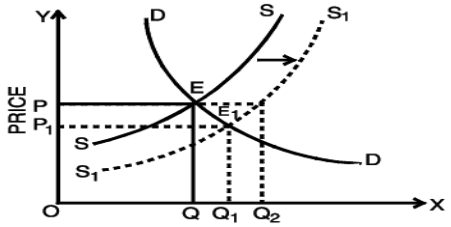


Fig. 10: Increase in Supply, Resulting In Decrease in Equilibrium Price and Increase in Quantity Supplied

© The Institute of Chartered Accountants of India

The supply curve SS will shift to the right and become S_1S_1. At the original equilibrium price OP, OQ is demanded and OQ_2 is supplied (with new supply curve). At the original price, a surplus now exists; as a result, the equilibrium price falls and the quantity demanded rises. A new equilibrium price OP_1 will be settled in the market where demand OQ_1 will be equal to supply OQ_1. Thus, as a result of an increase in supply with demand remaining the same, the equilibrium price will go down and the quantity demanded will go up.

(iv) ***Decrease in Supply:*** Let us now assume that due to obsolete technology, there is decrease in supply. In the figure 11, the supply curve SS will shift to the left and become S_1S_1. At the original equilibrium price OP, OQ is quantity demanded and OQ_2 is quantity supplied (with new supply curve). At the original price, a deficit now exists; as a result equilibrium price rises and the quantity demanded decreases. A new equilibrium price OP1 will be settled in the market where demand OQ_1 will be equal to supply OQ_1.

Thus as a result of decrease in supply we will find that equilibrium price will go up, but the amount sold and purchased will go down as shown in figure 11.

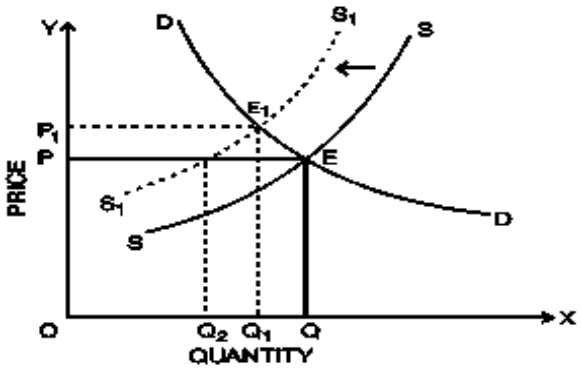


Fig.11: Decrease in Supply Causing an Increase in the Equilibrium Price and a fall in Quantity Demanded

2.3 SIMULTANEOUS CHANGES IN DEMAND AND SUPPLY

Till now, we were considering the effect of a change either in demand or in supply on the equilibrium price and quantity sold and purchased. It sometimes happens that events shift both the demand and supply curves at the same time. This is not unusual; in real life, supply curves and demand curves for many goods and services typically shift quite often because of continuous change in economic environment. During a war, for example, shortage of goods will often lead to decrease in their supply while full employment causes high total wage payments which increase demand.

© The Institute of Chartered Accountants of India

What happens when the demand and supply curves shift in the same direction? We may discuss the effect on equilibrium price and quantity when both demand and supply increase simultaneously with the help of the diagrams in the next page:

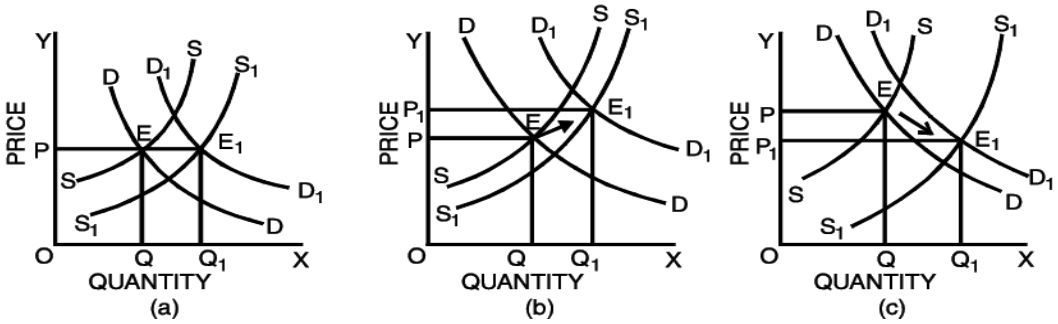


Fig.12: Simultaneous Change in Demand and Supply

Fig. 12 shows simultaneous change in demand and supply and its effects on the equilibrium price. In the figure, the original demand curve DD and the supply curve SS meet at E at which OP is the equilibrium price and OQ is the quantity bought and sold.

Fig. 12(a) shows that increase in demand is equal to increase in supply. The new demand curve D_1D_1 and S_1S_1 meet at E_1. The new equilibrium price is equal to the old equilibrium price (OP). However, equilibrium quantity is more.

Fig. 12(b) shows that increase in demand is more than increase in supply. Hence, the new equilibrium price OP_1 is higher than the old equilibrium price OP. The opposite will happen i.e. the equilibrium price will go down if there is a simultaneous fall in demand and supply and the fall in demand is more than the fall in supply.

Fig. 12(c) shows that supply increases in a greater proportion than demand. The new equilibrium price will be less than the original equilibrium price. Conversely, if the fall in the supply is more than proportionate to the fall in the demand, the equilibrium price will go up.

What is the effect on equilibrium price and quantity when both demand and supply decrease? You can check it yourselves with the help of diagrams.

We can summarise the two possible outcomes when the supply and demand curves shift in the same direction as follows:

- When both demand and supply increase, the equilibrium quantity increases but the change in equilibrium price is uncertain.
- When both demand and supply decrease, the equilibrium quantity decreases but the change in equilibrium price is uncertain.

© The Institute of Chartered Accountants of India

What happens when the demand and supply curves shift in opposite direction? We may discuss the effect on equilibrium price and quantity when demand and supply curves shift in opposite direction with the help of the diagrams given in the next page:

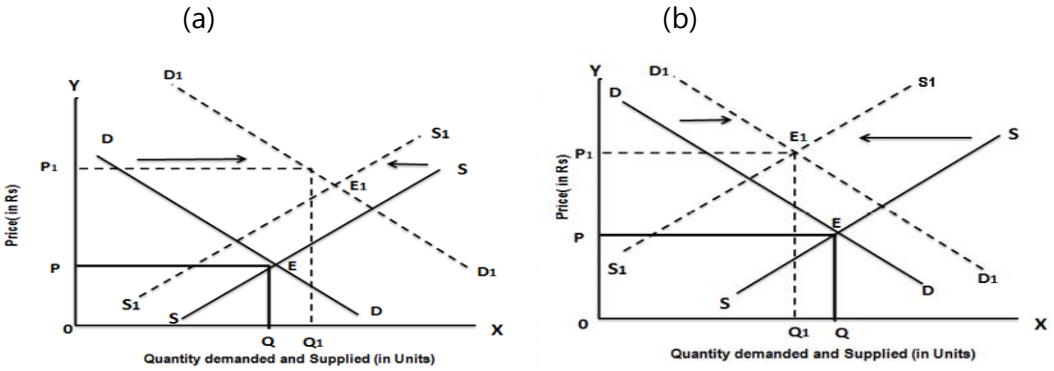


Fig 13: Effect on Equilibrium Price and Quantity When Demand and Supply Curves Shift in Opposite Directions

In panel (a) there is a simultaneous rightward shift of the demand curve and leftward shift of the supply curve. Here, the increase in demand is more than the decrease in supply, therefore, the equilibrium price and equilibrium quantity will rise. In panel (b) there is also a coincident rightward shift of the demand curve and leftward shift of the supply curve. Here, the decrease in supply is more than the increase in demand, consequently, the equilibrium price rises and the equilibrium quantity falls. In both cases, the equilibrium price rises from P to P_1 as the equilibrium moves from E to E_1. What is the effect on quantity? In panel (a), the increase in demand is large relative to the decrease in supply and the equilibrium quantity rises as a result. In panel (b), the decrease in supply is large relative to the increase in demand, and the equilibrium quantity falls as a result. That is, when demand increases and supply decreases, the actual quantity bought and sold can go either way, depending on how much the demand and supply curves have shifted.

In general, when supply and demand shift in opposite directions, we cannot predict what the ultimate effect will be on the quantity bought and sold. What we can say is that a curve that shifts a disproportionately greater distance than the other curve will have a disproportionately greater effect on the quantity bought and sold.

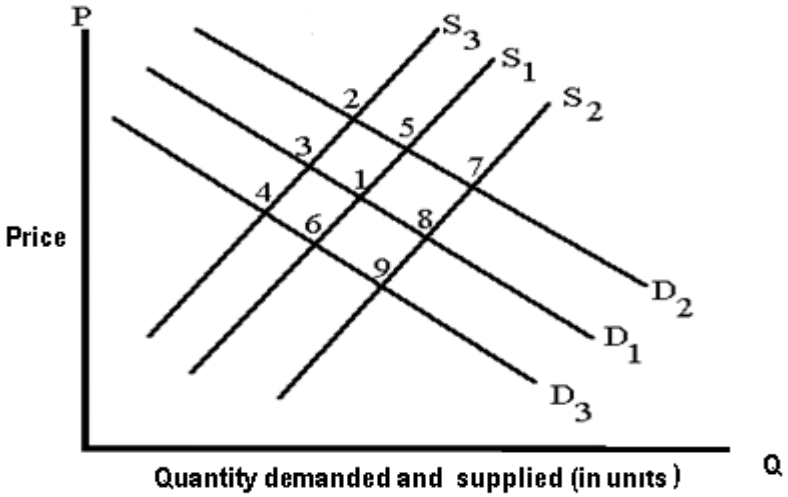
We can summarise the two possible outcomes when the supply and demand curves shift in the opposite directions as follows:

- When demand increases and supply decreases, the equilibrium price rises but nothing certain can be said about the change in equilibrium quantity.
- When demand decreases and supply increases, the equilibrium price falls but nothing certain can be said about the change in equilibrium quantity.

© The Institute of Chartered Accountants of India

ILLUSTRATION 1

D_1 and S_1 are the original demand and supply curves. D_2, D_3, S_2 and S_3 are possible new demand and supply curves. Starting from initial equilibrium point (1), what point on the graph is most likely to result from each change given in Questions 1 to 4?



SOLUTION

1. Assume X is a normal good. Holding everything else constant, assume that income rises and the price of a factor of production also increases. What point in the figure above is most likely to be the new equilibrium price and quantity?

2. We are analyzing the market for good Z. The price of a complement good, good Y, declines. At the same time, there is technological advance in the production of good Z. What point the figure above is most likely to be the new equilibrium price and quantity?

3. Heavy rains in Maharashtra during 2005 and 2006 caused havoc with the rice crop. What point in the figure above is most likely to be the new equilibrium price and quantity?

4. Assume that consumers expect the prices of new cars to significantly increase next year. What point in the figure above is most likely to be the new equilibrium price and quantity?

Let us try answering these questions.

1. When income of people rises, the demand curve will shift to right (becomes D2) as X is given to be a normal good. An increase in the price of factors of production used in the production of the good under consideration will decrease its supply and shift

© The Institute of Chartered Accountants of India

the supply curve to the left to S3. The new demand and supply of X will meet at Point 2.

2. When the price of a complementary good falls, the demand for the good in question increases. Therefore, when price of the complementary good Y falls, the demand curve for Z will move to right and become D2 and due to technological advancement the supply of Z will increase and become S2. The new demand and supply of Z will meet at Point 7.

3. Due to heavy rains, the supply of rice will fall and the new equilibrium point will be 3. It is assumed that there is no change in demand.

4. If prices of cars are expected to increase in future, the demand curve will shift to right. Assuming that the supply remains constant, the new equilibrium point will be 5.

SUMMARY

- Prices of goods express their exchange value.
- In an open competitive market, it is the interaction between demand and supply that tends to determine equilibrium price and quantity.
- Equilibrium price or market clearing price is the price at which the quantity demanded of a commodity equals the quantity supplied of the commodity there is no unsold stock or no unsupplied demand.
- Equilibrium is said to be stable if any disturbance to it is self-adjusting so that the original equilibrium is restored automatically, through the fundamental working of the market. Price movements eliminate shortage or surplus.
- If demand increases without any corresponding increase in supply, there will be increase in equilibrium price, as a result of which the quantity sold and purchased also increases.
- If demand decreases without any change in supply, there will be decrease in the equilibrium price and quantity demanded and supplied.
- If there is an increase in supply without any change in demand, the equilibrium price will go down and the quantity demanded will go up.
- If there is a decrease in supply without any change in demand, the equilibrium price will go up but the amount sold and purchased will go down.
- There can be simultaneous changes in both demand and supply and the equilibrium price will change according to the proportionate change in demand and supply.

© The Institute of Chartered Accountants of India

- When both demand and supply increase, the equilibrium quantity increases but the change in equilibrium price is uncertain.
- When both demand and supply decrease, the equilibrium quantity decreases but the change in equilibrium price is uncertain.
- When demand increases and supply decreases, the equilibrium price rises but nothing certain can be said about the change in equilibrium quantity.
- When demand decreases and supply increases, the equilibrium price falls but nothing certain can be said about the change in equilibrium quantity.

© The Institute of Chartered Accountants of India

UNIT - 3: PRICE-OUTPUT DETERMINATION UNDER DIFFERENT MARKET FORMS

LEARNING OUTCOMES

After studying this unit, you would be able to:

- Describe the characteristics of different market forms namely perfect competition, monopoly, monopolistic competition and oligopoly and cite the main differences among them.
- Explain how equilibrium price and quantity of output are determined both in the short run and in the long run in different markets.
- Describe what happens in the long run in markets where firms are either incurring losses or are making economic profits.
- Illustrate the welfare implications of each of the market forms.

The price of a commodity and the quantity exchanged per time period depend on the market demand and supply functions and the market structure. The market structure characterises the way the sellers and buyers interact to determine equilibrium price and quantity. The existence of different forms of market structure leads to differences in demand and revenue functions of the firms. The market structure mostly determines a firm's power to fix the price of its product. The level of profit maximising price is generally different in different kinds of markets due to differences in the nature of competition. As such, a firm has to closely watch the nature of the market before determining its equilibrium price and output. In this unit, we shall discuss the nature of four of the most important market structures namely, perfect competition, monopoly, monopolistic competition and oligopoly and how these market structures operate to determine short-run and long-run equilibrium price and quantity. We shall start our analysis with perfect competition.

© The Institute of Chartered Accountants of India

3.0 PERFECT COMPETITION

3.0.0 Features

Suppose you go to a vegetable market and enquire about the price of potatoes from a shopkeeper. He says potatoes are for ₹ 20 per kg. In the same way, you enquire from many shopkeepers and you get the same answer. What do you notice? You notice the following facts:

(i) There are large number of buyers and sellers in the potatoes market.

(ii) All the shopkeepers are selling potatoes at ₹ 20 per kg.

(iii) Product homogeneity i.e. all the sellers are selling almost the same quality of potatoes in the sense that you cannot judge by seeing the potatoes from which farmer's field do they come from. Such type of market is known as perfectly competitive market.

In general, a perfectly competitive market has the following characteristics:

(i) There are large number of buyers and sellers who compete among themselves. The number is so large that the share of each seller in the total supply and the share of each buyer in the total demand is too small that no buyer or seller is in a position to influence the price, demand or supply in the market.

(ii) The products supplied by all firms are identical or are homogeneous in all respects so that they are perfect substitutes. Thus, all goods must sell at a single market price. No firm can raise the price of its product above the price charged by other firms without losing most or all of its business. Buyers have no preference as between different sellers and as between different units of commodity offered for sale; also sellers are quite indifferent as to whom they sell. For example, most agricultural products, cooking gas, and raw materials such as copper, iron, cotton, and steel sheet etc. are fairly homogeneous. In addition, all consumers have perfect information about competing prices.

(iii) Every firm is free to enter the market or to go out of it. There are no legal or market related barriers to entry and also no special costs that make it difficult for a new firm either to enter an industry and produce, if it sees profit opportunity or to exit if it cannot make a profit.

If the above three conditions alone are fulfilled, such a market is called pure competition. The essential feature of pure competition is the absence of the element of monopoly. Consequently, business combinations of monopolistic nature are not

© The Institute of Chartered Accountants of India

possible. In addition to the above stated three features of 'pure competition'; a few more conditions are attached to perfect competition. They are:

(iv) There is perfect knowledge of the market conditions on the part of buyers and sellers. Both buyers and sellers have all information relevant to their decision to buy or sell such as the quantities of stock of goods in the market, the nature of products and the prices at which transactions of purchase and sale are being entered into.

(v) Perfectly competitive markets have very low transaction costs. Buyers and sellers do not have to spend much time and money finding each other and entering into transactions.

(vi) Under prefect competition, all firms individually are price takers. The firms have to accept the price determined by the market forces of total demand and total supply. The assumption of price taking applies to consumers as well. When there is perfect knowledge and perfect mobility, if any seller tries to raise his price above that charged by others, he would lose his customers.

While there are few examples of perfect competition which is regarded as a myth by many, the agricultural products, financial instruments (stock, bonds, foreign exchange), precious metals (gold, silver, platinum) approach the condition of perfect competition.

3.0.1 Price Determination under Perfect Competition

Equilibrium of the Industry: An industry in economic terminology consists of a large number of independent firms. Each such unit in the industry produces a homogeneous product so that there is competition amongst goods produced by different units. When the total output of the industry is equal to the total demand, we say that the industry is in equilibrium; the price then prevailing is equilibrium price. A firm is said to be in equilibrium when it is maximising its profits and has no incentive to expand or contract production.

As stated above, under competitive conditions, the equilibrium price for a given product is determined by the interaction of the forces of demand and supply for it as is shown in figure 14 in the next page.

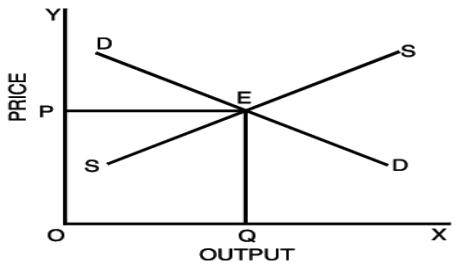


Fig. 14: Equilibrium of a competitive industry

© The Institute of Chartered Accountants of India

In Fig. 14, OP is the equilibrium price and OQ is the equilibrium quantity which will be sold at that price. The equilibrium price is the price at which both demand and supply are equal and therefore, no buyer who wanted to buy at that price goes dissatisfied and none of the sellers is dissatisfied that he could not sell his goods at that price. It may be noticed that if the price were to be fixed at any other level, higher or lower, demand remaining the same, there would be no equilibrium in the market. Likewise, if the quantities of goods were greater or smaller than the demand, there would not be equilibrium in the market.

Equilibrium of the Firm: The firm is said to be in equilibrium when it maximizes its profit. The output which gives maximum profit to the firm is called equilibrium output. In the equilibrium state, the firm has no incentive either to increase or decrease its output.

Firms in a competitive market are price-takers. This is because there are a large number of firms in the market who are producing identical or homogeneous products. As such these firms cannot influence the price in their individual capacities. They have to accept the price determined through the interaction of total demand and total supply of the commodity which they produce.

This is illustrated in the following figure:

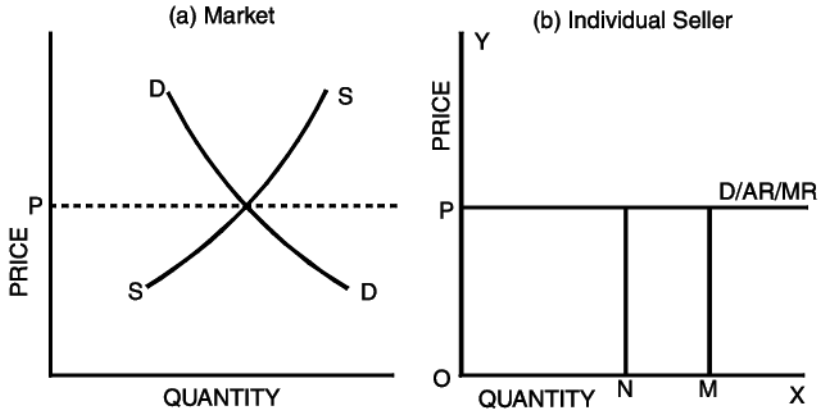


Fig. 15: The firm's demand curve under perfect competition

The market price OP is fixed through the interaction of total demand and total supply of the industry. Firms have to accept this price as given and as such they are price-takers rather than price-makers. They cannot increase the price above OP individually because of the fear of losing its customers to other firms. They do not try to sell the product below OP because they do not have any incentive for lowering it. They will try to sell as much as they can at price OP.

As such, P-line acts as demand curve for the firm. Because it is a price taker, the demand curve D facing an individual competitive firm is given by a horizontal line at the level of market price set by the industry. In other words, the demand curve of each firm is perfectly

© The Institute of Chartered Accountants of India

(or infinitely) elastic. The firm can sell as much or as little output as it likes along the horizontal price line. Since price is given, a competitive firm has to adjust its output to the market price so that it earns maximum profit. Let us see in table 4 where demand and supply schedule for the industry were as follows:

Table 4: Equilibrium price for industry

Price (₹)	Demand (units)	Supply (units)
1	60	5
2	35	35
3	20	45
4	15	55
5	10	65

Equilibrium price for the industry is determined through the interaction of demand and supply is ₹ 2 per unit. The individual firms will accept ₹ 2 per unit as the price and sell different quantities at this price. Let us consider the case of firm 'X'. Firm X's quantity sold, total revenue, average revenue and marginal revenue are as given in Table 5.

Table 5: Trends in Revenue of a Competitive Firm

Price (₹)	Quantity Sold	Total Revenue	Average Revenue	Marginal Revenue
2	8	16	2	2
2	9	18	2	2
2	10	20	2	2
2	11	22	2	2
2	12	24	2	2

Firm X's price, average revenue and marginal revenue are equal to ₹ 2. Thus, we see that in perfectly competitive market a price-taking firm's average revenue, marginal revenue and price are equal. As a result, when the firm sells an additional unit, its total revenue increases by an amount equal to its price.

AR = MR = Price.

Conditions for equilibrium of a firm: As discussed earlier, a firm, in order to attain equilibrium position, has to satisfy two conditions as below: (Note that because competitive firms take price as fixed, this is a rule for setting output, not price).

(i) The marginal revenue should be equal to the marginal cost. i.e. MR = MC. If MR is greater than MC, there is always an incentive for the firm to expand its production

© The Institute of Chartered Accountants of India

further and gain by selling additional units. If MR is less than MC, the firm will have to reduce output since an additional unit adds more to cost than to revenue. Profits are maximum only at the point where MR = MC. Because the demand curve facing a competitive firm is horizontal, so that MR = *P*, the general rule for profit maximization can be simplified. A perfectly competitive firm should choose its output so that marginal cost equals price.

(ii) The MC curve should cut MR curve from below. In other words, MC should have a positive slope.

Short-Run Profit Maximization by a Competitive Firm

We shall begin with the short-run output decision and then move on to the long run. In the short run, a firm operates with a fixed amount of capital and must choose the levels of its variable inputs so as to maximize profit.

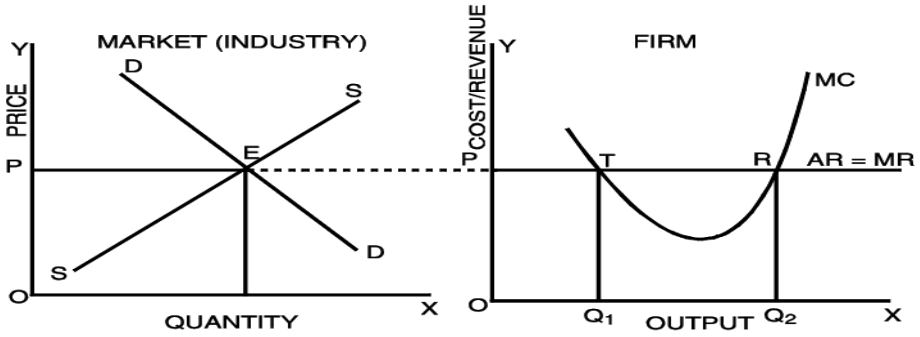


Fig. 16: Equilibrium position of a firm under perfect competition

In figure 16, DD and SS are the industry demand and supply curves which intersect at E to set the market price as OP. The firms of perfectly competitive industry adopt OP price as given and considers P-Line as demand (average revenue) curve which is perfectly elastic at P. As all the units are priced at the same level, MR is a horizontal line equal to AR line. Note that MC curve cuts MR curve at two places T and R respectively. But at T, the MC curve is cutting MR curve from above. T is not the point of equilibrium as the second condition is not satisfied. The firm will benefit if it goes beyond T as the additional cost of producing an additional unit is falling. At R, the MC curve is cutting MR curve from below. Hence, R is the point of equilibrium and OQ_2 is the equilibrium level of output.

3.0.2 Short run supply curve of the firm in a competitive market

One interesting thing about the MC curve of a firm in a perfectly competitive industry is that it depicts the firm's supply curve. This can be shown with the help of the following figure:

© The Institute of Chartered Accountants of India

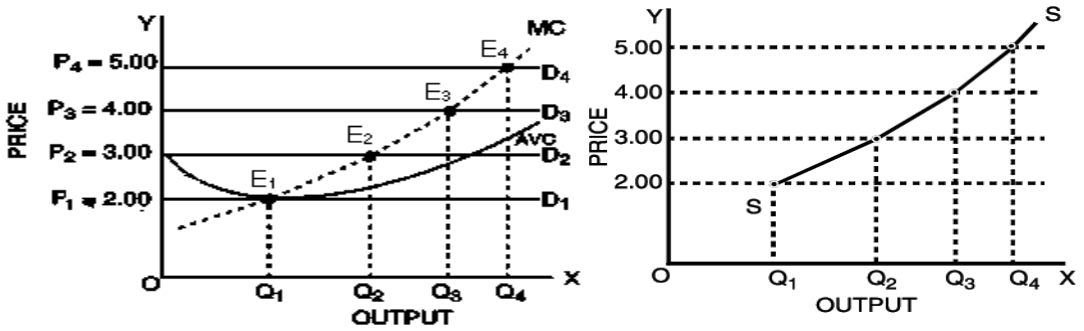


Fig. 17: Marginal cost and supply curves for a price-taking firm

Suppose the market price of a product is ₹ 2 Corresponding to it we have D_1 as demand curve for the firm. At price ₹ 2, the firm supplies Q_1 output because here MR = MC. If the market price is ₹ 3, the corresponding demand curve is D_2. At ₹ 3, the quantity supplied is Q_2. Similarly, we have demand curves D_3 and D_4 and corresponding supplies are Q_3 and Q_4. The firm's marginal cost curve which gives the marginal cost corresponding to each level of output is nothing but firm's supply curve that gives various quantities the firm will supply at each price.

For prices below AVC, the firm will supply zero units because the firm is unable to meet even its variable cost. For prices above AVC, the firm will equate price and marginal cost. When price is high enough to meet the AVC, a firm will decide to continue its production. In fig. 17, at price ₹ 2, the AVC of the firm is covered and therefore, the firm need not shutdown. Thus, in perfect competition, the firm's marginal cost curve above AVC has the identical shape of the firm's supply curve.

3.0.3 Can a competitive firm earn profits?

In the short run, a firm will attain equilibrium position and at the same time, it may earn supernormal profits, normal profits or losses depending upon its cost conditions. Following are the three possibilities:

Supernormal Profits: There is a difference between normal profits and supernormal profits. When the average revenue of a firm is just equal to its average total cost, a firm earns normal profits or zero economic profits. It is to be noted that here a normal percentage of profits for the entrepreneur for his managerial services is already included in the cost of production. When a firm earns supernormal profits, its average revenues are more than its average total cost. Thus, in addition to normal rate of profit, the firm earns some additional profits. The following example will make the above concepts clear:

Suppose the cost of producing 1,000 units of a product by a firm is ₹ 15,000. The entrepreneur has invested ₹ 50,000 in the business and the normal rate of return in the

© The Institute of Chartered Accountants of India

market is 10 per cent. That is, the cost of self owned factor (capital) used in the business or implicit cost is ₹ 5000/-. The entrepreneur would have earned ₹ 5,000 (10% of ₹ 50,000) if he had invested it elsewhere. Thus, total cost of production is ₹ 20,000 (₹ 15,000 + ₹ 5,000). If the firm is selling the product at ₹ 20, it is earning normal profits because AR (₹ 20) is equal to ATC (₹ 20). If the firm is selling the product at ₹ 22 per unit, its AR (₹ 22) is greater than its ATC (₹ 20) and it is earning supernormal profit at the rate of ₹ 2 per unit.

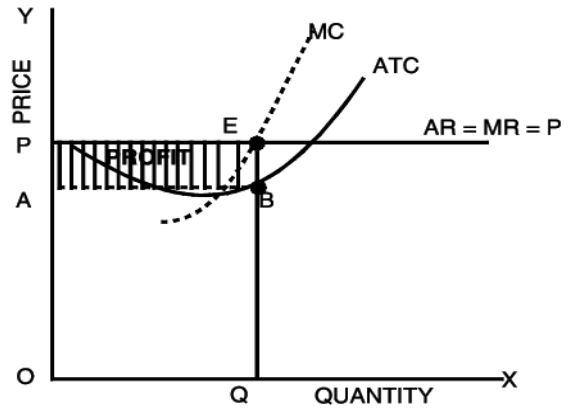


Fig. 18: Short run equilibrium: Supernormal profits of a competitive firm

Figure 18 shows the revenue and cost curves of a firm which earns supernormal profits in the short run. MR (marginal revenue) curve is a horizontal line and MC (marginal cost) curve is a U-shaped curve which cuts the MR curve at E. The firm is in equilibrium at point E where marginal revenue is equal to marginal cost. OQ is the equilibrium output for the firm. At this level of output, the average revenue or price per unit is EQ and average total cost is BQ. The firm's profit per unit is EB (AR-ATC). Total profits are ABEP. (EB x OQ; OQ =AB). Applying the principle Total Profit = TR – TC, we find total profit by finding the difference between OPEQ and OABQ which is equal to ABEP.

Normal profits: When a firm just meets its average total cost, it earns normal profits. Here AR = ATC.

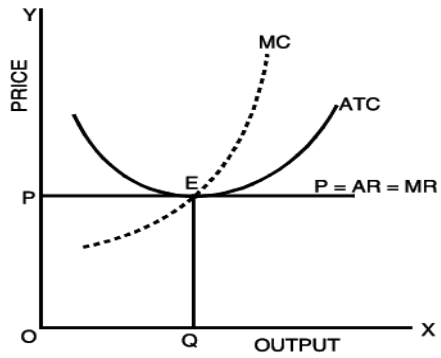


Fig. 19: Short run equilibrium of a competitive firm: Normal profits

© The Institute of Chartered Accountants of India

The figure shows that MR = MC at E. The equilibrium output is OQ. At this level of output, price or AR covers full cost (ATC). Since AR = ATC or OP = EQ, the firm is just earning normal profits. Applying TR – TC, we find that TR – TC = zero or there is zero economic profit.

Losses: The firm can be in an equilibrium position and still makes losses. This is the situation when the firm is minimising losses. For all prices above the minimum point on the *AVC* curve, the firm will stay open and will produce the level of output at which *MR* = *MC*. When the firm is able to meet its variable cost and a part of fixed cost, it will try to continue production in the short run. If it recovers a part of the fixed costs, it will be beneficial for it to continue production because fixed costs (such as costs towards plant and machinery, building etc.) are already incurred and in such case it will be able to recover a part of them. But, if a firm is unable to meet its average variable cost, it will be better for it to shutdown. This shutdown may be temporary. When the market price rises, the firm resumes production.

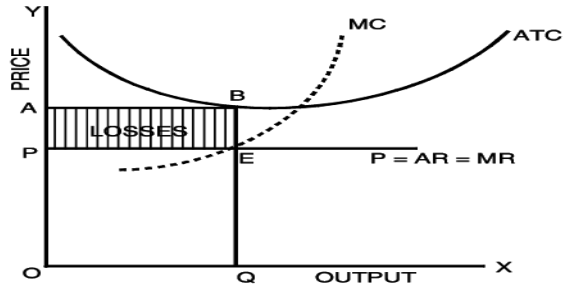


Fig. 20: Short run equilibrium of a competitive firm: Losses

In figure 20, E is the equilibrium point and at this point AR = EQ and ATC = BQ since BQ>EQ, the firm is having per unit loss equal to BE and the total loss is ABEP.

ILLUSTRATION 2

"Tasty Burgers" is a small kiosk selling Burgers and is a price-taker. The table below provides the data of 'Tasty Burgers' output and costs in Rupees.

Quantity	Total Cost	Fixed Cost	Variable Cost	Average Variable Cost	Average Fixed Cost	Marginal Cost
0	100					
10	210					
20	300					
30	400					
40	540					
50	790					
60	1060					

© The Institute of Chartered Accountants of India

Q1. If burgers sell for ₹ 14 each, what is Tasty Burgers' profit maximizing level of output?

Q2. What is the total variable cost when 60 burgers are produced?

Q3. What is average fixed cost when 20 burgers are produced?

Q4. Between 10 to 20 burgers, what is the marginal cost?

SOLUTION

Let us try to solve each of these questions.

First of all it is better to fill the blanks in the Table.

Since the total cost when zero product is produced is ₹ 100, the total fixed cost of "Tasty Burgers" will be ₹ 100/-.

We fill the data now:

Quantity	Total Cost	Fixed Cost	Variable Cost	Average Variable Cost	Average Fixed Cost	Marginal Cost (· TC)	Marginal Cost
0	100	100	-	-	-	-	-
10	210	100	110	11	10.0	110	11
20	300	100	200	10	5.0	90	9
30	400	100	300	10	3.33	100	10
40	540	100	440	11	2.50	140	14
50	790	100	690	13.80	2.0	250	25
60	1060	100	960	16	1.66	270	27

Now let us answer the questions.

Ans 1: The price of Burger is ₹ 14. Since it is given that "Tasty Burger" is price-taker, it is a perfectly competitive firm. In a perfectly competitive market all the products are sold at the same price, that means AR = MR. In order to find out the profit maximizing level of output, MR should be equal to MC. Here AR = MR = ₹ 14. From the table we can see that MR (14) = MC (14) when 40 burgers are produced. Therefore, the profit maximising level of output of burgers is 40 units.

Ans 2: The Total Variable Cost at 60 burgers is ₹ 960.

Ans 3: The Average Fixed Cost at 20 burgers is ₹ 5.

Ans 4: Between 10 to 20 burgers, the Marginal Cost is ₹ 9.

© The Institute of Chartered Accountants of India

3.0.4 Long Run Equilibrium of a Competitive Firm

In the short run, one or more of the firm's inputs are fixed. In the long run, firms can alter the scale of operation or quit the industry and new firms can enter the industry. In a market with entry and exit, a firm enters when it believes that it can earn a positive long run profit and exits when it faces the possibility of a long-run loss. Firms are in equilibrium in the long run when they have adjusted their plant so as to produce at the minimum point of their long run ATC curve, which is tangent to the demand curve defined by the market price. In the long run, the firms will be earning just normal profits, which are included in the ATC. If they are making supernormal profits in the short run, new firms will be attracted into the industry; this will lead to a fall in price (a down ward shift in the individual demand curves) and an upward shift of the cost curves due to increase in the prices of factors as the industry expands. These changes will continue until the ATC is tangent to the demand curve. If the firms make losses in the short run, they will leave the industry in the long run. This will raise the price and costs may fall as the industry contracts, until the remaining firms in the industry cover their total costs inclusive of normal rate of profit.

In figure 21, we show how firms adjust to their long run equilibrium position. As in the short run, the firm faces a horizontal demand curve. If the price is OP, the firm is making super-normal profits working with the plant whose cost is denoted by SAC_1. If the firm believes that the market price will remain at OP, it will have incentive to build new capacity and it will move along its LAC. At the same time, new firms will be entering the industry attracted by the excess profits. As the quantity supplied in the market increases, the supply curve in the market will shift to the right and price will fall until it reaches the level of OP_1 (in figure 21a) at which the firms and the industry are in long run equilibrium.

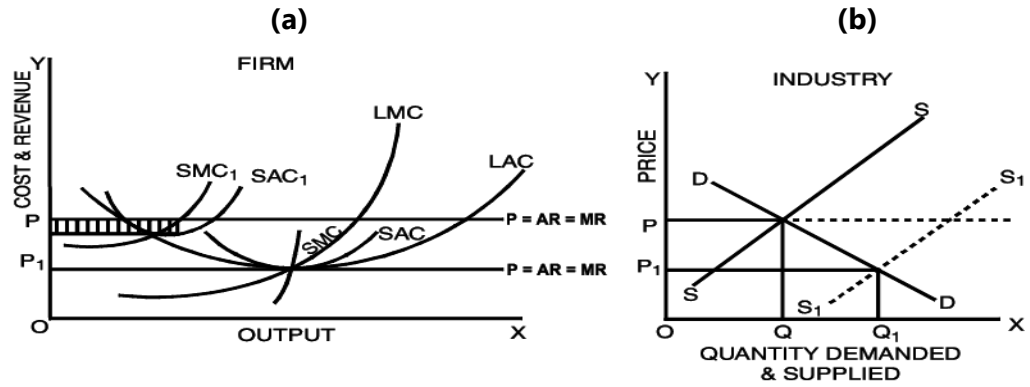


Fig. 21: Long run equilibrium of the firm in a perfectly competitive market

The condition for the long run equilibrium of the firm is that the marginal cost should be equal to the price and the long run average cost i.e. LMC = LAC = P.

© The Institute of Chartered Accountants of India

The firm adjusts its plant size so as to produce that level of output at which the LAC is the minimum possible. At equilibrium, the short run marginal cost is equal to the long run marginal cost and the short run average cost is equal to the long run average cost. Thus, in the long run we have,

$$SMC = LMC = SAC = LAC = P = MR$$

This implies that at the minimum point of the LAC, the corresponding (short run) plant is worked at its optimal capacity, so that the minima of the LAC and SAC coincide. On the other hand, the LMC cuts the LAC at its minimum point and the SMC cuts the SAC at its minimum point. Thus, at the minimum point of the LAC the above equality is achieved.

3.0.5 Long Run Equilibrium of the Industry

A long-run competitive equilibrium of a perfectly competitive industry occurs when three conditions hold:

All firms in the industry are in equilibrium i.e. all firms are maximizing profit.

No firm has an incentive either to enter or exit the industry because all firms are earning zero economic profit or normal profit.

The price of the product is such that the quantity supplied by the industry is equal to the quantity demanded by consumers.

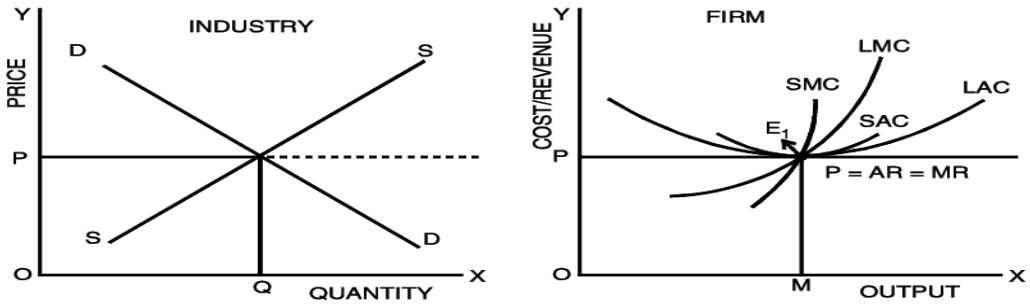


Fig. 22: Long run equilibrium of a competitive industry and its firms

Figure 22 shows that in the long-run AR = MR = LAC = LMC at E_1. In the long run, each firm attains the plant size and output level at which its cost per unit is as low as possible. Since E_1 is the minimum point of LAC curve, the firm produces equilibrium output OM at the minimum (optimum) cost. A firm producing output at optimum cost is called an optimum firm. In the long run, all firms under perfect competition are optimum firms having optimum size and these firms charge minimum possible price which just covers their marginal cost.

Thus, in the long run, under perfect competition, the market mechanism leads to optimal allocation of resources. The optimality is shown by the following outcomes associated with the long run equilibrium of the industry:

© The Institute of Chartered Accountants of India

(a) The output is produced at the minimum feasible cost.

(b) Consumers pay the minimum possible price which just covers the marginal cost i.e. MC = AR. (P = MC)

(c) Plants are used to full capacity in the long run, so that there is no wastage of resources i.e. MC = AC.

(d) Firms earn only normal profits i.e. AC = AR.

(e) Firms maximize profits (i.e. MC = MR), but the level of profits will be just normal.

(f) There is optimum number of firms in the industry.

In other words, in the long run,

LAR = LMR = P = LMC = LAC and there will be optimum allocation of resources.

It should be remembered that the perfectly competitive market system is a myth. This is because the assumptions on which this system is based are never found in the real world market conditions.

3.1 MONOPOLY

The word 'Monopoly' means "alone to sell". Monopoly is a situation in which there is a single seller of a product which has no *close substitute*. Pure monopoly is never found in practice. However, in public utilities such as transport, water and electricity, we generally find a monopoly form of market.

3.1.0 Features of Monopoly Market

The following are the major features of the monopoly market:

(1) **Single seller of the product:** In a monopoly market, there is only one firm producing or supplying a product. This single firm constitutes the industry and as such there is no distinction between firm and industry in a monopolistic market. Monopoly is characterized by an absence of competition.

(2) **Barriers to Entry:** In a monopolistic market, there are strong barriers to entry. The barriers to entry could be economic, institutional, legal or artificial.

(3) **No close-substitutes:** A monopoly firm has full control over the market supply of a product or service. A monopolist is a price maker and not a price taker. The monopolist generally sells a product which has no close substitutes. In such a case, the cross elasticity of demand for the monopolist's product and any other product is

© The Institute of Chartered Accountants of India

zero or very small. The price elasticity of demand for monopolist's product is also less than one. As a result, the monopolist faces a steep downward sloping demand curve.

(4) **Market power:** A monopoly firm has market power i.e. it has the ability to charge a price above marginal cost and earn a positive profit.

While to some extent all goods are substitutes for one other, there may be essential characteristics in a good or group of goods which give rise to gaps in the chain of substitution. If one producer can so exclude competition that he controls the supply of a good, he can be said to be 'monopolist' – a single seller.

3.1.1 How do monopolies arise?

The fundamental cause of monopoly is barriers to entry; in effect other firms cannot enter the market. A few reasons for occurrence and continuation of monopoly are:

(1) Strategic control over a scarce resources, inputs or technology by a single firm limiting the access of other firms to these resources.

(2) Through developing or acquiring control over a unique product that is difficult or costly for other companies to copy.

(3) Governments granting exclusive rights to produce and sell a good or a service.

(4) Patents and copyrights given by the government to protect intellectual property rights and to encourage innovation.

(5) Business combinations or cartels (illegal in most countries) where former competitors cooperate on pricing or market share.

(6) Extremely large start-up costs even to enter the market in a modest way and requirement of extraordinarily costly and sophisticated technical know-how discourage firms from entering the market.

(7) Natural monopoly arises when there are very large economies of scale. A single firm can produce the industry's whole output at a lower unit cost than two or more firms could. It is often wasteful (for consumers and the economy) to have more than one such supplier in a region because of the high costs of duplicating the infrastructure. For e.g. telephone service, natural gas supply and electrical power distribution.

(8) Enormous goodwill enjoyed by a firm for a considerably long period creates difficult barriers to entry.

(9) Stringent legal and regulatory requirements effectively discourage entry of new firms without being specifically prohibited.

© The Institute of Chartered Accountants of India

(10) Firms use various anti-competitive practices often referred to as predatory tactics, such as limit pricing or predatory pricing intended to do away with existing or potential competition.

In real life, pure monopolies are not common because monopolies are either regulated or prohibited altogether. But, one producer may dominate the supply of a good or group of goods. Earlier, in public utilities, e.g. transport, water, electricity generation etc. monopolistic markets existed so as to reap the benefits of large scale production. But these markets have been deregulated and opened to competition over a period of time. In India, Indian Railways has monopoly in rail transportation. There is government monopoly over production of nuclear power.

3.1.2 Monopolist's Revenue Curves

In the absence of government intervention, a monopolist is free to set any price it desires and will usually set the price that yields the largest possible profit. Since the monopolist firm is assumed to be the only producer of a particular product, its demand curve is identical with the market demand curve for the product. The market demand curve, which exhibits the total quantity of a product that buyers will offer to buy at each price, also shows the quantity that the monopolist will be able to sell at every price that he sets. If we assume that the monopolist sets a single price and supplies all buyers who wish to purchase at that price, we can easily find his average revenue and marginal revenue curves.

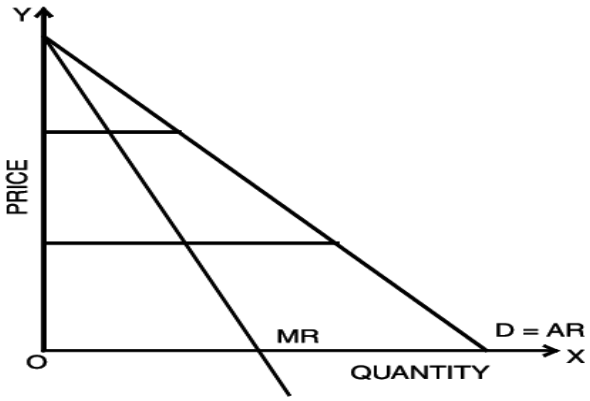


Fig. 23: A monopolist's demand curve and marginal revenue curve

Suppose the straight line in Fig. 23 is the market demand curve for a particular product 'A'. Suppose M/s. X and Co. is the only producer of the product A so that it faces the entire market demand. The firm faces a downward sloping demand curve, because if it wants to sell more it has to reduce the price of the product.

We have tabulated hypothetical values of price and quantity in Table 6 and have computed the amounts of average, total and marginal revenue corresponding to these levels.

© The Institute of Chartered Accountants of India

Table 6 Average revenue, Total revenue and Marginal revenue for a Monopolist

Quantity sold	Average Revenue (₹) (AR = P)	Total Revenue (₹) (TR)	Marginal Revenue (₹) (MR)
0	10.00	0	
1	9.50	9.50	9.50
2	9.00	18.00	8.50
3	8.50	25.50	7.50
4	8.00	32.00	6.50
5	7.50	37.50	5.50
6	7.00	42.00	4.50
7	6.50	45.50	3.50
8	6.00	48.00	2.50
9	5.50	49.50	1.50
10	5.00	50.00	.50
11	4.50	49.50	(-).50

If the seller wishes to charge ₹ 10 he cannot sell any unit as no buyer would be willing to buy at such a high price. Alternatively, if he wishes to sell 10 units, his price cannot be higher than ₹ 5. Because the seller charges a single price for all units he sells, average revenue per unit is identical with price, and thus the market demand curve is the average revenue curve for the monopolist.

In perfect competition, average and marginal revenue are identical, but this is not the case with monopoly since the monopolist knows that if he wishes to increase his sales he will have to reduce the price of the product. Consider the example given. If the seller wishes to sell 3 units, he will have to reduce the price from ₹ 9 to ₹ 8.50. The third unit is sold for ₹ 8.50 only. This adds ₹ 8.50 to the firm's revenue. But, in order to sell the 3rd unit, the firm had to lower the price of all 3 units from ₹ 9 to ₹ 8.50. It thus receives ₹ .50 less on each of the 2 units it could have sold for ₹ 9. The marginal revenue over the interval from 2 to 3 units is thus ₹ 7.50 only. Again, if he wishes to sell 4 units, he will have to reduce the price from ₹ 8.50 to ₹ 8. The marginal revenue here will be ₹ 6.50 only. It must reduce price to sell additional output. So the marginal revenue on its additional unit sold is lower than the price, because it gets less revenue for previous units as well (it has to reduce price to the same amount for all units). The relationship between AR and MR of a monopoly firm can be stated as follows:

(i) AR and MR are both negatively by sloped (downward sloping) curves.

© The Institute of Chartered Accountants of India

(ii) The slope of the MR curve is twice that of the AR curve. MR curve lies half-way between the AR curve and the Y axis. i.e. it cuts the horizontal line between Y axis and AR into two equal parts.

(iii) AR cannot be zero, but MR can be zero or even negative.

Monopolies are mainly of two types: Simple monopoly where the monopolist charges uniform price from all buyers. For example, Indian Railways charging same fare from all AC 3Tier passengers and discriminating monopoly where the monopolist charges different prices from different buyers of the same good or service for eg. Dynamic fare charged by Indian Railways in specific trains. We shall look into equilibrium of a simple monopolist.

3.1.3 Profit maximisation in a Monopolised Market: Equilibrium of the Monopoly Firm

Firms in a perfectly competitive market are price-takers so that they are only concerned about determination of output. But this is not the case with a monopolist. A monopolist has to determine not only his output but also the price of his product. As under perfect competition, monopolists' decisions are based on profit maximisation hypothesis. Although cost conditions, i.e. AC and MC curves, in competitive and monopoly markets are generally identical, revenue conditions differ. Since a monopolist faces a downward sloping demand curve, if he raises the price of his product, his sales will go down. On the other hand, if he wants to increase his sales volume, he will have to be content with lower price. A monopolist will try to reach the level of output at which profits are maximum i.e. he will try to attain the equilibrium level of output. Since firm and industry are identical in a monopoly setting equilibrium of the monopoly firm signifies equilibrium of the industry. We shall discuss how a monopoly firm decides its output and price in the short run and in the long run.

Short run Equilibrium

Conditions for equilibrium: The twin conditions for equilibrium in a monopoly market are the same as that of a firm in a competitive industry. Graphically, we can depict these conditions in figure 24.

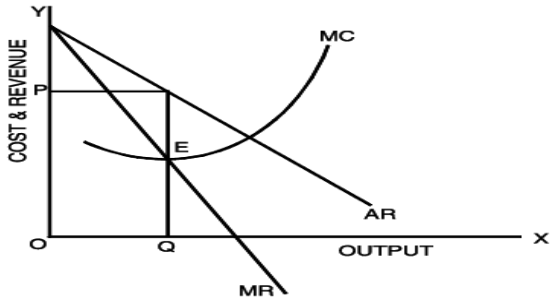


Fig. 24: Equilibrium of a monopolist (Short run)

© The Institute of Chartered Accountants of India

The figure shows that MC curve cuts MR curve at E. That means, at E, the equilibrium output is OQ. The ordinate EQ extended to the demand curve (AR curve) gives the profit maximising equilibrium price OP. Thus the determination of output simultaneously determines the price which a monopolist can charge.

In order to know whether the monopolist is making profits or losses in the short run, we need to introduce the average total cost curve. The following figure shows two possibilities for a monopolist firm in the short run.

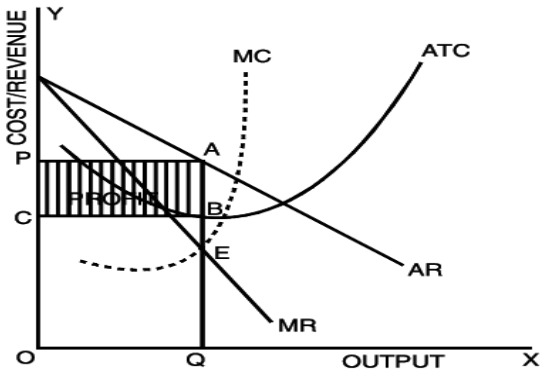


Fig. 25: Firm's equilibrium under monopoly: Maximisation of profits

Figure 25 shows that MC cuts MR at E to give equilibrium output as OQ. At OQ, the price charged is OP. At output level OQ, the price per unit is QA (=OP) and the cost per unit is BQ. Therefore, the economic profit per unit given by AR – ATC is AB (AQ-BQ). The total profit is ABCP.

Can a monopolist incur losses? One of the misconceptions about a monopoly firm is that it makes profits at all times. It is to be noted that there is no certainty that a monopolist will always earn an economic or supernormal profit. It all depends upon his demand and cost conditions. If a monopolist faces a very low demand for his product and the cost conditions are such that ATC >AR, he will not be making profits, rather, he will incur losses. Figure 26 depicts this position.

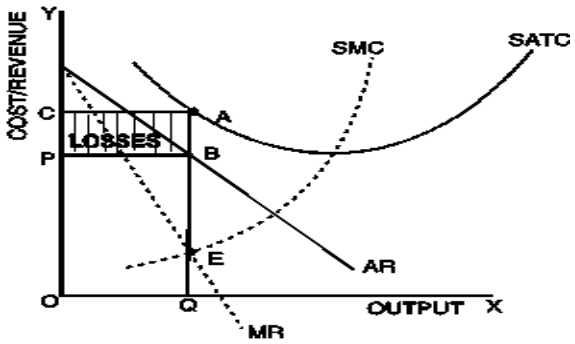


Fig. 26: Equilibrium of the monopolist: Losses in the short run

© The Institute of Chartered Accountants of India

In the above figure, MC cuts MR at E. Here E is the point of loss minimisation. At E, the equilibrium output is OQ and the equilibrium price is OP. The average total cost (SATC) corresponding to OQ is QA. Cost per unit of output i.e. QA is greater than revenue per unit which is BQ. Thus, the monopolist incurs losses to the extent of AB per unit or total loss is ABPC. Whether the monopolist stays in business in the short run depends upon whether he meets his average variable cost or not. If he covers his average variable cost and at least a part of fixed cost, he will not shut down because he contributes something towards fixed costs which are already incurred. If he is unable to meet even his average variable cost, he will shutdown.

Long Run Equilibrium: Long run is a period long enough to allow the monopolist to adjust his plant size or to use his existing plant at any level that maximizes his profit. In the absence of competition, the monopolist need not produce at the optimal level. He can produce at a sub-optimal scale also. In other words, he need not reach the minimum of LAC curve; he can stop at any point on the LAC where his profits are maximum.

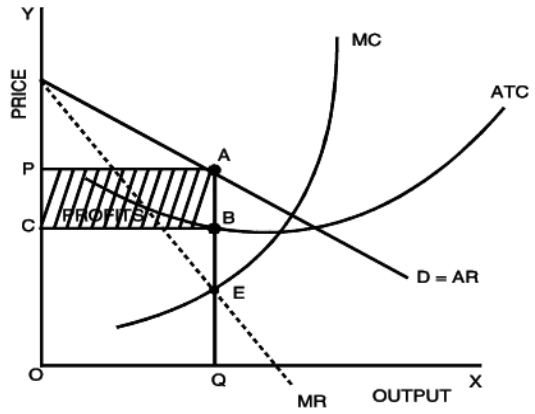


Fig. 27: Long run equilibrium of a monopolist

However, one thing is certain, the monopolist will not continue if he makes losses in the long run. He will continue to make super normal profits even in the long run as entry of outside firms is blocked.

3.1.4 Price Discrimination

Consider the following examples.

The family doctor in your neighbourhood charges a higher fee from a rich patient compared to the fee charged from a poor patient even though both are suffering from viral fever. Why?

Electricity companies sell electricity at a cheaper rate for home consumption in rural areas than for industrial use. Why?

© The Institute of Chartered Accountants of India

The above cases are examples of price discrimination. What is price discrimination? Price discrimination occurs when a producer sells a specific commodity or service to different buyers at two or more different prices for reasons not associated with differences in cost.

Price discrimination is a method of pricing adopted by a monopolist to earn abnormal profits. It refers to the practices of charging different prices for different units of the same commodity.

Further examples of price discrimination are:

- Railways separate high-value or relatively small-bulk commodities which can bear higher freight charges from other categories of goods.
- Some countries dump goods at low prices in foreign markets to capture them.
- Some universities charge higher tuition fees from evening class students than from other scholars.
- A lower subscription is charged from student readers in case of certain journals.
- Lower charges on phone calls at off peak time.

Price discrimination cannot persist under perfect competition because the seller has no influence over the market determined price. Price discrimination requires an element of monopoly so that the seller can influence the price of his product.

Conditions for price discrimination: Price discrimination is possible only under the following conditions:

I. The seller should have some control over the supply of his product i.e. the firm should have price-setting power. Monopoly power in some form is necessary (not sufficient) to discriminate price.

II. The seller should be able to divide his market into two or more sub-markets.

III. The price-elasticity of the product should be different in different sub-markets. The monopolist fixes a high price for his product for those buyers whose price elasticity of demand for the product is less than one. This implies that, when the monopolist charges a higher price from them, they do not significantly reduce their purchases in response to high price.

IV. It should not be possible for the buyers of low-priced market to resell the product to the buyers of high-priced market i.e there must be no market arbitrage.

Thus, we note that a discriminating monopolist charges a higher price in a market which has a relatively inelastic demand. The market which is highly responsive to price changes is charged less. On the whole, the monopolist benefits from such discrimination.

© The Institute of Chartered Accountants of India

A numerical example will help you understand price-discrimination more clearly.

Suppose the single monopoly price is ₹ 30 and the elasticities of demand in markets A and B are respectively 2 and 5. Then,

MR in market A = $AR_A\left(\frac{e-1}{e}\right)$

= $30\left(\frac{2-1}{2}\right)$

= 15

MR in market B = $AR_B\left(\frac{e-1}{e}\right)$

= $30\left(\frac{5-1}{5}\right)$

= 24

It is thus clear that the marginal revenues in the two markets are different when elasticities of demand at the single price are different. Further, we see that the marginal revenue in the market in which elasticity is high is greater than the marginal revenue in the market where elasticity is low. Therefore, it is profitable for the monopolist to transfer some amount of the product from market A where elasticity is less and therefore marginal revenue is low, to market B where elasticity is high and marginal revenue is large. Thus, when the monopolist transfers one unit from A to B, the loss in revenue (₹ 15) will be more than compensated by gain in revenue (₹ 24). On the whole, the gain in revenue will be ₹ 9 (24-15). It is to be noted that when some units are transferred from A to B, the price in market A will rise and it will fall in B. This means that the monopolist is now discriminating between markets A and B. Again, it is to be noted that there is a limit to which units of output can be transferred from A to B. Once this limit is reached and once a point is reached when the marginal revenues in the two markets become equal as a result of transfer of output, it will no longer be profitable to shift more output from market A to market B. When this point of a equality is reached, the monopolist will be charging different prices in the two markets – a higher price in market A with lower elasticity of demand and a lower price in market B with higher elasticity of demand.

Objectives of Price discrimination:

(a) to earn maximum profit

(b) to dispose off surplus stock

(c) to enjoy economies of scale

© The Institute of Chartered Accountants of India

(d) to capture foreign markets and

(e) to secure equity through pricing.

Price discrimination may take place for reasons such as differences in the nature and types of persons who buy the products, differences in the nature of locality where the products are sold and differences in the income level, age, size of the purchase, time of purchase.

Price discrimination may be related to the consumer surplus enjoyed by the consumers. Prof. Pigou classified three degrees of price discrimination. Under the first degree price discrimination, the monopolist separates the market into each individual consumer and charges them the price they are willing and able to pay and thereby extract the entire consumer surplus. Doctors, lawyers, consultants etc., charging different fees, prices decided under 'bid and offer' system, auctions, and through negotiations are examples of first degree price discrimination.

Under the second degree price discrimination, different prices are charged for different quantities of sold. The monopolist will take away only a part of the consumers' surplus. The two possibilities are: a) Different consumers pay different price if they buy different quantity. Larger quantities are available at lower unit price. For example, a family pack of soaps or biscuits tends to cost less per kg than smaller packs. b) Each consumer pays different price for consecutive purchases. For example, suppliers of services such as telephone, electricity, water, etc., sometimes charge higher prices when consumption exceeds a particular limit.

Under the third degree price discrimination, price varies by attributes such as location or by customer segment. Here the monopolist will divide the consumers into separate sub-markets and charge different prices in different sub-markets. Examples: Dumping, charging different prices for domestic and commercial uses, lower prices in railways for senior citizens, etc.

Equilibrium under price discrimination

Under simple monopoly, a single price is charged for the whole output; but under price discrimination the monopolist will charge different prices in different sub-markets. First of all, the monopolist has to divide his total market into various sub-markets on the basis of differences in elasticity of demand. For the sake of making our analysis simple we shall explain a case where the total market is divided into two sub-markets.

In order to reach the equilibrium position, the discriminating monopolist has to make three decisions:

(1) How much total output should he produce?

(2) How the total output should be distributed between the two sub-markets? and

© The Institute of Chartered Accountants of India

(3) What prices he should charge in the two sub-markets?

The same marginal principle will guide his decision to produce a total output as that which guides a perfect competitor or a simple monopolist. In other words, the discriminating monopolist will compare the marginal revenue with the marginal cost of the output. But he has to find out first, the aggregate marginal revenue of the two sub-markets taken together and compare this aggregate marginal revenue with marginal cost of the total output. Aggregate marginal revenue curve is obtained by summing up laterally the marginal revenue curves of the sub-markets.

In figure 28, MR_a is the marginal revenue curve in sub-market A corresponding to the demand curve D_a. Similarly, MR_b is the marginal revenue in sub-market B corresponding to the demand curve D_b. Now, the aggregate marginal revenue curve AMR, which has been shown in Panel (iii) of figure 28 has been derived by adding up laterally MR_a and MR_b. The marginal cost curve of the monopolist is shown by the curve MC in Panel (iii) of figure 28.

The discriminating monopolist will maximize his profits by producing the level of output at which marginal cost curve (MC) intersects the aggregate marginal revenue curve (AMR). It is manifest from the diagram (iii) that profit maximizing output is OM, for only at OM aggregate marginal revenue is equal to the marginal cost of the whole output. Thus, the discriminating monopolist will decide to produce OM level of output.

Once the total output to be produced has been determined, the next task for the discriminating monopolist is to distribute the total output between the two sub-markets. He will distribute the total output OM in such a way that the marginal revenues in the two sub-markets are equal. The marginal revenues in the two sub-markets must be equal if the profits are to be maximized. If he is so allocating the output into two markets that the marginal revenues in the two are not equal, then it will pay him to transfer some amount from the sub-market in which the marginal revenue is less to the sub-market in which the marginal revenue is greater. Only when the marginal revenues in the two markets are equal, it will be unprofitable for him to shift any amount of the good from one market to the other.

For the discriminating monopolist to be in equilibrium it is essential not only that the marginal revenues in the two sub-markets should be the same but that they should also be equal to the marginal cost of the whole output. Equality of marginal revenues in the two markets with marginal cost of the whole output ensures that the amount sold in the two sub-markets will together be equal to the whole output OM which has been fixed by equalizing aggregate marginal revenue with marginal cost. It will be seen from figure (iii) that at equilibrium output OM, marginal cost is ME.

Now, the output OM has to be distributed in the two markets in such a way that the marginal revenue from them should be equal to the marginal cost (ME) of the whole output. It is clear form the diagram (i) that OM_1 must be sold in the sub-market A, because marginal

© The Institute of Chartered Accountants of India

revenue M_1E_1 at amount OM_1 is equal to marginal cost ME. Similarly, OM_2 must be sold in sub-market B, since marginal revenue M_2E_2 of amount OM_2 is equal to the marginal cost ME of the whole output. To conclude, demand and cost conditions being given, the discriminating monopolist will produce total output OM and will sell amount OM_1 in sub-market A and amount OM_2 in sub-market B. It should be noted that the total output OM will be equal to $OM_1 + OM_2$.

Another important thing which the discriminating monopolist has to discover is what prices will be charged in the two sub-markets. It is clear from the demand curve that amount OM_1 of the good can be sold at price OP_1 in sub-market A. Therefore, price OP_1 will be set in sub-market A. Like wise, amount OM_2 can be sold at price OP_2 in sub-market B. Therefore, price OP_2 will be set in sub-market B. Further, it should be noted that price will be higher in market A where the demand is less elastic than in market B where the demand is more elastic. Thus, price OP_1 is greater than the price OP_2.

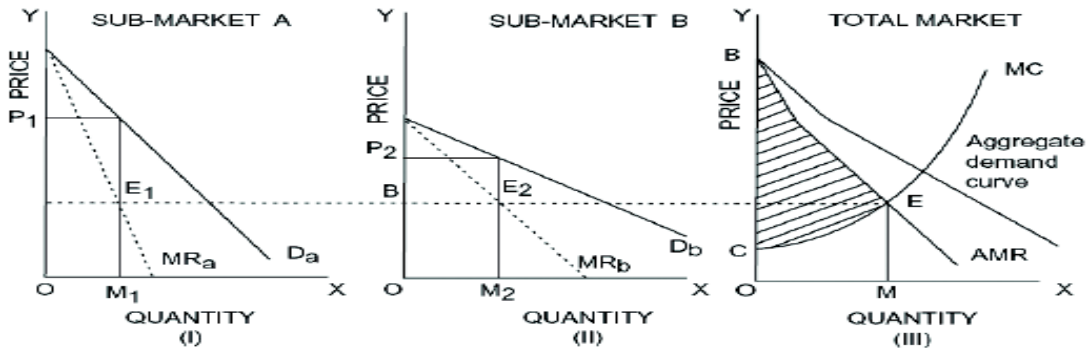


Fig. 28: Fixation of total output and price in the two sub-markets by the discriminating monopolist

Price discrimination is usually resorted to by a monopolist to secure higher profit and to acquire and sustain monopoly power. There is loss of economic welfare as the price paid is higher than marginal cost. Price discrimination also results in reduced consumer surplus. However, there are some favourable outcomes as well. The increase in revenue due to price discrimination will enable some firms to stay in business who otherwise would have made a loss. By peak load pricing, firms having capacity constraints will be able to spread its demand to off-peak times resulting in better capacity utilization and reduction in costs of production. Many essential services (e.g. railways) cannot be profitably run unless price discrimination is followed. Some consumers, especially, poor consumers, will benefit from lower prices as they would not have been able to purchase the good or service if uniform high prices are charged for all consumers.

© The Institute of Chartered Accountants of India

3.1.5 Economic effects of Monopoly

(1) Monopoly is often criticized because it reduces aggregate economic welfare through loss of productive and allocative efficiency.

(2) Monopolists charge substantially higher prices and produce lower levels of output than would exist if the product were produced by competitive firms.

(3) Monopolists earn economic profits in the long run which are unjustifiable.

(4) Monopoly prices exceed marginal costs and therefore reduces consumer surplus. There is a transfer of income from the consumers to the monopolists. Not only that consumers pay higher prices, but they would also not be able to substitute the good or service with a more reasonably priced alternative.

(5) Monopoly restricts consumer sovereignty and consumers' opportunities to choose what they desire.

(6) Monopolists may use unjust means for creating barriers to entry to sustain their monopoly power. They often spend huge amount of money to maintain their monopoly position. This leads increases average total cost of producing a product.

(7) A monopolist having substantial financial resources is in a powerful position to influence the political process in order to obtain favourable legislation.

(8) Very often, monopolists do not have the necessary incentive to introduce efficient innovations that improve product quality and reduce production costs.

(9) Monopolies are able to use their monopoly power to pay lower prices to their suppliers.

(10) The economy is also likely to suffer from 'X' inefficiency, which is the loss of management efficiency associated with markets where competition is limited or absent.

Since monopolies are exploitative and generate undesirable outcomes in the economy, a number of steps are taken by governments to prevent the formation of monopolies and to regulate them if they are already present.

3.2 IMPERFECT COMPETITION - MONOPOLISTIC COMPETITION

Consider the market for soaps and detergents. Among the well known brands on sale are Lux, Vivel, Cinthol, Dettol, Liril, Pears, Lifebuoy Plus, Dove etc. Is this market an example of perfect competition? Since all the soaps are almost similar, one might think that this is an

© The Institute of Chartered Accountants of India

example of perfect competition. But, on a close inspection we find that though these products are technically and functionally similar, each seller produces and sells a product which is different from those of his competitors. For example, whereas Lux is claimed to be a beauty soap, Liril is associated more with freshness. Dettol soap is placed as antiseptic and Dove claims to ensure young smooth skin. The practice of product and service differentiation gives each seller a chance to attract business to himself on some basis other than price. This is the monopolistic part of the market situation. Thus, this market contains features of both the markets discussed earlier – monopoly and perfect competition. In fact, this type of market is more common than pure competition or pure monopoly. The industries in monopolistic competition include clothing, manufacturing and retail trade in large cities. There are many hundreds of grocery shops, shoe stores, stationery shops, restaurants, repair shops, laundries, manufacturers of women's dresses and beauty parlours in a medium sized or large city.

3.2.0 Features of Monopolistic Competition

(i) ***Large number of sellers:*** In a monopolistically competitive market, there are large number of independent firms who individually have a small share in the market.

(ii) ***Product differentiation:*** In a monopolistic competitive market, the products of different sellers are differentiated on the basis of brands. Because competing products are close substitutes, demand is relatively elastic, but not perfectly elastic as in perfect competition. Firms use size, design, colour, shape, performance, features and distinctive packaging and promotional techniques to make their products different. Such differentiation may be true or fancied. Brands are generally so much advertised that a consumer starts associating the brand with a particular manufacturer and a type of brand loyalty is developed. Product differentiation gives rise to an element of monopoly to the producer over the competing products. Because of absence of perfect substitutability, the producer of an individual brand can raise the price of his product knowing that he will not lose all the customers to other brands. However, since all brands are close substitutes of one another; the seller who increases the price of the product will lose some of his customers to his competitors. Thus, this market is a blend of monopoly and perfect competition.

(iii) ***Freedom of entry and exit:*** Barriers to entry are comparatively low and new firms are free to enter the market if they find profit prospects and existing firms are free to quit.

(iv) ***Non-price competition:*** In a monopolistically competitive market, firms are often in fierce competition with other firms offering a similar product or service, and therefore try to compete on bases other than price, for example: they indulge in

© The Institute of Chartered Accountants of India

aggressive advertising, product development, better distribution arrangements, efficient after-sales service and so on. A key base of non-price competition is a deliberate policy of product differentiation. Sellers attempt to promote their products not by cutting prices but by incurring high expenditure on publicity and advertisement and other sales promoting techniques. This is because price competition may result in price – wars which may throw a few firms out of market or reduce the profit margins.

3.2.1 Price-Output Determination under Monopolistic Competition: Equilibrium of a Firm

In a monopolistically competitive market, since the product is differentiated, each firm does not face a perfectly elastic demand for its products. Each firm makes independent decisions about price and output. Each firm is a price maker and is in a position to determine the price of its own product. As such, the firm is faced with a downward sloping demand curve for its product. Generally, the less differentiated the product is from its competitors, the more elastic this curve will be.

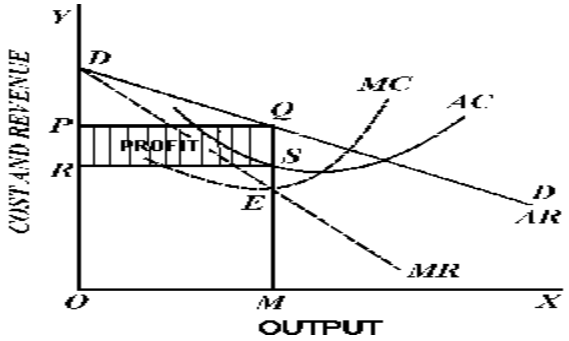


Fig. 29: Short run equilibrium of a firm under monopolistic competition: Supernormal profits

The firm depicted in figure 29 has a downward sloping but flat demand curve for its product. The firm is assumed to have U-shaped short run cost curves.

Conditions for the Equilibrium of an individual firm: The conditions for price-output determination and equilibrium of an individual firm may be stated as follows:

(i) MC = MR

(ii) MC curve must cut MR curve from below.

Figure 29 shows that MC cuts MR curve at E. At E, the equilibrium price is OP and the equilibrium output is OM. Since per unit cost is SM, per unit supernormal profit (i.e. price - cost) is QS (or PR) and the total supernormal profit is PQSR.

© The Institute of Chartered Accountants of India

It is also possible that a monopolistically competitive firm may incur losses in the short run. This is shown in fig. 30. The figure shows that per unit cost (HN) is higher than price OT (or KN) of the product of the firm and the loss per unit is KH (HN-KN). The total loss is GHKT.

What about long run equilibrium of the firm? If the firms in a monopolistically competitive industry earn supernormal profits in the short run, there will be an incentive for new firms to enter the industry. As more firms enter, profits per firm will go on decreasing as the total demand for the product will be shared among a larger number of firms. This will happen till all supernormal profits are wiped away and all firms earn only normal profits. Thus, in the long run all firms under monopolistic competition will earn only normal profits.

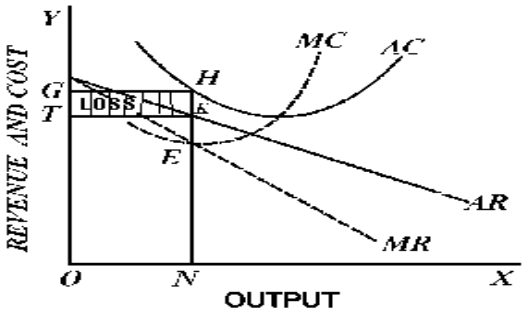


Fig. 30: Short run equilibrium of a firm under Monopolistic Competition – With losses

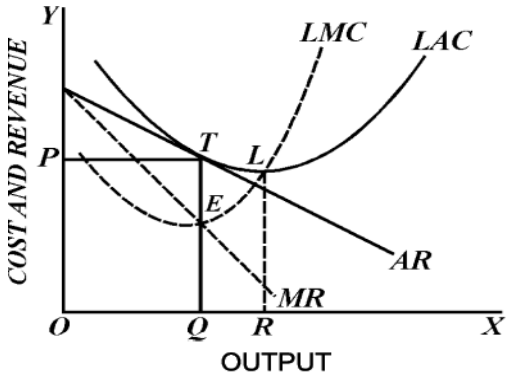


Fig. 31: The long-term equilibrium of a firm in monopolistic competition

Figure 31 shows the long run equilibrium of a firm in a monopolistically competitive market. The average revenue curve touches the average cost curve at point T corresponding to quantity Q and price P. At equilibrium (i.e. MC= MR) supernormal profits are zero, since average revenue equals average costs. All firms are earning zero economic profits or just normal profits.

In case of persisting losses, in the long run, the loss making firms will exit from the market and this will go on till the remaining firms make normal profits only.

It is to be noted that an individual firm which is in equilibrium in the long run, will be operating at levels at which it does not fully realize economies of large scale production. In other words, the plants are not used to optimum capacity. However, any attempt to produce

© The Institute of Chartered Accountants of India

more to secure the advantage of least cost production will be irrational since the price reduction to sell the larger output will exceed the cost reduction made possible. If output is increased up to R in the above figure, we find that average total cost will be greater than average revenue. Thus, a monopolistically competitive firm which is in equilibrium in the long run is at a position where it has excess capacity. That is, it is producing a lower quantity than its full capacity level. The firm in figure 31 could expand its output from Q to R and reduce average costs. But it does not do so because in doing so, the firm would reduce average revenue more than it reduces average costs. It implies that, firms in monopolistic competition are not of optimum size and there exists excess capacity (QR in our example above) of production with each firm.

The following table presents a comparison of the three market forms we have discussed so far:

Table 7: Comparison of Perfect Competition, Monopoly and Monopolistic Competition

Perfect Competition	Monopoly	Monopolistic Competition
Large number of buyers and large number of firms in the industry	Single seller, no difference between firm and industry	Large number of buyers and large number of firms in the industry
Homogenous products which are perfect substitutes	No close substitutes	Differentiated products which are close substitutes, but not perfect substitutes
Insignificant market share	Command over the whole market	Each firm is small relative to the market
Competition among firms is perfect	Absence of competition	Imperfect competition
Complete absence of monopoly	High degree of monopoly power prevails	Some degree of monopoly power due to product differentiation
Free entry and exit	Strong barriers to entry	Free entry and exit
Price-taker	Price maker	Some control over price
Price is equal to marginal cost	Price is higher than marginal cost	Price is higher than marginal cost
Price less than other market forms	High equilibrium price	Price is high compared to perfect competition
Demand curve is infinitely elastic	Downward sloping and highly inelastic demand curve	Downward sloping and more elastic demand curve

© The Institute of Chartered Accountants of India

MR and AR represented by the same curve	MR starts at the same point as AR, and is twice steep when compared to AR	MR starts at the same point as AR, and is twice steep when compared to AR
TR straight line positively sloping through the origin	TR inverted U shaped	TR inverted U shaped
No price discrimination-same price for all units	Can practice price discrimination by selling a product at different prices	Depends on the extent of monopoly power the firm has
No supernormal profits in the long run	Supernormal profits both in the short run and long run	No supernormal profits in the long run
No selling costs	Generally low selling costs, only for informing the consumers	Due to severe competition, selling costs are vital to persuade buyers
Price being given, decides only quantity of output	Decides on both price and output	Decides on both price and output
Product is produced at the minimum average cost	Produced at the declining portion of average cost curve	Produced at the declining portion of average cost curve
Equilibrium quantity is highest and produced at least cost	Equilibrium quantity less than other market forms	Equilibrium quantity less than optimal, there is excess capacity
No consumer exploitation	Consumers can be exploited by charging high prices	Consumers are influenced through price and non price competition
Efficient allocation of resources	Inefficient allocation of resource	Inefficient allocation of resource
No wastage of resources	Wastage of resource	Huge wastage of resources for advertisements

3.3 OLIGOPOLY

We have studied price and output determination under three market forms, namely, perfect competition, monopoly and monopolistic competition. However, in the real world economies we find that many of the industries are oligopolistic. Oligopoly is an important form of imperfect competition. Oligopoly is often described as 'competition among the few'. Prof. Stigler defines oligopoly as that "situation in which a firm bases its market policy, in part, on the expected behaviour of a few close rivals". In other words, when there are few (two to ten) sellers in a market selling homogeneous or differentiated products, oligopoly is

© The Institute of Chartered Accountants of India

said to exist. Oligopolies mostly arise due to those factors which are responsible for the emergence of monopolies. Unlike monopoly where a single firm enjoys absolute market power, under oligopoly a few firms exercise their power to keep possible competitors out.

Consider the example of cold drinks industry or automobile industry. There are a handful firms manufacturing cold drinks in India. Similarly, there are a few firms in the automobile industry in India. Airlines industry, petroleum refining, power generation and supply in most of the parts of the country, mobile telephony and Internet service providers are other examples of oligopolistic market. These industries exhibit some special features which are discussed in the following paragraphs.

GAME THEORY IN OLIGOPOLY

Theory of Games provide a different approach to the analysis of strategic behavior of the oligopolists under uncertainty. It was developed by **Von Neumann and Oskar Morgentern** in 1944. The subject of Games Theory is rational behavior in situations of conflicts- military combat, political rivalry, struggles of firms for sales and profits. Economic theory situations of duopoly and oligopoly often fit into this category.

Oligopolistic firms also select strategies in the face of uncertainty as to how their rivals will respond to their actions.

Types of Oligopoly

Pure Oligopoly or Perfect Oligopoly occurs when the product is homogeneous in nature, e.g. Aluminium industry. This type of oligopoly tends to process raw materials or produce intermediate goods that are used as inputs by other industries. Notable examples are petroleum, steel, and aluminium. Differentiated or imperfect oligopoly occurs when goods sold is based on product differentiation, e.g. Talcum powder.

Open and Closed Oligopoly: In an open oligopoly market new firms can enter the market and compete with the existing firms. But, in closed oligopoly entry is restricted.

Collusive and Competitive Oligopoly: When few firms of the oligopoly market come to a common understanding or act in collusion with each other either in fixing price or output or both, it is collusive oligopoly. When there is absence of such an understanding among the firms and they compete with each other, it is called competitive oligopoly.

Partial or Full Oligopoly: Oligopoly is partial when the industry is dominated by one large firm which is considered or looked upon as the leader of the group. The dominating firm will be the price leader. In full oligopoly, the market will be conspicuous by the absence of price leadership.

Syndicated and Organized Oligopoly: Syndicated oligopoly refers to that situation where the firms sell their products through a centralized syndicate. Organized oligopoly refers to

© The Institute of Chartered Accountants of India

the situation where the firms organize themselves into a central association for fixing prices, output, quotas, etc.

3.3.0 Characteristics of Oligopoly Market

The oligopolistic industry is dominated by a small number of large firms, each of which is comparatively large relative to the total size of the market. These large firms exercise considerable control over the market. An oligopoly market may have a large number of firms along with very large firms, but most of the market share will be enjoyed by the few large firms and therefore they conquer and retain market control. There are strong barriers to entry (refer barriers to entry discussed under monopoly).

Strategic Interdependence: The most important feature of oligopoly is interdependence in decision-making of the few firms which comprise the industry. Since there are only few sellers, there will be intense competition among them. Under oligopoly, each seller is big enough to influence the market. A firm has to necessarily respond to its rivals' actions, and simultaneously the rivals also respond to the firm's actions. This is because when the number of competitors is few, any change in price, output or product by a firm will have direct effect on the fortunes of the rivals who will then retaliate by changing their own prices, output or advertising technique as the case may be. It is, therefore, clear that an oligopolistic firm must consider not only the market demand for its product, but also the reactions of other firms in the industry to any major decision it takes. An oligopoly firm that does not consider its rivals' behaviour or incorrectly assumes them is likely to suffer a setback in its profits.

Importance of advertising and selling costs: A direct effect of interdependence of oligopolists is that the firms have to employ various aggressive and defensive marketing weapons to gain greater share in the market or to maintain their share. For this, firms have to incur a good deal of costs on advertising and other measures of sales promotion. Therefore, there is great importance for advertising and selling costs in an oligopoly market. It is to be noted that firms in such type of market avoid price cutting and try to compete on non-price basis because if they start undercutting one another, a type of price-war will emerge which will drive a few of them out of the market as customers will try to buy from the seller selling at the cheapest price.

Group behaviour: The theory of oligopoly is a theory of group behaviour, not of mass or individual behaviour and to assume profit maximising behaviour on the oligopolists' part may not be very valid. There is no generally accepted theory of group behaviour. The firms may agree to pull together as a group in promotion of their common interest. The group may or may not have a leader. If there is a firm which acts as a leader, it has to get others to follow it. These are some of the concerns of the theory of group behaviour. But one thing is

© The Institute of Chartered Accountants of India

certain. Each oligopolist closely watches the business behaviour of the other oligopolists in the industry and designs his moves on the basis of some assumptions of how they behave or are likely to behave.

3.3.1 Price and Output Decisions in an Oligopolistic Market

Oligopoly, in fact, describes the operation of a number of large corporations in the world. The operations of these markets are characterized by strategic behaviour of a small number of rival firms. As mentioned above, the extent of power as well as profits depends to a great extent on how rival firms react to each other's decisions. If the behaviour is less competitive, that is, if the rival firms behave in a cooperative manner, firms will enjoy market power and can charge prices above marginal cost.

An oligopolistic firm has to behave strategically when it makes a decision about its price. It has to consider whether rival firms will keep their prices and quantities constant, when it makes changes in its price and/or quantity. When an oligopolistic firm changes its price, its rival firms will retaliate or react and change their prices which in turn would affect the demand of the former firm. Therefore, an oligopolistic firm cannot have sure and determinate demand curve, since the demand curve keeps shifting as the rivals change their prices in reaction to the price changes made by it. Now when an oligopolist does not know his demand curve, what price and output he will fix cannot be ascertained by economic analysis. However, economists have established a number of price-output models for oligopoly market depending upon the behaviour pattern of other firms in the market. Different oligopoly settings give rise to different optimal strategies and diverse outcomes. Important oligopoly models are:

(i) It is assumed by some economists that oligopolistic firms ignore their interdependence and make their decisions independently. When interdependence is ignored, the demand curve becomes definite and the equilibrium output is found out by equating marginal cost and marginal revenue.

(ii) Some economists assume that an oligopolist is able to predict the reaction pattern of his competitors and on the basis of his prediction; he makes decisions relating to price and quantity. In Cournot model, the firms' control variable is output in contrast to price. They do not collude. In Stackelberg's model, the leader commits to an output before all other firms. The rest of the firms are followers and they choose their outputs so as to maximize profits, given the leader's output. According to Bertrand model, price is the control variable for firms and each firm independently sets its price in order to maximize profits.

(iii) The third approach is that oligopolists enter into agreement and try to pursue their common interests. They jointly act as a monopoly organization and fix their prices in

© The Institute of Chartered Accountants of India

such a manner that their joint profits are maximized. They will then share the profits, market or output among them as agreed. Entering into collusion or forming a cartel is generally considered illegal because it restricts trade and creates situations which are close to monopoly. However, in reality, we find a number of cartels operating in the world economy who collude formally or in a tacit manner. Organisation of Petroleum Exporting Countries (OPEC) is the best example of such type of agreement among oligopolists.

3.3.2 Price Leadership

Cartels are often formed in industries where there are a few firms, all of which are similar in size. A group of firms that explicitly agree (collude) to coordinate their activities is called a cartel. Most cartels have only a subset of producers. If the participating producers stick to the cartel's agreements, the cartel will have high market power and earn monopoly profits especially when the demand for the product is inelastic.

But it is possible that there is a dominant or a large firm surrounded by a large number of small firms. If these firms are numerous or too unreliable, the large firm has to decide how to set its price, taking into account the behaviour of these fringe firms. One strategy is to adopt a 'live and let live philosophy'. Specifically, the dominant firm accepts the presence of fringe firms and sets the price to maximize its profit, taking into account the fringe firms' behaviour. This is called price-leadership by dominant firm. Another type of price leadership is by a low cost firm. Here, the price leader sets the price in such a manner that it allows some profits to the followers also. Then there could be barometric price leadership under which an old, experienced, largest or most respected firm acts as a leader and assesses the market conditions with regard to the demand, cost, competition etc. and makes changes in price which are best from the view point of all the firms in the industry. Whatever price is charged by the price leader is generally accepted by the follower firms.

Thus, we find that fixing of price under oligopoly is very tricky affair and involves a number of assumptions regarding the behaviour of the oligopolistic group.

3.3.3 Kinked Demand Curve

It has been observed that in many oligopolistic industries prices remain sticky or inflexible for a long time. They tend to change infrequently, even in the face of declining costs. Many explanations have been given for this price rigidity under oligopoly and the most popular

© The Institute of Chartered Accountants of India

explanation is the kinked demand curve hypothesis given by an American economist Paul A. Sweezy. Hence this is called Sweezy's Model.

The demand curve facing an oligopolist, according to the kinked demand curve hypothesis, has a 'kink' at the level of the prevailing price. It is because the segment of the demand curve above the prevailing price level is highly elastic and the segment of the demand curve below the prevailing price level is inelastic. A kinked demand curve dD with a kink at point P is shown in Fig. 32.

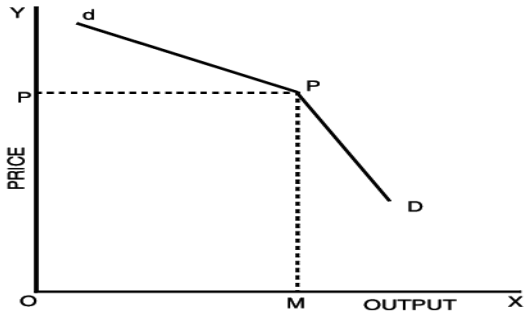


Fig. 32: Kinked Demand Curve under oligopoly

The prevailing price level is MP and the firm produces and sells output OM. Now the upper segment dP of the demand curve dD is relatively elastic and the lower segment PD is relatively inelastic. This difference in elasticities is due to the particular competitive reaction pattern assumed by the kinked demand curve hypothesis. This assumed pattern is :

Each oligopolist believes that if it lowers the price below the prevailing level its competitors will follow him and will accordingly lower prices, whereas if it raises the price above the prevailing level, its competitors will not follow its increase in price.

This is because when an oligopolistic firm lowers the price of its product, its competitors will feel that if they do not follow the price cut, their customers will run away and buy from the firm which has lowered the price. Thus, in order to maintain their customers they will also lower their prices. The lower portion of the demand curve PD is price inelastic showing that very little increase in sales can be obtained by a reduction in price by an oligopolist. On the other hand, if a firm increases the price of its product, there will a substantial reduction in its sales because as a result of the rise in its price, its customers will withdraw from it and go to its competitors which will welcome the new customers and will gain in sales. These happy competitors will have therefore no motivation to match the price rise. The oligopolist who raises its price will lose a great deal and will therefore refrain from increasing price. This behaviour of the oligopolists explains the elastic upper portion of the demand curve (dP) showing a large fall in sales if a producer raises his price. Briefly put, the effect of a price cut on the quantity demanded of the product of an oligopolistic firm depends upon whether its

© The Institute of Chartered Accountants of India

rivals retaliate by cutting their prices. Similarly, the effect of a price increase on the quantity demanded of the oligopolistic firm's product depends upon whether its rivals respond by raising their prices as well.

Each oligopolist will, thus, adhere to the prevailing price seeing no gain in changing it and a kink will be formed at the prevailing price. Thus, rigid or sticky prices are explained by the kinked demand curve theory. Oligopolistic firms often have a strong desire for price stability. Although costs or demand change, oligopolistic firms are reluctant to modify the price set by it.

3.3.4 Other Important Market Forms

Other important market forms are:

Duopoly, a sub set of oligopoly, is a market situation in which there are only two firms in the market.

Monopsony is a market characterized by a single buyer of a product or service and is mostly applicable to factor markets in which a single firm is the only buyer of a factor.

Oligopsony is a market characterized by a small number of large buyers and is mostly relevant to factor markets.

Bilateral monopoly is a market structure in which there is only a single buyer and a single seller i.e. it is a combination of monopoly market and a monopsony market.

SUMMARY

- The features of various types of market form are summarised in the table given below:

Classification of Market Forms

Form of Market Structure		Number of Firms	Nature of product	Price Elasticity of Demand of a firm	Degree of Control over price
(a)	Perfect competition	Large number of firms	Homogeneous	Infinite	None
(b)	Monopoly	One	Unique product without close substitute	Small	Very Considerable

© The Institute of Chartered Accountants of India

(c)	Imperfect Competition				
	i) Monopolistic Competition	Large number of firms	Differentiated products	Large	Some
	ii) Oligopoly	Few Firms	Homogeneous or differentiated product	Small	Some

Perfect Competition

- A market is said to be perfectly competitive if it has large number of buyers and sellers, homogeneous product, free entry and exit, perfect mobility of factors of production, perfect knowledge about the market conditions, insignificant transaction costs, no government interference and absence of collusion.
- A firm is in equilibrium when it's MC = MR and MC curve cuts the MR curve from below.
- In the short run, firms may be earning normal profits, supernormal profits or making losses at the equilibrium price.
- In the long-run all the supernormal profits or losses get wiped away with entry or exit of the firms from the industry and all firms earn only normal profit.
- in the long run, in perfect competition, the market mechanism leads to an optimal allocation of resources.

Monopoly

- Monopoly is an extreme form of imperfect competition with a single seller of a product which has no close substitute.
- Since the monopolist firm is the only producer of a particular product, its demand curve is identical with the market demand curve for the product.
- Since a monopoly firm has market power it has the ability to charge a price above marginal cost and earns a positive economic profit.
- The fundamental cause of monopoly is barriers to entry; in effect other firms cannot enter the market.
- In the long-run, the supernormal profit will be continued because entry is restricted.
- One of the important features of monopoly is price discrimination, i.e. charging different prices for the same product from different buyers.

© The Institute of Chartered Accountants of India

- Price charged will be higher in the market where the demand is less elastic and lower in the market where the demand is more elastic.
- Under the first degree price discrimination, the monopolist separates the market into each individual consumer and charges them the price they are willing and able to pay and thereby extract the entire consumer surplus.
- Under the second degree price discrimination different prices are charged for different quantities of sold.
- Under the third degree price discrimination, price varies by attributes such as location or by customer segment.
- In the absence of competition, the monopolist need not produce at the optimal level.
- Since monopolies are exploitative and generate undesirable outcomes in the economy, a number of steps are taken by governments to regulate and to prevent the formation of monopolies.
- In real life, pure monopolies are not common because monopolies are either regulated or prohibited altogether.

Imperfect Competition

- Imperfect competition is an important category wherein the individual firm exercises control over the price to a smaller or larger degree depending upon the degree of imperfection present.

Monopolistic Competition

- It refers to the market situation in which many producers produce goods which are close substitutes of one another.
- The essential feature of monopolistic competition is the existence of large number of firms, product differentiation, non price competition, high selling costs and freedom of entry and exit of firms.
- In monopolistic competition, the features of monopoly and perfect competition are partially present.
- Demand curve is highly elastic and a firm enjoys some control over the price.
- Firms in monopolistic competition are not of optimum size and there exists excess capacity with each firm.

© The Institute of Chartered Accountants of India

Oligopolistic Competition

- Oligopoly is also referred to as 'competition among the few' as a few big firms produce and compete in this market.
- There are different types of oligopoly like pure and differentiated oligopoly, open and closed oligopoly, collusive and competitive oligopoly, partial and full oligopoly and syndicated and organized oligopoly.
- The main characteristics of oligopoly arestrategic interdependence, importance of advertising and selling costs and group behaviour. Different oligopoly settings give rise to different optimal strategies and diverse outcomes.
- Price-leadership can be by dominant firm, a low cost firm or it can be barometric price leadership.
- A group of firms that explicitly agree (collude) to coordinate their activities is called a cartel.
- Paul A. Sweezy propounded the kinked demand curve model of oligopoly. The price will be kept unchanged for a long time due to fear of retaliation and price tend to be sticky and inflexible.
- Other important market forms are : Duopoly, Monopsony, Oligopsony and Bilateral monopoly.

TEST YOUR KNOWLEDGE

Multiple Choice Questions

1. *In the table below what will be equilibrium market price?*

Price (₹)	***Demand (tonnes per annum)***	***Supply (tonnes per annum)***
1	*1000*	*400*
2	*900*	*500*
3	*800*	*600*
4	*700*	*700*
5	*600*	*800*
6	*500*	*900*
7	*400*	*1000*
8	*300*	*1100*

© The Institute of Chartered Accountants of India

(a) ₹ 2

(b) ₹ 3

(c) ₹ 4

(d) ₹ 5

2. Assume that when price is ₹ 20, the quantity demanded is 9 units, and when price is ₹ 19, the quantity demanded is 10 units. Based on this information, what is the marginal revenue resulting from an increase in output from 9 units to 10 units.

(a) ₹ 20

(b) ₹ 19

(c) ₹ 10

(d) ₹ 1

3. Assume that when price is ₹ 20, the quantity demanded is 15 units, and when price is ₹ 18, the quantity demanded is 16 units. Based on this information, what is the marginal revenue resulting from an increase in output from 15 units to 16 units?

(a) ₹ 18

(b) ₹ 16

(c) –₹ 12

(d) ₹ 28

4. Suppose a firm is producing a level of output such that MR > MC, what should be firm do to maximize its profits?

(a) The firm should do nothing.

(b) The firm should hire less labour.

(c) The firm should increase price.

(d) The firm should increase output.

5. Marginal Revenue is equal to:

(a) The change in price divided by the change in output.

(b) The change in quantity divided by the change in price.

(c) The change in P x Q due to a one unit change in output.

(d) Price, but only if the firm is a price searcher.

© The Institute of Chartered Accountants of India

6. *Suppose that a sole proprietorship is earning total revenues of ₹ 1,00,000 and is incurring explicit costs of ₹ 75,000. If the owner could work for another company for ₹ 30,000 a year, we would conclude that :*

   (a) The firm is incurring an economic loss.

   (b) Implicit costs are ₹ 25,000.

   (c) The total economic costs are ₹ 1,00,000.

   (d) The individual is earning an economic profit of ₹ 25,000.

7. *Which of the following is not an essential condition of pure competition?*

   (a) Large number of buyers and sellers

   (b) Homogeneous product

   (c) Freedom of entry

   (d) Absence of transport cost

8. *What is the shape of the demand curve faced by a firm under perfect competition?*

   (a) Horizontal

   (b) Vertical

   (c) Positively sloped

   (d) Negatively sloped

9. *Which is the first order condition for the profit of a firm to be maximum?*

   (a) AC = MR

   (b) MC = MR

   (c) MR = AR

   (d) AC = AR

10. *Which of the following is not a characteristic of a "price-taker"?*

    (a) TR = P x Q

    (b) AR = Price

    (c) Negatively – sloped demand curve

    (d) Marginal Revenue = Price

11. *Which of the following statements is false?*

    (a) Economic costs include the opportunity costs of the resources owned by the firm.

© The Institute of Chartered Accountants of India

(b) *Accounting costs include only explicit costs.*

(c) *Economic profit will always be less than accounting profit if resources owned and used by the firm have any opportunity costs.*

(d) *Accounting profit is equal to total revenue less implicit costs.*

12. *With a given supply curve, a decrease in demand causes*

(a) *an overall decrease in price but an increase in equilibrium quantity.*

(b) *an overall increase in price but a decrease in equilibrium quantity.*

(c) *an overall decrease in price and a decrease in equilibrium quantity.*

(d) *no change in overall price but a reduction in equilibrium quantity.*

13. *It is assumed in economic theory that*

(a) *decision making within the firm is usually undertaken by managers, but never by the owners.*

(b) *the ultimate goal of the firm is to maximise profits, regardless of firm size or type of business organisation.*

(c) *as the firm's size increases, so do its goals.*

(d) *the basic decision making unit of any firm is its owners.*

14. *Assume that consumers' incomes and the number of sellers in the market for good A both decrease. Based upon this information, we can conclude, with certainty, that the equilibrium:*

(a) *price will increase.*

(b) *price will decrease.*

(c) *quantity will increase.*

(d) *quantity will decrease.*

15. *If supply increases in a greater proportion than demand*

(a) *The new equilibrium price and quantity will be greater than the original equilibrium price and quantity.*

(b) *The new equilibrium price will be greater than the original equilibrium price but equilibrium quantity will be higher.*

(c) *The new equilibrium price and quantity will be lower than the original equilibrium price and quantity.*

© The Institute of Chartered Accountants of India

(d) *The new equilibrium price will be lower than the original equilibrium and the new equilibrium quantity will be higher.*

16. *Assume that in the market for good Z there is a simultaneous increase in demand and the quantity supplied. The result will be:*

(a) *an increase in equilibrium price and quantity.*

(b) *a decrease in equilibrium price and quantity.*

(c) *an increase in equilibrium quantity and uncertain effect on equilibrium price.*

(d) *a decrease in equilibrium price and increase in equilibrium quantity.*

17. *Suppose the technology for producing personal computers improves and, at the same time, individuals discover new uses for personal computers so that there is greater utilisation of personal computers. Which of the following will happen to equilibrium price and equilibrium quantity?*

(a) *Price will increase; quantity cannot be determined.*

(b) *Price will decrease; quantity cannot be determined.*

(c) *Quantity will increase; price cannot be determined.*

(d) *Quantity will decrease; price cannot be determined.*

18. *Which of the following is not a condition of perfect competition?*

(a) *A large number of firms.*

(b) *Perfect mobility of factors.*

(c) *Informative advertising to ensure that consumers have good information.*

(d) *Freedom of entry and exit into and out of the market.*

19. *Which of the following is not a characteristic of a perfectly competitive market?*

(a) *Large number of firms in the industry.*

(b) *Outputs of the firms are perfect substitutes for one another.*

(c) *Firms face downward-sloping demand curves.*

(d) *Resources are very mobile.*

20. *Which of the following is not a characteristic of monopolistic competition?*

(a) *Ease of entry into the industry.*

(b) *Product differentiation.*

(c) *A relatively large number of sellers.*

© The Institute of Chartered Accountants of India

(d) *A homogeneous product.*

21. *Monopoly may arise in a product market because*

(a) *A significantly important resource for the production of the commodity is owned by a single firm.*

(b) *The government has given the firm patent right to produce the commodity.*

(c) *The costs of production and economies of scale makes production by a single producer more efficient.*

(d) *All the above.*

22. *Oligopolistic industries are characterized by:*

(a) *a few dominant firms and substantial barriers to entry.*

(b) *a few large firms and no entry barriers.*

(c) *a large number of small firms and no entry barriers.*

(d) *one dominant firm and low entry barriers.*

23. *Price-taking firms, i.e., firms that operate in a perfectly competitive market, are said to be "small" relative to the market. Which of the following best describes this smallness?*

(a) *The individual firm must have fewer than 10 employees.*

(b) *The individual firm faces a downward-sloping demand curve.*

(c) *The individual firm has assets of less than ₹ 20 lakhs.*

(d) *The individual firm is unable to affect market price through its output decisions.*

24. *For a price-taking firm:*

(a) *marginal revenue is less than price.*

(b) *marginal revenue is equal to price.*

(c) *marginal revenue is greater than price.*

(d) *the relationship between marginal revenue and price is indeterminate.*

25. *Monopolistic competition differs from perfect competition primarily because*

(a) *in monopolistic competition, firms can differentiate their products.*

(b) *in perfect competition, firms can differentiate their products.*

(c) *in monopolistic competition, entry into the industry is blocked.*

(d) *in monopolistic competition, there are relatively few barriers to entry.*

© The Institute of Chartered Accountants of India

26. *The long-run equilibrium outcomes in monopolistic competition and perfect competition are similar, because in both market structures*

(a) *the efficient output level will be produced in the long run.*

(b) *firms will be producing at minimum average cost.*

(c) *firms will only earn a normal profit.*

(d) *firms realise all economies of scale.*

27. *Which of the following is the distinguishing characteristic of oligopolies?*

(a) *A standardized product*

(b) *The goal of profit maximization*

(c) *The interdependence among firms*

(d) *Downward-sloping demand curves faced by firms.*

28. *In which form of the market structure is the degree of control over the price of its product by a firm very large?*

(a) *Monopoly*

(b) *Imperfect Competition*

(c) *Oligopoly*

(d) *Perfect competition*

29. *Average revenue curve is also known as:*

(a) *Profit Curve*

(b) *Demand Curve*

(c) *Average Cost Curve*

(d) *Indifference Curve*

30. *Under which of the following forms of market structure does a firm have no control over the price of its product?*

(a) *Monopoly*

(b) *Monopolistic competition*

(c) *Oligopoly*

(d) *Perfect competition*

© The Institute of Chartered Accountants of India

31. *Discriminating monopoly implies that the monopolist charges different prices for his commodity:*

    (a) from different groups of consumers

    (b) for different uses

    (c) at different places

    (d) any of the above.

32. *Price discrimination will be profitable only if the elasticity of demand in different sub-markets is:*

    (a) uniform

    (b) different

    (c) less

    (d) zero

33. *In the context of oligopoly, the kinked demand hypothesis is designed to explain*

    (a) Price and output determination

    (b) Price rigidity

    (c) Price leadership

    (d) Collusion among rivals.

34. *The firm in a perfectly competitive market is a price-taker. This designation as a price-taker is based on the assumption that -*

    (a) the firm has some, but not complete, control over its product price.

    (b) there are so many buyers and sellers in the market that any individual firm cannot affect the market.

    (c) each firm produces a homogeneous product.

    (d) there is easy entry into or exit from the market place.

35. *Suppose that the demand curve for the XYZ Co. slopes downward and to the right. We can conclude that*

    (a) the firm operates in a perfectly competitive market.

    (b) the firm can sell all that it wants to at the established market price.

    (c) the XYZ Co. is not a price-taker in the market because it must lower price to sell additional units of output.

© The Institute of Chartered Accountants of India

(d) *the XYZ Co. will not be able to maximise profits because price and revenue are subject to change.*

36. *If firms in the toothpaste industry have the following market shares, which market structure would best describe the industry?*

Market share	*(% of market)*
Toothpaste	*18.7*
Dentipaste	*14.3*
Shinibright	*11.6*
I can't believe its not toothpaste	*9.4*
Brighter than white	*8.8*
Pastystuff	*7.4*
Others	*29.8*

(a) *Perfect competition.*

(b) *Monopolistic competition.*

(c) *Oligopoly.*

(d) *Monopoly.*

37. *The kinked demand curve model of oligopoly assumes that*

(a) *the response (of consumers) to a price increase is less than the response to a price decrease.*

(b) *the response (of consumers) to a price increase is more than the response to a price decrease.*

(c) *the elasticity of demand is constant regardless of whether price increases or decreases.*

(d) *the elasticity of demand is perfectly elastic if price increases and perfectly inelastic if price decreases.*

38. *A firm encounters its "shutdown point" when:*

(a) *average total cost equals price at the profit-maximising level of output.*

(b) *average variable cost equals price at the profit-maximising level of output.*

(c) *average fixed cost equals price at the profit-maximising level of output.*

(d) *marginal cost equals price at the profit-maximising level of output.*

© The Institute of Chartered Accountants of India

39. *Suppose that, at the profit-maximizing level of output, a firm finds that market price is less than average total cost, but greater than average variable cost. Which of the following statements is correct?*

    (a) The firm should shutdown in order to minimise its losses.

    (b) The firm should raise its price enough to cover its losses.

    (c) The firm should move its resources to another industry.

    (d) The firm should continue to operate in the short run in order to minimize its losses.

40. *When price is less than average variable cost at the profit-maximising level of output, a firm should:*

    (a) produce where marginal revenue equals marginal cost if it is operating in the short run.

    (b) produce where marginal revenue equals marginal cost if it is operating is the long run.

    (c) shut down, since it will lose nothing in that case.

    (d) shut down, since it cannot even cover its variable costs if it stays in business.

41. *A purely competitive firm's supply schedule in the short run is determined by*

    (a) its average revenue.

    (b) its marginal revenue.

    (c) its marginal utility for money curve.

    (d) its marginal cost curve.

42. *One characteristic not typical of oligopolistic industry is*

    (a) horizontal demand curve.

    (b) too much importance to non-price competition.

    (c) price leadership.

    (d) a small number of firms in the industry.

43. *The structure of the toothpaste industry in India is best described as*

    (a) perfectly competitive.

    (b) monopolistic.

    (c) monopolistically competitive.

© The Institute of Chartered Accountants of India

(d) oligopolistic.

44. The structure of the cold drink industry in India is best described as

(a) perfectly competitive.

(b) monopolistic.

(c) monopolistically competitive.

(d) oligopolistic.

45. Which of the following statements is incorrect?

(a) Even a monopolistic firm can have losses.

(b) Firms in a perfectly competitive market are price takers.

(c) It is always beneficial for a firm in a perfectly competitive market to discriminate prices.

(d) Kinked demand curve is related to an oligopolistic market.

46. Under perfect competition, in the long run, there will be no _____ .

(a) normal profits

(b) supernormal profits.

(c) production

(d) costs.

47. When _____, we know that the firms are earning just normal profits.

(a) AC = AR

(b) MC = MR

(c) MC = AC

(d) AR = MR

48. When _____, we know that the firms under perfect competition must be producing at the minimum point of the average cost curve and so there will be productive efficiency.

(a) AC = AR

(b) MC = AC

(c) MC = MR

© The Institute of Chartered Accountants of India

(d) *AR = MR*

49. *When _____, there will be allocative efficiency meaning thereby that the cost of the last unit is exactly equal to the price consumers are willing to pay for it and so that the right goods are being sold to the right people at the right price.*

(a) *MC = MR*

(b) *MC = AC*

(c) *MC = AR*

(d) *AR = MR*

50. *Agricultural goods markets depict characteristics close to*

(a) *perfect competition.*

(b) *oligopoly.*

(c) *monopoly.*

(d) *monopolistic competition.*

51. *Which of the following is not a characteristic of a competitive market?*

(a) *There are many buyers and sellers in the market.*

(b) *The goods offered for sales are largely the same.*

(c) *Firms generate small but positive supernormal profits in the long run.*

(d) *Firms can freely enter or exit the market.*

52. *Which of the following markets would most closely satisfy the requirements for a perfectly competitive market?*

(a) *Electricity*

(b) *Cable television*

(c) *Cola*

(d) *Milk*

53. *Which of the following statements is accurate regarding a perfectly competitive firm?*

(a) *Demand curve is downward sloping*

(b) *The demand curve always lies above the marginal revenue curve*

(c) *Average revenue need not be equal to price*

(d) *Price is given and is determined by the equilibrium in the entire market*

© The Institute of Chartered Accountants of India

54. *The market for hand tools (such as hammers and screwdrivers) is dominated by Draper, Stanley, and Craftsman. This market is best described as*

(a) *Monopolistically competitive*

(b) *a monopoly*

(c) *an oligopoly*

(d) *perfectly competitive*

55. *A market structure in which many firms sell products that are similar but not identical is known as*

(a) *monopolistic competition*

(b) *monopoly*

(c) *perfect competition*

(d) *oligopoly*

56. *When an oligopolist individually chooses its level of production to maximize its profits, it charges a price that is*

(a) *more than the price charged by either monopoly or a competitive market*

(b) *less than the price charged by either monopoly or a competitive market*

(c) *more than the price charged by a monopoly and less than the price charged by a competitive market*

(d) *less than the price charged by a monopoly and more than the price charged by a competitive market.*

57. *In the long-run equilibrium of a competitive market, firms operate at*

(a) *the intersection of the marginal cost and marginal revenue*

(b) *their efficient scale*

(c) *zero economic profit*

(d) *all of these answers are correct*

58. *Which of the following is not a characteristic of a monopolistically competitive market?*

(a) *Free entry and exit*

(b) *Abnormal profits in the long run*

(c) *Many sellers*

(d) *Differentiated products*

© The Institute of Chartered Accountants of India

59. *In a very short period market:*

(a) *the supply is fixed*

(b) *the demand is fixed*

(c) *demand and supply are fixed*

(d) *none of the above*

60. *Time element was conceived by*

(a) *Adam Smith*

(b) *Alfred Marshall*

(c) *Pigou*

(d) *Lionel Robinson*

61. *Total revenue =*

(a) *price × quantity*

(b) *price × income*

(c) *income × quantity*

(d) *none of the above*

62. *Average revenue is the revenue earned*

(a) *per unit of input*

(b) *per unit of output*

(c) *different units of input*

(d) *different units of output*

63. *AR can be symbolically written as:*

(a) *MR / Q*

(b) *Price × quantity*

(c) *TR / Q*

(d) *none of the above*

64. *AR is also known as:*

(a) *price*

© The Institute of Chartered Accountants of India

(b) *income*

(c) *revenue*

(d) *none of the above*

65. *Marginal revenue can be defined as the change in total revenue resulting from the:*

(a) *purchase of an additional unit of a commodity*

(b) *sales of an additional unit of a commodity*

(c) *sale of subsequent units of a product*

(d) *none of the above*

66. *When e > 1 then MR is*

(a) *zero*

(b) *negative*

(c) *positive*

(d) *one*

67. *When e = 1 then MR is*

(a) *positive*

(b) *zero*

(c) *one*

(d) *negative*

68. *When e < 1 then MR is*

(a) *negative*

(b) *zero*

(c) *positive*

(d) *one*

69. *In Economics, the term 'market' refers to a:*

(a) *place where buyer and seller bargain a product or service for a price*

(b) *place where buyer does not bargain*

(c) *place where seller does not bargain*

© The Institute of Chartered Accountants of India

(d) none of the above

70. Under perfect competition a firm is the _____

(a) price-maker and not price-taker

(b) price-taker and not price-maker

(c) neither price-maker nor price-taker

(d) none of the above

71. A Monopolist is a

(a) price-maker

(b) price-taker

(c) price-adjuster

(d) none of the above

72. Price discrimination is one of the features of _____

(a) monopolistic competition

(b) monopoly

(c) perfect competition

(d) oligopoly

73. Under monopoly, the degree of control over price is:

(a) none

(b) some

(c) very considerable

(d) none of the above

74. Generally, perishable goods like butter, eggs, milk, vegetables etc., will have

(a) regional market

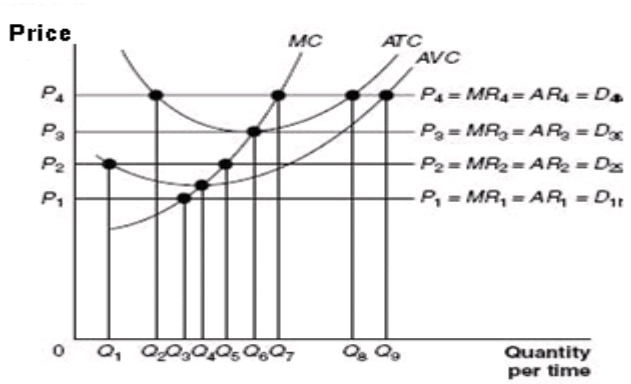
(b) local market

(c) national market

(d) none of the above

© The Institute of Chartered Accountants of India

75. *At price P_1, the firm in the figure would produce*



(a) *Zero output*

(b) Q_3.

(c) Q_5.

(d) Q_6.

76. *Secular period is also known as*

(a) *very short period*

(b) *short period*

(c) *very long period*

(d) *long period*

77. *Stock exchange market is an example of*

(a) *unregulated market*

(b) *regulated market*

(c) *spot market*

(d) *none of the above*

78. *The market for the ultimate consumers is known as*

(a) *whole sale market*

(b) *regulated market*

(c) *unregulated market*

(d) *retail market*

© The Institute of Chartered Accountants of India

79. *The condition for pure competition is*

(a) *large number of buyer and seller, free entry and exist*

(b) *homogeneous product*

(c) *both (a) and (b)*

(d) *large number of buyer and seller, homogeneous product, perfect knowledge about the product*

80. *Pure oligopoly is based on the _____ products*

(a) *differentiated*

(b) *homogeneous*

(c) *unrelated*

(d) *none of the above*

81. *In oligopoly, when the industry is dominated by one large firm which is considered as leader of the group, Then it is called:*

(a) *full oligopoly*

(b) *collusive oligopoly*

(c) *partial oligopoly*

(d) *syndicated oligopoly*

82. *When the products are sold through a centralized body, oligopoly is known as*

(a) *organized oligopoly*

(b) *partial oligopoly*

(c) *competitive oligopoly*

(d) *syndicated oligopoly*

83. *When the monopolist divides the consumers into separate sub markets and charges different prices in different sub-markets it is known as*

(a) *first degree of price discrimination*

(b) *second degree of price discrimination*

(c) *third degree of price discrimination*

(d) *none of the above.*

© The Institute of Chartered Accountants of India

84. *Under _____ the monopolist will fix a price which will take away the entire consumers' surplus.*

(a) *second degree of price discrimination*

(b) *first degree of price discrimination*

(c) *third degree of price discrimination*

(d) *none of the above.*

85. *Price discrimination is related to*

(a) *time*

(b) *size of the purchase*

(c) *income*

(d) *any of the above*

86. *The firm and the industry are one and the same in _____*

(a) *Perfect competition*

(b) *Monopolistic competition*

(c) *Duopoly*

(d) *Monopoly*

87. *The demand curve of a monopoly firm will be _____*

(a) *Upward sloping*

(b) *Downward sloping*

(c) *Horizontal*

(d) *Vertical*

88. *If the average cost is higher than the average revenue then the firm incurs _____*

(a) *Normal profit*

(b) *Abnormal profit*

(c) *Loss*

(d) *No profit, no loss*

89. *Which of the following statements is correct?*

(a) *Price rigidity is an important feature of monopoly.*

(b) *Selling costs are possible under perfect competition.*

© The Institute of Chartered Accountants of India

(c) *Under perfect competition factors of production do not move freely as there are legal restrictions.*

(d) *An industry consists of many firms.*

90. *Which of the following statements is incorrect?*

(a) *Under monopoly there is no difference between a firm and an industry.*

(b) *A monopolist may restrict the output and raise the price.*

(c) *Commodities offered for sale under a perfect competition will be heterogeneous.*

(d) *Product differentiation is peculiar to monopolistic competition.*

91. *For market the essential condition is –*

(a) *A particular geographical place*

(b) *Control of the government*

(c) *Close contact between buyers and sellers*

(d) *None of these*

92. *Assume that when Price is ₹ 10, the quantity demanded is 5 units and when Price is ₹ 12 the quantity demanded is 4 units. Based on this information, what is the Marginal Revenue resulting from increase in output from 4 units to 5 units.*

(a) *₹ 5*

(b) *₹ 4*

(c) *₹ 2*

(d) *₹ 3*

93. *Average revenue is equal to.*

(a) *The change in P & Q due to a one unit change in output.*

(b) *Nothing but price of one unit of output.*

(c) *The change in quantity divided by change in price.*

(d) *Graphically it denotes the firm's supply curve.*

94. *Example of a commodity said to have an International Market.*

(a) *Perishable Goods.*

(b) *High Value and Small Bulk Commodities.*

(c) *Product whose trading is restricted by government.*

© The Institute of Chartered Accountants of India

(d) *Bulky Articles.*

95. *Weekly market is example of _____ Market:*

(a) *Regulated Market*

(b) *Spot Market*

(c) *Forward Market*

(d) *Unregulated Market*

96 *Conditions for equilibrium of a firm are:*

(a) *MR = MC*

(b) *MC should cut MR from below.*

(c) *MR = AR and MC should cut MR from below.*

(d) *MR = MC and MC should have a positive slope.*

97 *Natural Monopoly arises when*

(a) *There is enormous goodwill enjoyed by a firm.*

(b) *There are stringent legal and regulatory requirement.*

(c) *There are very large Economies of Scale.*

(d) *There are Business Combinations and Cartels.*

98 *Price Discrimination cannot persist under the following market form:*

(a) *Perfect Competition*

(b) *Monopoly*

(c) *Monopolistic*

(d) *Oligopoly*

99. *Sweezy's Model explains the concept of price rigidity relating to following market form:*

(a) *Oligopoly Market*

(b) *Perfect Competition Market*

(c) *Monopoly Market*

(d) *Monopolistic Market*

100. *Combination of Monopoly Market and Monopsony Market is called as:*

(a) *Duopoly Market*

© The Institute of Chartered Accountants of India

(b) *Oligopoly Market*

(c) *Bilateral Monopoly Market*

(d) *Monopolistic Market*

101. *Price varies by attributes such as location or by Customer Segment is _____ degree of Price Discrimination.*

(a) *First*

(b) *Second*

(c) *Third*

(d) *Fourth*

ANSWERS

1.	**(c)**	2.	**(c)**	3.	**(c)**	4.	**(d)**	5.	**(c)**	6.	**(a)**
7.	**(d)**	8.	**(a)**	9.	**(b)**	10.	**(c)**	11.	**(d)**	12.	**(c)**
13.	**(b)**	14.	**(d)**	15.	**(d)**	16.	**(c)**	17.	**(c)**	18.	**(c)**
19.	**(c)**	20.	**(d)**	21.	**(d)**	22.	**(a)**	23.	**(d)**	24.	**(b)**
25.	**(a)**	26.	**(c)**	27.	**(c)**	28.	**(a)**	29.	**(b)**	30.	**(d)**
31.	**(d)**	32.	**(b)**	33.	**(b)**	34.	**(b)**	35.	**(c)**	36.	**(c)**
37.	**(b)**	38.	**(b)**	39.	**(d)**	40.	**(d)**	41.	**(d)**	42.	**(a)**
43.	**(c)**	44.	**(d)**	45.	**(c)**	46.	**(b)**	47.	**(a)**	48.	**(b)**
49	**(c)**	50.	**(a)**	51.	**(c).**	52.	**(d)**	53.	**(d)**	54.	**(c)**
55.	**(a)**	56.	**(d)**	57.	**(d)**	58.	**(b)**	59.	**(a)**	60.	**(b)**
61.	**(a)**	62.	**(b)**	63.	**(c)**	64.	**(a)**	65.	**(b)**	66.	**(c)**
67.	**(b)**	68.	**(a)**	69.	**(a)**	70.	**(b)**	71.	**(a)**	72.	**(b)**
73.	**(c)**	74.	**(b)**	75.	**(a)**	76.	**(c)**	77.	**(b)**	78.	**(d)**
79.	**(c)**	80.	**(b)**	81.	**(c)**	82.	**(d)**	83.	**(c)**	84	**(b)**
85.	**(d)**	86.	**(d)**	87.	**(b)**	88.	**(c)**	89.	**(d)**	90.	**(c)**
91.	**(c)**	92	**(c)**	93	**(b)**	94	**(b)**	95	**(d)**	96	**(d)**
97	**(c)**	98	**(a)**	99	**(a)**	100	**(c)**	101	**(c)**		

© The Institute of Chartered Accountants of India

CHAPTER 5

BUSINESS CYCLES

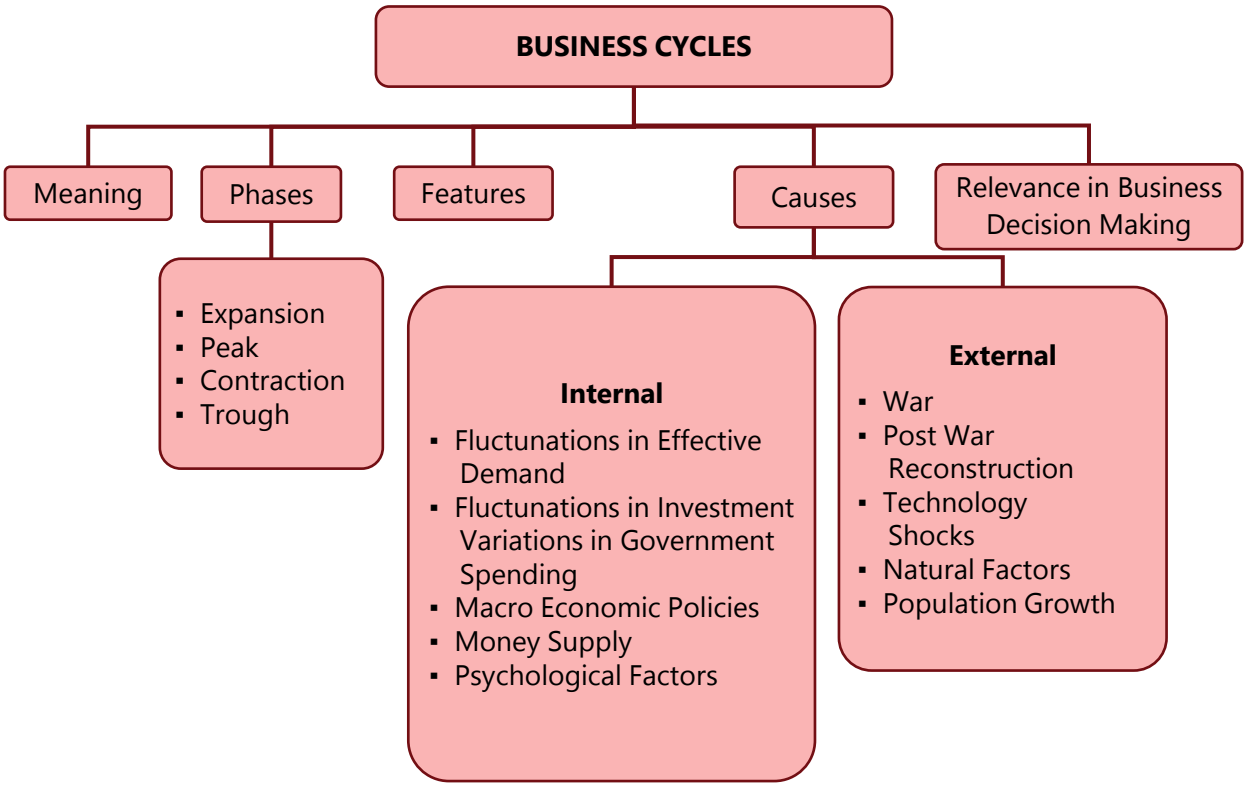
LEARNING OUTCOMES

After studying this unit, you would be able to:

- Explain the Meaning of Business Cycles.
- Describe the Different Phases of Business Cycles.
- Explain the Features of Business Cycles.
- Explain the General Causes behind these Cycles.
- Elucidate the relevance of Business Cycles in Business Decision Making.

© The Institute of Chartered Accountants of India

CHAPTER OVERVIEW



5.0 INTRODUCTION

Consider the following:

1. During 1920s, UK saw rapid growth in Gross Domestic Product (GDP), production levels and living standards. The growth was fuelled by new technologies and production processes such as the assembly line. The economic growth also caused an unprecedented rise in stock market values.
2. China's recent economic slowdown and financial mayhem are fostering a cycle of decline and panic across much of the world, as countries of nearly every continent see escalating risks of prolonged slumps, political disruption and financial losses.

What are these? These are examples of business cycles. The first example shows that the UK economy was going through boom during 1920s while the second example of the recent slowdown in China indicates the beginning of a recessionary phase.

© The Institute of Chartered Accountants of India

We have seen in chapter 1 that Economics is concerned with fluctuations in economic activities. The economic history of nearly all countries point towards the fact that they have gone through fluctuations in economic activities i.e. there have been periods of prosperity alternating with periods of economic downturns. These rhythmic fluctuations in aggregate economic activity that an economy experiences over a period of time are called business cycles or trade cycles. A trade cycle is composed of periods of good trade characterised by rising prices and low unemployment percentage, altering with periods of bad trade characterised by falling prices and high unemployment percentages. In other words, business cycle refers to alternate expansion and contraction of overall business activity as manifested in fluctuations in measures of aggregate economic activity, such as, gross national product, employment and income.

A noteworthy characteristic of these economic fluctuations is that they are recurrent and occur periodically. That is, they occur again and again but not always at regular intervals, nor are they of the same length. It has been observed that some business cycles have been long, lasting for several years while others have been short ending in two to three years.

5.1 PHASES OF BUSINESS CYCLE

We have seen above that business cycles or the periodic booms and slumps in economic activities reflect the upward and downward movements in economic variables. A typical business cycle has four distinct phases. These are:

1. Expansion (also called Boom or Upswing)
2. Peak or boom or Prosperity
3. Contraction (also called Downswing or Recession)
4. Trough or Depression

The four phases of business cycle are shown in Figure 1. The broken line (marked 'trend') represents the steady growth line or the growth of the economy when there are no business cycles. The figure starts with 'trough' when the overall economic activities i.e. production and employment, are at the lowest level. As production and employment expand, the economy revives, and it moves into the expansion path. However, since expansion cannot go on indefinitely, after reaching the 'peak', the economy starts contracting. The contraction or downturn continues till it reaches the lowest turning point i.e. 'trough'. However, after remaining at this point for some time, the economy revives again and a new cycle starts.

© The Institute of Chartered Accountants of India

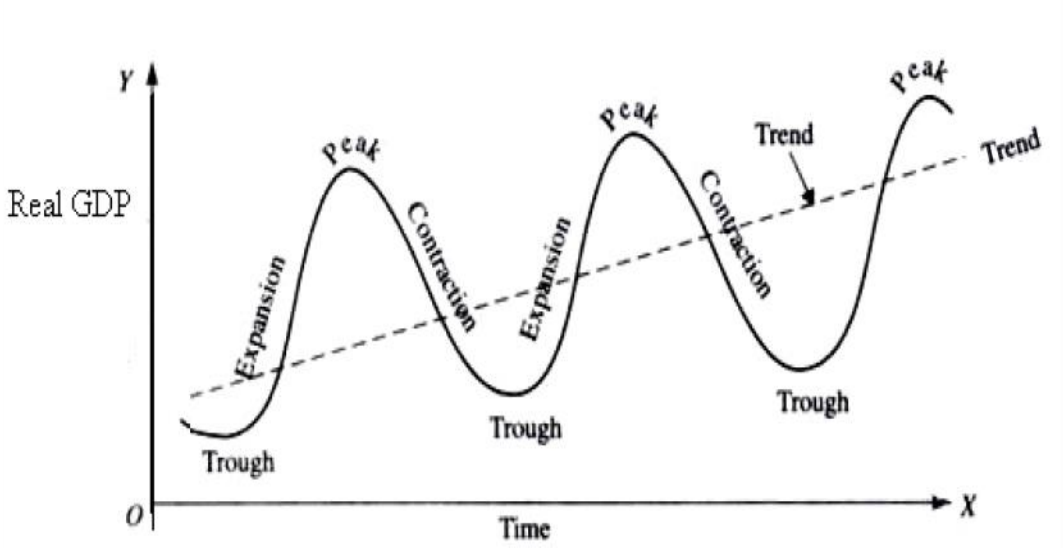


Figure 1 Phases of Business Cycle

- **Expansion:** The expansion phase is characterised by increase in national output, employment, aggregate demand, capital and consumer expenditure, sales, profits, rising stock prices and bank credit. This state continues till there is full employment of resources and production is at its maximum possible level using the available productive resources. Involuntary unemployment is almost zero and whatever unemployment is there is either frictional (i.e. due to change of jobs, or suspended work due to strikes or due to imperfect mobility of labour) or structural (i.e. unemployment caused due to structural changes in the economy). Prices and costs also tend to rise faster. Good amounts of net investment occur, and demand for all types of goods and services rises. There is altogether increasing prosperity and people enjoy high standard of living due to high levels of consumer spending, business confidence, production, factor incomes, profits and investment. The growth rate eventually slows down and reaches its peak.

- **Peak:** The term peak refers to the top or the highest point of the business cycle. In the later stages of expansion, inputs are difficult to find as they are short of their demand and therefore input prices increase. Output prices also rise rapidly leading to increased cost of living and greater strain on fixed income earners. Consumers begin to review their consumption expenditure on housing, durable goods etc. Actual demand stagnates. This is the end of expansion and it occurs when economic growth has reached a point where it will stabilize for a short time and then move in the reverse direction.

© The Institute of Chartered Accountants of India

- **Contraction:** The economy cannot continue to grow endlessly. As mentioned above, once peak is reached, increase in demand is halted and starts decreasing in certain sectors. During contraction, there is fall in the levels of investment and employment. Producers do not instantaneously recognise the pulse of the economy and continue anticipating higher levels of demand, and therefore, maintain their existing levels of investment and production. The consequence is a discrepancy or mismatch between demand and supply. Supply far exceeds demand. Initially, this happens only in few sectors and at a slow pace, but rapidly spreads to all sectors. Producers being aware of the fact that they have indulged in excessive investment and over production, respond by holding back future investment plans, cancellation and stoppage of orders for equipments and all types of inputs including labour. This in turn generates a chain of reactions in the input markets and producers of capital goods and raw materials in turn respond by cancelling and curtailing their orders. This is the turning point and the beginning of recession.

  Decrease in input demand pulls input prices down; incomes of wage and interest earners gradually decline resulting in decreased demand for goods and services. Producers lower their prices in order to dispose off their inventories and for meeting their financial obligations. Consumers, in their turn, expect further decreases in prices and postpone their purchases. With reduced consumer spending, aggregate demand falls, generally causing fall in prices. The discrepancy between demand and supply gets widened further. This process gathers speed and recession becomes severe. Investments start declining; production and employment decline resulting in further decline in incomes, demand and consumption of both capital goods and consumer goods. Business firms become pessimistic about the future state of the economy and there is a fall in profit expectations which induces them to reduce investments. Bank credit shrinks as borrowings for investment declines, investor confidence is at its lowest, stock prices fall and unemployment increases despite fall in wage rates. The process of recession is complete and the severe contraction in the economic activities pushes the economy into the phase of depression.

- **Trough and Depression:** Depression is the severe form of recession and is characterized by extremely sluggish economic activities. During this phase of the business cycle, growth rate becomes negative and the level of national income and expenditure declines rapidly. Demand for products and services decreases, prices are at their lowest and decline rapidly forcing firms to shutdown several production facilities. Since companies are unable to sustain their work force, there is mounting unemployment which leaves the consumers with very little disposable income. A typical feature of depression is the fall in the interest rate. With lower rate of interest,

© The Institute of Chartered Accountants of India

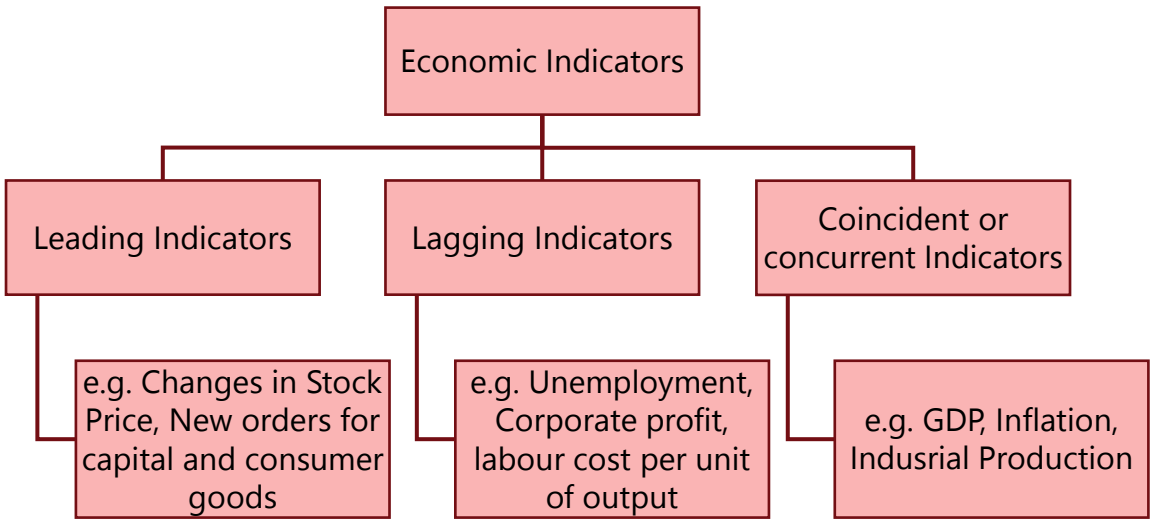
people's demand for holding liquid money (i.e. in cash) increases. Despite lower interest rates, the demand for credit declines because investors' confidence has fallen. Often, it also happens that the availability of credit also falls due to possible banking or financial crisis. Industries, especially capital and consumer durable goods industry, suffer from excess capacity. Large number of bankruptcies and liquidation significantly reduce the magnitude of trade and commerce. At the depth of depression, all economic activities touch the bottom and the phase of trough is reached. It is a very agonizing period causing lots of distress for all. The great depression of 1929-33 is still cited for the enormous misery and human sufferings it caused.

Recovery: The economy cannot continue to contract endlessly. It reaches the lowest level of economic activity called trough and then starts recovering. Trough generally lasts for some time and marks the end of pessimism and the beginning of optimism. This reverses the process. The process of reversal is initially felt in the labour market. Pervasive unemployment forces the workers to accept wages lower than the prevailing rates. The producers anticipate lower costs and better business environment. A time comes when business confidence takes off and gets better, consequently they start to invest again and to build stocks; the banking system starts expanding credit; technological advancements require fresh investments into new types of machines and capital goods; employment increases, aggregate demand picks up and prices gradually rise. Besides, price mechanism acts as a self-correcting process in a free enterprise economy. The spurring of investment causes recovery of the economy. This acts as a turning point from depression to expansion. As investment rises, production increases, employment improves, income improves and consumers begin to increase their expenditure. Increased spending causes increased aggregate demand and in order to fulfil the demand more goods and services are produced. Employment of labour increases, unemployment falls and expansion takes place in the economic activity.

It is to be reemphasized that no economy follows a perfectly timed cycle and that the business cycles are anything but regular. They vary in intensity and length. There is no set pattern which they follow. Some cycles may have longer periods of boom, others may have longer period of depression.

It is very difficult to predict the turning points of business cycles. Economists use changes in a variety of activities to measure the business cycle and to predict where the economy is headed towards. These are called indicators. The types of indicators are shown in the chart -

© The Institute of Chartered Accountants of India



A leading indicator is a measurable economic factor that changes before the economy starts to follow a particular pattern or trend. In other words, those variables that change before the real output changes are called 'Leading indicators'. Leading indicators often change prior to large economic adjustments. For example, changes in stock prices, profit margins and profits, indices such as housing, interest rates and prices are generally seen as precursors of upturns or downturns. Similarly, value of new orders for consumer goods, new orders for plant and equipment, building permits for private houses, fraction of companies reporting slower deliveries, index of consumer confidence and money growth rate are also used for tracking and forecasting changes in business cycles. Leading indicators, though widely used to predict changes in the economy, are not always accurate. Even experts disagree on the timing of these so-called leading indicators. It may be weeks or months after a stock market crash before the economy begins to show signs of receding. Nevertheless, it may never happen.

Lagging indicators reflect the economy's historical performance and changes in these indicators are observable only after an economic trend or pattern has already occurred. In other words, variables that change after the real output changes are called 'Lagging indicators'. If leading indicators signal the onset of business cycles, lagging indicators confirm these trends. Lagging indicators consist of measures that change after an economy has entered a period of fluctuation. Some examples of lagging indicators are unemployment, corporate profits, labour cost per unit of output, interest rates, the consumer price index and commercial lending activity.

A third type of indicator is coincident indicator. Coincident economic indicators, also called concurrent indicators, coincide or occur simultaneously with the business-cycle movements. Since they coincide fairly closely with changes in the cycle of economic activity, they describe the current state of the business cycle. In other words, these indicators give

© The Institute of Chartered Accountants of India

information about the rate of change of the expansion or contraction of an economy more or less at the same point of time it happens. A few examples of coincident indicators are Gross Domestic Product, industrial production, inflation, personal income, retail sales and financial market trends such as stock market prices.

Examples of Business Cycles

Great Depression of 1930: The world economy suffered the longest, deepest, and the most widespread depression of the 20th century during 1930s. It started in the US and became worldwide. The global GDP fell by around 15% between 1929 and 1932. Production, employment and income fell. As far as the causes of Great Depression are concerned, there is difference of opinion amongst economists. While British economist John Maynard Keynes regarded lower aggregate expenditures in the economy to be the cause of massive decline in income and employment, monetarists opined that the Great Depression was caused by the banking crisis and low money supply. Many other economists blamed deflation, over-indebtedness, lower profits and pessimism to be the main causes of Great Depression. Whatever may be the cause of the depression, it caused wide spread distress in the world as production, employment, income and expenditure fell. The economies of the world began recovering in 1933. Increased money supply, huge international inflow of gold, increased governments' spending due to World War II etc., were some of the factors which helped economies slowly come out of recession and enter the phase of expansion and upturn.

Information Technology bubble burst of 2000: Information Technology (IT) bubble or Dot.Com bubble roughly covered the period 1997-2000. During this period, many new Internet–based companies (commonly referred as dot-com companies) were started. The low interest rates in 1998–99 encouraged the start-up internet companies to borrow from the markets. Due to rapid growth of internet and seeing vast scope in this area, venture capitalists invested huge amount in these companies. Due to over-optimism in the market, investors were less cautious. There was a great rise in their stock prices and in general, it was noticed, that companies could cause their stock prices to increase by simply adding an "e-" prefix to their name or a ".com" to the end. These companies offered their services or end products for free with the expectation that they could build enough brand awareness to charge profitable rates for their services later. As a result, these companies saw high growth and a type of bubble developed. The "growth over profits" mentality led some companies to engage in lavish internal spending, such as elaborate business facilities. These companies could not sustain long. The collapse of the bubble took place during 1999–2001. Many dot-com companies ran out of capital and were acquired or liquidated. Nearly half of the dot – com companies were either shut down or were taken over by other companies. Stock markets crashed and slowly the economies began feeling the downturn in their economic activities.

© The Institute of Chartered Accountants of India

Recent Example of Business Cycle: Global Economic Crisis (2008-09): The recent global economic crisis owes its origin to US financial markets. Following Information Technology bubble burst of 2000, the US economy went into recession. In order to take the economy out of recession, the US Federal Reserve (the Central Bank of US) reduced the rate of interest. This led to large liquidity or money supply with the banks. With lower interest rates, credit became cheaper and the households, even with low creditworthiness, began to buy houses in increasing numbers. Increased demand for houses led to increased prices for them. The rising prices of housing led both households and banks to believe that prices would continue to rise. Excess liquidity with banks and availability of new financial instruments led banks to lend without checking the creditworthiness of borrowers. Loans were given even to sub-prime households and also to those persons who had no income or assets. Houses were built in excess during the boom period and due to their oversupply in the market, house prices began to decline in 2006. Housing bubble got burst in the second half of 2007. With fall in prices of houses which were held as mortgage, the sub - prime households started defaulting on a large scale in paying off their instalments. This caused huge losses to the banks. Losses in banks and other financial institutions had a chain effect and soon the whole US economy and the world economy at large felt its impact.

5.2 FEATURES OF BUSINESS CYCLES

Different business cycles differ in duration and intensity. But there are certain features which they commonly exhibit:

(a) Business cycles occur periodically although they do not exhibit the same regularity. The duration of these cycles vary. The intensity of fluctuations also varies.

(b) Business cycles have distinct phases of expansion, peak, contraction and trough. These phases seldom display smoothness and regularity. The length of each phase is also not definite.

(c) Business cycles generally originate in free market economies. They are pervasive as well. Disturbances in one or more sectors get easily transmitted to all other sectors.

(d) Although all sectors are adversely affected by business cycles, some sectors such as capital goods industries, durable consumer goods industry etc, are disproportionately affected. Moreover, compared to agricultural sector, the industrials sector is more prone to the adverse effects of trade cycles.

(e) Business cycles are exceedingly complex phenomena; they do not have uniform characteristics and causes. They are caused by varying factors. Therefore, it is difficult to make an accurate prediction of trade cycles before their occurrence.

© The Institute of Chartered Accountants of India

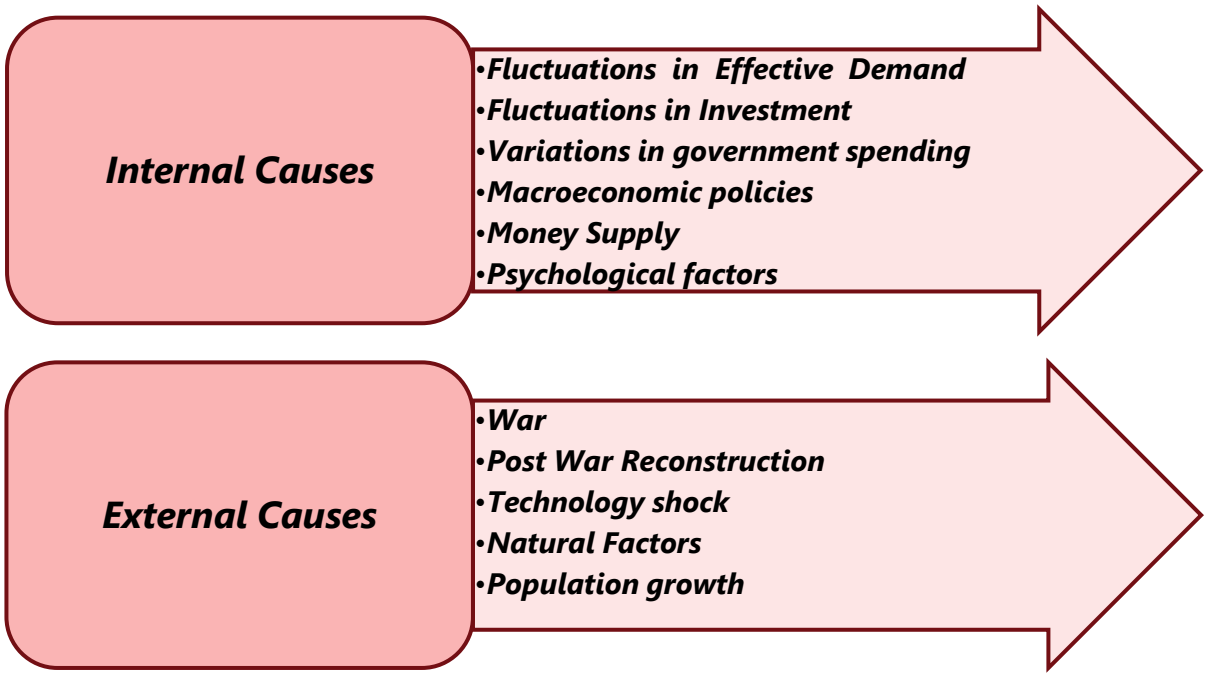
(f) Repercussions of business cycles get simultaneously felt on nearly all economic variables viz. output, employment, investment, consumption, interest, trade and price levels.

(g) Business cycles are contagious and are international in character. They begin in one country and mostly spread to other countries through trade relations. For example, the great depression of 1930s in the USA and Great Britain affected almost all the countries, especially the capitalist countries of the world.

(h) Business cycles have serious consequences on the well-being of the society.

5.3 CAUSES OF BUSINESS CYCLES

Business Cycles may occur due to external causes or internal causes or a combination of both. The 2001 recession was preceded by an absolute mania in dot-com and technology stocks, while the 2007-09 recessions followed a period of unprecedented speculation in the U.S. housing market.



***Internal Causes*:** The Internal causes or endogenous factors which may lead to boom or bust are:

Fluctuations in Effective Demand: According to Keynes, fluctuations in economic activities are due to fluctuations in aggregate effective demand (Effective demand refers to the willingness and ability of consumers to purchase goods at different prices). In a free market economy, where maximization of profits is the aim of businesses, a higher level of aggregate demand will induce businessmen to produce more. As a result, there will be more output,

© The Institute of Chartered Accountants of India

income and employment. However, if aggregate demand outstrips aggregate supply, it causes inflation. As against this, if the aggregate demand is low, there will be lesser output, income and employment. Investors sell stocks, and buy safe-haven investments that traditionally do not lose value, such as bonds, gold and the U.S. dollar. As companies lay off workers, consumers lose their jobs and stop buying anything but necessities. That causes a downward spiral. The bust cycle eventually stops on its own when prices are so low that those investors that still have cash start buying again. However, this can take a long time, and even lead to a depression.

The difference between exports and imports is the net foreign demand for goods and services. This is a component of the aggregate demand in the economy, and therefore variations in exports and imports can lead to business fluctuations as well. Thus, increase in aggregate effective demand causes conditions of expansion or boom and decrease in aggregate effective demand causes conditions of recession or depression. (You will study about these concepts in detail at Intermediate level in Economics for Finance).

Fluctuations in Investment: According to some economists, fluctuations in investments are the prime cause of business cycles. Investment spending is considered to be the most volatile component of the aggregate demand. Investments fluctuate quite often because of changes in the profit expectations of entrepreneurs. New inventions may cause entrepreneurs to increase investments in projects which are cost-efficient or more profit inducing. Or investment may rise when the rate of interest is low in the economy. Increases in investment shift the aggregate demand to the right, leading to an economic expansion. Decreases in investment have the opposite effect.

Variations in government spending: Fluctuations in government spending with its impact on aggregate economic activity result in business fluctuations. Government spending, especially during and after wars, has destabilizing effects on the economy.

Macroeconomic policies: Macroeconomic policies (monetary and fiscal policies) also cause business cycles. Expansionary policies, such as increased government spending and/or tax cuts, are the most common method of boosting aggregate demand. This results in booms. Similarly, softening of interest rates, often motivated by political motives, leads to inflationary effects and decline in unemployment rates. Anti-inflationary measures, such as reduction in government spending, increase in taxes and interest rates cause a downward pressure on the aggregate demand and the economy slows down. At times, such slowdowns may be drastic, showing negative growth rates and may ultimately end up in recession.

Money Supply: According to Hawtrey, trade cycle is a purely monetary phenomenon. Unplanned changes in supply of money may cause business fluctuation in an economy. An increase in the supply of money causes expansion in aggregate demand and in economic

© The Institute of Chartered Accountants of India

activities. However, excessive increase of credit and money also set off inflation in the economy. Capital is easily available, and therefore consumers and businesses alike can borrow at low rates. This stimulates more demand, creating a virtuous circle of prosperity. On the other hand, decrease in the supply of money may reverse the process and initiate recession in the economy.

Psychological factors: According to Pigou, modern business activities are based on the anticipations of business community and are affected by waves of optimism or pessimism. Business fluctuations are the outcome of these psychological states of mind of businessmen. If entrepreneurs are optimistic about future market conditions, they make investments, and as a result, the expansionary phase may begin. The opposite happens when entrepreneurs are pessimistic about future market conditions. Investors tend to restrict their investments. With reduced investments, employment, income and consumption also take a downturn and the economy faces contraction in economic activities.

According to Schumpeter's innovation theory, trade cycles occur as a result of innovations which take place in the system from time to time. The cobweb theory propounded by Nicholas Kaldor holds that business cycles result from the fact that present prices substantially influence the production at some future date. The present fluctuations in prices may become responsible for fluctuations in output and employment at some subsequent period.

External Causes: The External causes or exogenous factors which may lead to boom or bust are:

Wars: During war times, production of war goods, like weapons and arms etc., increases and most of the resources of the country are diverted for their production. This affects the production of other goods - capital and consumer goods. Fall in production causes fall in income, profits and employment. This creates contraction in economic activity and may trigger downturn in business cycle.

Post War Reconstruction: After war, the country begins to reconstruct itself. Houses, roads, bridges etc. are built and economic activity begins to pick up. All these activities push up effective demand due to which output, employment and income go up.

Technology Shocks: Growing technology enables production of new and better products and services. These products generally require huge investments for new technology adoption. This leads to expansion of employment, income and profits etc. and give a boost to the economy. For example, due to the advent of mobile phones, the telecom industry underwent a boom and there was expansion of production, employment, income and profits.

© The Institute of Chartered Accountants of India

Natural Factors: Weather cycles cause fluctuations in agricultural output which in turn cause instability in the economies, especially those economies which are mainly agrarian. In the years when there are draughts or excessive floods, agricultural output is badly affected. With reduced agricultural output, incomes of farmers fall and therefore they reduce their demand for industrial goods. Reduced production of food products also pushes up their prices and thus reduces the income available for buying industrial goods. Reduced demand for industrial products may cause industrial recession.

Population growth: If the growth rate of population is higher than the rate of economic growth, there will be lesser savings in the economy. Fewer saving will reduce investment and as a result, income and employment will also be less. With lesser employment and income, the effective demand will be less, and overall, there will be slowdown in economic activities.

Economies of nearly all nations are interconnected through trade. Therefore, depending on the amount of bilateral trade, business fluctuations that occur in one part of the world get easily transmitted to other parts. Changes in laws related to taxes, trade regulations, government expenditure, transfer of capital and production to other countries, shifts in tastes and preferences of consumers are also potential sources of disruption in the economy.

5.4 RELEVANCE OF BUSINESS CYCLES IN BUSINESS DECISION MAKING

Business cycles affect all aspects of an economy. Understanding the business cycle is important for businesses of all types as they affect the demand for their products and in turn their profits which ultimately determines whether a business is successful or not. Knowledge regarding business cycles and their inherent characteristics is important for a businessman to frame appropriate policies. For example, the period of prosperity opens up new and superior opportunities for investment, employment and production and thereby promotes business. In contrast, a period of recession or depression reduces business opportunities and profits. A profit maximising firm has to consider the nature of the economic environment while making business decisions, especially those related to forward planning.

Business cycles have tremendous influence on business decisions. The stage of the business cycle is crucial while making managerial decisions regarding expansion or down-sizing. Businesses have to advantageously respond to the need to alter production levels relative to demand. Different phases of the cycle require fluctuating levels of input use, especially labour input. Firms should exercise the capability to expand or rationalize production operations so as to suit the stage of the business cycle. Business managers need to work

© The Institute of Chartered Accountants of India

effectively to arrive at sound strategic decisions in complex times across the whole business cycle, managing through boom, downturn, recession and recovery.

Economy-wide trends can have significant impact on all types businesses. However, it should be kept in mind that business cycles do not affect all sectors uniformly. Some businesses are more vulnerable to changes in the business cycle than others. Businesses whose fortunes are closely linked to the rate of economic growth are referred to as "cyclical" businesses. These include fashion retailers, electrical goods, house-builders, restaurants, advertising, overseas tour operators, construction and other infrastructure firms. During a boom, such businesses see a strong demand for their products but during a slump, they usually suffer a sharp drop in demand. It may also happen that some businesses actually benefit from an economic down turn. This happens when their products are perceived by customers as representing good value for money, or a cheaper alternative compared to more expensive products.

Overcoming the effects of economic downturns and recessions is one of the major challenges of sustaining a business in the long-term. The phase of the business cycle is important for a new business to decide on entry into the market. The stage of business cycle is also an important determinant of the success of a new product launch. Surviving the sluggish business cycles require businesses to plan and set policies with respect to product, prices and promotion.

In general, economic forecasts are not perfectly reliable. Neither, of course, are the hunches and intuitions of entrepreneurs. Understanding what phase of the business cycle an economy is in and what implications the current economic conditions have for their current and future business activity, helps businesses to better anticipate the market and to respond with greater alertness. However, taken together and applied carefully, economic forecasts can help business firms to prepare for changes in the direction of the economy either prior to or soon after these changes occur.

SUMMARY

- The rhythmic fluctuations in aggregate economic activity that an economy experiences over a period of time are called business cycles or trade cycles and are manifested in fluctuations in measures of aggregate economic activity such as gross national product, employment and income.
- A typical business cycle has four distinct phases namely,
  - Expansion (also called boom or upswing) characterized by increase in national output and all other economic variables.

© The Institute of Chartered Accountants of India

- Peak of boom or prosperity refers to the top or the highest point of the business cycle.
- Contraction (also called downs-wing or recession) when there is fall in the levels of investment, employment.
- Trough or depression occurs when the process of recession is complete and there is severe contraction in the economic activities.

- Economists use changes in a variety of activities to measure the business cycle and to predict where the economy is headed towards. These are called indicators.
- A leading indicator is a measurable economic factor that changes before the economy starts to follow a particular pattern or trend. i.e. they change before the real output changes.
- Variables that change after real output changes are called 'Lagging indicators'.
- Coincident economic indicators, also called concurrent indicators, coincide or occur simultaneously with the business-cycle movements.
- According to Keynes, fluctuations in economic activities are due to fluctuations in aggregate effective demand.
- According to some economists, fluctuations in investments are the prime cause of business cycles. Investment spending is considered to be the most volatile component of the aggregate demand.
- Fluctuations in government spending with its impact on aggregate economic activity result in business fluctuations.
- Macroeconomic policies, (monetary and fiscal policies) also cause business cycles.
- According to Hawtrey, trade cycle is a purely monetary phenomenon. Unplanned changes in the supply of money may cause business fluctuation in an economy.
- According to Pigou, modern business activities are based on the anticipations of business community and are affected by waves of optimism or pessimism.
- According to Schumpeter, trade cycles occur as a result of innovations which take place in the system from time to time.
- Understanding what phase of the business cycle an economy is in and what implications the current economic conditions have for their current and future business activity, helps businesses to better anticipate the market and to respond with greater alertness.

© The Institute of Chartered Accountants of India

TEST YOUR KNOWLEDGE

Multiple Choice Questions

1. *The term business cycle refers to*
   - *(a) the ups and downs in production of commodities*
   - *(b) the fluctuating levels of economic activity over a period of time*
   - *(c) decline in economic activities over prolonged period of time*
   - *(d) increasing unemployment rate and diminishing rate of savings*
2. *A significant decline in general economic activity extending over a period of time is*
   - *(a) business cycle*
   - *(b) contraction phase*
   - *(c) recession*
   - *(d) recovery*
3. *The trough of a business cycle occurs when _____ hits its lowest point.*
   - *(a) inflation in the economy*
   - *(b) the money supply*
   - *(c) aggregate economic activity*
   - *(d) the unemployment rate*
4. *The lowest point in the business cycle is referred to as the*
   - *(a) Expansion.*
   - *(b) Boom.*
   - *(c) Peak.*
   - *(d) Trough.*
5. *A leading indicator is*
   - *(a) a variable that tends to move along with the level of economic activity*
   - *(b) a variable that tends to move in advance of aggregate economic activity*
   - *(c) a variable that tends to move consequent on the level of aggregate economic activity*
   - *(d) None of the above*

© The Institute of Chartered Accountants of India

6. *A variable that tends to move later than aggregate economic activity is called*

   (a) *a leading variable.*

   (b) *a coincident variable.*

   (c) *a lagging variable.*

   (d) *a cyclical variable.*

7. *Industries that are extremely sensitive to the business cycle are the*

   (a) *Durable goods and service sectors.*

   (b) *Non-durable goods and service sectors.*

   (c) *Capital goods and non-durable goods sectors.*

   (d) *Capital goods and durable goods sectors.*

8. *A decrease in government spending would cause*

   (a) *the aggregate demand curve to shift to the right.*

   (b) *the aggregate demand curve to shift to the left.*

   (c) *a movement down and to the right along the aggregate demand curve.*

   (d) *a movement up and to the left along the aggregate demand curve.*

9. *Which of the following does not occur during an expansion?*

   (a) *Consumer purchases of all types of goods tend to increase.*

   (b) *Employment increases as demand for labour rises.*

   (c) *Business profits and business confidence tend to increase*

   (d) *None of the above.*

10. *Which of the following best describes a typical business cycle?*

    (a) *Economic expansions are followed by economic contractions.*

    (b) *Inflation is followed by rising income and unemployment.*

    (c) *Economic expansions are followed by economic growth and development.*

    (d) *Stagflation is followed by inflationary economic growth.*

11. *During recession, the unemployment rate _____ and output _____.*

    (a) *Rises; falls*

    (b) *Rises; rises*

© The Institute of Chartered Accountants of India

(c) *Falls; rises*

(d) *Falls; falls*

12. *The four phases of the business cycle are*

(a) *expansion, peak, contraction and trough*

(b) *contraction, expansion, trough and boom*

(c) *expansion contraction, peak, and trough*

(d) *peak, depression, bust, and boom*

13. *Leading economic indicators*

(a) *are used to forecast probable shifts in economic policies*

(b) *are generally used to forecast economic fluctuations*

(c) *are indicators of stock prices existing in an economy*

(d) *are indicators of probable recession and depression*

14. *When aggregate economic activity is declining, the economy is said to be in*

(a) *Contraction.*

(b) *an expansion.*

(c) *a trough.*

(d) *a turning point.*

15. *Peaks and troughs of the business cycle are known collectively as*

(a) *Volatility.*

(b) *Turning points.*

(c) *Equilibrium points.*

(d) *Real business cycle events.*

16. *The most probable outcome of an increase in the money supply is*

(a) *interest rates to rise, investment spending to rise, and aggregate demand to rise*

(b) *interest rates to rise, investment spending to fall, and aggregate demand to fall*

(c) *interest rates to fall, investment spending to rise, and aggregate demand to rise*

(d) *interest rates to fall, investment spending to fall, and aggregate demand to fall*

© The Institute of Chartered Accountants of India

17. *Which of the following is not a characteristic of business cycles?*

    (a) *Business cycles have serious consequences on the well-being of the society.*

    (b) *Business cycles occur periodically, although they do not exhibit the same regularity.*

    (c) *Business cycles have uniform characteristics and causes.*

    (d) *Business cycles are contagious and unpredictable.*

18. *Economic recession shares all of these characteristics except.*

    (a) *Fall in the levels of investment, employment*

    (b) *Incomes of wage and interest earners gradually decline resulting in decreased demand for goods and services*

    (c) *Investor confidence is adversely affected and new investments may not be forthcoming*

    (d) *Increase in the price of inputs due to increased demand for inputs*

19. *The different phases of a business cycle*

    (a) *do not have the same length and severity*

    (b) *expansion phase always last more than ten years*

    (c) *last many years and are difficult to get over in short periods*

    (d) *none of the above*

20. *Which of the following is not an example of coincident indicator?*

    (a) *Industrial production*

    (b) *inflation*

    (c) *Retail sales*

    (d) *New orders for plant and equipment*

21. *According to _____ trade cycles occur due to onset of innovations.*

    (a) *Hawtrey*

    (b) *Adam Smith*

    (c) *J M Keynes*

    (d) *Schumpeter*

© The Institute of Chartered Accountants of India

22. *Economic indicators are –*

(a) *A one stroke solution to check the phase of economy*

(b) *Indicators showing the movement of economy*

(c) *Some activities which predict the direction of economy*

(d) *Just an illusion*

23. *Which economic indicator is required to predict the turning point of business cycle?*

(a) *Leading indicator*

(b) *Lagging indicator*

(c) *Coincident*

(d) *All of the above*

24. *Business cycle generally originates in free market economies, what is a free market economy?*

(a) *The economy where government is in possession of major assets*

(b) *The economy where private firms control major assets*

(c) *The economy where decisions of productions are taken by public sector undertakings*

(d) *The economy where price is controlled by government.*

25. *Which of the following statements is correct?*

(a) *The business cycle largely affects the agricultural sector*

(b) *The business cycle largely affects small employees*

(c) *The business cycle generally affects all sectors of economy but business sector in particular.*

(d) *The business cycle affects low wages workers*

26. *According to Keynes, fluctuations in Economic activities are due to-.*

(a) *Fluctuation in aggregate effective demand.*

(b) *Innovations*

(c) *Changes in money supply*

(d) *Fluctuation in agricultural output*

© The Institute of Chartered Accountants of India

27. *Which of the following is the cause of business cycles?*

(a) *Fluctuations in aggregate effective demand*

(b) *Fluctuations in investments*

(c) *Fluctuations in government spending*

(d) *All of the above*

28. *Economists use changes in a variety of activities to measure the business cycle and to predict where the economy is headed towards which are called _____.*

(a) *Signals*

(b) *Indicators*

(c) *Barometer*

(d) *Clues*

29. *If the growth rate of population is higher than the rate of economic growth, there will be _____ in the economy.*

(a) *more savings*

(b) *no effect on savings*

(c) *lesser savings*

(d) *none of these*

30. *The cobweb theory was propounded by _____*

(a) *Hawtrey*

(b) *Adam Smith*

(c) *J M Keynes*

(d) *Nicholas Kaldor*

ANSWERS

1.	**(b)**	2.	**(b)**	3.	**(c)**	4.	**(d)**	5.	**(b)**	6.	**(c)**
7.	**(d)**	8.	**(b)**	9.	**(d)**	10.	**(a)**	11.	**(a)**	12.	**(a)**
13.	**(b)**	14.	**(a)**	15.	**(b)**	16.	**(c)**	17.	**(c)**	18.	**(d)**
19.	**(a)**	20.	**(d)**	21.	**(d)**	22.	**(c)**	23.	**(d)**	24.	**(b)**
25.	**(c)**	26.	**(a)**	27.	**(d)**	28.	**(b)**	29.	**(c)**	30.	**(d)**

© The Institute of Chartered Accountants of India

© The Institute of Chartered Accountants of India

CHAPTER 6

DETERMINATION OF NATIONAL INCOME

UNIT - 1: NATIONAL INCOME ACCOUNTING

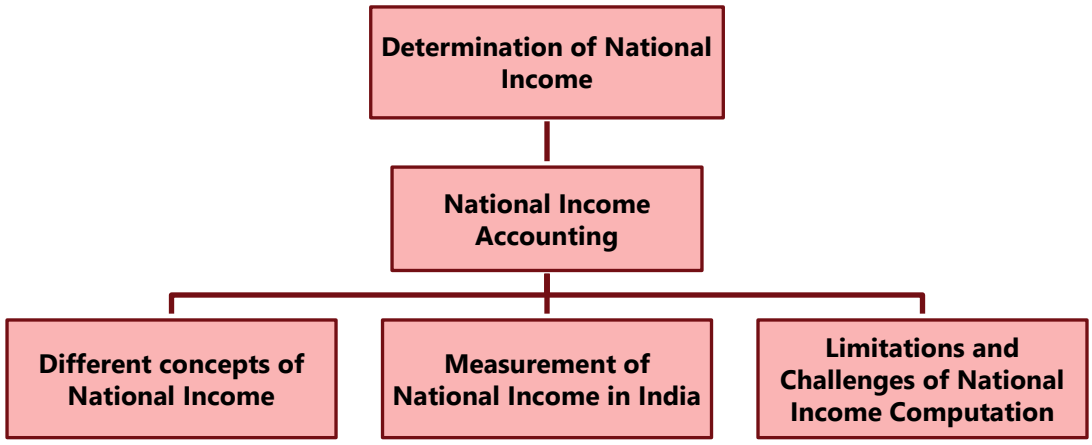
LEARNING OUTCOMES

After studying this Chapter, you will be able to understand:

- Define national income
- Explain the usefulness and significance of national income estimates
- Differentiate among the various concepts of national income
- Describe the different methods of calculation of national income
- Outline measurement of national income in India
- Describe the system of regional accounts in India
- Identify the challenges involved in national income computation.

© The Institute of Chartered Accountants of India

CHAPTER OVERVIEW



1.1 NATIONAL INCOME ACCOUNTING

National Income Accounting, pioneered by the Nobel prize-winning economists Simon Kuznets and Richard Stone, is the system of macro-economic accounts from the stage of production of goods and services to the stage of their final disposal. Like any other accounting system , the national income accounts first define concepts and then construct measures corresponding to these concepts . National Accounts help us to understand how the various transactions from the stage of production of goods and services to the stage of their final disposal are interrelated and give us an idea of the working of an economy. It helps to meet the needs of Government, private analysts, policy makers and decision takers.

The Central Statistical Organisation (CSO) in the Ministry of Statistics and Programme Implementation (MoSP&I) is responsible for the compilation of National accounts statistics. At the State level, State Directorates of Economics and Statistics (DESs) have the responsibility of compiling their State Domestic Product and other aggregates.

1.2 USEFULNESS AND SIGNIFICANCE OF NATIONAL INCOME ESTIMATES

National income accounts are fundamental aggregate statistics in macroeconomic analysis and are extremely useful, especially for the emerging and transition economies.

- businesses to forecast the future demand for their products.

© The Institute of Chartered Accountants of India

- The estimates of national income show the composition and structure of national income in terms of different sectors of the economy, the periodical variations in them and the broad sectoral shifts in an economy over time.
- Sectoral contribution to National Income information is used by the government to decide various sector-specific development policies to increase growth rates.
- National income statistics also provide a quantitative basis for macroeconomic modelling and analysis, for assessing and choosing economic policies and for objective statements as well as evaluation of governments' economic policies.
- National income estimates throw light on income distribution and the possible inequality in the distribution among different income categories . It facilitates the process of comparisons of structural statistics, such as ratios of investment to growth , taxes proceeds and fiscal deficit , or government expenditures to GDP.
- International comparisons in respect of incomes and living standards assist in determining eligibility for loans, and/or other funds or conditions under which such loans, and/ or funds are made available.
- Combined with financial and monetary data, national income data provides a guide to make policies for growth and inflation.

1.3 DIFFERENT CONCEPTS OF NATIONAL INCOME

We begin our discussion with the basic measure of output -Gross Domestic Product, or GDP. The production side of the economy transforms inputs, such as labour and capital, into output, GDP. Inputs such as labour and capital are called factors of production, and the payments made to factors, such as wages and interest payments, are called factor payments.

1.3.1 Gross Domestic Product

Nominal GDP or GDP_{MP}

Gross domestic product (GDP) is the value of all final goods and services produced in the country within a given period. It includes the value of goods produced, such as houses and mobiles, and the value of services, such as telecom, health, insurance. The output of each of these is valued at its market price, and the values are added together to get GDP_{MP}

Nominal GDP or GDP at Current Prices in Q1 2022-23 is estimated at ₹ 64.95 lakh crore, as against ₹ 51.27 lakh crore in Q1 2021-22, showing a growth of 26.7 percent as compared to 32.4 percent in Q1 2021-22

© The Institute of Chartered Accountants of India

Real GDP

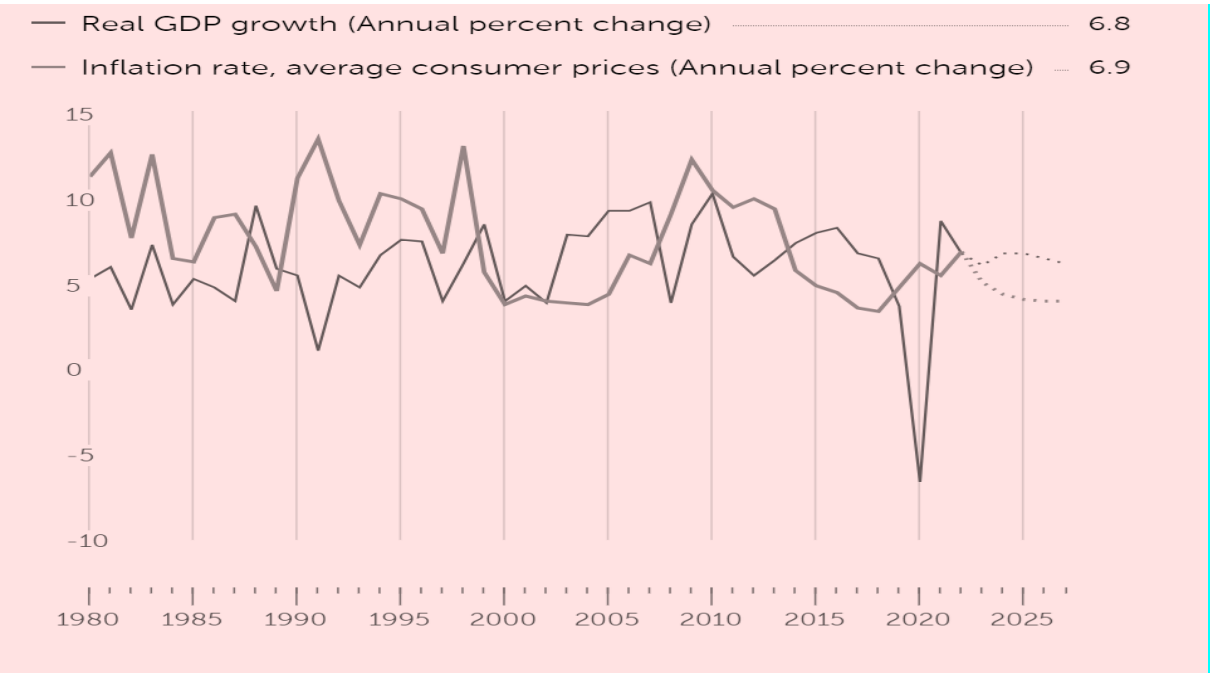
Nominal GDP increases over time for two reasons:

1. The production of most of goods increases over time
2. The prices of most goods also increase over time.

If our goal is to measure production and its change over time, we need to eliminate the effect of increasing prices on our measure of GDP. That's why real GDP is constructed as the sum of the quantities of final goods times constant (rather than current prices)

Real GDP or Gross Domestic Product (GDP) at Constant (2011-12) Prices in Q1 2022-23 is estimated to attain a level of ₹ 36.85 lakh crore, as against ₹ 32.46 lakh crore in Q1 2021-22, showing a growth of 13.5 percent as compared to 20.1 percent in Q1 2021-22

REAL GDP GROWTH RATE AND INFLATION RATE



Source IMF Data Mapper Oct 2022 https://www.imf.org/en/Countries/IND

GDP Deflator

The calculation of real GDP gives us a useful measure of inflation known as GDP deflator. The GDP deflator is the ratio of nominal GDP in a given year to real GDP of that year.

$$\text{GDP Deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$

© The Institute of Chartered Accountants of India

The GDP deflator, as the name implies, can be used to 'deflate' or take inflation out of GDP. In other words, the GDP deflator is a price index used to convert nominal GDP to real GDP

$$\text{Real GDP} = \frac{\text{Nominal GDP}}{\text{GDP Deflator}} \times 100$$

The deflator measures the current level of prices relative to the level of prices in the base year. Since nominal GDP and real GDP must be the same in the base year, the deflator for the base year is always 100.

As you know, inflation is a closely monitored aspect of macroeconomic performance and a significant variable guiding macroeconomic policy. Using the GDP deflator, the inflation rate between two consecutive years can be compute using the following procedure:

$$\text{Inflation rate in year 2} = \frac{\text{GDP deflator in year 2} - \text{GDP deflator in year 1}}{\text{GDP deflator in year 1}} \times 100$$

GDP Deflator in India is expected to reach **154.87 points** by the end of 2022, according to Trading Economics global macro models and analysts expectations. In the long-term, the India GDP Deflator is projected to trend around **167.94** points in 2023 and **175.67** points in 2024, according to econometric models.

Inflation Rate in 2023 = (167.94 - 154.87) / 154.87 * 100

Inflation Rate in 2023 as compared to 2022 will be 8.439 percent.

Numerical Illustrations

ILLUSTRATION 1

Find out GDP Deflator? Interpret It

			(In Billion Rs.)
Years	**Nominal GDP**	**Real GDP**	**GDP Deflator**
2014	500	500	100
2015	800	650	123.08
2016	1150	800	143.75
2017	1300	950	136.84
2018	1550	1190	130.25
2019	1700	1240	137.10

SOLUTION

A deflator above 100 is an indication of price levels being higher as compared to the base year. From years 2015 through 2019, we find that price levels are higher than that of the base year, the highest being in the year 2016.If the GDP deflator is greater than 100, then nominal

© The Institute of Chartered Accountants of India

GDP is greater than real GDP. If the GDP deflator next year is less than the GDP deflator this year, then the price level has fallen; if it is greater, price levels have increased.

ILLUSTRATION 2

The nominal and real GDP respectively of a country in a particular year are ₹ 3000 Crores and ₹ 4700 Crores respectively. Calculate GDP deflator and comment on the level of prices of the year in comparison with the base year.

SOLUTION

Nominal GDP = ₹ 3000 Crores

Real GDP = ₹ 4700 Crores

$$\text{GDP Deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$

$$\frac{3000}{4700} \times 100 = 63.83$$

The price level has fallen since GDP deflator is less than 100 at 63.83.

ILLUSTRATION 3

Find nominal GDP if real GDP = 450 and price index = 120

SOLUTION

$$\text{Nominal GDP} = \text{Real GDP} \times \frac{\text{Price Index}}{100}$$

$$\text{Nominal GDP} = 450 \times \frac{120}{100} = 540$$

ILLUSTRATION 4

Suppose nominal GNP of a country in 2010 is given at ₹ 600 Crores and price index is given as base year 2010 is 100. Now let the nominal GDP increases to ₹ 1200 Crores in 2018 and the price index rises to 110, find out real GDP?

SOLUTION

$$\text{Real GDP} = \text{Nominal GDP} \times \frac{100}{\text{Price Index}}$$

$$= 1200 \ \frac{100}{110} = 1090.9 \text{ Crores}$$

Net Domestic Product

© The Institute of Chartered Accountants of India

As you know capital wears out, or depreciates, while it is being used to produce output, Net Domestic Product (NDP) is equal to **GDP minus depreciation**. NDP thus comes closer to measuring the net amount of goods and services produced in the country in a given period of time. It is the total value of production minus the value of capital used up in producing that output. Other considerations such as asset obsolescence and complete destruction are also taken into account by the NDP.

$NDP_{MP} = GDP_{MP} - Depreciation$

As you are aware, the basis of distinction between 'gross' and 'net' is depreciation or consumption of fixed capital.

Gross = Net + Depreciation or Net = Gross – Depreciation

1.3.2 Gross National Product (GNP)

Gross National Product (GNP) is a measure of the market value of all final economic goods and services, produced within the domestic territory of a country by normal residents during an accounting year including net factor incomes from abroad. It is the total income earned by a nation's permanent residents (called nationals). It differs from GDP by including income that our citizens earn abroad and excluding income that foreigners earn here. Profits earned by Apple from its Indian manufacturing operations is part of India's GDP but these profits are part of USA's GNP.

Gross National Product (GNP) is evaluated at market prices and therefore it is in fact Gross National Product at market prices (GNP_{MP}).

$GNP_{MP} = GDP_{MP}$ + Factor income earned by the domestic factors of production employed in the rest of the world - Factor income earned by the factors of production of the rest of the world employed in the domestic territory.

$GNP_{MP} = GDP_{MP}$ + Net Factor Income from Abroad

$GDP_{MP} = GNP_{MP}$ – Net Factor Income from Abroad (NFIA)

NFIA is the difference between the aggregate amount that a country's citizens and companies earn abroad, and the aggregate amount that foreign citizens and overseas companies earn in that country.

NFIA =Net compensation of employees + Net income from property and entrepreneurship + Net retained earnings

If Net Factor Income from Abroad is positive, then GNP_{MP} would be greater than GDP_{MP}.

© The Institute of Chartered Accountants of India

You might have noticed that the distinction between 'national' and 'domestic' is net factor income from abroad.

National = Domestic + Net Factor Income from Abroad

1.3.5 Net National Product at Market Prices (NNP_{MP})

Net National Product at Market Prices (NNP_{MP}) is a measure of the market value of all final economic goods and services, produced by normal residents within the domestic territory of a country including Net Factor Income from Abroad during an accounting year excluding depreciation.

NNP_{MP} = GNP_{MP} – Depreciation

NNP_{MP} = NDP_{MP} + Net Factor Income from Abroad

NNP_{MP} = GDP_{MP} + Net Factor Income from Abroad – Depreciation

1.3.6 Gross Domestic Product at Factor Cost (GDP_{FC})

Gross domestic product (GDP) at factor cost is **GDP at market prices minus net indirect taxes**. The money value of output produced within a country's domestic limits in a year, as received by the factors of production, is measured by GDP at factor cost.

Thus, we find that the basis of distinction between market price and factor cost is net indirect taxes (i.e., Indirect taxes - Subsidies).

Market Price = Factor Cost + Net Indirect Taxes

= Factor Cost + Indirect Taxes – Subsidies

Factor Cost = Market Price - Net Indirect Taxes

= Market Price - Indirect Taxes + Subsidies

Gross Domestic Product at Factor Cost (GDP_{FC})

= GDP_{MP} – Indirect Taxes + Subsidies

= Compensation of employees

+ Operating Surplus (rent + interest+ profit)

+ Mixed Income of Self- employed

+ Depreciation

© The Institute of Chartered Accountants of India

GDP at Factor Cost

Industry	(₹ in crore) Gross Domestic Product		Percentage change over previous year
	Previous Year	Present Year	
	Q2	Q2	Q2
1. agriculture, forestry and fishing	131,550	135,789	3.2
2. mining and quarrying	25,509	24,774	-2.9
3. manufacturing	187,763	192,849	2.7
4. electricity, gas and water supply	22,894	25,137	9.8
5. construction	91,556	95,489	4.3
6. trade, hotels, transport and communication	311,166	342,080	9.9
7. financing, ins., real est. and business services	208,644	230,627	10.5
8. community, social and personal services	169,390	180,511	6.6
GDP at factor cost	**1,148,472**	**1,227,254**	**6.9**

Factor Cost vs Basic Price vs Market Price

At this stage, we need to clearly understand the difference between the concepts: 'market price' and 'factor cost and Basic Price

GDP at Basic Price excludes any taxes on products the producer receives from the purchaser and passes on to the government (Eg: GST or Sales Tax or Services Tax) but includes any subsidies the producer receives from the government and uses to lower the prices charged to purchasers. In simple terms, the basic price is the subsidised price without tax.

Basic price = factor cost + Production taxes – Production subsidy

Relationship between Factor Cost and Basic Price:

Factor cost + production tax – production subsidies = Basic prices.

Relationship between Basic Price and Market Price:

Basic Price + Product tax – Product Subsidy = Market Price.

Note: Thus, market price includes both product tax as well as production tax while excluding both product and production subsidies.

© The Institute of Chartered Accountants of India

1.3.7 Net Domestic Product at Factor Cost (NDP_{FC})

Net Domestic Product at Factor Cost (NDP_{FC})is defined as the total factor incomes earned by the factors of production. In other words, it is sum of domestic factor incomes or domestic income net of depreciation.

As mentioned above, market price includes indirect taxes imposed by government. We have to deduct indirect taxes and add the subsidies in order to calculate that part of domestic product which actually accrues to the factors of production. The measure that we obtain so is called Net Domestic Product at factor cost.

NDP_{FC} = NDP_{MP} – Net Indirect Taxes

= Compensation of employees

+ Operating Surplus (rent + interest+ profit)

+ Mixed Income of Self- employed

1.3.8 Net National Product at Factor Cost (NNP_{FC})or National Income

National Income is defined as the factor income accruing to the normal residents of the country during a year. It is the sum of domestic factor income and net factor income from abroad. In other words, national income is the value of factor income generated within the country plus factor income from abroad in an accounting year.

NNP_{FC} = National Income = FID (factor income earned in domestic territory) + NFIA.

If NFIA is positive, then national income will be greater than domestic factor incomes.

1.3.9 Per Capita Income

The GDP per capita is a measure of a country's economic output per person. It is obtained by dividing the country's gross domestic product, adjusted by inflation, by the total population. It serves as an indicator of the standard of living of a country.

1.3.10 Personal Income

While national income is income earned by factors of production, Personal Income is the income received by the household sector including Non-Profit Institutions Serving Households. Thus, national income is a measure of income earned and personal income is a measure of actual current income receipts of persons from all sources which may or may not be earned from productive activities during a given period of time. Examples of this include transfer payments such as social security benefits, unemployment compensation, welfare

© The Institute of Chartered Accountants of India

payments etc. Individuals also contribute income which they do not actually receive; for example, undistributed corporate profits and the contribution of employers to social security. Personal income excludes retained earnings, indirect business taxes, corporate income taxes and contributions towards social security. Households receive interest payments from the firms and governments; they also make interest payments to firms and governments. As such, the net interest paid by households to firms and government is also deducted from national income. Personal income forms the basis for consumption expenditures and is derived from national income as follows:

PI = NI + income received but not earned – income earned but not received.

PI = NI - Undistributed profits – Net interest payments made by households – Corporate Tax +Transfer Payments to the households from firms and government.

An important point to remember is that national income is not the sum of personal incomes because personal income includes transfer payments (eg. pension) which are excluded from national income. Further, not all national income accrues to individuals as their personal income.

1.3.11 Disposable Personal Income (DI)

Disposable personal income is a measure of the amount of the money in the hands of the individuals that is available for their consumption or savings. Disposable personal income is derived from personal income by subtracting the direct taxes paid by individuals and other compulsory payments made to the government.

DI = PI - Personal Income Taxes – Non tax payments

Apart from the above aggregates, a few other aggregates are reported in India. These reflect the amount of goods and services the domestic economy has at its disposal. Two more concepts need to be understood, namely:

1. **Net National Disposable Income**

   Net National Disposable Income **(**NNDI) = Net National Income + other net current transfers from the rest of the world (Receipts less payments)

   Net National Disposable Income (NNDI) = NNI + net taxes on income and wealth receivable from abroad + net social contributions and benefits receivable from abroad.

2. **Gross National Disposable Income (GNDI)** = NNDI + CFC = GNI + other net current transfers from the rest of the world (Receipts less payments)

   (Other Current Transfers refer to current transfers other than the primary incomes)

© The Institute of Chartered Accountants of India

(For a detailed explanation of concepts please refer 'Glossary of Main Terms' Apr 1, 2020 - National Accounts Statistics-Sources & Methods, 2007, MOSPI)

Domestic Income may be categorized into:

1. Income from domestic product accruing to the public sector which includes income from property and entrepreneurship accruing to government administrative departments and savings of non-departmental enterprises.
2. Income from domestic product accruing to private sector = NDP_{FC} - Income from property and entrepreneurship accruing to government administrative departments - Savings of non-departmental enterprises.

1.3.12 Private Income

Private income is a measure of the income (both factor income and transfer income) which accrues to private sector from all sources within and outside the country.

Private Income = Factor income from net domestic product accruing to the private sector + Net factor income from abroad + National debt interest + Current transfers from government + Other net transfers from the rest of the world.

Numerical Illustrations

ILLUSTRATION 5

From the following data, calculate NNP_{FC}, NNP_{MP}, GNP_{MP} and GDP_{MP}.

Items	***₹ in Crores***
Operating surplus	*2000*
Mixed income of self-employed	*1100*
Rent	*550*
Profit	*800*
Net indirect tax	*450*
Consumption of fixed capital	*400*
Net factor income from abroad	*-50*
Compensation of employees	*1000*

SOLUTION

GDP_{MP} = Compensation of employees + mixed income of self-employed + operating surplus + depreciation + net indirect taxes

© The Institute of Chartered Accountants of India

(Note: operating surplus = rent+ profit + interest)

=1000 + 1100 + 2000 + 400 + 450 =4950

GNP_{MP} = GDP_{MP} + NFIA = 4950 + (-50) = 4900

NNP_{MP} = GNP_{MP} P consumption of fixed capital = 4900 – 400 = 4500

NNP_{FC} or NI = NNP_{MP} – NIT =4500 – 450 = = 4050 Crores

ILLUSTRATION 6

From the following data, estimate National Income and Personal Income.

Items	***₹. in Crores***
Net national product at market price	*1,891*
Income from property and entrepreneurship accruing to government administrative departments	*45*
Indirect taxes	*175*
Subsidies	*30*
Saving of non-departmental enterprises	*10*
Interest on National debt	*15*
Current transfers from government	*35*
Current transfers from rest of the world	*20*
Saving of private corporate sector	*25*
Corporate profit tax	*25*

SOLUTION

National Income = Net national product at market price – Indirect taxes + Subsidies

= 1,891 – 175 + 30 = 1746crores

Personal Income = National income – Income from property and entrepreneurship accruing to government administrative departments – Saving of non-departmental enterprises + National debt interest + Current transfers from government + Current transfers from rest of the world – Saving of private corporate sector – Corporate profit tax

= 1746 – 45 –10+ 15 + 35 + 20 – 25 – 25

= 1711 Crores

© The Institute of Chartered Accountants of India

ILLUSTRATION 7

Calculate the aggregate value of depreciation when the GDP at market price of a country in a particular year was ₹ 1,100 Crores. Net Factor Income from Abroad was ₹ 100 Crores. The value of Indirect taxes – Subsidies was ₹ 150 Crores and National Income was ₹ 850 Crores.

SOLUTION

Given

GDP_{MP} = 1100 Crores, NFIA = 100 Crores, NIT =150 Crores, NNP_{FC} = 850 Crores

$\therefore GDP_{FC} = GDP_{MP}$- NIT = 1100 – 150 = 950

GNP_{FC} = GDP_{FC}+ NFIA = 950 + 100 = 1050

NNP_{FC} = GNP_{FC}- Depreciation

850 = 1050- Depreciation

Depreciation = 1050 – 850 = 200 Crores.

ILLUSTRATION 8

On basis of following information, calculate NNP at market price and Disposable personal income

Items	***₹ in Crores***
NDP at factor cost	*14900*
Income from domestic product accruing to government	*150*
Interest on National debt	*170*
Transfer payment by government	*60*
Net private donation from abroad	*30*
Net factor income from abroad	*80*
Indirect taxes	*335*
Direct taxes	*100*
Subsidies	*262*
Taxes on corporate profits	*222*
Undistributed profits of corporations	*105*

SOLUTION

NNP at Market price = NNP at factor cost +indirect tax-subsidies

Where NNP at factor cost = NDP_{FC} + NFIA

© The Institute of Chartered Accountants of India

= 14900 + 80=14980

Therefore, NNP_{MP} = Therefore, NNP_{MP} = 14980 + 335 – 262 = 15053

Disposable personal income (DI) = PI- Personal income tax

PI = NI + income received but not earned – income earned but not received
= 14980+ 170+60 +30 -150 -222- 105 = 14763

Therefore, DI= 14763- 100 = 14663 Crores

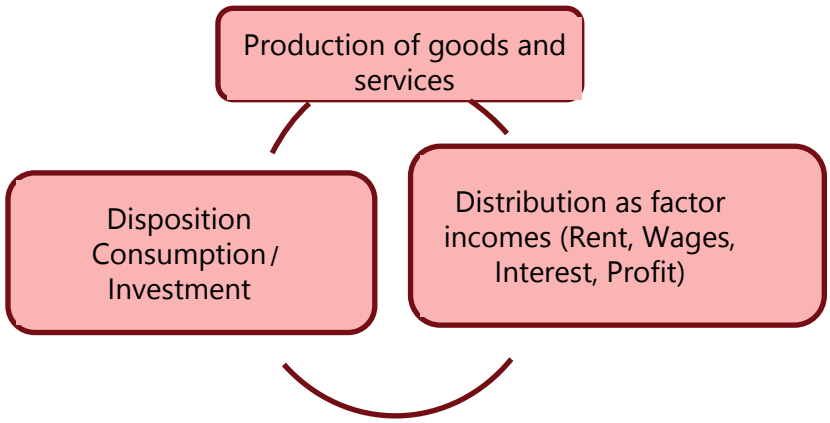
1.4 MEASUREMENT OF NATIONAL INCOME IN INDIA

1.4.1 The Circular Flow of Income

Circular flow of income refers to the continuous circulation of production, income generation and expenditure involving different sectors of the economy. There are three different interlinked phases in a circular flow of income, namely: production, distribution and disposition as can be seen from the following figure.

Figure 1.1.1

Circular Flow of Income



(i) In the production phase, firms produce goods and services with the help of factor services.

(ii) In the income or distribution phase, the flow of factor incomes in the form of rent, wages, interest and profits from firms to the households occurs

(iii) In the expenditure or disposition phase, the income received by different factors of production is spent on consumption goods and services and investment goods. This expenditure leads to further production of goods and services and sustains the circular flow.

© The Institute of Chartered Accountants of India

These processes of production, distribution and disposition keep going on simultaneously and enable us to look at national income from three different angles namely: as a flow of production or value added, as a flow of income and as a flow of expenditure. Each of these different ways of looking at national income suggests a different method of calculation and requires a different set of data. The details in respect of what is measured and what data are required for all three methods mentioned above are given in the following table.

Table 1.1.1

Data requirements and Outcomes of Different Methods of National Income Calculation

Method	Data required	What is measured
Phase of Output: Value added method (Product Method)	The sum of net values added by all the producing enterprises of the country	Contribution of production units
Phase of income: Income Method	Total factor incomes generated in the production of goods and services	Relative contribution of factor owners
Phase of disposition: Expenditure method	Sum of expenditures of the three spending units in the economy, namely, government, consumer households, and producing enterprises	Flow of consumption and investment expenditures

Corresponding to the three phases, there are three methods of measuring national income. They are: Value Added Method (alternatively known as Product Method); Income Method; and Expenditure Method.

1.4.2 Value Added Method or Product Method

National income by value added method is the sum total of net value added at factor cost across all producing units of the economy. The value added method measures the contribution of each producing enterprise in the domestic territory of the country in an accounting year and entails consolidation of production of each industry less intermediate purchases from all other industries. This method of measurement shows the unduplicated contribution by each industry to the total output. This method involves the following steps:

Step1. Identifying the producing enterprises and classifying them into different sectors according to the nature of their activities

All the producing enterprises are broadly classified into three main sectors namely:

(i) Primary sector,

© The Institute of Chartered Accountants of India

(ii) Secondary sector, and

(iii) Tertiary sector or service sector

These sectors are further divided into sub-sectors and each sub-sector is further divided into commodity group or service-group.

Step 2. Estimating the gross value added (GVA_{MP}) by each producing enterprise (This is the same as GDP_{MP})

Gross value added (GVA_{MP}) = Value of output – Intermediate consumption
= (Sales + change in stock) – Intermediate consumption

(Note that imports are included in the value of intermediate consumption if total purchases are given. If domestic purchases are specifically mentioned, then imports will also be added. Also, sales include exports, if domestic sales are separately mentioned, exports need to be added)

Step 3. Estimation of National income

For each individual unit, Net value added is found out.

$\sum$ (GVA_{MP}) – Depreciation = Net value added (NVA_{MP})

By adding net value-added or net products of all the sub-sectors of a sector, we get the value-added or net product of that sector. For the economy as a whole, we add the net products contributed by each sector to get Net Domestic Product. We subtract net indirect taxes and add net factor income from abroad to get national income.

Net value added (NVA_{MP}) – Net Indirect taxes = Net Domestic Product (NVA_{FC})

Net Domestic Product (NVA_{FC}) + (NFIA) = National Income (NNP_{FC})

The values of the following items are also included:

(i) Own account production of fixed assets by government, enterprises and households.

(ii) Imputed value of production of goods for self- consumption, and

(iii) Imputed rent of owner occupied houses.

(iv) Change in stock(inventory)

© The Institute of Chartered Accountants of India

1.4.3 Income Method

Production is carried out by the combined effort of all factors of production. The factors are paid factor incomes for the services rendered. In other words, whatever is produced by a producing unit is distributed among the factors of production for their services.

Under Factor Income Method, also called Factor Payment Method or Distributed Share Method, national income is calculated by summation of factor incomes paid out by all production units within the domestic territory of a country as wages and salaries, rent, interest, and profit. By definition, it includes factor payments to both residents and non- residents.

Thus,

NDP_{FC} = Sum of factor incomes paid out by all production units within the domestic territory of a country

NNP_{FC} or National Income = Compensation of employees
+ Operating Surplus (rent + interest+ profit)
+ Mixed Income of Self- employed
+ Net Factor Income from Abroad

Only incomes earned by owners of primary factors of production are included in national income. Thus, while wages of labourers will be included, pensions of retired workers will be excluded from national income. Compensation of employees includes, apart from wages and salaries, bonus, dearness allowance, commission, employers' contribution to provident fund and imputed value of compensation in kind. Non-labour income includes rent (actual and imputed), royalty, interest on loans availed for productive services, dividends, undistributed profits of corporations before taxes, and profits of unincorporated enterprises and of government enterprises.

(Note: Interest paid by the government on public debt, interest on consumption loans and interest paid by one firm to another are excluded.

Profit =Corporate taxes+ dividend retained+ earnings)

While using income method, capital gains, windfall profits, transfer incomes and income from sale of second-hand goods and financial assets and payments out of past savings are not included. However, commissions, brokerages and imputed value of services provided by owners of production units will be included as these add to the current flow of goods and services.

Usually it is difficult to separate labour income from capital income because in many instances people provide both labour and capital services. Such is the case with self-employed people

© The Institute of Chartered Accountants of India

like lawyers, engineers, traders, proprietors etc. In economies where subsistence production and small commodity production is dominant, most of the incomes of people would be of mixed type. In sectors such as agriculture, trade, transport etc. in underdeveloped countries (including India), it is difficult to differentiate between the labour element and the capital element of incomes of the people. In order to overcome this difficulty a new category of incomes, called 'mixed income' is introduced which includes all those incomes which are difficult to separate.

1.4.4 Expenditure Method

In the expenditure approach, also called Income Disposal Approach, national income is the aggregate final expenditure in an economy during an accounting year.

$$GDP_{MP} = \sum \text{Final Expenditure}$$

In this approach to measuring GDP which considers the demand side of the products, we add up the value of the goods and services purchased by each type of final user mentioned below.

1. Final Consumption Expenditure

(a) Private Final Consumption Expenditure (PFCE)

To measure this, the volume of final sales of goods and services to consumer households and non-profit institutions serving households acquired for consumption (not for use in production) are multiplied by market prices and then summation is done. It also includes the value of primary products which are produced for own consumption by the households, payments for domestic services which one household renders to another, the net expenditure on foreign financial assets or net foreign investment. Land and residential buildings purchased or constructed by households are not part of PFCE. They are included in gross capital formation. Thus, only expenditure on final goods and services produced in the period for which national income is to be measured and net foreign investment are included in the expenditure method of calculating national income.

(b) Government Final Consumption Expenditure

Since the collective services provided by the governments such as defence, education, healthcare etc. are not sold in the market, the only way they can be valued in money terms is by adding up the money spent by the government in the production of these services. This total expenditure is treated as consumption expenditure of the government. Government expenditure on pensions, scholarships, unemployment allowance etc. should be excluded because these are transfer payments.

© The Institute of Chartered Accountants of India

2. Gross Domestic Capital formation

Gross domestic fixed capital formation (Gross Investment) is that part of country's total expenditure which is not consumed but added to the nation's fixed tangible assets and stocks. It consists of the acquisition of fixed assets and the accumulation of stocks. The stock accumulation is in the form of changes in stock of raw materials, fuels, finished goods and semi-finished goods awaiting completion. Thus, gross investment includes final expenditure on machinery and equipment and own account production of machinery and equipment, expenditure on construction, expenditure on changes in inventories, and expenditure on the acquisition of valuables such as, jewellery and works of art.

3. Net Exports

Net exports are the difference between exports and imports of a country during the accounting year. It can be positive or negative.

How do we arrive at national income or NNP_{FC} using the expenditure method?

GDP_{MP} = C+ GDFC + NX

GNP_{MP} =GDP_{MP} + NFIA

GNP_{FC} =GNP_{MP} -NIT

NNP_{FC} = GNP_{FC} – Depreciation

Ideally, all the three methods of national income computation should arrive at the same figure. When the national income of a country is measured separately using these methods, we get a three dimensional view of the economy. Each method of measuring GDP is subject to measurement errors and each method provides a check on the accuracy of the other methods. By calculating total output in several different ways and then trying to resolve the differences, we will be able to arrive at a more accurate measure than would be possible with one method alone. Moreover, different ways of measuring total output give us different insights into the structure of our economy.

Income method may be most suitable for developed economies where people properly file their income tax returns. With the growing facility in the use of the commodity flow method of estimating expenditures, an increasing proportion of the national income is being estimated by expenditure method. As a matter of fact, countries like India are unable to estimate their national income wholly by one method. Thus, in the agricultural sector, net value added is estimated by the production method, in the small scale sector net value added is estimated by the income method and in the construction sector net value added is estimated by the expenditure method.

© The Institute of Chartered Accountants of India

Numerical Illustrations

ILLUSTRATION 9

Calculate National Income by Value Added Method with the help of following data-

Particulars	***₹ (in Crores)***
Sales	*700*
Opening stock	*500*
Intermediate Consumption	*350*
Closing Stock	*400*
Net Factor Income from Abroad	*30*
Depreciation	*150*
Excise Tax	*110*
Subsidies	*50*

SOLUTION

$NVA_{(FC)}$ = $GDP_{(MP)}$ –Depreciation +NFIA- Net Indirect Tax

Where $GVA_{(MP)}$ = Value of output- intermediate consumption

Value of Output = Sales+ change in stock

= 700+ (400-500)=600

$GVA_{(MP)}$ = 600 – 350= 250

Therefore NI = 250-150 +30-(110-50)

= 70 Crores

ILLUSTRATION 10

Calculate the Operating Surplus with the help of following data-

Particulars	***₹ in Crores***
Sales	*4000*
Compensation of employees	*800*
Intermediate consumption	*600*
Rent	*400*
Interest	*300*

© The Institute of Chartered Accountants of India

Net indirect tax	*500*
Consumption of Fixed Capital	*200*
Mixed Income	*400*

SOLUTION

GVA_{MP} = Gross Value $Output_{MP}$ – Intermediate consumption

= (Sales + change in stock) – Intermediate consumption

= 4000-600 = 3400

GDP_{MP} = GVA_{MP} = 3400 Crores

NDP_{MP} = GDP_{MP} – consumption of fixed capital

= 3400 – 200

= 3200 Crores

NDP_{FC} = NDP_{MP} – NIT

= 3200 – 500 = 2700 Crores

NDP_{FC} = Compensation of employees + Operating surplus + Mixed income

2700 = 800 + Operating Surplus + 400

Operating surplus = 1500 Crores

ILLUSTRATION 11

Calculate national income by value added method.

Particulars	**(₹ in crores)**
Value of output in primary sector	2000
Intermediate consumption of primary sector	200
Value of output of secondary sector	2800
Intermediate consumption of secondary sector	800
Value of output of tertiary sector	1600
Intermediate consumption of tertiary sector	600
Net factor income from abroad	-30
Net indirect taxes	300
Depreciation	470

© The Institute of Chartered Accountants of India

SOLUTION

GDP_{MP} = (Value of output in primary sector - intermediate consumption of primary sector) + (value of output in secondary sector - intermediate consumption of secondary sector) + (value of output in tertiary sector - intermediate consumption of tertiary sector)

Value of output in primary sector	=	2000
- Intermediate consumption of primary sector	=	200
+ Value of output in secondary sector	=	2800
- Intermediate consumption in secondary sector	=	800
+ Value of output in tertiary sector	=	1600
- Intermediate consumption of tertiary sector	=	600
GDP_{MP} =		**₹ 4800 Crores**

NNP_{FC} = GDP_{MP} + NFIA -NIT-Depreciation

NNP_{FC} =National income= 4800+(-30)-300-470 = **4000 Crores**

ILLUSTRATION 12

Calculate Net Value Added by Factor Cost from the following data

Items	***₹ in Crores***
Purchase of materials	*85*
Sales	*450*
Depreciation	*30*
Opening stock	*40*
Closing stock	*30*
Excise tax	*45*
Intermediate consumption	*200*
Subsidies	*15*

SOLUTION

GVA_{MP} = Sales+ change in stock - Intermediate consumption

= 450+ (30-40) -200

= 240Crores

© The Institute of Chartered Accountants of India

NVA_{MP} = GVA_{MP} – Depreciation

NVA_{MP} = 240-30 = 210 Crores

NVA_{FC} = NVA_{MP} – (indirect tax - subsidies)

= 210 – (45 -15) = 180Crores

ILLUSTRATION 13

Calculate NI with the help of Expenditure method and income method with the help of following data:

Items	***₹ in Crores***
Compensation of employees	*1,200*
Net factor income from Abroad	*20*
Net indirect taxes	*120*
Profit	*800*
Private final consumption expenditure	*2,000*
Net domestic capital formation	*770*
Consumption of fixed capital	*130*
Rent	*400*
Interest	*620*
Mixed income of self-employed	*700*
Net export	*30*
Govt. final consumption expenditure	*1100*
Operating surplus	*1820*
Employer's contribution to social security scheme	*300*

SOLUTION

By Expenditure method

GDP_{MP} = Private final consumption expenditure + Government final consumption expenditure + Gross domestic capital formation (Net domestic capital formation+ depreciation) + Net export

= 2000 + 1100 + (770+ 130) + 30= 4030Crores

© The Institute of Chartered Accountants of India

NNP_{FC} or NI = GDP_{MP}- depreciation + NFIA – NIT

= 4030 – 130 + 20 – 120= 3800 Crores

By Income method

NNP_{FC} or NI = compensation of employees+ operating surplus+ Mixed income of self-employed + NFIA

= 1200+ 1820+ 700+ 20= 3740Crores

ILLUSTRATION 14

From the following data calculate (a) Gross Domestic Product at Factor Cost, and (b) Gross Domestic Product at Market price

Items	***₹ in Crores***
Gross national product at factor cost	*61,500*
Net exports	*(-) 50*
Compensation of employees	*3000*
Rent	*800*
Interest	*900*
Profit	*1,300*
Net indirect taxes	*300*
Net domestic capital formation	*800*
Gross domestic capital formation	*900*
Factor income to abroad	*80*

SOLUTION

(a) GDP at factor cost = NDP at factor cost + Depreciation

= Compensation of employees+ Rent+ Interest + Profit + Mixed income+ (Gross domestic capital formation - Net domestic capital formation)

= ₹ 3,000 + ₹ 800 + ₹ 900 + ₹ 1,300 + (₹ 900 - ₹ 800)

= ₹ 6100 Crores

© The Institute of Chartered Accountants of India

(b) Gross Domestic Product at Market Price

= GDP at factor cost + Net Indirect taxes =₹ 6100 + ₹ 300

= 6400 Crores

ILLUSTRATION 15

Calculate NNP_{FC}. By expenditure method with the help of following information -

Items	***₹ in Crores***
Private final consumption expenditure	*10*
Net Import	*20*
Public final consumption expenditure	*05*
Gross domestic fixed capital formation	*350*
Depreciation	*30*
Subsidy	*100*
Income paid to abroad	*20*
Change in stock	*30*
Net acquisition of valuables	*10*

SOLUTION

Calculation of national income by expenditure method:

GDP_{MP} = Government final consumption expenditure (Public final consumption expenditure) + Private final consumption expenditure + Gross domestic capital formation (Gross domestic fixed capital formation + change stock + Net acquisition of valuables) + Net export (Note: As net import is20, hence, net export is -20)

= 5 +10 + [350 + 30 +10]+(- 20) = 5+10+390-20 = 385 Crores

NNP_{FC} = GDP_{MP} – Depreciation + Net factor income from abroad (Income from abroad – Income paid to abroad) – Net Indirect tax (Indirect tax – subsidies)

= 385 – 30 + [0 – 20] – [0-100] = 385 – 30 – 20 + 100 = 435 Crores.

1.5 THE SYSTEM OF REGIONAL ACCOUNTS IN INDIA

Regional accounts provide an integrated database on the innumerable transactions taking place in the regional economy and help decision making at the regional level. At present, practically all the states and union territories of India compute state income estimates and

© The Institute of Chartered Accountants of India

district level estimates. State Income or Net State Domestic Product (NSDP) is a measure in monetary terms of the volume of all goods and services produced in the state within a given period of time (generally a year) accounted without duplication. Per Capita State Income is obtained by dividing the NSDP (State Income) by the midyear projected population of the state.

The state level estimates are prepared by the State Income Units of the respective State Directorates of Economics and Statistics (DESs). The Central Statistical Organisation assists the States in the preparation of these estimates by rendering advice on conceptual and methodological problems. In the preparation of state income estimates, certain activities such as railways, communications, banking and insurance and central government administration, that cut across state boundaries, and thus their economic contribution cannot be assigned to any one state directly are known as the 'Supra-regional sectors' of the economy. The estimates for these supra regional activities are compiled for the economy as a whole and allocated to the states on the basis of relevant indicators.

1.6 GDP AND WELFARE

Can the GDP of a country be taken as an index of the welfare of people in that country? There are many reasons to dispute the validity of GDP as a perfect measure of well-being. In fact, GDP measures our ability to obtain many requirements to make our life better; yet leave out many important aspects which ensure good quality of life for all. GDP measures exclude the following which are critical for the overall wellbeing of citizens.

(a) Income distributions and, therefore, GDP per capita is a completely inadequate measure of welfare. Countries may have significantly different income distributions and, consequently, different levels of overall well-being for the same level of per capita income.

(b) Quality improvements in systems and processes due to technological as well as managerial innovations which reflect true growth in output from year to year.

(c) Productions hidden from government authorities, either because those engaged in it are evading taxes or because it is illegal (drugs, gambling etc.).

(d) Nonmarket production (with a few exceptions) and Non-economic contributors to well-being for example: health of a country's citizens, education levels, political participation, or other social and political factors that may significantly affect well-being levels.

(e) The disutility of loss of leisure time. We know that, other things remaining the same, a country's GDP rises if the total hours of work increase.

© The Institute of Chartered Accountants of India

(f) Economic 'bads' for example: crime, pollution, traffic congestion etc which make us worse off.

(g) The volunteer work and services rendered without remuneration undertaken in the economy, even though such work can contribute to social well-being as much as paid work.

(h) Many things that contribute to our economic welfare such as, leisure time, fairness, gender equality, security of community feeling etc.,

(i) Both positive and negative externalities which are external effects that do not form part of market transactions

(j) The distinction between production that makes us better off and production that only prevents us from becoming worse off, for e.g. defence expenditures such as on police protection. Increased expenditure on police due to increase in crimes may increase GDP but these expenses only prevent us from becoming worse off. However, no reflection is made in national income of the negative impacts of higher crime rates. As another example, automobile accidents result in production of repairs, output of medical services, insurance, and legal services all of which are production included in GDP just as any other production.

1.7 LIMITATIONS AND CHALLENGES OF NATIONAL INCOME COMPUTATION

There are innumerable limitations and challenges in the computation of national income. The task is more complex in underdeveloped and developing countries. Following are the general dilemmas in measurement of national income.

There are many conceptual difficulties related to measurement which are difficult to resolve, such as:

(a) lack of an agreed definition of national income,

(b) accurate distinction between final goods and intermediate goods,

(c) issue of transfer payments,

(d) services of durable goods,

(e) difficulty of incorporating distribution of income,

(f) valuation of a new good at constant prices, and

(g) valuation of government services

© The Institute of Chartered Accountants of India

Other challenges relate to:

(a) Inadequacy of data and lack of reliability of available data,

(b) presence of non-monetised sector,

(c) production for self-consumption,

(d) absence of recording of incomes due to illiteracy and ignorance,

(e) lack of proper occupational classification, and

(f) accurate estimation of consumption of fixed capital

SUMMARY

- National income accounts are extremely useful for analyzing and evaluating the performance of an economy, knowing the composition and structure of the national income, income distribution, economic forecasting and for choosing economic policies and evaluating them.
- Gross domestic product (GDP_{MP}) is a measure of the market value of all final economic goods and services, gross of depreciation, produced within the domestic territory of a country during a given time period gross of depreciation.
- Capital goods (business plant and equipment purchases) and inventory investment—the net change in inventories of final goods awaiting sale or of materials used in the production are counted in GDP
- To eliminate the effect of prices, in addition to computing GDP in terms of current market prices, termed 'nominal GDP' or GDP at current prices,the national income accountants also calculate 'real GDP 'or GDP at constant prices which is the value of domestic product in terms of constant prices of a chosen base year.
- GNP_{MP} = GDP_{MP} + Net Factor Income from Abroad
- NDP_{MP} = GDP_{MP} - Depreciation
- NDP_{MP} =NNP_{MP} - Net Factor Income from Abroad
- NNP_{MP} = GNP_{MP} - Depreciation
- Market Price = Factor Cost + Net Indirect Taxes= Factor Cost + Indirect Taxes – Subsidies
- Gross Domestic Product at Factor Cost (GDP_{FC}) = GDP_{MP} – Indirect Taxes + Subsidies
- Net Domestic Product at Factor Cost (NDP_{FC})is defined asthe total factor incomes earned by the factors of production.

© The Institute of Chartered Accountants of India

- Net National Product at Factor Cost (NNP_{FC})or National Income

  NNP_{FC} = National Income = FID (factor income earned in domestic territory) + NFIA.
- Personal income is a measure of the actual current income receipt of persons from all sources. Disposable Personal Income (DI) that is available for their consumption or savings DI = PI - Personal Income Taxes
- Circular flow of income refers to the continuous interlinked phases in circulation of production, income generation and expenditure involving different sectors of the economy.
- Product Method or Value Added Method is also called Industrial Origin Method or Net Output Method and entails the consolidation of the production of each industry less intermediate purchases from all other industries.
- Under income method, national income is calculated by summation of factor incomes paid out by all production units within the domestic territory of a country as wages and salaries, rent, interest, and profit. Transfer incomes are excluded.
- Under the expenditure approach, also called Income Disposal Approach, national income is the aggregate final expenditure in an economy during an accounting year composed of final consumption expenditure (private& government), gross domestic capital formation and net exports.

TEST YOUR KNOWLEDGE

Multiple Choice Type Questions

1. *The concept of 'resident unit' involved in the definition of GDP denotes*

   (a) A business enterprise which belongs to a citizen of India with production units solely situated in India

   (b) The unit having predominant economic interest in the economic territory of the country for one year or more irrespective of the nationality or legal status

   (c) A citizen household which had been living in India during the accounting year and one whose economic interests are solely in India

   (d) Households and business enterprises composed of citizens of India alone living in India during the accounting year

2. *Read the following statements and answer the following question.*

   I. Intermediate consumption consists of the value of the goods and services consumed as inputs by a process of production,

© The Institute of Chartered Accountants of India

II. Intermediate consumption excludes fixed assets whose consumption is recorded as consumption of fixed capital.

(a) Only I is true

(b) Both I and II are true

(c) Only II is true

(d) Neither I nor II is true

3. Gross Domestic Product (GDP) of any nation

(a) excludes capital consumption and intermediate consumption

(b) is inclusive of capital consumption or depreciation

(c) is inclusive of indirect taxes but excludes subsidies

(d) None of the above

4. Read the following statements

I. 'Value added' refers to the difference between value of output and purchase of intermediate goods.

II. 'Value added' represents the contribution of labour and capital to the production process.

(a) Statements I and II are incorrect

(b) Statements I and II are correct

(c) Statement I is correct and II is incorrect

(d) Statement II is correct and I is incorrect

5. Non-economic activities are

(a) those activities whose value is excluded from national income calculation as it will involve double counting

(b) those which produce goods and services, but since these are not exchanged in a market transaction they do not command any market value

(c) those which do not involve production of goods and services as they are meant to provide hobbies and leisure time activities

(d) those which result in production for self consumption and therefore not included in national income calculation

6. Which of the following does not enter into the calculation of national income?

(a) Exchange of previously produced goods

© The Institute of Chartered Accountants of India

(b) *Exchange of second hand goods*

(c) *Exchange of stocks and bonds*

(d) *All the above*

7. *Which of the following enters into the calculation of national income?*

(a) *The value of the services that accompany the sale*

(b) *Additions to inventory stocks of final goods and materials*

(c) *Stocks and bonds sold during eth current year*

(d) *(a) and (b) above*

8. *Gross National Product at market prices* GNP_{MP} *is*

(a) GDP_{MP} *+ Net Factor Income from Abroad*

(b) GDP_{MP} *- Net Factor Income from Abroad*

(c) GDP_{MP} *- Depreciation*

(d) GDP_{MP} *+ Net Indirect Taxes*

9. *Choose the correct statement*

(a) *GNP includes earnings of Indian corporations overseas and Indian residents working overseas; but GDP does not include these*

(b) NNP_{FC} *= National Income = FID (factor income earned in domestic territory) – NFIA.*

(c) *Capital goods and inventory investment are excluded from computation of GDP*

(d) $NDP_{MP} = GDP_{MP}$ *+ Depreciation*

10. *The basis of distinction between market price and factor cost is*

(a) *net factor income from abroad*

(b) *net indirect taxes (i.e., Indirect taxes - Subsidies)*

(c) *net indirect taxes (i.e., Indirect taxes + Subsidies)*

(d) *depreciation (consumption of fixed capital)*

11. *If net factor income from abroad is positive, then*

(a) *national income will be greater than domestic factor incomes.*

(b) *national income will be less than domestic factor incomes.*

(c) *net exports will be negative*

© The Institute of Chartered Accountants of India

(d) *domestic factor incomes will be greater than national income*

12. *The GDP per capita is*

(a) *a measure of a country's economic output per person*

(b) *actual current income receipts of persons*

(c) *national income divided by population*

(d) *(a)and (c) above*

13. *Which of the following is an example of transfer payment?*

(a) *Old age pensions and family pensions*

(b) *Scholarships given to deserving diligent students.*

(c) *Compensation given for loss of property due to floods*

(d) *All the above*

14. *Mixed income of the self -employed means*

(a) *net profits received by self -employed people*

(b) *outside wages received by self- employed people*

(c) *combined factor payments which are not distinguishable,*

(d) *wages due to non- economic activities*

15. *Which of the following is added to national income while calculating personal income?*

(a) *Transfer payments to individuals*

(b) *Undistributed profits of corporate*

(c) *Transfer payments made to foreigners*

(d) *Mixed income of self employed*

ANSWERS

1.	**(b)**	2.	**(b)**	3.	**(b)**	4.	**(b)**	5.	**(b)**
6.	**(d)**	7.	**(d)**	8.	**(a)**	9.	**(a)**	10.	**(b)**
11.	**(a)**	12.	**(d)**	13.	**(d)**	14.	**(c)**	15.	**(a)**

© The Institute of Chartered Accountants of India

UNIT - 2: THE KEYNESIAN THEORY OF DETERMINATION OF NATIONAL INCOME

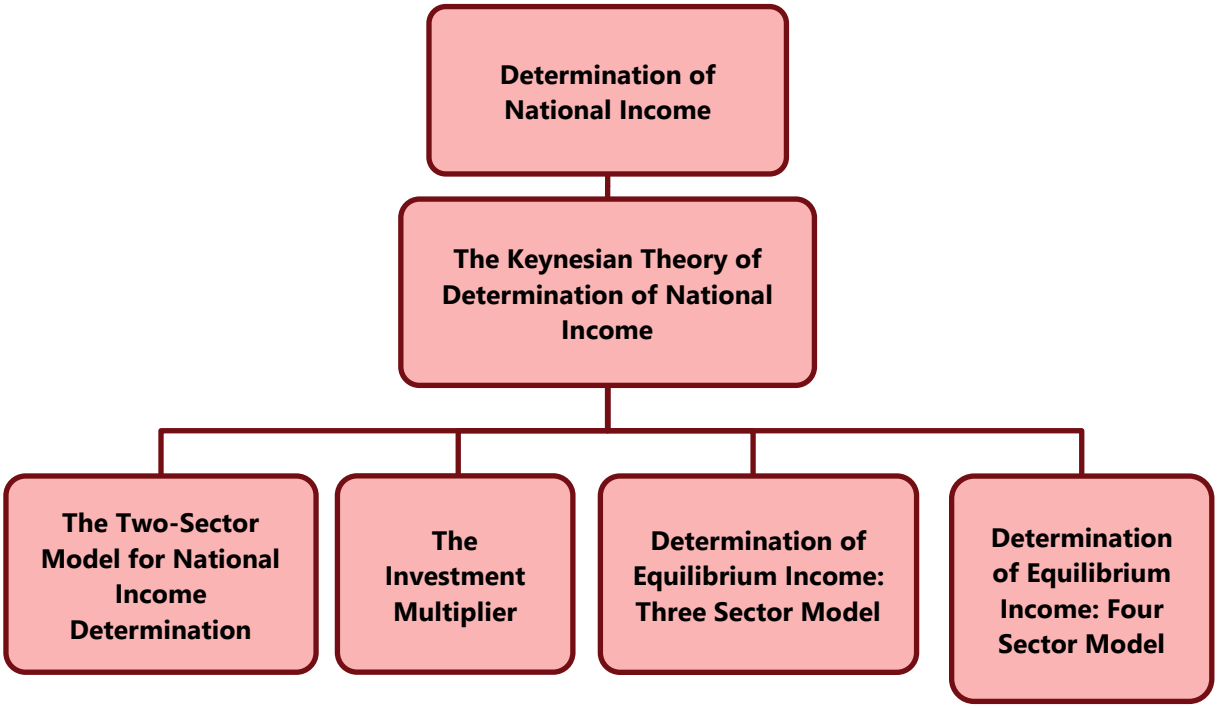
LEARNING OUTCOMES

After studying this Unit, you will be able to understand:

- Define Keynes' concept of equilibrium aggregate income
- Describe the components of aggregate expenditure in two, three and four sector economy models
- Explain national income determination in two, three and four sector economy models
- Illustrate the functioning of multiplier, and
- Outline the changes in equilibrium aggregate income on account of changes in its determinants.

© The Institute of Chartered Accountants of India

UNIT OVERVIEW



2.1 INTRODUCTION

In the previous unit on National Income Accounting, we have discussed the importance of (GDP) to estimate the macro fundamentals of the country. In this unit, we shall focus on two issues namely, the factors that determine the level of national income and the determination of equilibrium aggregate income and output in an economy.

The Great Depression of the 1930's, was the greatest economic crisis the western world had experienced. The classical economist of the time had no well developed theory that would explain persistent unemployment nor any policy prescriptions to solve the problem. Many economists then recommended government spending as a way of reducing unemployment, but they had no macroeconomic theory by which to justify their recommendations. The history of modern macroeconomics was revolutionised in 1936, with the publication of John Maynard Keynes's General Theory of Employment, Interest, and Money.

The General Theory of Employment, Interest, and Money was more than a treatise for economists. It offered clear policy implications, and they were in tune with the times of the

© The Institute of Chartered Accountants of India

Great Depression. Keynes introduced many of the building blocks of modern macroeconomics:

1. The relation of consumption to income, and the multiplier, which explains how shocks to aggregate demand can be amplified and lead to larger shifts in output.
2. Liquidity Preference (the term Keynes gave to the demand for money), which explains how monetary policy can affect interest rates and aggregate demand.
3. The importance of expectations in affecting consumption and investment; and the idea that shifts in expectations are a major factor behind shifts to demand and output.

The Keynesian theory of income determination is presented in three models:

(i) The two-sector model consisting of the household and the business sectors,

(ii) The three-sector model consisting of household, business and government sectors, and

(iii) The four-sector model consisting of household, business, government and foreign sectors

Before we attempt to explain the determination of income in each of the above models, it is pertinent that we understand the concept of circular flow in an economy which explains the functioning of an economy.

2.2 CIRCULAR FLOW IN A SIMPLE TWO-SECTOR MODEL

Concept of circular flow

The circular flow model demonstrates how money moves through society. Money flows from producers to workers as wages and flows back to producers as payment for products. In short, an economy is an endless circular flow of money. That is the basic form of the model, but actual money flows are more complicated. Economists have added in more factors to better depict complex modern economies. These factors are the components of a nation's GDP or national income. For that reason, the model is also referred to as the circular flow of income model.

The basic purpose of the circular flow model is to understand how money moves within an economy. It breaks the economy down into two primary players: households and corporations. It separates the markets that these participants operate in as markets for goods and services and the markets for the factors of production.

Households own all factors of production and they sell their factor services to earn factor incomes which are entirely spent to consume all final goods and services produced by business firms. The business firms are assumed to hire factors of production from the

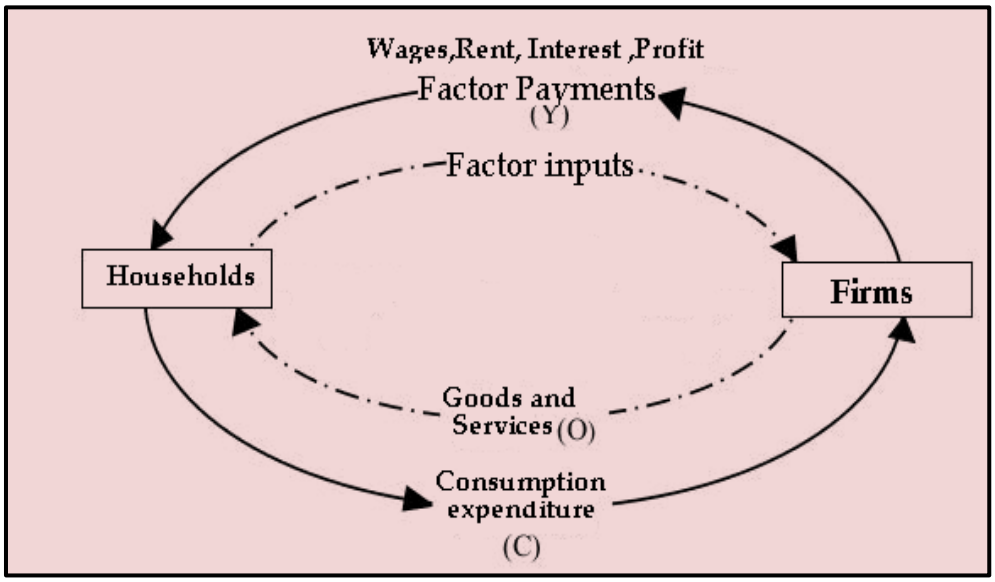
© The Institute of Chartered Accountants of India

households; they produce and sell goods and services to the households and they do not save. There are no corporations, corporate savings or retained earnings. The total income produced, *Y*, accrues to the households and equals their disposable personal income Y_d i.e., *Y* = Yd.

In the figure 1.2.1, the circular flow of income and expenditure which presents the working of the two- sector economy is illustrated in a simple manner.

Figure 1.2.1

Circular Flow in a Two Sector Economy



The circular broken lines with arrows show factor and product flows and present 'real flows' and the continuous line with arrows show 'money flows' which are generated by real flows. Real flows refer to the flow of the actual goods or services, while money flows refer to the payments for the services (wages, for example) or consumption payments.There are no injections into or leakages from the system. Since the whole of household income is spent on goods and services produced by firms, household expenditures equal the total receipts of firms which equal the value of output.

Factor Payments = Household Income = Household Expenditure = Total Receipts of Firms = Value of Output.

Before we go into the discussion on the equilibrium aggregate income and changes in it, we shall first try to understand the meaning of the term 'equilibrium' (defined as a state in which there is no tendency to change; or a position of rest). Output is at equilibrium level when the quantity of output produced is equal to the quantity demanded. Logically, an economy can

© The Institute of Chartered Accountants of India

be said to be in equilibrium when the production plans of the firms and the expenditure plans of the households match.

Having understood the working of the two-sector model and the meaning of equilibrium output, we shall now have the formal presentation of the theory of income determination in a two-sector model which is the simplest representation of the key principles of Keynesian economics. In the theoretical model of the economy, the ex ante values of different variables should be our primary concern. Before we discuss the Keynesian theory of income determination, let us look at the basic concepts, definitions and functions used in his theory of income determination.

2.3 BASIC CONCEPTS AND FUNCTIONS

2.3.1 Aggregate Demand Function

Aggregate demand (AD) is what economists call total planned expenditure. In a simple two-sector economy, the ex ante aggregate demand (AD) for final goods or aggregate expenditure consists of only two components:

(i) Ex ante aggregate demand for consumer goods (C), and

(ii) Ex ante aggregate demand for investment goods (I)

$$AD = C + I \qquad (2.1)$$

Of the two components, consumption expenditure accounts for the highest proportion of the GDP. In a simple economy, the variable I is assumed to be determined exogenously and constant in the short run. Therefore, the short-run aggregate demand function can be written as:

$$AD = C + I \qquad (2.2)$$

Where $\bar{I}$ = constant investment.

From the equation (2.2), we can infer that, in the short run, AD depends largely on the aggregate consumption expenditure. We shall now go over to the discussion on consumption function.

2.3.2 The Consumption Function

Consumption function expresses the functional relationship between aggregate consumption expenditure and aggregate disposable income, expressed as:

© The Institute of Chartered Accountants of India

$$C = f(Y) \qquad (2.3)$$

When income is low, consumption expenditures of households will exceed their disposable income and households dissave i.e. they either borrow money or draw from their past savings to purchase consumption goods. If the disposable income increases, consumers will increase their planned expenditures and current consumption expenditures rise, but only by less than the increase in income.

The specific form of consumption–income relationship termed the consumption function, proposed by Keynes is as follows:

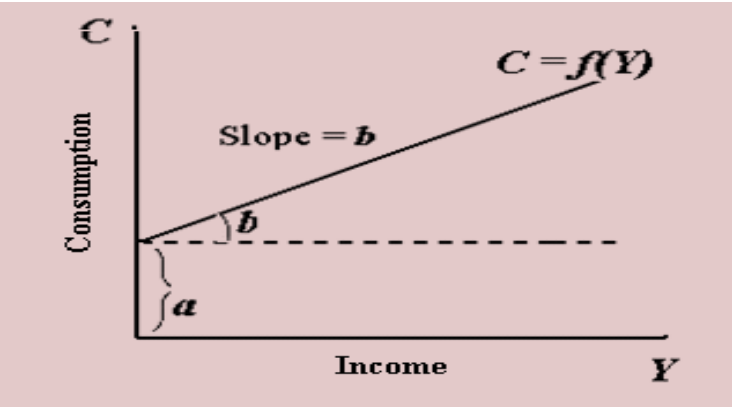
$$C = a + bY \qquad (2.4)$$

$$MPC = \frac{\Delta C}{\Delta Y} = b \qquad (2.5)$$

where C = aggregate consumption expenditure; Y= total disposable income; a is a constant term which denotes the (positive) value of consumption at zero level of disposable income; and the parameter b, the slope of the function, (ΔC /ΔY) is the marginal propensity to consume (MPC) i.e. the increase in consumption per unit increase in disposable income.

Figure 1.2.2

The Keynesian Consumption Function



The consumption function shows the level of consumption (C) corresponding to each level of disposable income (Y) and is expressed through a linear consumption function, as shown by the line marked C = f(Y) in figure 1.2.2.

The Keynesian assumption is that consumption increases with an increase in disposable income, but that the increase in consumption will be less than the increase in disposable

© The Institute of Chartered Accountants of India

income (b <1). i.e. 0 < b < 1. This fundamental relationship between income and consumption plays a crucial role in the Keynesian theory of income determination.

2.3.3 Relationship Between Income and Consumption

Just as marginal propensity to consume, the average propensity to consume is a ratio of consumption defining income consumption relationship. The ratio of total consumption to total income is known as the average propensity to consume (APC).

$$APC = \frac{Total\ Consumption}{Total\ Income} = \frac{C}{Y} \quad (2.6)$$

The table below shows the relationship between income and consumption

Table 1.2.1

Relationship between Income and Consumption

Income (Y) (₹ Crores)	Consumption (C) (₹ Crores)	Saving (₹ Crores)	APC (C/Y)	MPC (ΔC /ΔY)
0	50	-50	∞	-
100	125	-25	125/100 = 1.25	75/100 = 0.75
200	200	0	200/200 = 1.00	75/100 = 0.75
300	275	25	275/300 = 0.92	75/100 = 0.75
400	350	50	350/400=0.88	75/100 = 0.75
500	425	75	425/500=0.85	75/100 = 0.75

Note: The conventional Keynesian MPC is assumed to have a constant value less than 1.00 and usually greater than 0.50:

APC is calculated at various income levels. It is obvious that the proportion of income spent on consumption decreases as income increases. What happens to the rest of the income that is not spent on consumption? If it is not spent, it must be saved because income is either spent or saved; there are no other uses to which it can be put. Thus, just as consumption, saving is a function of disposable income: S=f(Y).

2.3.5 The Relationship Between Income, Consumption and Saving

Saving is also a function of disposable income. The saving function shows the functional relationship between national income (= disposable income in two sector model) and saving.

$$S = f(Y)$$

© The Institute of Chartered Accountants of India

This can be illustrated with the following table and diagram.

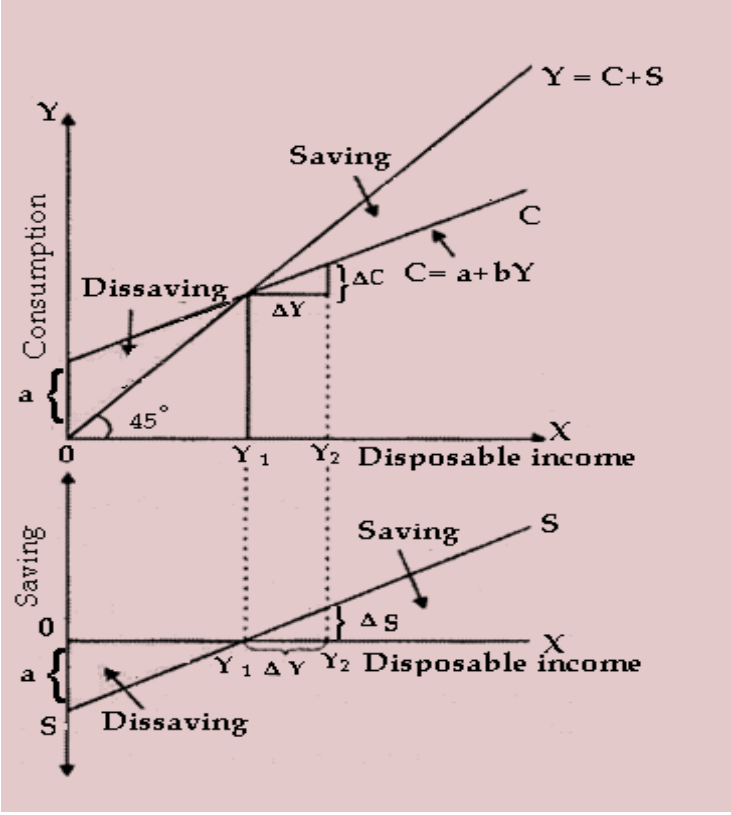
Table 1.2.2

Relationship between Income, Consumption and Saving

Disposable Income (Yd) (₹ Crores)	Consumption (C) (₹ Crores)	Saving (S) (₹ Crores)
0	20	-20
60	70	-10
120	120	0
180	170	10
240	220	20

Figure 1.2.3.

The Consumption and Saving Function



In figure 1.2.3, the consumption and saving functions are graphed. The saving function shows the level of saving (S) at each level of disposable income (Y). We know that consumption at zero level of income is positive (equal to a), and as such there should be dissaving also of the same magnitude. By definition, national income Y = C + S, Therefore, S = Y – C.

© The Institute of Chartered Accountants of India

The slope of the saving function is the marginal propensity to save. If a one-unit increase in disposable income leads to an increase of 'b' units in consumption, the remainder (1 - b) is the increase in saving. The marginal propensity to save is the increase in saving per unit increase in disposable income.

(MPS) , s = 1-c

Saving is an increasing function of the level of income. In other words, saving increases as income rises.

$$MPS = \frac{\Delta S}{\Delta Y} = 1 - b \quad (2.7)$$

Marginal Propensity to Consume (MPC) is always less than unity, but greater than zero, i.e., 0 < b < 1 Also, MPC + MPS = 1; we have MPS 0 < b < 1. Thus, saving is an increasing function of the level of income because the marginal propensity to save (MPS) = 1- b is positive, i.e. saving increases as income increases.

Average Propensity to Save (APS)

The ratio of total saving to total income is called average propensity to save (APS). Alternatively, it is that part of total income which is saved.

$$APS = \frac{Total\ Saving}{Total\ Income} = \frac{S}{Y} \quad (2.8)$$

2.3.8 Aggregate Supply:

Ex ante or planned aggregate supply is the total supply of goods and services which firms in a national economy plan on selling during a specific time period. It is equal to the national income of the economy, which is either consumed or saved.

$$AS = C + S$$

Numerical Illustrations

ILLUSTRATION 1

What will be the value of average propensity to save when -

(i) C = 200 at Y = 1,000

(ii) S = 450 at Y = 1,200

SOLUTION

(i) APS = $\frac{S}{Y}$; S = Y – C = 1,000 – 200 = 800. Therefore, APS= $\frac{S}{Y} = \frac{800}{1000} = 0.8$

(ii) When S = 450 and Y = 1,200; APS= $\frac{S}{Y}$ = 450/1200= = 0.375

© The Institute of Chartered Accountants of India

2.4 THE TWO-SECTOR MODEL OF NATIONAL INCOME DETERMINATION

In this section, we shall describe the two-sector model of determination of equilibrium levels of output and income in its formal form using the aggregate demand function and the aggregate supply function. The equilibrium level of income and output in the Keynesian framework is that level at which aggregate demand (C+ I) and aggregate supply (C + S) or output are equal. In other words, Investment is equal to Savings.

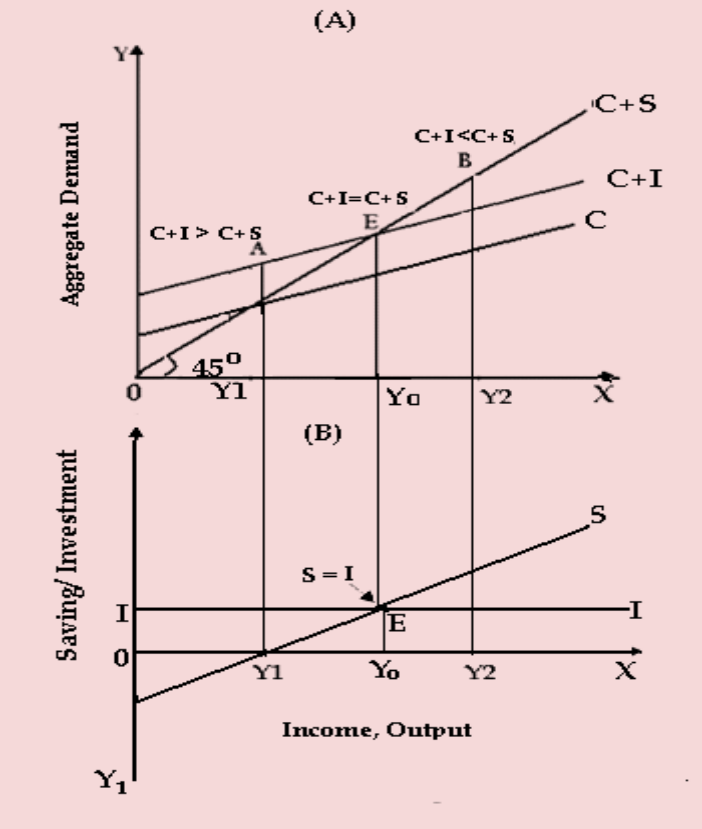
$$C + I = C + S$$

or

$$I = S \qquad (2.9)$$

Figure 1.2.4

Determination of Equilibrium Income: Two Sector Model



In figure 1.2.4, the aggregate demand curve is linear and positively sloped indicating that as the level of national income rises, the aggregate demand (or aggregate spending) in the

© The Institute of Chartered Accountants of India

economy also rises. The aggregate expenditure line is flatter than the 45-degree line because, as income rises, consumption also increases, but by less than the increase in income. The 45-degree line illustrates every single point at which planned aggregate expenditure, measured on the Y, or vertical axis, is equal to planned aggregate production, which is measured on the X, or horizontal axis. In other words, all points on the 45° line indicate that aggregate expenditure equal aggregate output; i.e. (C+I) is equal to Y or (C+S). Therefore, the line maps out all possible equilibrium income levels.

For all points below the 45-degree line, planned aggregate expenditure is lesser than GDP and for all points above the 45-degree line; planned aggregate expenditure is greater than GDP. we would like equilibrium to occur at potential GDP i.e. at the level of full employment. Only at point E and at the corresponding equilibrium levels of income and output Y_O does aggregate demand exactly equals output. At that level of output and income, planned spending precisely matches production.

You may bear in mind the basic point that according to Keynes, aggregate demand will not always be equal to aggregate supply. Aggregate demand depends on the households' plan to consume and to save. Aggregate supply depends on the producers' plan to produce goods and services. In other words, **aggregate supply** represents **aggregate value expected by business firms** and **aggregate demand represents their realised value**. For the aggregate demand and the aggregate supply to be equal so that equilibrium is established, the households' plan must coincide with producers' plan. At equilibrium, expected value equals realised value. However, Keynes held the view that that there is no reason to believe that:

(i) consumers' consumption plan always coincides with producers' production plan, and

(ii) that producers' plan to invest matches always with households' plan to save.

Putting it differently, there is no reason for C + I and C + *S* to always be equal.

The investment function (*I*) is shown in panel B of the figure, equilibrium, planned investment equals savings Above the equilibrium of income Y_0, saving (the distance between the 45 degree line and the consumption schedule) exceeds planned investment, while below equilibrium level of income Y_0 , planned investment exceeds saving.

The equality between saving and investment can be seen directly from national income accounting . Since income is either spent or saved, Y = C+S. Without government and foreign trade, aggregate demand equals consumption plus investment, Y=C+I. Putting the two together, we have C+S = C+I, or S=I.

If the leakages are greater than the injections, then national income will fall, while if injections are greater than leakages, national income will rise. The national income will be in equilibrium only when intended saving is equal to intended investment. If there is any deviation from

© The Institute of Chartered Accountants of India

equilibrium, i.e. planned saving is not equal to planned investment, the process of readjustment will bring the economy back to equilibrium.

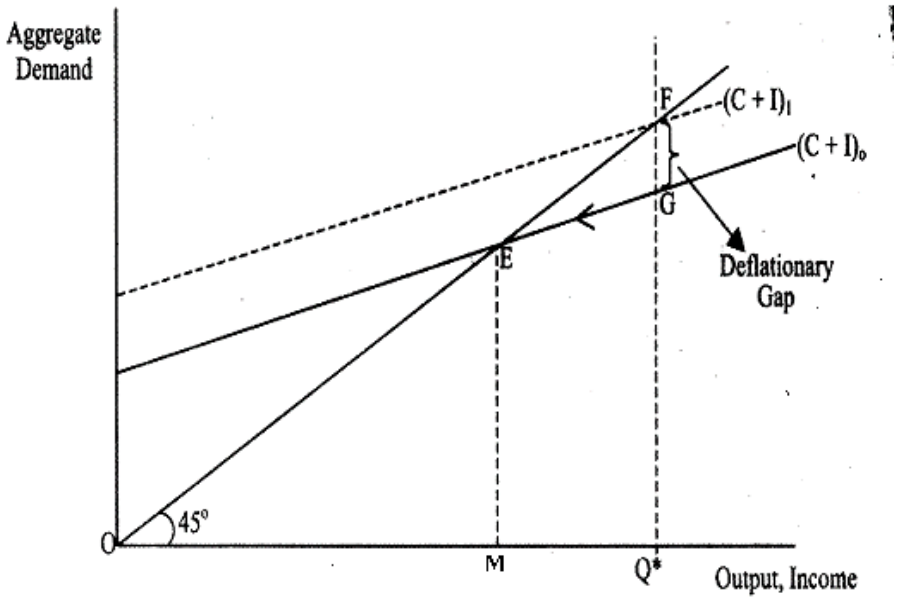
2.4.1 Equilibrium with Unemployment or Inflation

An important point to remember is that Keynesian equilibrium with equality of planned aggregate expenditures and output need not take place at full employment. If the aggregate expenditure line intersects the 45-degree line at the level of potential GDP, then there is full employment equilibrium. There is no recession, and unemployment is at the natural rate. But there is no guarantee that the equilibrium will occur at the potential GDP level of output. The economy can settle at any equilibrium which might be higher or lower than the full employment equilibrium.

(i) Deflationary Gap

If the aggregate demand is for an amount of output less than the full employment level of output, then we say there is deficient demand. Deficient demand gives rise to a 'deflationary gap' or 'recessionary gap'. Recessionary gap also known as 'contractionary gap' arises in the Keynesian model of the macro economy when the equilibrium level of aggregate production achieved in the short-run falls short of what could be produced at full employment. Recessionary gap occurs when the economy is in a business-cycle contraction or recession.

Figure 1.2.5
Deficient Demand - Deflationary Gap



(C+I)

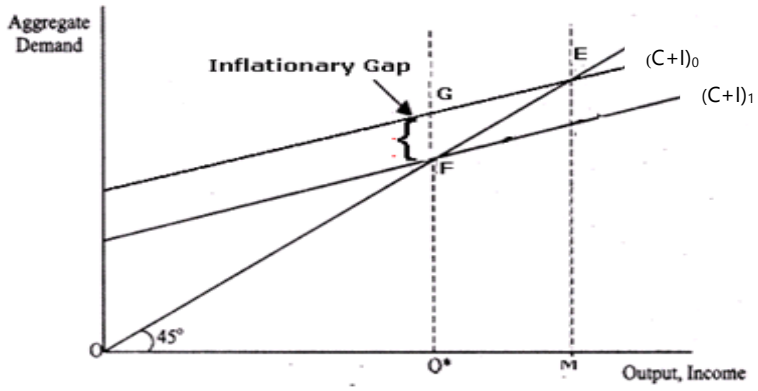
© The Institute of Chartered Accountants of India

In figure 1.2.5, OQ* is the full employment level of output. For the economy to be at full employment equilibrium, aggregate demand should be Q*F. If the aggregate demand is Q*G, it represents a situation of deficient demand. The resulting deflationary gap is FG. Firms will experience unplanned build-up of inventories of unsold goods and they will respond by cutting production and employment leading to decrease in output and income until the under-employment equilibrium is reached at E.

(ii) Inflationary Gap

If the aggregate demand is for an amount of output greater than the full employment level of output, then we say there is excess demand. Excess demand gives rise to 'inflationary gap' which is the amount by which actual aggregate demand exceeds the level of aggregate demand required to establish the full employment equilibrium. This is the sort of gap that tends to occur during a business-cycle expansion and sets in motion forces that will cause demand pull inflation.

Figure 1.2.6
Excess Demand - Inflationary Gap



In figure 1.2.6, the economy will be at full employment equilibrium at F with OQ* full employment level of output and income. Suppose the aggregate demand is for Q*G, there is excess demand and the resulting inflationary gap FG. The real output will be constant, but the rise in the price level will cause an increase in the nominal output until the new equilibrium is reached at point E. Point E is an equilibrium point because the aggregate demand ME is equal to output OM. At the new equilibrium, real output, real income and employment will be the same; nominal output and income has increased due to inflation.

In the Keynesian model, neither wages nor interest rates will decline in the face of abnormally high unemployment and excess capacity. Therefore, output will remain at less than the full employment rate as long as there is insufficient spending in the economy. Keynes argued that this was precisely what was happening during the Great Depression.

© The Institute of Chartered Accountants of India

Numerical Illustrations

ILLUSTRATION 2

Calculate marginal propensity to consume and marginal propensity to save from the following data about an economy which is in equilibrium:

National income = 2500, Autonomous consumption expenditure = 300, Investment expenditure = 100

SOLUTION

Y = C + I

By putting the value we get, 2500 = C + 100

C = 2500 -100 = 2400

$C = \bar{C} + bY$

2400 = 300 + 2500 b

2400-300= 2500b

b = 0.84; MPS= 1- MPC = 1- 0.84 = 0.16

ILLUSTRATION 3

An economy is in equilibrium. Calculate national income from the following-

Autonomous consumption = 100; Marginal propensity to save= 0.2; Investment expenditure= 200

SOLUTION

Y= C + I

$Y = \bar{C}$ + MPC (Y) + I where MPC = 1-MPS

Y = 100 + 0.8Y + 200= 300 + 0.8Y

Y- 0.8Y = 300

0.2Y=300,

Y= 1500

ILLUSTRATION 4

Suppose the consumption of an economy is given by C = 20+ 0.6 Y and investment I= 10+ 0.2 Y. What will be the equilibrium level of National Income?

SOLUTION

Y= C + I= 20+ 0.6 Y + 10+ 0.2 Y

Y = 30+ 0.8 Y

© The Institute of Chartered Accountants of India

Y- 0.8 Y = 30

Y= 150

ILLUSTRATION 5

Suppose the consumption function C= 7+ 0.5Y, Investment is ₹ 100, Find out equilibrium level of Income, consumption and saving?

SOLUTION

Equilibrium Condition–

Y= C +I, Given C= 7+0.5Y and I= 100

Therefore Y= 7+0.5Y+ 100

Y- 0.5Y= 107

$Y= \frac{107}{0.5} = 214$

Y= C+I

214= C+100

C=114

S= Y- C =100

ILLUSTRATION 6

If the consumption function is C= 250 + 0.80 Y and I = 300. Find out equilibrium level of Y, C and S?

SOLUTION

$Y= \frac{1}{1-b}(a+ \bar{I})$or Y = C+ I

$Y= \frac{1}{1-.80}(250+300) = 2750$

$C = a + \frac{b}{1-b}(a+ \bar{I})$or C= 250 + 0.80 Y

C = 250+0.8(2750) C = 2450

S = Y-C where C = a+ bY

S = Y- (a + bY)

S= -a + (1- b) Y

= - 250 + (1 – 0.80)2750= 300

© The Institute of Chartered Accountants of India

Or directly,

S=Y- C

S=2750 – 2450= 300.

ILLUSTRATION 7

If saving function S = -10 + 0.2Y and autonomous investment I = 50 Crores. Find out the equilibrium level of income, consumption and if investment increases permanently by ₹5 Crores, what will be the new level of income and consumption?

SOLUTION

S= I

-10 + 0.2Y = 50

0.2Y = 50+ 10

Y = 300 Crores

C= Y- S

Where S= -10 + 0.2 (300) = 50

C= 300-50 = 250 Crores

With the increase in investment by ₹ 5 Crores, the new investment will become equal to ₹ 55 Crores.

S = I

-10 + 0.2Y = 55

Y= 325 Crores

C= 270 Crores

ILLUSTRATION 8

Given the empirical consumption function C= 100+0.75Y and I = 1000, calculate equilibrium level of national income. What would be the consumption expenditure at equilibrium level national income?

SOLUTION

C= 100+0.75Y and I = 1000,

Y=C+I in equilibrium

Y= 100+0.75 Y + 1000 $=> Y = \frac{I}{1-0.75}$ (100+1000)

Y= $\frac{I}{1-0.75}$ (1100) = 1/0.25 (1100) = 4400.

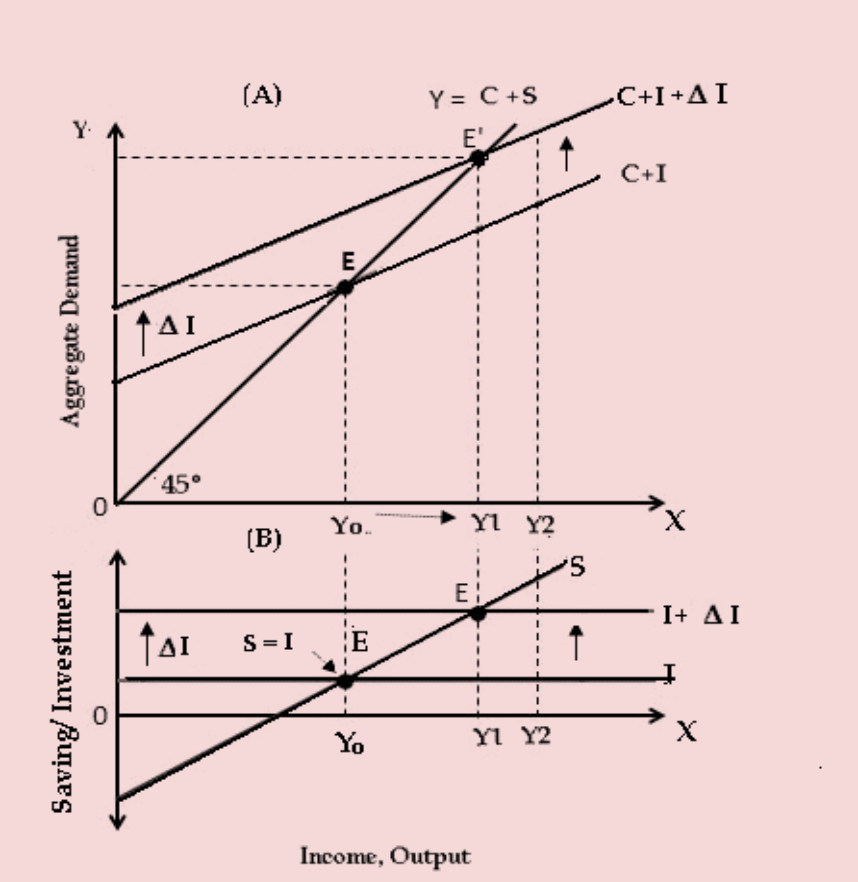
© The Institute of Chartered Accountants of India

Y=C + I; C= 4400 – 1000 = 3400

2.5 THE INVESTMENT MULTIPLIER

In this section we develop an answer to the following question: By how much does a one unit increase in autonomous spending raise the equilibrium level of income? There appears to be a simple answer. Since, in equilibrium , income equals aggregate demand , it would seem that a unit increase in autonomous demand or spending should raise equilibrium income by one unit . That is not correct. In Fact the effect of an increase in investment (upward shift in the investment schedule) causes an upward shift in the aggregate demand function. It is due to a process of multiple increases in equilibrium income due to increase in investment and how much increase occurs depends upon the marginal propensity to consume. The process of increase in national income due to increase in investment depicts the investment multiplier impact illustrated below.

Figure 1.2.7
Effect of Changes in Autonomous Investment



© The Institute of Chartered Accountants of India

In the figure 1.2.7, an increase in autonomous investment by Δ*I* shifts the aggregate demand schedule from C+I to C+I+ΔI. Correspondingly, the equilibrium shifts from E to $E^1$and the equilibrium income increases more than proportionately from Yo to Y_1. Why and how does this happen? This occurs due to the operation of the investment multiplier.

Multiplier refers to the phenomenon whereby increase in investment expenditure will lead to a proportionately larger change (or multiple changes) in the equilibrium level of national income. The investment multiplier explains how many times the equilibrium aggregate income increases as a result of an increase in autonomous investment. When the level of investment increases by an amount, say ΔI, the equilibrium level of income will increase by some multiple amounts, Δ Y. The ratio of ΔY to ΔI is called the investment multiplier, k.

$$k = \frac{\Delta Y}{\Delta I} \qquad (2.11)$$

The size of the multiplier effect is given by Δ Y = k ΔI.

For example, if a change in investment of ₹ 2000 million causes a change in national income of ₹ 6000 million, then the multiplier is 6000/2000 =3. Thus multiplier indicates the change in equilibrium national income for each rupee change in the desired autonomous investment. Since the increase in national income (ΔY) is the result of increase in investment (ΔI), the multiplier is called 'investment multiplier.'

The process behind the multiplier can be compared to the 'ripple effect' of water. Let us assume that the initial disturbance comes from a change in autonomous investment (ΔI) of 500 units. The economy being in equilibrium, an upward shift in aggregate demand leads to an increase in national income which in a two sector economy will be, by definition, distributed as factor incomes. There will be an equal increase in disposable income. Firms experience increased demand and as a response, their output increases. The process further continues as an autonomous rise in investment leads to induced increases in consumer demand as income increases.

We find at the end that the increase in equilibrium income per rupee increase in investment is:

$$\frac{\Delta Y}{\Delta I} = \frac{1}{1-MPC} = \frac{1}{MPS} \qquad (2.12)$$

From the above, we find that the marginal propensity to consume (MPC) is the determinant of the value of the multiplier and that there exists a direct relationship between MPC and the value of multiplier. Higher the MPC more will be the value of the multiplier, and vice-versa. On the contrary, higher the MPS, lower will be the value of multiplier and vice-versa. The maximum value of multiplier is infinity when the value of MPC is 1 i.e. the economy decides

© The Institute of Chartered Accountants of India

to consume the whole of its additional income. We conclude that the value of the multiplier is the reciprocal of MPS.

For example, if the value of MPC is 0.75, then the value of the multiplier as per (2.11) is:

$$\frac{1}{1-MPC} = \frac{1}{0.25} = 4$$

The multiplier concept is central to Keynes's theory because it explains how shifts in investment caused by changes in business expectations set off a process that causes not only investment but also consumption to vary. The multiplier shows how shocks to one sector are transmitted throughout the economy.

Increase in income due to increase in initial investment, does not go on endlessly. The process of income propagation slows down and ultimately comes to a halt. Causes responsible for the decline in income are called leakages. Income that is not spent on currently produced consumption goods and services may be regarded as having leaked out of the income stream. If the increased income goes out of the cycle of consumption expenditure, there is a leakage from the income stream which reduces the effect of multiplier. The more powerful these leakages are, the smaller the value of the multiplier. The leakages are caused due to:

1. progressive rates of taxation which result in no appreciable increase in consumption despite increase in income
2. high liquidity preference and idle saving or holding of cash balances and an equivalent fall in marginal propensity to consume
3. increased demand for consumer goods being met out of the existing stocks or through imports
4. additional income spent on purchasing existing wealth or purchase of government securities and shares from shareholders or bondholders
5. undistributed profits of corporations
6. part of increment in income used for payment of debts
7. case of full employment additional investment will only lead to inflation, and
8. scarcity of goods and services despite having high MPC

The MPC, on which the multiplier effect of increase in income depends, is high in underdeveloped countries; but ironically the value of multiplier is low. Due to structural inadequacies, increase in consumption expenditure is not generally accompanied by increase in production. E.g. increased demand for industrial goods consequent on increased income does not lead to increase in their real output; rather prices tend to rise.

© The Institute of Chartered Accountants of India

An important element of Keynesian models is that they relate to short-period equilibrium and contain no dynamic elements. There is nothing like Keynesian macro-economic dynamics. When a shock occurs, for example when there is a change in autonomous investment due to change in some variable, one equilibrium position can be compared with another as a matter of comparative statics. There is no link between one period and the next and no provision is made for an analysis of processes through time.

Numerical Illustrations

ILLUSTRATION 9

In an economy investment expenditure is increased by ₹400 Crores and marginal propensity to consume is 0.8. Calculate the total increase in income and saving.

SOLUTION

MPC = 0.8; ΔI = 400 Crores

Multiplier (K)= 1 /1- MPC = 1 /1- 0.8 =1/ 0.2= 5

MPS= 1 - MPC = 1 – 0.8 = 0.2

Increase in income (ΔY) = K ×ΔI = 5 × 400=2,000 Crores

Increase in saving= ΔY × MPS = 2,000 × 0.2 = 400 Crores

ILLUSTRATION 10

An increase in investment by 400 Crores leads to increase in national income by 1,600 Crores. Calculate marginal propensity to consume.

SOLUTION

Increase in investment (ΔI) = 400 Crores

Increase in national income (Δ Y) = 1,600 Crores

Multiplier (K) =ΔY/ΔI = K= 1,600/ 400 = 4

We know, K= 1 /1 –MPC

4= 1 /1 -MPC

⇨ MPC= 0.75

ILLUSTRATION 11

In an economy, investment is increased by Rs 600 Crores. If the marginal propensity to consume is 0.6, calculate the total increase in income and consumption expenditure.

© The Institute of Chartered Accountants of India

SOLUTION

MPC = 0.6; ΔI = ₹ 600 Crores

Multiplier (K) = 1/ 1- MPC = 1/ 1 – 0.6 = 1/ 0.4 =25.

Increase in income (ΔY) = K × ΔI = 2.5 × Rs 600 Crores= ₹ 1,500 Crores

Increase in consumption (ΔC) =ΔY × MPC = Rs1, 500Crores × 0.6 = ₹ 900 Crores.

ILLUSTRATION 12

Suppose in a country investment increases by ₹ 100 Crores and consumption is given by C = 10 + 0.6Y (where C = consumption and Y = income). How much increases will there take place in income?

SOLUTION

Multiplier = k = $\frac{1}{1-MPC}$ k = $\frac{1}{1-0.6}$ = 2.5

Substituting the value of k and ΔI value in ΔY= kΔI

ΔY= 2.5 × 100= ₹ 250Crores

Thus, increase in investment by Rs 100 Crores will cause equilibrium income to rise by ₹ 250 Crores.

2.6 DETERMINATION OF EQUILIBRIUM INCOME: THREE SECTOR MODEL

Aggregate demand in the three sector model of closed economy (neglecting foreign trade) consists of three components namely, household consumption(C), desired business investment demand(I) and the government sector's demand for goods and services(G). Thus in equilibrium, we have

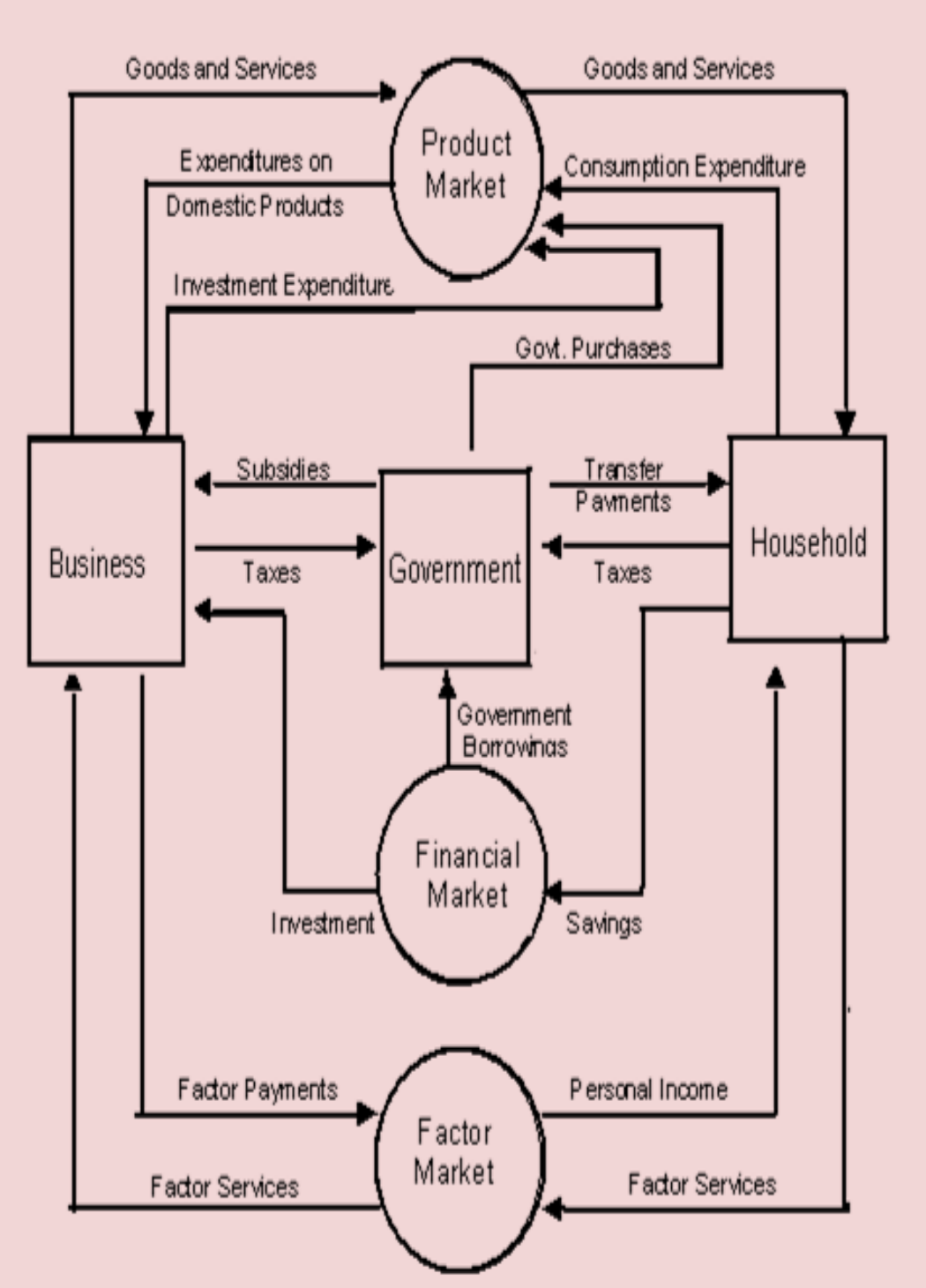
$$Y = C+I+G \qquad (2.13)$$

Since there is no foreign sector, GDP and national income are equal. As prices are assumed to be fixed, all variables are real variables and all changes are in real terms. To help interpret these conditions, we turn to the flowchart below. Each of the variables in the model is a flow variable.

© The Institute of Chartered Accountants of India

Figure 1.2.8

Circular Flow in a Three Sector Economy



© The Institute of Chartered Accountants of India

The three-sector, three-market circular flow model which accounts for government intervention highlights the role played by the government sector. From the above flow chart, we can find that the government sector adds the following key flows to the model:

i) Taxes on households and business sector to fund government purchases

ii) Transfer payments to household sector and subsidy payments to the business sector

iii) Government purchases goods and services from business sector and factors of production from household sector, and

iv) Government borrowing in financial markets to finance the deficits occurring when taxes fall short of government purchases

However, unlike in the two sector model, the whole of national income does not return directly to the firms as demand for output. There are two flows out of the household sector in addition to consumption expenditure namely, saving flow and the flow of tax payments to the government. These are actually leakages. The saving leakage flows into financial markets, which means that the part that is saved is held in the form of some financial asset (currency, bank deposits, bonds, equities, etc.). The tax flow goes to the government sector.

The leakages which occur in the household sector do not necessarily mean that the total demand must fall short of output. There are additional demands for output on the part of the business sector itself for investment and from the government sector. In terms of the circular flow, these are injections. The investment injection is shown as a flow from financial markets to the business sector. The purchasers of the investment goods, typically financed by borrowing, are actually the firms in the business sector themselves. Thus, the amount of investment in terms of money represents an equivalent flow of funds lent to the business sector.

The three-sector Keynesian model is commonly constructed assuming that government purchases are autonomous. This is not a realistic assumption, but it will simplify our analysis. Determination of income can also be explained with the help of aggregate demand and aggregate supply (figure 1.2.9)

$$AD = C + I + G$$

$$AS = C + S + T$$

The equilibrium national income is determined at a point where both aggregate demand and aggregate supply are equal, that is,

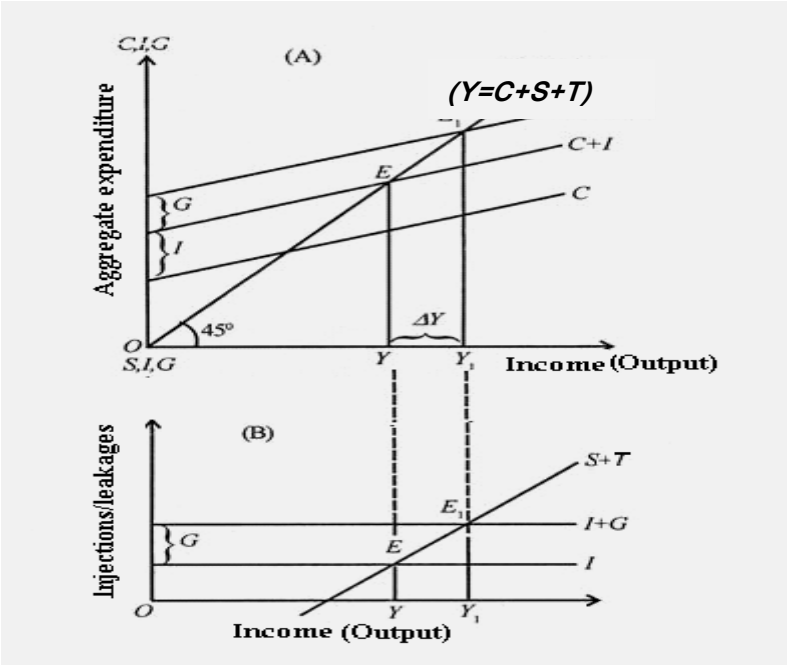
$$AD = Y = AS$$

$$C + I + G = Y = C + S + T$$

© The Institute of Chartered Accountants of India

Figure 1.2.9

Determination of Equilibrium Income: Three Sector Model



The variables measured on the vertical axis are C, I and G. The autonomous expenditure components namely, investment and government spending do not directly depend on income and are exogenous variables determined by factors outside the model. You may observe that in panel B of the figure 1.2.9, the lines that plot these autonomous expenditure components are horizontal as their level does not depend on Y. Therefore, C + I + G schedule lies above the consumption function by a constant amount.

The line S + T in the graph plots the value of savings plus taxes. This schedule slopes upwards because saving varies positively with income. Just as government spending, level of tax receipts (T) is decided by policy makers.

The equilibrium level of income is shown at the point E_1 where the (C + I + G) schedule crosses the 45° line, and aggregate demand is therefore equal to income (Y). In equilibrium, it is also true that the (S + T) schedule intersects the (I + G) horizontal schedule.

We shall now see why other points on the graph are not points of equilibrium. Consider a level of income below Y. We find that it generates consumption as shown along the consumption function. When this level of consumption is added to the autonomous expenditures (I + G), aggregate demand exceeds income; the (C + I + G) schedule is above the 45° line. Equivalently at this point I + G is greater than S + T, as can be seen in panel B of the figure 1.2.9. With demand outstripping production, desired investments will exceed actual investment and there will be an unintended inventory shortfall and therefore a tendency for

© The Institute of Chartered Accountants of India

output to rise. Conversely, at levels of income above Y_1, output will exceed demand; people are not willing to buy all that is produced. Excess inventories will accumulate, leading businesses to reduce their future production. Employment will subsequently decline and output will fall back to the equilibrium level. It is only at Y that output is equal to aggregate demand; there is no unintended inventory shortfall or accumulation and, consequently, no tendency for output to change. An important thing to note is that the change in total spending, followed by changes in output and employment, is what will restore equilibrium in the Keynesian model, not changes in prices.

2.6.1 The Government Sector and Income Determination

We have seen above that the government influences the level of income through taxes, transfer payments, government purchases and government borrowing. A comprehensive discussion on the effect of government fiscal policy is beyond the scope of this unit; and therefore, we shall look into a few variables.

(i) Income Determination with Lump Sum Tax

We assume that the government imposes a lump sum tax, i.e. taxes that do not depend on income, has a balanced budget (G=T) and also that there are no transfer payments. The consumption function is defined as –

$C = a + b\ Y_d$

Where $Y_d = Y - T$ (disposable income), T = lump sum tax

$Y = a + b\ (Y - T) + I + G$

$Y = \frac{1}{1-b}(a-bT+I+G)$

Numerical Illustrations

ILLUSTRATION 13

Suppose we have the following data about a simple economy:

$C = 10 + 0.75Y_d$, $I = 50$, $G = T = 20$where C is consumption, I is investment, Y_d is disposable income, G is government expenditure and T is tax.

(a) Find out the equilibrium level of national income.

(b) What is the size of the multiplier?

SOLUTION

(a) Since G = T, budget of the government is balanced

Substituting the values of C, I and G in Y we have

© The Institute of Chartered Accountants of India

Y=C+I+G

$Y = a + bY_d + I + G$

Y= 10 + 0.75 (Y – 20) + 50 + 20

Y= 10 + 0.75 Y- 15 + 50 + 20

or, Y – 0.75 Y = 65

or, Y (1 – 0.75) = 65

or, 0.25 Y = 65

or, Y = 65 /.25 = 260

The equilibrium value of Y = 260

(b) The value of the multiplier is = 1/ (1 – MPC) = 1/ (1 – b) = 1/ (1 – 0.75) = 1/0.25 = 4

(ii) Income Determination with Lump Sum Tax and Transfer payments

The consumption function is defined as –

$C = a + b Y_d$

Where Y_d= Y- T+ TR where T is a lump sum tax and TR is autonomous transfer payments

C = a+ b (Y - T + TR)

Y= C+ I+ G

Y= a+ b (Y - T + TR) + I + G

Y= a +bY – bT +bTR + I + G

Y – bY= a – bT +bTR + I + G

Y(1-b)= a – bT +bTR + I + G

$Y = \frac{1}{1-b}(a - bT + bTR + I + G)$

ILLUSTRATION 14

Suppose the structural model of an economy is given –

C = 100+ 0.75 Yd; I = 200, G = T = 100; TR= 50, find the equilibrium level of income?

SOLUTION

Y= C+ I+ G

Y = 100+ 0.75 Yd + 200 + 100

Y= 100 + 0.75(Y– 100 + 50) + 200 + 100

© The Institute of Chartered Accountants of India

Y = 100 + 0.75Y -75 + 37.5 +200 +100

Y = 1450

Or use Y = $\frac{1}{1-b}(a - bT + bTR + I + G)$ to calculate income.

(iii) Income Determination with tax as a function of Income

In (i) and (ii) above, we have analysed the effect of balanced budget with an autonomous lump sum tax. In reality, the tax system consists of both lump sum tax and proportional taxes. The tax function is defined as;

Tax function $T = \bar{T} + t Y$

Where $\bar{T}$ = autonomous constant tax

t = income tax rate

T = total tax

The consumption function is

$C = a + b Y_d$

Where $Y_d = Y - T$ or $Y - \bar{T} - t Y$

$C = a + b(Y - \bar{T} - t Y)$

Therefore, the equilibrium level of national income can be measured as-

$Y = C + I + G$

$Y = a + bYd + I + G$

$Y = a + b(Y - \bar{T} - tY) + I + G$

$Y = a + bY - b\bar{T} - b t Y + I + G$

$Y - bY + btY = a - b\bar{T} + I + G$

$Y (1 - b + bt) = a - b\bar{T} + I + G$

$Y = \frac{1}{1-b(1-t)} (a - b\bar{T} + I + G)$

Where $\frac{1}{1-b(1-t)}$ (represent the tax multiplier)

ILLUSTRATION 15

For a closed economy, the following data is given –

Consumption C = 75 + 0.5 (Y-T); Investment I = 80; Total tax T = 25 + 0.1Y; Government expenditure G = 100.

© The Institute of Chartered Accountants of India

(a) Find out equilibrium income?

(b) What is the value of multiplier?

SOLUTION

a) $Y = C + I + G$

$Y = 75 + 0.5(Y - 25 - 0.1Y) + 80 + 100$

$Y(1-0.5+0.05) = 75-12.5+80+100$

$Y = \frac{1}{1-0.5+0.05}(242.5)$

$Y = 440.91$

b) Multiplier $= \frac{1}{1-b(1-t)} = 1/[1-0.5(1-0.1)] = 1.82$

(iv) Income Determination with Tax (as a Function of Income), Government Expenditure and Transfer Payments

Here consumption function is written as $C = a + b(Y - \bar{T} - tY + TR)$

$Y = a + b(Y - \bar{T} - tY + TR) + I + G$

$Y = \frac{1}{1-b(1-t)}(a - b\bar{T} + bTR + I + G)$

ILLUSTRATION 16

Suppose C= 100 + 0.80 (Y- T + TR); I = 200; T= 25+0.1Y; TR= 50; G = 100

Find out equilibrium level of Income?

SOLUTION

$Y = C + I + G$

$Y = 100 + 0.80 (Y - T + TR) + I + G$

$Y = 100 + 0.80(Y - 25 - 0.1Y + 50) + 200 + 100$

$Y - 0.80 Y + 0.08 Y = 420$

$Y(1-0.8+0.08) = 420$

$Y = 1500$

© The Institute of Chartered Accountants of India

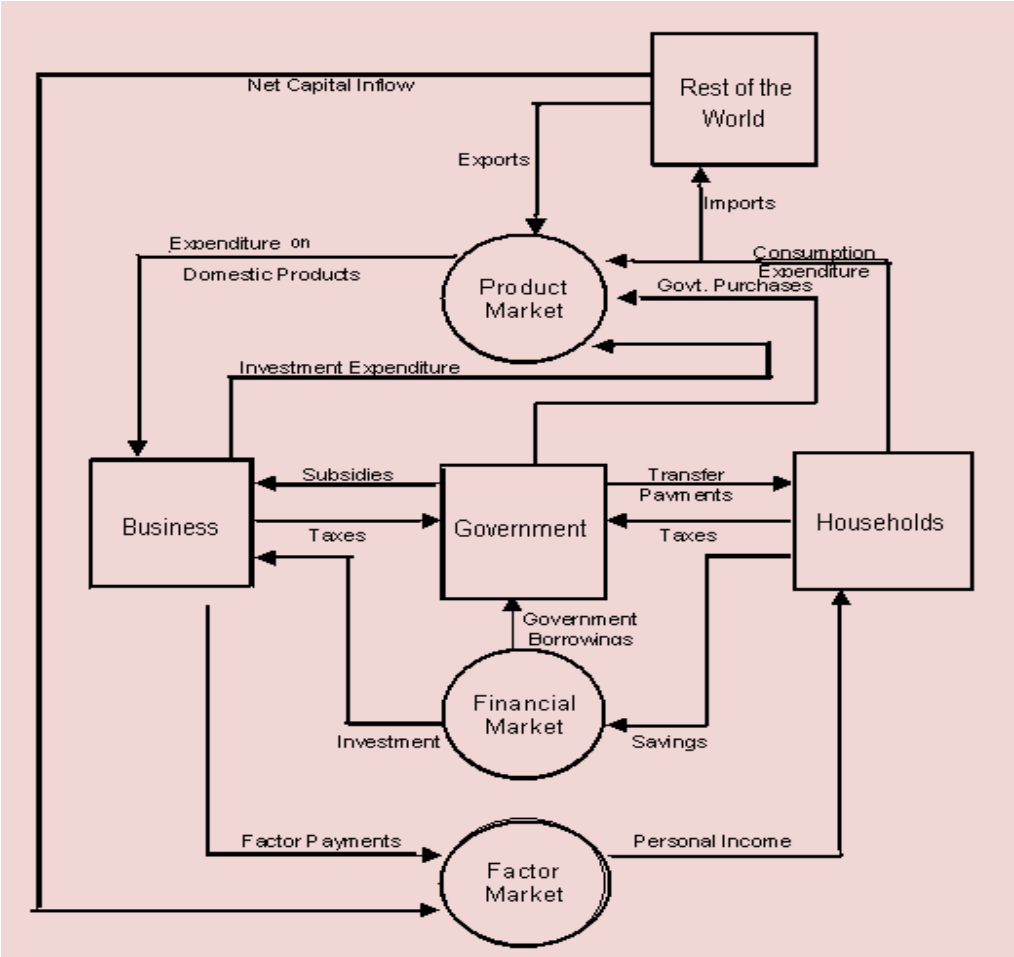
2.7 DETERMINATION OF EQUILIBRIUM INCOME: FOUR SECTOR MODEL

The four sector model includes all four macroeconomic sectors, the household sector, the business sector, the government sector, and the foreign sector. The foreign sector includes households, businesses, and governments that reside in other countries. The following flowchart shows the circular flow in a four sector economy.

In the four sector model, there are three additional flows namely: exports, imports and net capital inflow which is the difference between capital outflow and capital inflow. The C+I+G+(X-M) line indicates the aggregate demand or the total planned expenditures of consumers, investors, governments and foreigners (net exports) at each income level.

Figure 1.2.10

Circular Flow in a Four Sector Economy



© The Institute of Chartered Accountants of India

In equilibrium, we have

$$Y = C + I + G + (X-M) \qquad (2.14)$$

The domestic economy trades goods with the foreign sector through exports and imports. Exports are the injections in the national income, while imports act as leakages or outflows of national income. Exports represent foreign demand for domestic output and therefore, are part of aggregate demand. Since imports are not demands for domestic goods, we must subtract them from aggregate demand. The demand for imports has an autonomous component and is assumed to depend on income. Imports depend upon marginal propensity to import which is the increase in import demand per unit increase in GDP. The demand for exports depends on foreign income and is therefore exogenously determined and autonomous. Imports are subtracted from exports to derive net exports, which is the foreign sector's contribution to aggregate expenditures. Since import has an autonomous component ($\bar{M}$) and is assumed to depend on income(Y) and marginal propensity to import (m), the import function is expressed as $M = \bar{M} + mY$. Marginal propensity to import $m = \Delta M/\Delta Y$ is assumed to be constant.

As noted above, the equilibrium level of national income is determined at the level at which the aggregate demand is equal to aggregate supply. As the aggregate demand in the four sector model is given in equation 2.14, the equilibrium condition is expressed as follows -

$$Y = C + I + G + (X - M)$$

$$\text{Where } C = a + b(Y-T)$$

$$M = \bar{M} + mY$$

The equilibrium level of National Income can now be expressed by –

$$Y = C + I + G + (X - M)$$

$$Y = a + b\,(Y - T) + I + G + X - \bar{M} - mY$$

$$Y - bY + mY = a - bT + I + G + X - \bar{M}$$

$$Y = \frac{1}{1 - b + m}\,(a - b\,T + I + G + X - \bar{M})$$

The economy being in equilibrium, suppose export of country increases by ΔX autonomously, all other factors remaining constant. By incorporating the increase in exports by ΔX, the equilibrium equation of the country can be expressed as

$$Y + \Delta Y = \frac{1}{1-b+m}\,(a - b\,T + I + G + X - \bar{M} + \Delta X) \text{ or}$$

© The Institute of Chartered Accountants of India

$$Y + \Delta Y = \frac{1}{1-b+m}(a - b\,T + I + G + X - \bar{M}) + \frac{1}{1-b+m}\Delta X$$

As, $Y = \frac{1}{1-b+m}(a - b\,T + I + G + X - \bar{M})$

We get, $Y + \Delta Y = Y + \frac{1}{1-b+m}\Delta X$

Subtracting Y from both sides, we get $\Delta Y = \frac{1}{1-b+m}\Delta X$

By rearranging $\Delta Y = \frac{1}{1-b+m}\Delta X$, we get

$$\frac{\Delta Y}{\Delta X} = \frac{1}{1-b+m}$$

Or alternatively written as

$$\frac{\Delta Y}{\Delta X} = \frac{1}{1-(b-m)}$$

The term $\frac{1}{1-b+m}$ is known as foreign trade multiplier whose value is determined by marginal propensity to consume (b) and marginal propensity to import (m).

If in the model proportional income tax and government transfer payments are incorporated, then only the denominator of multiplier will change. If income tax is of form $T = \bar{T} + t\,Y$ where $\bar{T}$ is constant lump-sum, t is the proportion of income tax and TR > 0 and autonomous, then the four sector model can be expressed as: –

$$Y = C + I + G + (X - M)$$

Where $C = a + b(Y - \bar{T} - t\,Y + TR)$

$$M = \bar{M} + mY.$$

The equilibrium level of National Income can now be expressed as:

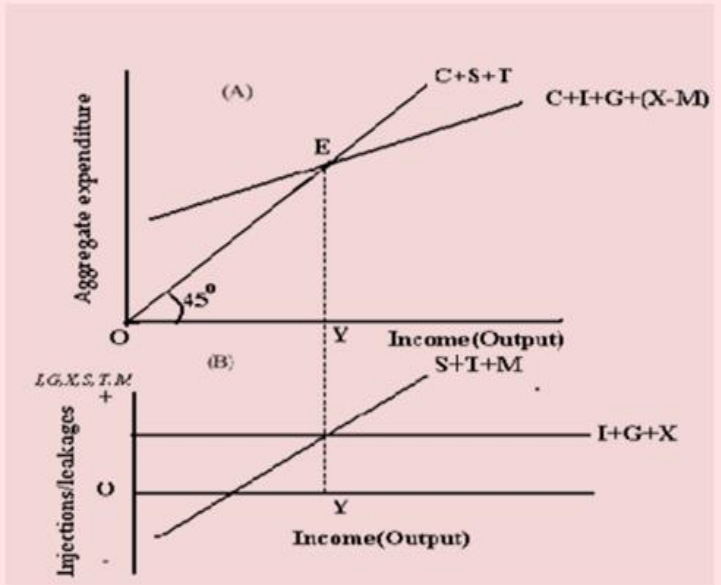
$$Y = \frac{1}{1-b(1-t)+m}(a - b\,\bar{T} + b\,TR + I + G + X - \bar{M})$$

With the help of figure 1.2.11, we shall explain income determination in the four sector model.

© The Institute of Chartered Accountants of India

Figure 1.2.11

Determination of Equilibrium Income: Four Sector Model

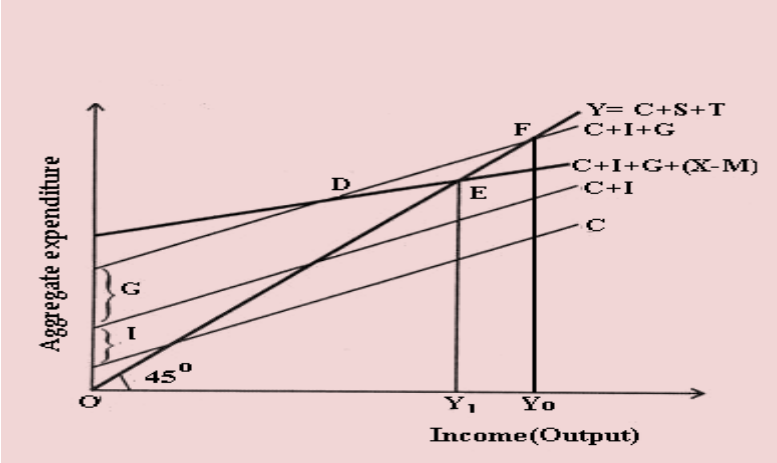


Equilibrium is identified as the intersection between the C + I + G + (X - M) line and the 45-degree line. The equilibrium income is Y. From panel B, we find that the leakages(S+T+M) are equal to injections (I+G+X) only at equilibrium level of income.

We have seen above that only net exports(X-M) are incorporated into the four sector model of income determination. We know that injections increase the level of income and leakages decrease it. Therefore, if net exports are positive (X > M), there is net injection and national income increases. Conversely, if X<M, there is net withdrawal and national income decreases.

Figure 1.2.12

Effects on Income When Imports are Greater than Exports



© The Institute of Chartered Accountants of India

We have seen in section 2.5 above that equilibrium income is expressed as a product of two terms: $\Delta Y = k \Delta I$; i.e. the level of autonomous investment expenditure and the investment multiplier. The autonomous expenditure multiplier in a four sector model includes the effects of foreign transactions and is stated as $\frac{1}{(1-b+m)}$ where 'm' is the propensity to import which is greater than zero. You may recall that the multiplier in a closed economy is $\frac{1}{(1-b)}$

The greater the value of 'm', the lower will be the autonomous expenditure multiplier. The more open an economy is to foreign trade, (the higher mis) the smaller will be the response of income to aggregate demand shocks, such as changes in government spending or autonomous changes in investment demand. The higher the value of 'm',the larger the proportion of this induced effect on demand for foreign, not domestic, consumer goods. The increase in imports per unit of income constitutes an additional leakage from the circular flow of (domestic) income at each round of the multiplier process and reduces the value of the autonomous expenditure multiplier.

An increase in demand for exports of a country is an increase in aggregate demand for domestically produced output and will increase equilibrium income just as an increase in government spending or an autonomous increase in investment. In summary, an increase in the demand for a country's exports has an expansionary effect on equilibrium income, whereas an autonomous increase in imports has a contractionary effect on equilibrium income. However, this should not be interpreted to mean that exports are good and imports are harmful in their economic effects. Countries import goods that can be more efficiently produced abroad, and trade increases the overall efficiency of the worldwide allocation of resources. This forms the rationale for attempts to stimulate the domestic economy by promoting exports and restricting imports.

Numerical Illustration

ILLUSTRATION 17

The consumption function is C = 40 + 0.8Y_d,T= 0.1Y, I = 60 Crores G = 40 Crores, X = 58 and M = 0.05 Y. Find out equilibrium level of income, Net Export, net export if export were to increase by 6.25.

SOLUTION

C= 40+ 0.8Y_d

C= 40 + 0.8 (Y- 0.1Y)

Y= C + I+ G + (X – M)Y= 40+0.8(Y-0.1Y)+60+40+(58-0.05Y)

Y= 40+0.8(0.9Y)+60+40+58-0.05Y

Y-0.72Y+0.05Y =198

© The Institute of Chartered Accountants of India

Y(1-0.72+0.05) =198

Y(0.33) =198

Y= 198/0.33 = 600 Crores

Net Export= X-M = 58 – 0.05Y

58 – 0.05 (600) =58- 30= 28

If exports increase by 6.25, then exports = 64.25

Then, Y = 40+ 0.8 (Y- 0.1Y) + 60 + 40 + (64.25- 0.05Y)

Y(1-0.72+0.05) = 204.5

Y(0.33) = 204.5

Y=204.5/0.33 = 619.697

Then import = .05 × 619.697= 30.98

Net Export= 64.25- 30.98= 33.27 Crores

Thus, there is surplus in balance of trade as Net Exports are positive.

ILLUSTRATION 18

An economy is characterised by the following equation-

Consumption	$C = 60+0.9Y_d$
Investment	I = 10
Government expenditure	G = 10
Tax	T = 0
Exports	X = 20
Imports	M = 10 +0.05 Y

What is the equilibrium income?

Calculate trade balance and foreign trade multiplier.

SOLUTION

Y = C + I+ G + (X – M)

= 60+0.9(Y – 0) + 10 +10 + (20- 10 -0.05Y)

= 60+ 0.9 Y +30 -0.05 Y

Y= 600

© The Institute of Chartered Accountants of India

Trade Balance = X – M = 20-10-0.05(600)=- 20

Thus, trade balance in deficit.

Foreign trade multiplier= $\frac{1}{1-b+m}=\frac{1}{\&1-0.9+0.05}$ = 6.66

2.8 CONCLUSION

According to the Keynesian theory of income and employment, national income depends upon the aggregate effective demand. If the aggregate effective demand falls short of that output at which all those who are both able and willing to work are employed, it will result in unemployment in the economy. Consequently, there will be a gap between the economy's actual and optimum potential output. On the contrary, if the aggregate effective demand exceeds the economy's full employment output (production capacity), it will result in inflation. Nominal output will increase, but it simply reflects higher prices, rather than additional real output. It is not necessary that the equilibrium aggregate output will also be the full employment aggregate output. It is undesirable and a cause of great concern for the society and government if a large number of people remain unemployed. In the absence of government policies to stabilise the economy, incomes will be unstable because of the instability of investment. By making appropriate changes in government spending (G) and taxes, the government can counteract the effects of shifts in investment. Appropriate changes in fiscal policy by adjusting government expenditure and taxes could keep the autonomous expenditure constant even in the face of undesirable changes in the investment.

SUMMARY

- John Maynard Keynes in his masterpiece 'The General Theory of Employment Interest and Money' published in 1936 put forth a comprehensive theory to explain the determination of equilibrium aggregate income and output in an economy.
- The equilibrium analysis is best understood with a hypothetical simpletwo-sector economy which has only households and firms with all prices (including factor prices), supply of capital and technology constant; the total income produced *Y*, accrues to the households and equals their disposable personal income.
- The equilibrium output occurs when the desired amount of output demanded by all the agents in the economy exactly equals the amount produced in a given time period.
- In the two-sector economy aggregate demand (AD) or aggregate expenditure consists of only two components: aggregate demand for consumer goods and aggregate

© The Institute of Chartered Accountants of India

demand for investment goods, *I* being determined exogenously and constant in the short run.

- Consumption function expresses the functional relationship between aggregate consumption expenditure and aggregate disposable income, expressed as C = f (Y).The specific form consumption function, proposed by Keynes C = a + bY
- The value of the increment to consumer expenditure per unit of increment to income *(b)* is termed the Marginal Propensity to Consume (MPC).
- The Keynesian assumption is that consumption increases with an increase in disposable income ($b > 0$), but that the increase in consumption will be less than the increase in disposable income ($b < 1$).
- The propensity to consume refers to the proportion of the total and the marginal incomes which people spend on consumer goods and services.
- The proportion or fraction of the total income consumed is called 'average propensity to consume' *(APC)*= Total Consumption /Total Income
- Since $Y = C + S$, consumption and saving functions are counterparts of each other. The condition for national income equilibrium can thus be expressed as C + I = C + S
- Changes in income are primarily from changes in the autonomous components of aggregate demand, especially from changes in the unstable investment component.
- The investment multiplier k is defined as the ratio of change in national income (ΔY) due to change in investment (ΔI)
- The marginal propensity to consume (MPC) is the determinant of the value of the multiplier. The higher the marginal propensity to consume (MPC) the greater is the value of the multiplier.
- The more powerful the leakages are, the smaller will be the value of multiplier.
- Aggregate demand in the three sector model of closed economy (neglecting foreign trade) consists of three components namely, household consumption(C), desired business investment demand(I) and the government sector's demand for goods and services(G).
- The government sector imposes taxes on households and business sector,effects transfer payments to household sector and subsidy payments to the business sector, purchases goods and services and borrow from financial markets.
- In equilibrium, it is also true that the (S + T) schedule intersects the (I + G) horizontal schedule.

© The Institute of Chartered Accountants of India

- Taxes act as leakage from the economic system. Thus, tax multiplier when, $T=\bar{T}-tY$, is $\frac{1}{1-b(1-t)} < \frac{1}{(1-b)}$
- The four sector model includes all four macroeconomic sectors, the household sector, the business sector, the government sector, and the foreign sector and in equilibrium, we have Y = C + I + G + (X-M)
- The domestic economy trades goods with the foreign sector through exports and imports.
- Imports are subtracted from exports to derive net exports, which is the foreign sector's contribution to aggregate expenditures. If net exports are positive (X > M), there is net injection and national income increases. Conversely, if X<M, there is net withdrawal and national income decreases.
- The autonomous expenditure multiplier in a four sector model includes the effects of foreign transactions and is stated as $\frac{1}{(1-b+m)}$ against $\frac{1}{(1-b)}$ in a closed economy.
- The greater the value of *m*, the lower will be the autonomous expenditure multiplier.
- An increase in the demand for exports of a country is an increase in aggregate demand for domestically produced output and will increase equilibrium income just as would an increase in government spending or an autonomous increase in investment.

TEST YOUR KNOWLEDGE

Multiple Choice Questions

1. *In the Keynesian model, equilibrium aggregate output is determined by*
   - *(a) aggregate demand*
   - *(b) consumption function*
   - *(c) the national demand for labor*
   - *(d) the price level*
2. *Keynes believed that an economy may attain equilibrium level of output*
   - *(a) only at the full-employment level of output*
   - *(b) below the full-employment level of output*
   - *(c) only if prices were inflexible*
   - *(d) a) and c) above*

© The Institute of Chartered Accountants of India

3. *According to Keynes, consumption expenditure is determined by*

   (a) *the level of interest rates*

   (b) *extent of government taxes and subsidies*

   (c) *disposable income*

   (d) *autonomous investment expenditure*

4. *The marginal propensity to consume (MPC) can be defined as*

   (a) *a change in spending due to a change in income*

   (b) *a change in income that is saved after consumption*

   (c) *part of income that is spent on consumption.*

   (d) *part of income that is not saved.*

5. *If the consumption function is expressed as C = a + bY then b represents*

   (a) *autonomous consumer expenditure when income is zero*

   (b) *the marginal propensity to consume.*

   (c) *the expenditure multiplier when consumption is increased*

   (d) *part of disposable income*

6. *If the consumption function is expressed as C = a + bY then a represents*

   (a) *autonomous consumer expenditure.*

   (b) *the marginal propensity to consume.*

   (c) *the consumption income relationship*

   (d) *Non- linear consumption function*

7. *If the consumption function is C = 20 + 0.5Yd, then an increase in disposable income by ₹ 100 will result in an increase in consumer expenditure by ₹----------*

   (a) *25*

   (b) *70*

   (c) *50*

   (d) *100*

8. *If the autonomous consumption equals ₹ 2,000 and the marginal propensity to consume equals 0.8. If disposable income equals ₹ 10,000, then total consumption will be ₹_____*

   (a) *8,000*

© The Institute of Chartered Accountants of India

(b) 6,000

(c) 10,000

(d) None of the above

9. In the Keynesian cross diagram, the point at which the aggregate demand function crosses the 45-degree line indicates the

(a) level of full employment income.

(b) less than full employment level of income.

(c) equilibrium level of income which may or may not be full employment level of income

(d) autonomous level of income which may not be full employment level of income

10. In a closed economy, aggregate demand is the sum of

(a) consumer expenditure, demand for exports and government spending.

(b) consumer expenditure, planned investment spending and government spending.

(c) consumer expenditure, actual investment spending, government spending and net exports.

(d) consumer expenditure, planned investment spending, government spending, and net exports.

11. Under equation C= a+by, b=0.8, what is the value of 2 sector expenditure multiplier?

(a) 4

(b) 2

(c) 5

(d) 1

ANSWERS

1.	**(a)**	2.	**(b)**	3.	**(c)**	4.	**(a)**	5.	**(b)**	6.	**(a)**
7.	**(c)**	8.	**(c)**	9.	**(c)**	10.	**(b)**	11.	**(c)**		

© The Institute of Chartered Accountants of India

CHAPTER 7

PUBLIC FINANCE

UNIT – 1: FISCAL FUNCTIONS: AN OVERVIEW, CENTRE AND STATE FINANCE

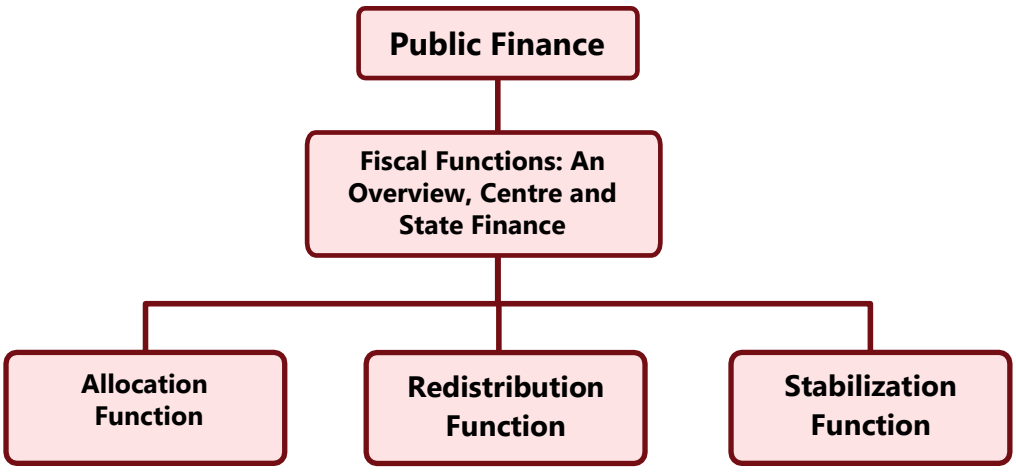
LEARNING OUTCOMES

After studying this Chapter, you will be able to –

- Explain the three-branch taxonomy of the role of government in a market economy
- Analyze the governmental economic actions and classify them according to the economic functions of the government
- Elucidate the nature of finances and responsibilities of the centre and state governments
- Describe the mode of division of resources between the union and the states

© The Institute of Chartered Accountants of India

CHAPTER OVERVIEW



1.1 INTRODUCTION

The governments of all nations have important economic functions even where markets constitute the basic resource allocation mechanism. The size and scope of government in market economies have grown much larger over the past few decades. The primary goal of the state is to promote the general welfare of the society. What governments do, or do not do, will obviously have an important impact on the economic performance of an economy and the quality of life of its citizens.

Governments at various levels involve in several operations for running the state. For example; the government raises money from various sources, incurs expenditures, consumes goods and services, borrows money, employs people, and provides key institutions such as property rights. The governments also establish and administer rules and regulations and puts in place policies concerning all aspects of life of people. We have experienced in our day-to-day life that though governments at various levels impose many rules and regulations in the economy, some matters still go unregulated. Similarly, most of the goods and services that we consume are provided to us by private producers, but there is broad agreement that certain goods and services should be provided exclusively by the government. For a variety of reasons, we believe that governments should accomplish some activities and should not do others.

© The Institute of Chartered Accountants of India

As we know, Macroeconomics is the study of the economy as a whole. There are three main macroeconomic goals for any nation. The first is economic growth. If the real gross domestic product grows at a faster rate than population, then people can enjoy higher standard of living. The second goal is high levels of employment which will ensure higher income and higher output. When unemployment occurs, it harms not only the unemployed, but the society as a whole because there is loss of output that could have been produced. The third macroeconomic goal is stable price levels. Inflation reduces real incomes and purchasing power of some people, and disproportionately affects lower income families. On the contrary, deflation signals a downturn in economic activity which may cause recession or even depression and large scale unemployment. By ensuring stable prices, an economy can avoid prolonged inflation and deflation and achieve high levels of economic activity and employment.

The government does not expect the economy to function automatically; rather it intervenes to direct them to function in particular directions. Such intervention on the part of the government is based on the belief that the objective of the economic system and the role of government is to improve the wellbeing of individuals and households. The purpose of this lesson is to examine the economic functions of the government and to understand why the government should invariably perform them.

1.2 THE ROLE OF GOVERNMENT IN AN ECONOMIC SYSTEM

We shall first consider why an 'economic system' should be in place. The basic economic problem of scarcity arises from the fact that wants are unlimited and the resources available to any society are limited. Consequently an economy cannot produce all economic goods and services that its members desire to have. Therefore, an economic system by which a society (households, businesses, and government) makes decisions about allocating resources to produce products and about distributing those products should exist to answer the basic questions such as what, how and for whom to produce and how much resources should be set apart to ensure growth of productive capacity.

The modern society, in general, offers three alternate economic systems through which the decisions of resource reallocation may be made namely, the market, the government and a mixed system where both markets and governments simultaneously determine resource allocation. Correspondingly, we have three economic systems namely, capitalism, socialism and mixed economy, each with different degrees of state intervention in economic activities.

Adam Smith is often described as a bold advocate of free markets and minimal governmental activity. Smith believed that government's roles in society should be limited, but well defined

© The Institute of Chartered Accountants of India

However, Smith saw an important resource allocation role for the government when he underlined the role of government in:

(a) national defence to protect the nation from external violence and invasion,

(b) establishing a system of justice to provide internal law and order and to protect property

(c) establishment and maintenance of highly beneficial public institutions and public works such as roads, bridges, canals, harbours, and postal system that profit-seeking individuals may not be able to efficiently build and operate.

Since the 1930s, more specifically, as a consequence of the great depression, the state's role in the economy has been distinctly gaining in importance, and therefore, the traditional functions of the state have been supplemented with what is referred to as economic functions (also called fiscal functions or public finance function). While there are differences among different countries in respect of the nature and extent of government intervention in economies, all of them agree on one point that the governments are expected to play a major role in the economy. This comes out of the belief that government intervention will always influence the performance of the economy in a positive way.

Richard Musgrave, in his classic treatise 'The Theory of Public Finance' (1959), introduced the three-branch taxonomy of the role of government in a market economy. Musgrave believed that, for conceptual purposes, the functions of the government are to be separated into three, namely,

(a) resource allocation (to ensure efficiency),

(b) income redistribution (to guarantee fairness), and

(c) macroeconomic stabilization (to ensure price stability).

The allocation and distribution functions are primarily microeconomic functions, while stabilization is a macroeconomic function. The allocation function aims to correct the sources of inefficiency in the economic system, while the distribution role ensures that the distribution of wealth and income is fair. Monetary and fiscal policies, the problems of macroeconomic stability, economic growth and maintenance of high levels of employment and price stability etc. fall under the stabilization function.

The national budget, in general, reflects the economic policy of a government and the government exercises its economic functions partly through the budget. We shall now discuss in detail the conceptual three-function framework of the responsibilities of the government.

© The Institute of Chartered Accountants of India

1.3 THE ALLOCATION FUNCTION

Resource allocation refers to the way in which the available resources or factors of production are allocated among the various uses to which they might be put. It determines how much of the various kinds of goods and services will actually be produced in an economy. Resource allocation is a critical problem because the resources of a society are limited in supply, whereas the wants of the members of the society are unlimited. In addition, any given resource can have many alternative uses.

One of the most important functions of an economic system is the optimal or efficient allocation of scarce resources so that the available resources are put to their best use and no wastages are there. Economic efficiency indicates a situation in which all resources are allocated to serve each person in the best way possible, minimising waste and inefficiency.

The private sector resource allocation is characterized by market supply and demand and price mechanism as determined by consumer sovereignty and producer profit motives. The state's allocation, on the other hand, is accomplished through the revenue and expenditure activities of governmental budgeting. In the real world, resource allocation is determined by both market and the government.

A market economy is subject to serious malfunctioning in several basic respects. While private goods will be sufficiently provided by the market, public goods and merit goods will not be produced in sufficient quantities by the market. Missing markets or nonexistence of markets occur in a variety of situations. Why do markets fail to give the right answers to the questions as to how the resources can be efficiently utilised and what goods should be produced and in what quantities? In other words, why do markets generate misallocation of resources?

Allocative efficiency is concerned with utilizing limited resources to produce goods and services that would maximize value to the society. Allocative efficiency achieves the largest possible output of goods and services from the existing stock of resources and technology.

Efficient allocation of available resources in an economy is assumed to take place only when the markets are perfectly competitive and economic agents make rational choices and decisions. In reality, markets are never perfectly competitive. Market failures which hinder efficient allocation of resources occur mainly due to the following reasons:

- Imperfect competition and presence of monopoly power in different degrees leading to under-production and higher prices than would exist under conditions of competition. Markets may fail to control the abuses of monopoly power.
- Markets typically fail to provide collective public goods such as defence which are, by their very nature, consumed in common by all people.
- Incomplete markets; markets may fail to produce the right quantity merit goods, such

© The Institute of Chartered Accountants of India

as education and healthcare

- Common property resources (e.g. environment) are overused and exhausted in individual pursuit of self-interest.
- Externalities which arise when the production and consumption of a good or service affect third parties (e.g. pollution).
- Factor immobility which causes unemployment and inefficiency.
- Imperfect information because it may not be in the interests of one party to provide full information to the other party, and
- Inequalities in the distribution of income and wealth

According to Musgrave, the state is the instrument by which the needs and concerns of the citizens are fulfilled. Therefore, public finance is connected with economic mechanisms that should ideally lead to the effective and optimal allocation of limited resources. This logic, in effect, makes it necessary for the government to intervene in the market to bring about improvement in social welfare.

In the absence of appropriate government intervention, market failures may occur and the resources are likely to be misallocated with too much production of certain goods or too little production of certain other goods. For example, the society may produce too much of demerit goods and too little of merit goods. The allocation responsibility of the governments involves suitable corrective action when private markets fail to provide the right and desirable combination of goods and services. Briefly put, market failures provide the rationale for government's allocative function.

Let us see a few of many examples of government intervention in resource allocation. You might have noticed that in many cases, the government can provide us with goods and services that we cannot produce on our own or buy at a price from the market. For example, the government establishes property rights and makes the necessary arrangements for enforcing contracts through provision of law enforcement and courts. When externalities are involved in the production and consumption of goods and services, prices do not reflect the true costs and benefits and government intervenes with appropriate corrective measures. Merit goods which are greatly beneficial to the society are by and large provided by the government. Production and consumption of demerit goods are controlled with appropriate policies. These interventions do not imply that markets are replaced by government action. In its allocation role, the government acts as a complement rather than as a substitute to the market system in an economy.

© The Institute of Chartered Accountants of India

The resource allocation role of government's policy focuses on the potential for the government to improve economic performance through its expenditure and tax policies. The allocative function in budgeting determines:

(a) who and what will be taxed

(b) how much and on what the government revenue will be spent

(c) the process by which the total resources of the economy are divided among various uses

(d) the optimum mix of various social goods (both public goods and merit goods).

(e) the level of involvement of the public sector in the national economy

(f) the reallocation of society's resources from private use to public use.

A variety of allocation instruments are available by which governments can influence resource allocation in the economy. For example:

- the government may directly produce an economic good (for example, electricity and public transportation services)
- the government may use the price mechanism (i.e altering the market prices determined by demand and supply through taxes and subsidies) to influence private allocation by policies that change the behaviour of consumers and producers. In other words, the government may direct resource allocation through incentives and disincentives (for example, tax concessions and subsidies may be given for the production of goods that promote social welfare and higher taxes may be imposed on goods such as cigarettes and alcohol so that their prices are higher)
- the government may influence allocation through legislation and force. For example, ban of single use plastic goods prevent resources moving into their production.
- The competition policies, merger policies etc. affect the structure of industry and commerce (for example, the Competition Act in India promotes competition and prevents anti-competitive activities)
- governments' regulatory activities such as licensing, controls, minimum wages, and directives on location of industry influence resource allocation.
- government sets legal and administrative frameworks, and
- governments may adopt any combination of possible remedies

© The Institute of Chartered Accountants of India

1.4 THE REDISTRIBUTION FUNCTION

You might have noticed that over the past decades there has been tremendous expansion in economic activities resulting in enormous increase in aggregate output and wealth. However, the outcomes of such economic growth have not spread evenly across the households. Socialist ideology which emphasized equality created strong pressure on the redistributive role of governments. The distribution responsibility of the government arises from the fact that, left to the market, the distribution of income and wealth among individuals in the society is likely to be skewed and therefore, the government has to intervene to ensure a more socially optimal and egalitarian distribution.

The distributive function of budget is related to the basic question of 'for whom' should an economy produce goods and services. Governments can redistribute income and wealth either through the expenditure side or through the revenue side of the budget. On the expenditure side, governments may provide free or subsidised education, healthcare, housing, food and basic goods etc. to deserving people. On the revenue side, redistribution is done through progressive taxation.

Effective demand is determined by the level of income of the households and this, in turn determines the distribution of real output among people. Therefore, the distribution function also relates to the manner in which the effective demand over the economic goods is divided among the various individual and family spending units of the society.

The distribution function of the government aims at:

- redistribution of income to achieve an equitable distribution of societal output among
- households ensuring increased overall social welfare
- advancing the well-being of those members of the society who suffer from deprivations of different types
- providing equality of income, wealth and opportunities
- providing security (in terms of fulfillment of basic needs) for people who have hardships, and ensuring that everyone enjoys a minimum standard of living

A few examples of the redistribution function (or market intervention for socio-economic reasons) performed by governments are:

- taxation policies of the government whereby progressive taxation of the rich is combined with provision of subsidy to the poor households
- proceeds from progressive taxes used for financing public services, especially those that benefit low-income households (for example, supply of essential food grains at highly subsidized prices to BPL households)

© The Institute of Chartered Accountants of India

- employment reservations and preferences to protect certain segments of the population, minimum wages and minimum support prices for farmers for their output
- unemployment benefits and transfer payments to provide support to the underprivileged, dependent, physically handicapped, the older citizens and the unemployed.
- families below the poverty line are provided with monetary aid and aid in kind
- regulation of manufacture and sale of certain products to ensure the health and well-being of consumers, and
- special schemes for backward regions and for the vulnerable sections of the population.

In modern times, most of the egalitarian welfare states provide free or subsidized education and health-care system, unemployment benefits, pensions and such other social security measures. There is, nevertheless, an argument that in exercising the redistributive function, there would be a conflict between efficiency and equity. In other words, governments' redistribution policies which interfere with producer choices or consumer choices are likely to have efficiency costs or deadweight losses. For example, greater equity can be achieved through high rates of taxes on the rich; but high rates of taxes could also act as a disincentive to entrepreneurship and work, and discourage people from making savings and investments and taking risks. This in turn will have negative consequences for economic output, productivity and growth of the economy. Consequently, the potential tax revenue may be reduced in future and the scope for government's welfare activities would get seriously limited. As such, an optimal budgetary policy towards any distributional change should reconcile the conflicting goals of efficiency and equity by exercising an appropriate trade-off between them. In other words, redistribution measures should be accomplished with minimal efficiency costs by carefully balancing equity and efficiency objectives.

1.5 STABILIZATION FUNCTION

Macroeconomic stability is said to exist when:

- an economy's output matches its production capacity,
- the economy's total spending matches its total output
- the economy's labour resources are fully employed, and
- Inflation is low and stable.

The theoretical rationale for the stabilization function of the government is derived from the Keynesian proposition that a market economy does not automatically generate full

© The Institute of Chartered Accountants of India

employment and price stability and therefore, the governments should pursue deliberate stabilization policies.

The market system has inherent tendencies to create business cycles. The market mechanism is limited in its capacity to prevent or to resolve the disruptions caused by the fluctuations in economic activity. The government and the country's central bank promote full employment and price stability through prudent fiscal policy and monetary policy. In the absence of appropriate corrective intervention by government, the instabilities that occur in the economy in the form of recessions, inflation etc. may be prolonged for longer periods causing enormous hardships to people, especially the poorer sections of the society. It is also possible that a situation of stagflation (a state of affairs in which inflation and unemployment exist side by side) may set in and make the problem more complex. The stabilization issue also becomes more complex due to 'contagion effect' whereby the increased international interdependence and financial integration causes forces of instability to get easily transmitted from one country to other countries.

The stabilization function is concerned with the performance of the aggregate economy in terms of:

- labour employment and capital utilization,
- overall output and income,
- general price levels,
- balance of international payments, and
- the rate of economic growth.

The stabilization function is one of the key functions of fiscal policy and aims at eliminating macroeconomic fluctuations arising from suboptimal allocation of resources. As you might recall, the economic crisis that engulfed the world in 2008 and the more recent global phenomenon of COVID pandemic-induced economic crisis have highlighted the importance of macroeconomic stability and have, therefore, revived immense interest in countercyclical fiscal policy.

Government's stabilization intervention may be through monetary policy as well as fiscal policy. Monetary policy works through controlling the size of money supply and interest rate in the economy which in turn would affect consumption, investment and prices.

Fiscal policy for stabilization purposes attempts to direct the actions of individuals and organizations by means of its expenditure and taxation decisions. We know that government expenditure injects more money into the economy and stimulates demand. On the other hand, taxes reduce the disposable income of people and therefore, reduce effective demand.

© The Institute of Chartered Accountants of India

During recession, in order to ensure income protection, the government increases its expenditure or cuts down taxes or adopts a combination of both so that aggregate demand is kept stable or even boosted up with more money put into the hands of the people. On the other hand, to control high inflation the government cuts down its expenditure or raises taxes. In other words, an expansionary fiscal policy is adopted to alleviate recession and a contractionary fiscal policy is resorted to for controlling high inflation.

The nature of the budget (surplus or deficit) also has important implications on a country's economic activity. While deficit budgets are expected to stimulate economic activity, surplus budgets tend to slow down economic activity.

To sum up;

- If there is high inflation the government may decrease government spending, raise taxes, and/or reduce the money supply
- If there is high unemployment the government might increase government spending, reduce taxes, and/or increase the money supply

There is often a conflict between the different goals and functions of budgetary policy. Effective policy design to meet the diverse goals of government is very difficult to conceive and to implement. The challenge before any government is how to design its budgetary policy so that the pursuit of one goal does not jeopardize the other.

Centre and State Finance

Fiscal federalism, a term introduced by Richard Musgrave, deals with the division of governmental functions and financial relations among the different levels of government. Musgrave argued that the federal or central government should be responsible for performing functions related to economic stabilization and income redistribution, and the allocation of resources should be the responsibility of the state and local governments.

India is a federation of 28 states and 8 union territories. Fundamentally, federalism is an institutional arrangement to accommodate two sets of government — one at the national level and the other at the regional level. Each government is autonomous in its own sphere. An independent judiciary is established to resolve disputes between the central government and the states on issues related to division of power.

The constitution of India has provided for the division of powers between the central and the state governments. Article 246 of the Constitution demarcates the powers of the union and the state by classifying their powers into three lists, namely union list, state list and the concurrent list. The union list contains items on which the union parliament alone can legislate, the state list has items on which the state legislative assemblies alone can legislate, and the concurrent list, on which both the parliament and the legislative assemblies can

© The Institute of Chartered Accountants of India

legislate. In the event of conflicting legislation in concurrent list, the law passed by the centre prevails.

Allocation of revenue and expenditure responsibilities to different levels of governments is a fundamental matter in a federation. Sources of revenue for both the centre and states are clearly demarcated with regard to the financial relationship and the responsibilities between them.

Taxes are levied by the centre and the states. The central government has greater revenue raising powers. The union government can levy taxes such as tax on income, other than agricultural income, customs and export duties, excise duties on certain goods, corporation tax, tax on capital value of assets excluding agricultural land, terminal taxes, security transaction tax, central GST, union excise duty, taxes other than stamp duties etc.

The state governments can levy taxes on agricultural income, lands and buildings, mineral rights, electricity, vehicles, tolls, professions, collect land revenue and impose excise duties on certain items. The property of the union is exempt from state taxation. The property and income of the states are not liable to be taxed by the centre.

A significant element of fiscal federalism is inter-governmental transfers and revenue-sharing to fulfill diverse national objectives. Since the states have comparatively less sources of income, their revenues may not be sufficient to meet their expenditure responsibilities. There is substantial dependence of states on the union for securing necessary revenues. Articles 268 to 281 of the constitution contain specific provisions in respect of distribution of finances among states.

Distribution of revenue between the union and states is based on the constitutional provisions as follows:

Article 268	**Duties levied by the union but collected and appropriated by the states.**
Article 269	Taxes levied and collected by the union but assigned to the states.
Article 270	Taxes levied and collected by the union and distributed between the union and states as prescribed in clause 2and the States.
Article271	Surcharge on certain duties and taxes for purposes of the union
Article275	Statutory Grants – in–aid from the union to certain states.
Article 282	Grants for any public purpose
Article 293	Loans for any public purpose

Besides the above provisions enabling transfer of resources from the centre to the states, a unique feature of the Indian Constitution is that Article 280 provides for an institutional mechanism, namely the Finance Commission, to facilitate such transfers. The Finance

© The Institute of Chartered Accountants of India

Commission is a constitutionally mandated body that is at the centre of fiscal federalism. It is responsible for evaluating the state of finances of the union and state governments, recommending the sharing of taxes between them and laying down the principles determining the distribution of these taxes among states.

The Finance Commission helps in maintaining fiscal federalism in India by performing following functions:

(a) The distribution between the union and the states of the net proceeds of taxes which are to be divided between them and the allocation between the states of the respective shares of such proceeds.

(b) Determination of principles and quantum of grants-in-aid to states which are in need of such assistance.

(c) To make recommendations to the President on measures needed to augment the consolidated fund of a state to supplement the resources of the panchayats and municipalities in the state on the basis of the recommendations made by the Finance Commission of the state.

(d) Any other matter referred to the Commission by the President in the interests of sound finance.

While recommending transfers, the Finance Commission considers issues related to vertical equity (deciding about the share of all states in the revenue collected by centre) and horizontal equity (allocation among states their share of central revenue). The Finance Commission broadly assesses the overall gross tax revenues of the union; cesses, surcharges and non-tax revenue are netted out from gross tax revenue to arrive at the net divisible pool (NDP). Following a constitutional amendment in year 2000, the divisible pool now consists of all taxes of the union. Considering the needs of the central and the state governments, the Commission determines what percentage out of the net divisible pool should be assigned to the state governments. The balance remains with the central government.

The Fifteenth Finance Commission was constituted on 27, November 2017 against the background of the abolition of Planning Commission (as also of the distinction between Plan and non-Plan expenditure) and the introduction of the goods and services tax (GST). The commission recommended the share of states in the central taxes (vertical devolution) for the 2021-26 to be 41%, which is the same as that for 2020-21. This is less than the 42% share recommended by the 14th Finance Commission for 2015-20. The adjustment of 1% is to provide for the newly formed union territories of Jammu and Kashmir, and Ladakh from the resources of the centre. The criteria for distribution of central taxes among states for 2021-26 period are same as that for 2020-21. They is:

© The Institute of Chartered Accountants of India

(a) Income Distance i.e the distance of a state's income from the state with the highest income.

(b) Area

(c) Population (2011)

(d) Demographic performance (to reward efforts made by states in controlling their population)

(e) Forest and ecology:

(f) Tax and fiscal efforts:

The introduction of GST, which was rolled out across the country on 1 July 2017, has significantly changed the state of affairs of financial relations between the centre and states. The GST subsumes the majority of indirect taxes – excise, services tax, sales tax, octroi (entry tax). The GST has made India's indirect tax regime unitary in nature.

The states levy and collect state GST (SGST) and the union levies and collects the central GST (CGST). For any particular good or service or a combination of the two, the SGST and CGST rates are equal. An integrated GST (IGST) is applied on inter-state movement of goods and services and on imports and exports. IGST is simply a combination of SGST and CGST administered and collected by the union government, kept in a separate account, and distributed between the union and states after settlement of input tax credit and verification of the destination of the goods and services. With many taxes subsumed under it, GST accounts for 35 per cent of the gross tax revenue of the union and around 44 per cent of own tax revenue of the states.

As per the supreme court verdict in May 2022, the Union and state legislatures have "equal, simultaneous and unique powers "to make laws on Goods and Services Tax (GST) and the recommendations of the GST Council are not binding on them.

The GST system replaced the then prevailing production-based taxation system with a consumption based one. Since the manufacturing states had apprehension about loss of revenue, it was decided to provide compensation to states for loss of revenue arising on account of implementation of the Goods and Services Tax for a period of five years from the date of its implementation. For providing compensation to states, a cess is levied on some luxury goods and demerit goods and the proceeds are credited to the compensation fund. GST compensation was extended beyond five years to enable states to tide over the pandemic induced economic slowdown.

During the five-year transition period, the top five GST compensation-receiving states were Maharashtra, Karnataka, Gujarat, Tamil Nadu, and Punjab. The total amount of compensation released to the states and union territories during the year 2022-23 is ₹ 1,15,662 crore.

© The Institute of Chartered Accountants of India

In so far as expenditure decentralization is concerned, the central government is entrusted with the responsibilities of provision of nationally important areas like defence, foreign affairs, foreign trade and exchange management, money and banking, cross-state transport and communication. The state governments are entrusted with the responsibility of facilitating agriculture and industry, providing social sector services such as health and education, police protection, state roads and infrastructure. The local self governments such as municipalities and panchayats are entrusted with the responsibility of providing public utility services such as water supply and sanitation, local roads, electricity etc. For items that fall in the concurrent list, both central and state governments are responsible for providing services.

Borrowing by the government of India and borrowing by states are defined under Article 292 and 293 of Constitution of India. The centre may borrow within the limits fixed by parliament by law upon the security of the Consolidated Fund of India or give guarantees within such limits, if any. The state governments may borrow within the territory of India upon the security of the Consolidated Fund of the State within such limits, if any, as may from time to time be fixed by the Legislature of such state by law, or give guarantees within such limits. The centre may give loans to the states within limits fixed under article 292 and give guarantees in respect of loans raised by the states. States need to obtain the centre's consent in order to borrow in case the state is indebted to the centre over a previous loan.

SUMMARY

- Government intervention to direct the functioning of the economy is based on the belief that the objective of the economic system and the role of government is to improve the wellbeing of individuals and households.
- An economic system should exist to answer the basic questions such as what, how and for whom to produce and how much resources should be set apart to ensure growth of productive capacity.
- Richard Musgrave (1959) introduced the three-branch taxonomy of the role of government in a market economy namely, resource allocation, income redistribution and macroeconomic stabilization.
- The allocation and distribution functions are primarily microeconomic functions, while stabilization is a macroeconomic function.
- One of the most important functions of an economic system is the optimal or efficient allocation of scare resources so that the available resources are put to their best use and no wastages are there.

© The Institute of Chartered Accountants of India

- Market failures, which hold back the efficient allocation of resources, occur mainly due to imperfect competition, presence of monopoly power, collectively consumed public goods, externalities, factor immobility, imperfect information, and inequalities in the distribution of income and wealth.
- The allocation responsibility of the governments involves appropriate corrective action when private markets fail to provide the right and desirable combination of goods and services.
- A variety of allocation instruments are available by which governments can influence resource allocation in the economy such as, direct production, provision of incentives and disincentives, regulatory and discretionary policies etc.,
- The distributive function of budget is related to the basic question of for who should an economy produce goods and services and aims at redistribution of income so as to ensure equity and fairness to promote the wellbeing of all sections of people and is achieved through taxation, public expenditure, regulation and preferential treatment of target populations.
- Redistribution policies are likely to have efficiency costs or deadweight losses and therefore redistribution measures should be accomplished with minimal efficiency cost by carefully balancing equity and efficiency objectives.
- A market economy does not automatically generate full employment and price stability and therefore the governments should pursue deliberate stabilization policies.
- Stabilization function is one of the key functions of fiscal policy and aims at eliminating macroeconomic fluctuations arising from suboptimal allocation.
- The stabilization function is concerned with the performance of the aggregate economy in terms of labour employment and capital utilization, overall output and income, general price levels, economic growth and balance of international payments.
- Government's stabilization intervention may be through monetary policy as well as fiscal policy. Monetary policy works through controlling the size of money supply and interest rate in the economy, while fiscal policy aims at changing aggregate demand by suitable changes in government spending and taxes.

Centre and state Finance

- Fiscal federalism deals with the division of governmental functions and financial relations among the different levels of government.
- The central government should be responsible for the economic stabilization and income redistribution, but the allocation of resources should be the responsibility of state and local governments.

© The Institute of Chartered Accountants of India

- Article 246 of the Constitution demarcates the powers of the union and the state by classifying their powers into 3 lists, namely union list (on which the union parliament alone can legislate) state list (on which the state legislative assemblies alone can legislate) and the concurrent list on which both, the parliament and the legislative assemblies can legislate.
- The union government can levy taxes such as tax on income, other than agricultural income, customs and export duties, excise duties on certain goods, corporation tax, tax on capital value of assets, excluding agricultural land, terminal taxes, security transaction tax, Central GST, Union Excise Duty, taxes other than stamp duties etc.
- The state governments can levy taxes on agricultural income, lands and buildings, mineral rights, electricity, vehicles, tolls, professions, as well as collect land revenue, and impose excise duties on certain items.
- Articles 268 to 281 of the constitution contain specific provisions in respect of distribution of finances among states.
- Article 280, provides for an institutional mechanism, namely the Finance Commission, to facilitate such transfers. It is responsible for evaluating the state of finances of the union and state governments, recommending the sharing of taxes between them and laying down the principles determining the distribution of these taxes among States
- The Finance Commission considers issues related to vertical equity (deciding about the share of all states in the revenue collected by centre) and horizontal equity (allocation among states their share of central revenue).
- The Fifteenth Finance Commission recommended the share of states in the central taxes (vertical devolution) for the 2021-26 to be 41%.
- The criteria for distribution of central taxes among states for 2021-26 are income distance i.e the distance of a state's income from the state with the highest income, area, population (2011), demographic performance (to reward efforts made by states in controlling their population), forest and ecology and tax and fiscal efforts.
- States levy and collect state GST (SGST) and the union levies and collects the central GST (CGST). An integrated GST (IGST) is applied on inter-state movement of goods and services and on imports and exports.
- For providing compensation to states, a cess is levied on luxury goods and demerit goods and the proceeds are credited to the compensation fund. GST compensation was extended beyond five years to enable states to tide over the pandemic induced economic slowdown.

© The Institute of Chartered Accountants of India

- The central government is entrusted with the responsibilities of provision of nationally important areas like defence, foreign affairs, foreign trade and exchange management, money and banking, cross-state transport and communication.
- The state governments are entrusted with the responsibility of facilitating agriculture and industry, providing social sector services such as health and education, police protection, state roads and infrastructure.
- The local self governments such as municipalities and panchayats are entrusted with the responsibility of providing public utility services such as water supply and sanitation, local roads, electricity etc. For items that fall in the concurrent list, both central and state governments are responsible for providing services.

TEST YOUR KNOWLEDGE

Multiple Choice Type Questions

1. *Redistribution policies are likely to have efficiency costs because*
   - *(a) They will reduce the efficiency of governments*
   - *(b) They may create disincentives to work and save*
   - *(c) Governments have to forego taxes*
   - *(d) They are likely to make the poor people dependent on the rich*
2. *Macroeconomic stabilization may be achieved through*
   - *(a) Free market economy*
   - *(b) Fiscal policy*
   - *(c) Monetary policy*
   - *(d) (b) and (c) above*
3. *Which of the following policies of the government fulfils the redistribution function*
   - *(a) Parking the army on the northern borders of the country*
   - *(b) Supply of food grains at subsidized prices to the poor people*
   - *(c) Controlling the supply of money through monetary policy*
   - *(d) All of the above*
4. *Choose the correct statement*
   - *(a) Fiscal policy involves the use of changes in taxation and government spending;*

© The Institute of Chartered Accountants of India

while monetary policy involves the use of price and profit controls.

(b) Fiscal policy involves the use of price and profit controls; while monetary policy involves the use of taxation and government spending.

(c) Fiscal policy involves the use of changes in taxation and government spending; while monetary policy involves the use of changes in the supply of money and interest rates.

(d) Fiscal policy involves the use of changes in the supply of money and interest rates; while monetary policy involves the use of changes in taxation and government spending.

5. *The justification for government intervention is best described by*

(a) The need to prevent recession and inflation in the economy

(b) The need to modify the outcomes of private market actions

(c) The need to bring in justice in distribution of income and wealth

(d) All the above

6. *Read the following statements:*

1. The market-generated allocation of resources is usually imperfect and leads to inefficient allocation of resources in the economy

2. Market failures can at all times be corrected through government intervention

3. Public goods will not be produced in sufficient quantities in a market economy

Of the three statements above:

(a) 1,2 and 3 are correct

(b) 1 and 3 are correct

(c) 2 and 3 are correct

(d) 3 alone is correct

7. *When a government offers unemployment benefits and also resorts to progressive taxation which function does it seem to fulfill?*

(a) It is trying to establish stability in an economy

(b) It is trying to redistribute income and wealth

(c) It is trying to allocate resources to their most efficient use

(d) It is creating a source of market failure

© The Institute of Chartered Accountants of India

8. *Government of Emeline Land decides to provide most modern road infrastructure throughout the nation. This can be classified as*

   (a) Distribution function

   (b) Allocation function

   (c) Stabilization function

   (d) None of the above

9. *Which function does the government perform when it provides transfer payments to offer support to the underprivileged*

   (a) Allocation

   (b) Efficiency

   (c) Distribution

   (d) None of the above

10. *Which of the following is true in respect of centre and state government finances?*

    (a) The centre can tax agricultural income and mineral rights

    (b) Finance commission recommends distribution of taxes between the centre and states

    (c) GST subsumes majority of direct taxes and a few indirect taxes

    (d) IGST is collected by the state governments

11. *GST compensation is given to*

    (a) to the industries which have made losses due to the introduction of GST

    (b) to compensate for the lower rates of GST on essential items

    (c) to the states to compensate for the loss of revenue due to the introduction of GST

    (d) to compensate for the loss of input tax credit in manufacturing

12. *Which of the following is true in respect of the role of Finance Commissions in India?*

    I. The distribution between the union and the states of the net proceeds of taxes

    II. Allocation between the states of the respective shares of such proceeds.

    III. Make Recommendations on integrated GST on inter-state movement of goods and services

    IV. To recommend expenditure decentralization among different states

© The Institute of Chartered Accountants of India

(a) I and II are correct

(b) II and III are correct

(c) I, II and III are correct

(d) All the above are correct

13. In a federal set up, the stabilization function can be effectively performed by

(a) Respective state governments

(b) Ministry of taxes

(c) The government at the centre

(d) None of the above

14. Which of the following is concerned with division of economic responsibilities between the central and state Government of India?

(a) NITI Aayog

(b) central bank

(c) Finance Commission

(d) Parliament

15. Fiscal Federalism refers to _____.

(a) Organizing and implementing development plans

(b) Sharing of political power between centers and states

(c) The management of fiscal policy by a nation

(d) Division of economic functions and resources among different layers of the government

16. Which one of the following taxes is levied by the state government only?

(a) Corporation tax

(b) Wealth tax

(c) Income tax

(d) None of the above

17. The percentage of share of states in central taxes for the period 2021-26 recommended by the Fifteenth Finance Commission is

(a) 38 percent

© The Institute of Chartered Accountants of India

(b) *41 percent*

(c) *42 percent*

(d) *The commission has not submitted its report*

18. *Which of the following is not a criterion for determining distribution of central taxes among states for 2021-26 period*

(a) *Demographic performance*

(b) *Forest and ecology*

(c) *Infrastructure performance*

(d) *Tax and fiscal efforts*

19. *As per the supreme court verdict in May 2022*

(a) *The union has greater powers than the states for enacting GST laws*

(b) *The union and state legislatures have "equal, simultaneous powers "to make laws on Goods and Services Tax*

(c) *The union legislature's enactments will prevail in case of a conflict between those of union and states*

(d) *The state legislatures can make rules only with the permission of central government*

20. *Providing social sector services such as health and education is*

(a) *the responsibility of the central government*

(b) *the responsibility of the respective state governments*

(c) *the responsibility of local administrative bodies*

(d) *none of the above*

ANSWERS

1.	**(b)**	2.	**(d)**	3.	**(b)**	4.	**(c)**	5.	**(d)**	6.	**(b)**
7.	**(b)**	8.	**(b)**	9.	**(c)**	10.	**(b)**	11.	**(c)**	12.	**(a)**
13.	**(c)**	14.	**(c)**	15.	**(d)**	16.	**(d)**	17.	**(b)**	18.	**(c)**
19.	**(b)**	20.	**(b)**								

© The Institute of Chartered Accountants of India

UNIT – 2: MARKET FAILURE/ GOVERNMENT INTERVENTION TO CORRECT MARKET FAILURE

LEARNING OUTCOMES

After studying this unit, you will be able to –

- Define the concept of market failure
- Describe the different sources of market failure
- Explain various government interventions for correcting market failure

CHAPTER OVERVIEW

2.1 INTRODUCTION

The market is an environment where buyers and sellers transact or exchange goods and services. Economists presume that people will make choices in their own self-interest. They will choose those things that provide the greatest personal benefit, and keep themselves away from those that are not valuable and worth seeking. In other words, individuals will behave rationally.

The general belief is that since rational individuals act to maximise self interest, a perfectly working market system is, by default, efficient and will effectively allocate scarce economic resources in the best possible manner. In other words, in a well functioning market, prices provide the accurate signals to producers and consumers and the right quantity of whatever consumers choose to consume will be produced and supplied at the right price. However, this is not always true. Under certain circumstances, 'market failure' occurs, i.e. the market fails to allocate resources efficiently and therefore, market outcomes become inefficient.

© The Institute of Chartered Accountants of India

2.2 THE CONCEPT OF MARKET FAILURE

The inefficient allocation of resources in an economy is described as market failure. The term "market failure" does not mean the market is not working at all, it only means that the market does not function in the way that it should. Market failure is a situation in which the free market leads to misallocation of society's scarce resources in the sense that there is either overproduction or underproduction of particular goods and services leading to a less than optimal outcome. There are two types of market failure namely;

1. Complete market failure. This is a case of "missing markets" and occurs when the market does not supply products at all despite the fact that such products and services are wanted by people. E.g. Pure public goods.
2. Partial market failure occurs when the market does actually function, but it produces either the wrong quantity of a product or at the wrong price. This results in loss of economic welfare.

2.3 WHY DO MARKETS FAIL?

The pertinent question here is why do markets fail? Or why do markets fail to produce the ideal outcome that economic theory predicts? Perfectly competitive markets will generate outcomes in which the economy's resources are allocated to their 'highest valued uses' and no one person can be made better off without making at least another person worse off.

Though perfectly competitive markets work efficiently, in the real world, conditions necessary for efficient outcome namely, perfect competition is not practical. We know that conditions such as large number of small firms, perfect knowledge, homogenous products etc. are not generally present in most markets. We shall first try to understand why markets fail and then proceed to identify the role of government in dealing with market failure.

There are four major reasons for market failure. They are:

- Market power,
- Externalities,
- Public goods, and
- Incomplete information

We shall discuss each of the above in detail.

© The Institute of Chartered Accountants of India

2.3.1 Market Power

Market power or monopoly power is the ability of a firm to profitably raise the market price of a good or service over its marginal cost. Firms that have market power are price makers and therefore, can charge a price that gives them positive economic profits. Excessive market power causes the single producer or a small number of producers to restrict output (i.e produce and sell less output than would be produced in a competitive market) and charge price higher than what would prevail under perfect competition. These profits are not achieved due to operating efficiency, but due to market power and dominance. Thus, market fails to produce the right quantity of goods and services at the right price.

2.3.2 Externalities

We begin by describing externalities and then proceed to discuss how they create market inefficiencies. As we are aware, anything that one individual does, may have, at the margin, some effect on others. For example, if individuals decide to switch from consumption of ordinary vegetables to consumption of organic vegetables, they would, other things equal, increase the price of organic vegetables and potentially reduce the welfare of existing consumers of organic vegetables. However, we should note that all these operate through price mechanism i.e. through changes in prices. The price system works efficiently because market prices convey information to both producers and consumers. However, when a consumption or production activity has an indirect effect (either positive or negative) on consumption or production activities of others and such effects are not reflected directly in market prices, we call it an externality.

Externalities are costs (negative externalities) or benefits (positive externalities), which are not reflected in free market prices. They are called externalities because they are "external" to the market. Externalities are also referred to as 'spillover effects', 'neighbourhood effects' 'third-party effects' or 'side-effects', as the originator of the externality imposes costs or benefits on others who are not responsible for initiating the effect. Since it occurs outside the price mechanism, it has not been compensated for, or in other words it is uninternalized or the cost (benefit) of it is not borne (paid) by the parties.

Externalities can be positive or negative. Negative externalities occur when the action of one party imposes costs on another party. Positive externalities occur when the action of one party confers benefits on another party.

Production Externalities

A negative production externality initiated in production which imposes an external cost on others may be received by another in consumption or in production. As an example,

© The Institute of Chartered Accountants of India

- A negative production externality is received in consumption when a factory which produces aluminium discharges untreated waste water into a nearby river and pollutes the water causing health hazards for people who use the water for drinking and bathing.
- A negative production externality is received in production when pollution of river affects fish output as there will be less catch for fishermen due to loss of fish resources.

The firm, however, has no incentive to account for the external costs that it imposes on consumers of river water or on fishermen when making its production decision. Additionally, these external costs are never reflected in the price of the product.

A positive production externality initiated in production that confers external benefits on others may be received in production or in consumption.

- A firm which offers training to its employees for increasing their skills generates positive benefits on other firms when they hire such workers as they change their jobs.
- A positive production externality is received in consumption when an individual raises an attractive garden and the persons walking by enjoy the garden. These external effects were not in fact taken into account when the production decisions were made.

Consumption Externalities

Negative consumption externalities initiated in consumption which produce external costs on others may be received in consumption or in production.

- smoking cigarettes in public place causing passive smoking by others, creating litter and diminishing the aesthetic value of the room and playing the radio loudly obstructing one from enjoying a concert are examples of negative consumption externalities affecting consumption
- The act of undisciplined students talking and creating disturbance in a class preventing teachers from making effective instruction and the case of excessive consumption of alcohol causing impairment in efficiency for work and production are instances of negative consumption externalities affecting production.

A positive consumption externality initiated in consumption that confers external benefits on others may be received in consumption or in production.

- if people get immunized against contagious diseases, they would confer a social benefit to others as well by preventing others from getting infected.
- Consumption of the services of a health club by the employees of a firm would result in an external benefit to the firm in the form of increased efficiency and productivity.

© The Institute of Chartered Accountants of India

When there are externalities and the costs or benefits are experienced by people outside a transaction, the actors in the transaction (consumers or producers) tend to ignore those external costs or benefits.

Having discussed the nature of externalities in production and consumption, we shall now examine how externalities cause inefficiency and market failure. Before we attempt this, we need to understand the difference between private costs and social costs. Private cost is the money cost of production incurred by the firm i.e. costs such as wages, raw materials, heating and lighting which must be paid to carry out production, and these which would appear in the firm's accounts. The supply curve here corresponds to only the private marginal costs.

Social costs refer to the total costs to the society on account of a production or consumption activity. Social costs are private costs borne by individuals directly involved in a transaction together with the external costs borne by third parties not directly involved in the transaction. In other words, social costs are the total costs incurred by the society when a good is consumed or produced. It is thus private costs plus costs to third parties (i.e. private costs + total negative externalities).

Social Cost = Private Cost + External Cost

The external costs are not included in firms' income statements or consumers' decisions. However, these external costs are real and important as far as the society is concerned. As we have mentioned above, firms do not have to pay for the damage resulting from the pollution which they generate. As a result, each firm's cost which is considered for determining output would be only private cost or direct cost of production which does not incorporate externalities.

The market prices determined without incorporating externalities are not ideal as they do not reflect all social costs and benefits. Such prices send incorrect signals to producers and consumers and cause either overproduction or underproduction. Thus, we conclude that when there is externality, a competitive market will produce a level of output which is not socially optimal. This is a clear case of market failure.

2.4 PUBLIC GOODS

Paul A. Samuelson who introduced the concept of 'collective consumption good' in his path-breaking 1954 paper 'The Pure Theory of Public Expenditure' is usually recognized as the first economist to develop the theory of public goods. A public good (also referred to as collective consumption good or social good) is defined as one which all enjoy in common in the sense that each individual's consumption of such a good leads to no subtraction from any other individuals' consumption of that good.

© The Institute of Chartered Accountants of India

Most of the goods produced and consumed in an economy are private goods. Since they are scarce, anyone who wants to consume them must purchase them at a price. Private goods do not face any have free-rider problem. Private goods are 'excludable' i.e. it is possible to exclude or prevent consumers who have not paid for them from consuming them or having access to them. Consumption of private goods is 'rivalrous' that is the purchase and consumption of a private good by one individual prevents another individual from consuming it. Normally, the market will efficiently allocate resources for the production of private goods. A few examples are: food items, clothing, movie ticket, television, cars, houses etc.

Public goods are products (goods or services) whose consumption is essentially collective in nature. Public good is non-rival in consumption. It means that consumption of a public good by one individual does not reduce the quality or quantity available for all other individuals. For example, if, you eat your apple, (a private good) another person too cannot eat it. But, if you walk in street light, other persons too can walk without any reduced benefit from the street light.

Public goods are non-excludable. Consumers cannot (at least at less than prohibitive cost) be excluded from consumption benefits. If the good is provided, one individual cannot deny another individuals' consumption. For example, national defence once provided, it is impossible to exclude anyone within the country from consuming and benefiting from it.

Public goods are characterized by indivisibility. Each individual may consume all of the good i.e. the total amount consumed is the same for each individual. Once a public good is provided, the additional resource cost of another person consuming the goods is 'zero'. No direct payment by the consumer is involved in the case of pure public goods. A few examples of public goods are: national defence, highways, public education, scientific research which benefits everyone, law enforcement, lighthouses, fire protection, disease prevention and public sanitation.

Public goods are generally more vulnerable to issues such as externalities, inadequate property rights, and free rider problems. The absence of excludability in the case of public goods and the tendency of people to act in their own self-interest will lead to the problem of free-riding. There is no incentive for people to pay for the good because they can consume it without paying for it. Since private goods are excludable, free-riding mostly occurs in the case of public goods.

If individuals make no offer to pay for public goods, there is market failure in the case of these goods and the profit-maximizing firms will not produce them. Producers are not motivated to produce a socially-optimal amount of products if they cannot charge a positive price for them or make profits from them. As such, though public goods are extremely valuable for the well-being of the society, left to the market, they will not be produced at all or will be grossly under-produced. Thus, there is market failure in the case of public goods.

© The Institute of Chartered Accountants of India

2.5 INCOMPLETE INFORMATION

Complete information is an important element of a competitive market. Perfect information implies that both buyers and sellers have complete information about anything that may influence their decision making. However, this assumption is not fully satisfied in real markets because of

- complexity of products and services (e.g. cardiac surgery, financial products like mutual funds),
- difficulty of getting correct information, and
- deliberate misinformation by interested parties (e.g. highly persuasive advertisements). Information failure results in market failure.

2.5.1 Asymmetric Information

Asymmetric information occurs when there is an imbalance in information between the buyer and the seller i.e. when the buyer knows more than the seller or the seller knows more than the buyer. This can distort choices. For example,

- the landlords know more about their properties than the tenants,
- a borrower knows more about their ability to repay a loan than the lender,
- a used-car seller knows more about the vehicle quality than the buyer,
- health insurance buyers know more about their state of health than the insurance companies and
- some traders may possess insider information in financial markets.

These are situations in which one party to a transaction knows a material fact that the other party does not. This phenomenon is an important source of market failure. Adverse selection and moral hazard are two central concepts related to the problem of information gaps in many markets

Adverse Selection

Asymmetric information generates adverse selection and affects a transaction before it occurs. When one party to a contract or negotiation, say X, possesses information relevant to the contract or negotiation that the other party Y does not have, the expected value of the transaction is known more accurately to X due to asymmetry of information. Then, the party which has more information i.e. X may take advantage Y's ignorance and this could potentially put the ignorant party Y at a loss.

© The Institute of Chartered Accountants of India

For example, in the insurance market, if the health insurance companies could costlessly identify the health risks of buyers, then there is no asymmetric information and therefore, insurers could offer low premiums to the low-risk buyers and high premiums to the high-risks buyers. As a matter of fact, compared to insurance buyers, insurance companies know less about the health conditions of buyers and are therefore unable to differentiate between high-risk and low-risk persons.

Due to the tendency of people with higher health risks to obtain insurance coverage to a greater extent than persons with lesser risk, the proportion of unhealthy people in the pool of insured people increases. In such situations, an insurance company extends insurance coverage to an applicant whose actual risk is substantially higher than the risk known by the insurance company.

By not revealing the actual state of health, an applicant is leading the insurance company to make decisions on coverage or premium costs that are 'adverse' to the insurance company's management of financial risk. Due to heavy insurance claims, the premium of insurance rises so that the more healthy people being aware of their low risks choose not to be insured. This further increases the proportion of unhealthy people among the insured, thus raising the price of insurance upwards. The process continues until most people who want to buy insurance are unhealthy.

Having more unhealthy insurance buyers make insurance very expensive. In the extreme case, the insurance companies stop selling the insurance leading to 'missing' markets. If the sellers wish to do business profitably, they may have to incur considerable costs in terms of time and money for identifying the extent of risk for different buyers which in turn would increase insurance premium.

When dealing with problems of asymmetric information, the most frequently cited and studied example in Economics is the 'lemons problem' developed by George Akerlof in relation to the used car market. Second-hand cars may be good quality cars or poor quality cars defined as "lemons". The owner of a car knows much more about its quality than anyone else. While placing it for sale, he may not disclose all that he knows about the mechanical defects of the vehicle. Based on the probability that the car on sale is a 'lemon', the buyers' willingness to pay for any particular car will be based on the 'average quality' of used cars. Since there is quality uncertainty, to account for this risk, the price offered for any used car is likely to be less.

Since the price offered in the market is lower than the acceptable one, sellers of good quality cars will not be inclined to place the car for sale sell in the used car market. They are kept by their owners or sold only to relatives or friends. The good-quality cars disappear from the market and the market becomes flooded with 'lemons' and eventually the market may offer nothing but 'lemons'. This is the case of market failure because the market has only lower

© The Institute of Chartered Accountants of India

prices and lower average quality of cars. With asymmetric information, just as low quality high risk buyers drive out high quality low risk buyers of insurance, low-quality cars can drive high-quality cars out of the market.

Thus, asymmetric information leads to elimination of high-quality goods from the market. Economic agents end up either selecting a sub-standard product or leaving the market altogether.

Moral Hazard

Moral hazard arises whenever there is an externality (i.e., whenever an economic agent can shift some of its costs to others). It is about actions made after making a market exchange which may have adverse impact on the less-informed person. In other words, it is about the opportunism characterized by an informed person's taking advantage of a less-informed person through an unobserved action. It arises from lack of information about someone's future behaviour. It occurs when one party to an agreement knows that he need not bear the consequences of his bad behaviour or poor decision making and that the consequence, if any, would be borne by the other party. Therefore, he engages in risky behaviour or fails to act in good faith or acts in a different way than if he had to bear those consequences by himself.

In the insurance market, moral hazard refers to a situation that increases the probability of occurrence of a loss or a larger than normal loss because of a change in the insurance policy holders' behaviour after buying the policy. For example, a driver who has a comprehensive insurance tends to be less careful while driving and may increase the probability of insurance claims. When someone is protected from paying the full costs of their harmful actions, they tend to act irresponsibly, making the harmful consequences more likely.

In the case of medical insurance, the more one's costs are covered by the insurance company, the less he cares whether the doctor charges excessive fees or uses inefficient and costly procedures as part of his health care. This causes insurance premiums to rise for everyone, driving many potential customers out of the market.

If the company could costlessly monitor the behaviour of the insured, it can charge higher fees for those who make more claims. The problem lies in the fact that the insurance company cannot observe people's actions post-sale and therefore cannot judge without costly monitoring whether occurrence of an accident is genuine or the outcome of lack of caution on the part of the insured. Therefore the expected outflow in terms of insurance claims is higher and the insurance companies may be forced to increase premiums for everyone or may, at the extreme, even refuse to sell insurance at all in which case it is a case of missing markets.

© The Institute of Chartered Accountants of India

Having discussed market failure in detail, we shall now look into the intervention mechanisms which governments adopt for combating market failures so as to ensure greater welfare to the society.

The existence of a free market does not altogether eliminate the need for government intervention for the efficient functioning of markets. Government can ensure economic efficiency by providing the necessary legal and regulatory system that facilitates efficiency and /or it can intervene to correct specific market failures. The role of the government is discussed below.

Government plays a vital role in ensure a well functioning market by:

- creating the necessary physical infrastructure such as roads, bridges, airports and waterways
- provision of institutional infrastructure such as legal and regulatory framework, establishment of the 'rule of law', protection of property rights, ensuring performance of contracts are to
- ensuring an appropriately framed competition and consumer law framework that regulates the activities of firms and individuals in their market exchanges

We shall try to have a discussion on the forms of government intervention to address market failure.

2.6 GOVERNMENT INTERVENTION TO MINIMIZE MARKET POWER

Because of the social costs imposed by monopoly, governments intervene by establishing rules and regulations designed to promote competition and prohibit actions that are likely to restrain competition. These legislations differ from country to country. For example, in India, we have the Competition Act, 2002 (as amended by the Competition (Amendment) Act, 2007) to promote and sustain competition in markets. The Antitrust laws in the US and the Competition Act, 1998 of UK etc are designed to promote competitive economy by prohibiting actions that are likely to restrain competition. Such legislations generally aim at prohibiting contracts, combinations and collusions among producers or traders which are in restraint of trade and other anticompetitive actions such as predatory pricing.

Other measures include:

- Market liberalisation by introducing competition in previously monopolistic sectors such as energy, telecommunication etc.
- Controls on mergers and acquisitions if there is possible market domination

© The Institute of Chartered Accountants of India

- Price capping and price regulation
- Profit or rate of return regulation
- Patronage to consumer associations
- Tough investigations into cartelisation and unfair practices such as collusion and predatory pricing
- Restrictions on monopsony power of firms
- Reduction in import controls and
- Nationalisation

However, sometimes we find that governments protect monopoly positions of firms that have developed unique innovations. For example, patent and copyright laws grant exclusive rights of products or processes to provide incentives for invention and innovation.

Another example is that of permitted natural monopoly. Natural monopolies can produce the entire output of the market at a cost that is lower than what it would be if there were several firms. Examples of such natural monopoly are electricity, gas and water supplies. In order to control the market power of such natural monopolies, governments usually regulate the price of the goods and services provided by them.

2.7 GOVERNMENT INTERVENTION TO CORRECT EXTERNALITIES

As you may easily recall, freely functioning markets produce externalities because producers and consumers need to consider only their private costs and benefits and not the full social costs. To promote the overall welfare of all members of society, social returns should be maximized and social costs minimized. This implies that all costs and benefits (both private and external) need to be internalized by consumers and producers while making buying and production decisions.

An externality is internalised if the ones that generated the externality incorporate into their private or internal cost- benefit calculations the external benefits (in the case of positive externality) and external costs (in the case of negative externality) that third parties bear. In other words, the key to internalizing an externality (both external costs and benefits) is to ensure that those who create the externalities include them while making decisions.

Governments have numerous methods to reduce the effects of negative externalities and to promote positive externalities. We shall first examine how government regulation can deal with the inefficiencies that arise from negative externalities. Since the most commonly referred negative externality is pollution, we shall take it as an example in the following discussion.

© The Institute of Chartered Accountants of India

Government initiatives towards negative externalities may be classified as:

1. Direct controls or regulations that openly regulate the actions of those involved in generating negative externalities, and
2. 'Market-based' policies that would provide economic incentives

Direct controls, also known as command solutions, prohibit specific activities that explicitly create negative externalities or require that the negative externality be limited to a certain level. A few examples are:

- The government may, through legislation, fix emissions standard which is the legal limit on how much pollutant a firm can emit. If the firm exceeds the limit, it can invite monetary penalties or/and criminal liabilities.
- Licensing, production quotas and mandates regarding acceptable production processes are other examples of direct intervention by governments.
- Production, use and sale of many commodities and services are prohibited in our country.
- Smoking is completely banned in many public places.
- Stringent rules are in place in respect of tobacco advertising, packaging and labeling etc.
- Governments may pass laws to alleviate the effects of negative externalities. Government stipulated environmental standards are rules that protect the environment by specifying actions by producers and consumers. For example, India has enacted the Environment (Protection) Act, 1986.
- Government may limit the amounts of certain pollutants released into water and air by individual firms or make it mandatory to use pollution control devices.
- Government may insist that the polluting firms install pollution-abatement mechanisms to ensure adherence to the emission standards. This means additional expenditure to the firm leading to rise in the firm's average cost. New firms will find it profitable to enter the industry only if the price of the product is greater than the average cost of production plus abatement expenditure.
- Governments may also form special bodies/ boards to specifically address the problem: for instance the Ministry of Environment & Forest, the Pollution Control Board of India and the State Pollution Control Boards.

The market-based approaches –environmental taxes and cap-and-trade – operate through price mechanism to create an incentive for change. In other words, the government tries to alter the prices of goods through taxes and subsidies and thus change the behaviour of market

© The Institute of Chartered Accountants of India

participants. This is achieved by:

1. Setting the price directly through a pollution tax
2. Setting the price indirectly through the establishment of the cap-and-trade system.

One method of ensuring internalization of negative externalities is imposing pollution taxes. These taxes are named Pigouvian taxes after A.C. Pigou. The size of the tax depends on the amount of pollution a firm produces. These taxes have the effect of 'making the polluter pay'. Tax increases the private cost of production or consumption as the case may be, and would decrease the quantity demanded and therefore the output of the good which creates negative externality.

However, there are problems in administering an efficient pollution tax.

- Pollution taxes are difficult to determine and administer because it involves the use of complex and costly administrative procedures for monitoring the polluters.
- If the demand for the good is inelastic, the tax may have only an insignificant effect in reducing demand. In such cases, the producers will be able to easily shift the tax burden in the form of higher product prices.
- Pollution taxes also have potential negative consequences on employment and investments because high pollution taxes in one country may encourage producers to shift their production facilities to those countries with lower taxes.

The second approach to establishing prices indirectly is 'tradable emissions permits'. You might have heard of 'carbon credits'. The use of tradable permits to limit emissions is often called 'cap and trade'. A tradable permit is a license that allows a company to release a unit of pollution into the environment over some period of time. By issuing a fixed number of permits, the government determines the total level of pollution that can be legally emitted during each period (the 'cap'). Each firm has permits specifying the number of units of emissions that the firm is allowed to generate. A firm that generates emissions above what is allowed by the permit is penalized with substantial fines.

The firms can sell their government-issued permits to other firms in an organized market. Since the permits are tradable (the firm can sell for a price), a polluting firm faces an opportunity cost i.e. for each unit of pollution that it creates, it must either buy a permit, or it must forgo the revenue it could earn by selling the permit to some other firm. A firm which produces less pollution can sell their permits and earn money.

A firm whose technology would make it very costly to reduce pollution generally buys permits in the market. At the same time, a firm whose technology enables it to discharge less pollution or can reduce pollution rather cheaply will sell its permits.

© The Institute of Chartered Accountants of India

The high polluters have to buy more permits, which increases their costs, and makes them less competitive and less profitable. The low polluters receive extra revenue from selling their surplus permits, which makes them more competitive and more profitable. Therefore, firms will have an incentive not to pollute.

Tradable permits have been used since the early 1980s to reduce several types of pollution in the United States. In 1994 the United States began a cap and trade system for sulphur dioxide emissions that cause acid rain by issuing permits to power plants based on their historical consumption of coal. India does not have an explicit carbon price or a market-based mechanism such as cap-and-trade; but India has many schemes and mechanisms that put an implicit price on carbon. For example, the Perform, Achieve & Trade (PAT) scheme, carbon tax in the form of a cess on coal, lignite and peat, Renewable Purchase Obligations (RPO) and Renewable Energy Certificates (REC), Internal Carbon Pricing (ICP) etc. In 2017, the coal cess was abolished and replaced by the GST compensation cess since it failed to achieve the desired outcomes. The Energy Conservation (Amendment) Bill, 2022 empowers the central government to specify a carbon credit trading scheme and to stipulate energy consumption standards.

The cap and trade method is administratively cheap and simple to implement and ensures that pollution is minimised in the most cost-effective way. The 'cap' puts a clear upper limit on the quantity of pollution that may be generated in each period. However, firms with a relatively inelastic demand for its product can easily shift the extra cost incurred for procuring additional permits in the form of higher price.

The two interventions mentioned above i.e. permits and taxes make use of market forces to encourage consumers and producers to take externalities into account when planning their consumption and production. In other words, the polluters are forced to consider pollution as a private cost.

So far we have been discussing about negative externality. We shall now look into positive externality. Though positive externality is associated with external benefits, we still call it a market failure because, left to market, there will be less than optimal output. Since positive externalities promote welfare, governments implement policies that promote positive externalities. When positive externalities are present, government may attempt to solve the problem through -

- corrective subsidies to the producers aimed at increasing the supply of the good
- corrective subsidies to consumers aimed at increasing the demand for the good.

As we are aware, a corrective production subsidy involves government paying part of the cost to the firms in order to promote the production of goods having positive externalities. This is in fact a market-based policy as subsidies to producers would lower their cost of production.

© The Institute of Chartered Accountants of India

E.g. fertilizer subsidy. A subsidy on fee for education is an example of consumption subsidy.

In the case of products and services whose externalities are vastly positive, the government enters the market directly as an entrepreneur to produce and provide them. Public education, health care and fundamental research are the obvious examples. Governments also engage in direct production of environmental quality. Examples are: aforestation, reforestation, protection of water bodies, treatment of sewage and cleaning of toxic waste sites.

2.8 GOVERNMENT INTERVENTION IN THE CASE OF MERIT GOODS

Merit goods are goods that have substantial positive externalities and hence they are socially desirable. Merit goods can be provided through the market, but are likely to be under-produced and under-consumed through the market mechanism so that social welfare will not be maximized. Examples of merit goods include education, health care, welfare services, housing, fire protection, waste management, public libraries, museum, public parks etc.

The possible government responses to under-provision of merit goods are regulation, subsidies, direct government provision and a combination of government provision and market provision.

Regulation determines how a private activity may be conducted. For example, the way in which education is to be imparted is government regulated. Governments can prohibit some type of goods and activities, set standards and issue mandates making others oblige. For example, government may make it compulsory to avail insurance protection. Compulsory immunization may be insisted upon as it helps not only the individual but also the society at large. Government could also use legislation to enforce the consumption of a good which generates positive externalities. E.g. use of helmets, seat belts etc.

An additional option is to compel individuals to consume the good or service that generates the external benefit. The Right of Children to Free and Compulsory Education Act, 2009 which mandates free and compulsory education for every child of the age of six to fourteen years is another example. If suspected of having a contagious disease such as COVID, an individual may be forced to get medical treatment.

The ultimate encouragement to consume is to make the good completely free at the point of consumption: for example freely available hospital treatment for various diseases. When merit goods are directly provided free of cost by government, there will be substantial demand for the same.

© The Institute of Chartered Accountants of India

2.9 GOVERNMENT INTERVENTION IN THE CASE OF DEMERIT GOODS

Demerit goods are goods which are believed to be socially undesirable. Examples of demerit goods are cigarettes, alcohol, intoxicating drugs etc. The consumption of demerit goods imposes significant negative externalities on the society as a whole. However, it should be kept in mind that all goods with negative externalities are not essentially demerit goods; e.g. Production of steel causes pollution, but steel is not a socially undesirable good.

The production and consumption of demerit goods are likely to be more than optimal under free markets. The government should therefore intervene in the marketplace to discourage their production and consumption. How do governments correct market failure resulting from demerit goods?

- At the extreme, the government may enforce complete ban on a demerit good. e.g. the possession, trading or consumption of intoxicating drugs is made illegal.
- Through persuasion which is mainly intended to be achieved by negative advertising campaigns which emphasize the dangers associated with consumption of demerit goods.
- Through legislations that prohibit the advertising or promotion of demerit goods in whatsoever manner.
- Strict regulations of the market for the good may be put in place so as to limit access to the good, especially by vulnerable groups such as children and adolescents.
- Regulatory controls in the form of spatial restrictions e.g. smoking in public places, sale of tobacco to be away from schools, and time restrictions under which sale at particular times during the day is banned.
- Imposing unusually high taxes on producing or purchasing the good making them very costly and unaffordable to many is perhaps the most commonly used method for reducing the consumption of a demerit good. Refer the GST rates in India for demerit goods, you will find how high they are.
- The government can fix a minimum price below which the demerit good should not be exchanged.

The demand for demerit goods such as, cigarettes and alcohol is often highly inelastic, so that any increase in their price resulting from additional taxation causes a less than proportionate decrease in demand. Also, sellers can always shift the taxes to consumers without losing customers.

© The Institute of Chartered Accountants of India

The effect of stringent regulation such as total ban is seldom realized in the form of complete elimination of the demerit good; conversely such goods are secretly driven underground and traded in a hidden market.

2.10 GOVERNMENT INTERVENTION IN THE CASE OF PUBLIC GOODS

Direct provision of a public good by government can help overcome the free-rider problem which leads to market failure. The most important public goods like defence, establishment and maintenance of legal system, fire protection, disease prevention etc are invariably provided by the government.

Excludable public goods such as parks, universities, museums etc can be provided by government and the same can be financed through entry fees. Government may grant licenses to private firms to build a public good facility and charge fee from the user. In such cases, the government regulates the level of entry fee chargeable from the public and keeps strict watch on the functioning of the licensee to guarantee equitable distribution of welfare. Some public goods are provided by voluntary contributions and private donations by corporate entities and nongovernmental organisations.

Some goods are produced and consumed as public goods and services despite the fact that they can be produced or consumed as private goods. This is because, left to the markets and profit motives, these may prove dangerous to the society. Examples are scientific approval of drugs, production of strategic products such as atomic energy, provision of security at airports etc.

2.11 PRICE INTERVENTION: NON-MARKET PRICING

Price intervention generally takes the form of price controls which are legal restrictions on price. Price controls may take the form of either a price floor (a minimum price buyers are required to pay) or a price ceiling (a maximum price sellers are allowed to charge for a good or service). Fixing of minimum wages and rent controls are examples of such market intervention.

Government usually intervenes in many primary markets which are subject to extreme as well as unpredictable fluctuations in price. For example in India, in the case of many crops the government has initiated the Minimum Support Price (MSP) programme as well as procurement by government agencies at the set support prices. The objective is to guarantee steady and assured incomes to farmers.

© The Institute of Chartered Accountants of India

When prices of certain essential commodities rise excessively, government may resort to controls in the form of price ceilings (also called maximum price) for making a resource or commodity available to all at reasonable prices. For example: maximum prices of food grains and essential items are set by government during times of scarcity.

With the objective of ensuring stability in prices and distribution, governments often intervene in grain markets by building and maintenance of buffer stocks. It involves purchases from the market during good harvest and releasing stocks during periods when production is below average.

2.12 GOVERNMENT INTERVENTION FOR CORRECTING INFORMATION FAILURE

Governments actively intervene in the market for combating the problem of market failure due to information problems and considering the importance of information in making rational choices. A few examples are:

- Government makes it mandatory to have accurate labeling and content disclosures by producers. E.g. Labeling on cigarette packets, display of nutritional information on food packages.
- Mandatory disclosure of information, for example: SEBI requires that accurate information be provided to prospective buyers of new stocks.
- Public dissemination of information to improve knowledge
- Regulation of advertising and setting of advertising standards to make advertising more responsible, informative and less persuasive.

2.13 GOVERNMENT INTERVENTION FOR EQUITABLE DISTRIBUTION

One of the most important activities of the government is to redistribute incomes so that there is equity and fairness in the society. Some common policy interventions include: progressive income tax, targeted budgetary allocations, unemployment compensation, transfer payments, subsidies, social security schemes, job reservations, land reforms, gender sensitive budgeting etc.

Government also intervenes to combat black economy and market distortions associated with a parallel black economy. Government intervention in a market that reduces efficiency while increasing equity is often justified because equity is greatly appreciated by society.

© The Institute of Chartered Accountants of India

The discussion above is far from being comprehensive; yet it points toward the numerous ways in which governments intervene in the markets. However, we cannot be sure whether the government interventions would be effective or whether it would make the functioning of the economy less efficient. Government failures where government intervention in the economy to correct a market failure creates inefficiency and leads to a misallocation of scarce resources occur very often. Government failure occurs when:

- intervention is ineffective causing wastage of resources expended for the intervention
- intervention produces fresh and more serious problems

There are costs and benefits associated with any government intervention in the market, and it is important that policy makers consider all the costs and benefits of a policy intervention.

SUMMARY

- ♦ Market failure is a situation in which the free market leads to misallocation of society's scarce resources in the sense that there is either overproduction or underproduction of particular goods and services leading to a less than optimal outcome.
- ♦ There are two types of market failure: complete market failure or "missing markets" and partial market failure
- ♦ There are four major reasons for market failure. They are: market power, externalities, public goods, and incomplete information.
- ♦ Excessive market power causes the single producer or small number of producers to produce and sell less output than what would be produced in a competitive market and charge higher prices.
- ♦ Externalities also referred to as 'spill over effects', 'neighbourhood effects' 'third-party effects', or 'side-effects', occur when the actions of either consumers or producers result in costs or benefits that do not reflect as part of the market price.
- ♦ Externalities are initiated and experienced, not through the operation of the price system, but outside the market and therefore, are external to the market.
- ♦ Externalities can be positive or negative. Negative externalities occur when the action of one party imposes costs on a third party who is not part of the transaction. Positive externalities occur when the action of one party confers benefits a third party.
- ♦ The four possible types of externalities are: negative externality initiated in production which imposes an external cost on others; positive production externality, less commonly seen, initiated in production that confers external benefits on others; negative consumption externalities initiated in consumption which produce external

© The Institute of Chartered Accountants of India

costs on others and positive consumption externality initiated in consumption that confers external benefits on others. Each of the above may be received by another in consumption or in production.

- Private cost is the cost faced by the producer or consumer directly involved in a transaction and includes direct cost of labour, materials, energy and other indirect overheads and does not incorporate externalities.
- Social cost is the entire cost which the society bears. Social Cost =Private Cost + External Cost.
- The firm or the consumer as the case may be, however, has no incentive to account for the external costs that it imposes on others.
- When firms do not have to worry about negative externalities associated with their production, the result is excess production and unnecessary social costs
- Public good (also referred to as a collective consumption good or a social good) are those which are indivisible, nonrival, non-excludable and enjoyed in common by all individuals. They are vulnerable to externalities and free rider problems.
- The incentive to let other people pay for a good or service, the benefits of which are enjoyed by an individual is known as the free rider problem.
- Private goods are 'rivalrous' 'and excludable' and less likely to have the free rider problem.
- Complete information is an essential element of competitive market.
- Asymmetric information occurs when there is an imbalance in information between the buyer and the seller i.e. when the buyer knows more than the seller or the seller knows more than the buyer. This can distort choices.
- Adverse selection is a situation in which asymmetric information about quality eliminates high-quality goods from a market. Buyers expect hidden problems in items offered for sale, leading to lower prices and the good quality items being kept off the market.
- Moral hazard is opportunism characterized by an informed person's taking advantage of a less-informed person through an unobserved action.
- Asymmetric information, adverse selection and moral hazard affect the ability of markets to efficiently allocate resources and therefore, lead to market failure because the party with better information has a competitive advantage.
- Governments intervene in various ways to correct market failure.

© The Institute of Chartered Accountants of India

- Because of the social costs imposed by monopoly, governments intervene by establishing rules and regulations designed to promote competition and prohibit actions that are likely to restrain competition.
- Natural monopolies such as electricity, gas and water supplies are usually subject to price controls.
- Government initiatives towards combating market failures due to negative externalities are either direct controls or market-based policies.
- Direct controls prohibit specific activities that explicitly create negative externalities or require that the negative externality be limited to a certain level, for instance limiting emissions.
- Government may pass laws to alleviate the effects of negative externalities or fix emissions standard which is a legal limit on how much pollutant a firm can emit. It may charge emission fee which is levied on each unit of a firm's emissions.
- The market-based approaches– environmental taxes and cap-and-trade – operate through price mechanism to create an incentive for change.
- The key is to internalizing an externality (both external costs and benefits) is to ensure that those who create the externalities include them while making decisions.
- One method of ensuring internalization of negative externalities is imposing pollution taxes. (Pigouvian taxes). By 'making the polluter pay', pollution taxes seek to internalize external costs into the price of a product or activity.
- Pollution taxes are difficult to determine and administer due to difficulty to discover the right level of taxation, problems associated with inelastic nature of demand for the good and the problem of possible capital flight.
- Tradable emission permits are marketable licenses to emit limited quantities of pollutants and can be bought and sold by polluters. The high polluters have to buy more permits and the low polluters receive extra revenue from selling their surplus permits.
- The system is administratively cheap and simple, allows flexibility and reward efficiency and provides strong incentives for innovation.
- Subsidy is a market-based policy and involves the government paying part of the cost to the firms in order to promote the production of goods having positive externalities.
- Merit goods such as education, health care etc are socially desirable and have substantial positive externalities. Left to the market, merit goods are likely to be under-produced and under- consumed so that social welfare will not be maximized.

© The Institute of Chartered Accountants of India

- The possible government responses to under-provision of merit goods are regulation, legislation, subsidies, direct government provision and a combination of government provision and market provision.
- Demerit goods are goods which impose significant negative externalities on the society as a whole and are believed to be socially undesirable. The production and consumption of demerit goods are likely to be more than optimal under free markets.
- Steps taken by government to limit demerit goods include complete ban of the good, legislations, persuasion and advertising campaigns, limiting access to the good, especially by vulnerable groups.
- In the case of non excludable pure public goods where entry fees cannot be charged, direct provision by governments through the use of general government tax revenues is the only option.
- A very commonly followed method in the case of excludable public good is to grant licenses to private firms to build a facility and then the government regulates the level of the entry fee chargeable from the public.
- Due to strategic and security reasons, certain goods are produced and consumed as public goods and services despite the fact that they can be produced or consumed as private goods.
- Price controls may take the form of either a price floor (a minimum price buyers are required to pay) or a price ceiling (a maximum price sellers are allowed to charge for a good or service).
- When prices of certain essential commodities rise excessively government may resort to controls in the form of price ceilings (also called maximum price) for making a resource or commodity available to all at reasonable prices.
- With the objective of ensuring stability in prices and distribution, governments often intervene in grain markets through building and maintenance of buffer stocks.
- Government failure occurs when intervention is ineffective causing wastage of resources expended for the intervention and/or when intervention produces fresh and more serious problems. This creates inefficiency and leads to a misallocation of scare resources.

© The Institute of Chartered Accountants of India

TEST YOUR KNOWLEDGE

Multiple Choice Questions

1. *'Market failure' is a situation which occurs when*

   (a) *private goods are not sufficiently provided by the market*

   (b) *public goods are not sufficiently provided by public sector*

   (c) *The market fail to form or they allocate resources efficiently*

   (d) *(b) and (c) above*

2. *Which of the following is an example of market failure?*

   (a) *Prices of goods tend to rise because of shortages*

   (b) *Merit goods are not sufficiently produced and supplied*

   (c) *Prices fall leading to fall in profits and closure of firms*

   (d) *None of the above*

3. *Which of the following is an outcome of market power?*

   (a) *makes price equal to marginal cost and produce a positive external benefit on others*

   (b) *can cause markets to be efficient due to reduction in costs*

   (c) *makes the firms price makers and restrict output so as to make allocation inefficient*

   (d) *(b) and(c) above*

4. *Markets do not exist*

   (a) *for goods which have positive externalities*

   (b) *for pure public goods*

   (c) *for goods which have negative externalities*

   (d) *none of the above*

5. *Which of the following is the right argument for provision of public good by government?*

   (a) *Governments have huge resources at their disposal*

   (b) *Public goods will never cause any type of externality*

   (c) *Markets are unlikely to produce sufficient quantity of public goods*

© The Institute of Chartered Accountants of India

(d) *Provision of public goods are very profitable for any government*

6. *Adequate amount of a pure public good will not be provided by the private market because of*

(a) *the possibility of free riding*

(b) *the existence of very low prices and low profits*

(c) *governments would any way produce them, so there will be overproduction*

(d) *there are restrictions as well as taxes on production of public goods*

7. *The free rider problem arises because of*

(a) *ability of participants to produce goods at zero marginal cost*

(b) *marginal benefit cannot be calculated due to externalities present*

(c) *the good or service is non excludable*

(d) *general poverty and unemployment of people*

8. *A chemical factory has full information regarding the risks of a product, but continues to sell it. This is possible because of*

(a) *asymmetric information*

(b) *moral hazard*

(c) *free riding*

(d) *(a) and (c) above*

9. *If an individual tends to drive his car in a dangerously high speed because he has a comprehensive insurance cover, it is a case of*

(a) *free riding*

(b) *moral hazard*

(c) *poor upbringing*

(d) *Inefficiency*

10. *Smoking in public is a case of*

(a) *Negative consumption externality*

(b) *Negative production externality*

(c) *Internalising externality*

(d) *None of the above*

© The Institute of Chartered Accountants of India

11. *Read the following statements*

I The market-based approaches to control externalities operate through price mechanism

II. When externalities are present, the welfare loss would be eliminated

III. The key is to internalizing an externality is to ensure that those who create the externalities include them while making decisions

Of the above statements

(a) II and III are correct

(b) I only is correct

(c) II only is correct

(d) I and III are correct

12. *Which of the following statements is false?*

(a) Tradable permits provide incentive to innovate and reduce negative externalities

(b) A subsidy on a good which has substantial positive externalities would reduce its cost and consequently its price would be lower

(c) Substantial negative externalities are involved in the consumption of merit goods.

(d) Merit goods are likely to be under-produced and under consumed through the market mechanism

13. *Which one of the following would you suggest for reducing negative externality?*

(a) Production subsidies

(b) Excise duty

(c) Pigouvian taxes

(d) All of the above

14. *A Pigouvian subsidy*

(a) cannot be present when externalities are present

(b) is a good solution for negative externality as prices will increase

(c) is not measurable in terms of money and therefore not practical

(d) may help production to be socially optimal when positive externalities are present

© The Institute of Chartered Accountants of India

15. *If governments make it compulsory to avail insurance protection, it is because*

    (a) *Insurance companies need to be running profitably*

    (b) *Insurance will generate moral hazard and adverse selection*

    (c) *Insurance is a merit good and government wants people to consume it*

    (d) *None of the above*

16. *The Competition Act, 2002 aims to -*

    (a) *protect monopoly positions of firms that have developed unique innovations*

    (b) *to promote and sustain competition in markets*

    (c) *to determine pricing under natural monopoly.*

    (d) *None of the above*

17. *Rules regarding product labelling*

    (a) *Seeks to correct market failure due to externalities*

    (b) *Is a method of solving the problem of public good*

    (c) *May help solve market failure due to information failure*

    (d) *Reduce the problem of monopolies in the product market*

18. *Identify the incorrect statement*

    (a) *A minimum support price for agricultural goods is a market intervention method to guarantee steady and assured incomes to farmers.*

    (b) *An externality is internalised if the ones that generated the externality incorporate them into their private cost- benefit analysis*

    (c) *The production and consumption of demerit goods are likely to be less than optimal under free markets*

    (d) *Compared to pollution taxes, the cap and trade method is administratively cheap and simple to implement and ensures that pollution is minimised in the most cost-effective way.*

19. *The incentive to let other people pay for a good or service, the benefits of which are enjoyed by an individual*

    (a) *Is a case of negative externality*

    (b) *Is a case of market efficiency*

    (c) *Is a case of free riding*

© The Institute of Chartered Accountants of India

(d) *Is inappropriate and warrant action*

20. *A government subsidy*

(a) *is a market-based policy*

(b) *involves the government paying part of the cost to the firms in order to promote the production of goods having positive externalities*

(c) *is generally provided for merit goods*

(d) *all the above*

21. *The production and consumption of demerit goods are*

(a) *likely to be more than optimal under free markets.*

(b) *likely to be less than optimal under free markets*

(c) *likely to be subjected to price intervention by government*

(d) *a) and c) above*

22. *The argument for education subsidy is based on*

(a) *Education is costly*

(b) *the ground that education is merit good*

(c) *education creates positive externalities*

(d) *b) and c) above*

23. *Read the following statements*

I. *Social costs are the total costs incurred by the society when a good is consumed or produced.*

II *The external costs are not included in firms' income statements or consumers' decisions*

III. *Each firm's cost which is considered for determining output would be only private cost or direct cost of production which does not include external costs*

IV. *Production and consumption decisions are efficient only when private costs are considered*

Of the above

(a) *Statements I and III are correct*

(b) *Statements I,II and III are correct*

(c) *Statement I only is correct*

© The Institute of Chartered Accountants of India

(d) All the above are correct

24. Government failure occurs when

(a) Government fails to implement its election promises on policies

(b) A government is unable to get reelected

(c) Government intervention is ineffective and produces fresh and more serious problems

(d) None of the above

ANSWERS

1.	**(c)**	2	**(b)**	3	**(c)**	4.	**(b)**	5.	**(c)**	6.	**(a)**
7.	**(c)**	8.	**(a)**	9.	**(b)**	10.	**(a)**	11.	**(d)**	12.	**(c)**
13.	**(c)**	14.	**(d)**	15.	**(c)**	16.	**(b)**	17.	**(c)**	18.	**(c)**
19.	**(c)**	20.	**(d)**	21.	**(d)**	22.	**(d)**	23.	**(b)**	24.	**(c)**

© The Institute of Chartered Accountants of India

UNIT – 3: THE PROCESS OF BUDGET MAKING: SOURCES OF REVENUE, EXPENDITURE MANAGEMENT AND MANAGEMENT OF PUBLIC DEBT

LEARNING OUTCOMES

After studying this Chapter, you will be able to –

- Define government budget and explain the need and objectives of budget
- Describe the budget concepts and terminologies
- Illustrate the process of budget making
- Detail the different sources of government revenue and expenditure
- Elucidate the process of management of public debt

CHAPTER OVERVIEW

3.1 INTRODUCTION

Governments all over the world have to perform manifold functions from protecting their territories, maintaining law and order, provision of public goods and implementation of comprehensive plans for economic and social welfare of its citizens. To execute these functions efficiently, the government requires adequate financial resources. Budget is a powerful policy instrument in the hands of government to regulate and to restructure a country's economic priorities.

© The Institute of Chartered Accountants of India

The need for budgeting arises from the need to efficiently allocate limited resources to ensure maximum social welfare. The government also needs to reallocate resources in accordance with its declared priorities. By proper budgeting, the government is able to ensure redistribution of income and wealth. The other objectives of budgets are reduction/ elimination of economic fluctuations to bring in stability, sustainable increase in real GDP and reduction in regional disparities.

In simple terms, a budget is a statement that presents the details of 'where the money comes from' and 'where the money goes to'. The government budget is a document presented for approval and legislation by a government and contains estimates of the proposed expenditure for a given period and the proposed means of financing them. In other words, a government budget is a schedule of the entire revenues and expenditures that the government expects to receive and plans to spend during the following year. The budget includes projections for the economy and its various sectors such as agriculture, industry, and services. The budget also contains estimates of the government's accounts for the next fiscal year called budgeted estimates. Being the document which consolidates revenues from all sources and outlays for all activities, the budget is the most comprehensive report of the government's finances.

Apart from the union budget, state and the local bodies have their own budgetary processes for the next financial year. However, the focus of this unit will be the union budget only.

3.2 THE PROCESS OF BUDGET MAKING

The budgetary process is the means by which the executive and legislative branches together formulate a coherent set of taxing and spending proposals. The finances of the government of India have traditionally been controlled by the Ministry of Finance. The budget is prepared by the Ministry of Finance in consultation with NITI Aayog and other relevant ministries. The budget must be presented and approved by both houses of parliament before the beginning of the fiscal year (April 1 to March 31).

Despite the fact that the term 'budget' has not been used in the Indian Constitution, the process of making it is generally referred to as budgeting. Article112 of the constitution provides that in respect of every financial year the 'president shall cause to be laid before both the houses of parliament a statement of the estimated receipts and expenditure of the government of India for that year, referred to as the "Annual Financial Statement''.

The budgetary procedures are -

(i) Preparation of the budget

(ii) Presentation and enactment of the budget and

(iii) Execution of the budget.

© The Institute of Chartered Accountants of India

The budget process mainly consists of two types of activities:

1. The administrative process, wherein the budget along with the accompanying documents are prepared in consultation with various stakeholders;
2. The legislative process wherein the budget is passed by the parliament after discussions.

Despite the fact that the union budget is presented on1st February (or any other suitable date as decided by the government), the process of budget preparation commences in August-September of the previous year. The Budget Division of the Ministry of Finance prepares a comprehensive schedule for carrying out the budget preparation activities.

The process of budget making is set off with the Budget Division issuing the budget circular containing detailed instructions and formats for preparing the estimates to all ministries, states, union territories and autonomous bodies. The detailed estimates of expenditure are prepared by ministries and departments according to their assessment of requirements for the subsequent year. Every department prepares estimates for receipts and expenditure separately.

A series of pre-budget consultations are done by the union finance minister with the finance ministers and chief ministers of states, various stakeholders and interest groups including industry associations, representatives from agriculture and social and welfare sectors, labour organisations, experts from NITI Aayog, economists etc. to elicit their suggestions on the proposed budget.

The budget is presented in the Parliament in such form as the Finance Ministry may decide after considering the suggestions (if any) of the Estimates Committee. Broadly, the budget documents depict information relating to receipts and expenditure for two years. They are:

(i) Budget estimates (BE) of receipts and expenditure in respect of current and ensuing financial year

(ii) For the current year through Revised Estimates (RE); and

(iii) Actuals of the year preceding the current year

The budget speech is mainly a policy document which draws attention to the proposed policies and programmes of the government. The finance minister makes a detailed budget speech at the time of presenting the budget before the Lok Sabha. The budget speech present details of the proposals for the new financial year regarding taxation, borrowings and expenditure plans of the government.

The budget speech of the Finance Minister is usually in two parts.

© The Institute of Chartered Accountants of India

- Part A of the budget speech gives an outline of the prevailing macro economic situation of the country and the budget estimates for the next financial year. Elaborating the priorities of the government, the minister presents a broad framework of the total funds raised by the government via taxes or borrowings, proposed government expenditure allocations for different sectors and fresh schemes for different sectors.
- Part B of the budget speech details the progress the government has made on various developmental measures, the direction of future policies and the government's tax proposals for the upcoming financial year including variations in the current taxation system.

The Annual Financial Statement shows the receipts and expenditure of government in three separate parts under which government accounts are maintained, namely:

1. Consolidated Fund of India
2. Contingency Fund of India, and the
3. Public Account.

The list of budget documents presented to the parliament, besides the finance minister's budget speech, is given below:

(a) Annual Financial Statement (AFS)

(b) Demands for Grants (DG)

(c) Finance Bill

(d) Statements mandated under FRBM Act:

  i. Macro -Economic Framework Statement

  ii. Medium-Term Fiscal Policy cum Fiscal Policy Strategy Statement

Nine other documents which are in the nature of explanatory statements supporting the mandated documents are also presented along with the documents mentioned above.

The expenditures of certain categories (e.g. the emoluments and allowances of the President of India and his/her office, and emoluments of Judges of supreme courts and high ranking personnel of constitutional bodies across India) are 'charged' on the Consolidated Fund of India and are not subject to the vote of parliament, are also indicated separately in the budget.

By convention in an election year, the budget may be presented twice. The first one is to first to secure a Vote on Account for a few months. This is followed by the Annual financial statement for that year or the full-fledged Budget.

© The Institute of Chartered Accountants of India

The budget is discussed in two stages in the Lok Sabha. First, there is the general discussion on the budget as a whole. After the first stage of general discussion on the union budget is over, the house is adjourned for a fixed period. During this period, the demands for grants of various ministries/ departments are considered by the standing committees concerned, and once the reports are presented by these committees within the stipulated time, the house proceeds to discussion and conducts ministry-wise voting on demands for grants.

The Lok Sabha has the power to concur or to refuse any demand or even to reduce the amount of grant sought by government. The budget is laid on the table of the Rajya Sabha soon after the Finance Minister has completed her/his budget speech in the Lok Sabha. The Rajya Sabha, does not vote on the demands for grants and there is only a general discussion on the budget.

After the general discussion on the budget proposals and voting on demands for grants have been completed, the government introduces the Appropriation Bill. The Appropriation Bill is intended to give authority to government to incur expenditure from and out of the Consolidated Fund of India. Motions for reduction to various demands for grants are made in the form of 'cut motions' seeking to reduce the sums sought by government.

The Finance Bill seeking to give effect to the government's taxation proposals is introduced in Lok Sabha immediately after the presentation of the general budget. It is accompanied by a memorandum explaining the provisions of the bill and their effect on the finances of the country. The motion for leave to introduce a finance bill cannot be opposed. The finance bill is taken up for consideration and passing after the Appropriation Bill is passed. The finance bill seeks to give effect to the financial proposals of the government for the next financial year. The Parliament has to pass the Finance Bill within 75 days of its introduction.

On the last day of the days allotted for discussion on the demands for grants, the speaker puts all the outstanding demands for grants to the vote of the house. This process is known as 'Guillotine'. It is a device for bringing the debate on financial proposals to an end within a specified time.

After the Finance Bill has been passed by the Lok Sabha, it is transmitted to the Rajya Sabha for Its recommendations. The bill being a money bill, Rajya Sabha has to return it within a period of 14 days, with or without recommendations. The recommendations of Rajya Sabha may be accepted or rejected by the Lok Sabha.

However from 2017-18, the date of presentation of the budget has been advanced to 1st February. An important budgetary reform was the merger of railway budget with the general budget from the budget for financial year 2017-18.

© The Institute of Chartered Accountants of India

3.3 SOURCES OF REVENUE

The Department of Revenue of the Ministry of Finance exercises control in respect of the revenue matters relating to direct and indirect union taxes. The department is also entrusted with the administration and enforcement of regulatory measures provided in the enactments concerning goods and services tax (GST), central sales tax, stamp duties and other relevant fiscal statutes.

The Department of Revenue exercises control in respect of matters relating to all the direct and indirect union taxes through two statutory boards, namely,

1. the Central Board of Direct Taxes (CBDT) and
2. the Central Board of Indirect Taxes and Customs (CBIC).

Matters relating to the levy and collection of all direct taxes are looked after by the CBDT whereas those relating to levy and collection of goods and service taxes (GST), Customs and central excise duties, service tax and other Indirect taxes fall within the purview of the CBIC.

Government receipts are classified under two categories:

1. Revenue receipts which consists of tax revenue and non tax revenue.
2. Capital receipts which consists of debt receipts and non debt capital receipts

The broad sources of revenue are:

1. Corporation tax
2. Taxes on income
3. Wealth tax
4. Customs duties
5. Union excise duties
6. Goods and services tax including GST compensation cess
7. Taxes on union territories

Centre's net tax revenue is the total of tax revenue after paying of the states' share and the National Calamity Contingent duty (NCCD) transferred to the National Calamity Contingency

Non-tax revenues comprise the following:

1. Interest receipts,
2. Dividends and profits from public sector enterprises and surplus transfers from Reserve Bank of India

© The Institute of Chartered Accountants of India

3. Other Non-tax revenues and

4. Receipts of union territories

Various social services provided by the government such as medical services, public health: broadcasting, education, sports, art and culture, housing: and economic services such as communication, energy, transport, science, technology and environment, railways and general administrative services also yield revenue for the government.

Capital Receipts include:

1. Non debt capital receipts which include
   - (a) Recoveries of loans and advances
   - (b) Miscellaneous capital receipts (disinvestments and others)
2. Debt capital receipts which include
   - (a) Market loans for different purposes
   - (b) Short term /Treasury bill borrowings
   - (c) Securities issued against small savings,
   - (d) State provident fund (Net)
   - (e) Net external debts
   - (f) Other receipts (Net)

In short, non debt receipts include recoveries of loans advanced by the government to PSEs, state governments, foreign governments and union territories and sale proceeds of government assets, including those realized from divestment of government equity in public sector undertakings (PSUs). Debt capital receipts comprise of market loans and short term borrowings by the government, borrowing from the Reserve Bank of India and loans taken from foreign governments/institutions. Examples of 'Other receipts' include Sovereign Gold Bond Scheme, receipts from international financial institutions and saving bonds.

3.4 PUBLIC EXPENDITURE MANAGEMENT

In view of the limited nature of resources, a prudent and well designed public expenditure management is essential for any government to ensure that the level of aggregate public expenditure is consistent with a sustainable macroeconomic framework. Developing economies like India require enormous amount of public spending to initiate and accelerate economic growth and to promote employment opportunities. Effective reduction in fiscal deficit requires an ingenious mix of revenue and expenditure policies. Government

© The Institute of Chartered Accountants of India

expenditure affects allocation of resources among various uses and therefore, great care should be taken to channelize the resources to socially desirable areas.

Public expenditure management is the process that allows governments to be fiscally responsible. Public expenditure programmes or projects should be designed and implemented to provide given levels of outputs or achieve specific objectives at minimum cost. The economic costs of unproductive public expenditures can be extensive .and may have far reaching effects such as:

- larger deficits
- higher levels of taxation,
- lower economic growth,
- fewer resources available for use elsewhere, and
- greater debt burden in the future.

The Department of Expenditure of the Ministry of Finance is the nodal department for overseeing the public financial management system in the central government and matters connected with state finances. It is responsible for

- the implementation of the recommendations of the Finance Commission and the Central Pay Commission,
- monitoring of audit comments/observations, and
- preparation of central government accounts.
- Additionally, it also assists central ministries/departments in
- controlling the costs and prices of public services,
- reviewing systems and procedures to optimize outputs and outcomes of public expenditure.

The requirements of funds for all categories of expenditure including various programmes and schemes, along with receipts of the departments are discussed during the pre-budget meetings chaired by Secretary (Expenditure). Expenditure estimates are provisionally finalized and communicated to ministries/departments after the approval of Finance Minister. One of the explanatory documents of the budget document is the 'Expenditure Profile' (earlier known as expenditure budget) consisting of relevant data across all ministries/departments to outline a profile of the general financial performance of the government of India. It gives an aggregation of various types of expenditure and certain other items across demands.

The total expenditure through budget (both current and capital) of various ministries and departments is composed of central expenditure and transfers. In Expenditure budget, the

© The Institute of Chartered Accountants of India

Central government expenditure is classified into six broad categories as below:

A. Centre's Expenditure:

- Establishment Expenditure of the Centre;
- Central sector schemes, and
- Other central expenditures including those on CPSEs and Autonomous Bodies

B. Centrally Sponsored Schemes and other Transfers:

The transfers include

- Centrally sponsored schemes
- Finance Commission transfers and
- Other transfers to states

Establishment expenditure includes establishment-related expenditure of the ministries/departments, and attached and subordinates offices. Central Sector Schemes (CS) include those schemes which are entirely funded and implemented by the central agencies under union government ministries/departments.

3.5 PUBLIC DEBT MANAGEMENT

In emerging market and developing economies, the government is generally the largest borrower. Government debt from internal and external sources contracted in the Consolidated Fund of India is defined as Public Debt. The government raises funds primarily from the domestic market using market-based and fixed-rate instruments to finance its fiscal deficit.

Public debt, in simple words, means debt incurred by the government in mobilizing savings of the people in the form of loans, which are to be repaid at a future date with interest. Public debt is not a one-time exercise of borrowing and repaying. Debt servicing is a continuous exercise as a portion of debt falls due each month, government does not usually cut expenditure or raise taxes to provide funds to retire or repay the maturing bonds. Rather, the government simply refinances the debt, i.e. it sells new bonds and uses the proceeds to pay off holders of the maturity bonds. Hence public debt management becomes a crucial task or responsibility of the government and plays an important role in macroeconomic stability of a country. Productive use of public debt contributes to economic growth and welfare of the society. Sustainability of sovereign debt has always been an important indicator of the overall macroeconomic health of a country. Debt sustainability is in great part a function of the level of debt and the government's capacity to service the outstanding debt.

© The Institute of Chartered Accountants of India

Public debt management refers to the task of determining, by the fiscal and monetary authorities, the size and composition of debt, the maturity pattern, interest rates, redemption of debt etc. It is the process of setting up and implementing the strategy for managing public debt in order to raise the required amount of funding at the desired risk and cost levels.

The overall objective of the central government's debt management policy is to "meet the central government's financing needs at the lowest possible long term borrowing costs and also to keep the total debt within sustainable levels. Additionally, it aims at supporting development of a well-functioning and vibrant domestic bond market".

Keeping in view the increasing magnitude of public borrowing both internal and external, the extent to which the government can mobilise funds from public depends upon the skilful public debt management. Debt management strategy is based on three broad pillars namely, low cost of borrowing, risk mitigation and market development.

The institutions responsible for public debt management are:

1. Reserve Bank of India – domestic marketable debt i.e., dated securities, treasury bills and cash management bills.
2. Ministry of Finance (MOF); – external debt
3. Ministry of Finance; Budget Division and Reserve Bank of India – Other liabilities such as small savings, deposits, reserve funds etc.

The responsibility of managing the domestic debt of the central government and of 28 state governments and two union territories is entrusted with the Internal Debt Management Department (IDMD) of the Reserve Bank of India. The RBI acts as the debt manager for marketable internal debt. While treasury bills are issued to meet short term cash requirements of the government, dated securities are issued to mobilise longer term resources to finance the fiscal deficit. From 1997 onwards, the Reserve Bank also provides short-term credit up to three months to state governments banking with it in the form of Ways and Means Advances (WMA) to bridge temporary mismatches in cash flows.

External debt (bilateral and multilateral loans) is managed by the Department of Economic Affairs in the Ministry of Finance (MoF). Most of the external debt is sourced from multilateral agencies (International Bank for Reconstruction and Development, Asian Development Bank, etc.). There is no sovereign borrowing from international capital markets. The entire external debt, in terms of original maturity, is on long -term basis and a major part is at fixed interest rates. The risk associated with external the debt is the depreciation in the value of the domestic currency vis-à-vis the currency of denomination of external loans leading to increase in the government's debt servicing cost.

© The Institute of Chartered Accountants of India

The Fiscal Responsibility and Budget Management (FRBM) was passed in 2003 to provide a legislative framework for reduction of deficit and thereby debt of the central government to a sustainable level. The objectives of the act are:

- inter-generational equity in fiscal management,
- long run macroeconomic stability,
- better coordination between fiscal and monetary policy, and
- transparency in fiscal operation of the government.

The Public Debt Management Cell (PDMC) was created in 2016 under the Department of Economic Affairs. The Medium Term Debt Management Strategy or MTDS 2021-24 is a framework to determine the appropriate composition of the debt portfolio. The objective of the debt management strategy is to efficiently raise debt at the lowest possible cost in the medium term while ensuring that financing requirements are met without disruption.

The sheer size of India's public debt can be understood from the following table:

Debt Position of the Government of India **(in ₹ crores)**

	As on 31st March 2023	As on 31st March 2024
Internal debt and other liabilities	147,77,724.43	164,23,983.04
External debt#	4,83,397.69	5,22,683.81
Total	152,61,122.12	169,46,666.85

Source: Budget 2023-2024

In line with the global trend, the government of India also responded to the pandemic challenges and increased its expenditure on health and social sector. At the same time, the revenue receipts declined substantially due to the adverse effects of the pandemic on economic activity. Consequently, fiscal deficit widened necessitating an increase in the size of the borrowing programme significantly during 2020-21 and 2021-22 in order to render counter-cyclical fiscal policy support and to provide targeted support to segments deeply hit by the pandemic.

The Reserve Bank has been proactively engaged in the development of the government securities (G-sec) market including broadening of investor participation. As part of continuing efforts to increase retail participation in G-sec, 'RBI Retail Direct' facility was announced on February 5, 2021:

- for improving the ease of access by retail investors through online access to the primary and secondary government securities market

© The Institute of Chartered Accountants of India

- to provide the facility to open their government securities account ('Retail Direct') with the Reserve Bank.

Budget concepts

Type of budgets

Balanced budget: - A balanced budget is a budget in which revenues are equal to expenditures. Thus, neither a budget deficit nor a budget surplus exists. Revenue does not fall short of expenditure. i.e., revenue is equal to expenditure (Revenue= Expenditure).

Unbalanced budget: The budget may either be surplus or deficit.

- A **surplus budget:** when estimated government receipts are more than the estimated government expenditure it is termed as surplus budget. When the government spends less than the receipts the budget becomes surplus. Briefly put, public revenue exceeds public expenditure (R>E.)
- A **deficit budget:** when estimated government receipts are less than the government expenditure, it is termed as a deficit budget. A deficit budget increases the liability of the government or decreases its reserves. In modern economies, most of the countries follow deficit budgeting.

Capital Receipts

Capital receipts are those receipts that lead to a reduction in the assets or an increase in the liabilities of the government. Examples include recoveries of loans, earnings from disinvestment and debt.

Revenue Receipts

Revenue receipts can be defined as those receipts which neither create any liability nor cause any reduction in the assets of the government. There are two sources of revenue receipts for the government — tax revenues and non-tax revenues.

Revenue Expenditure

Revenue expenditure is expenditure incurred for purposes other than creation of physical or financial assets of the central government. It relates to those expenses incurred for the normal functioning of the government departments and various services, interest payments on debt incurred by the government, and grants given to state governments and other parties (even though some of the grants may be meant for creation of assets).

Capital Expenditure

There are expenditures of the government which result in creation of physical or financial assets or reduction in financial liabilities. This includes expenditure on the acquisition of land, building, machinery and equipment, investment in shares, and loans and advances by the

© The Institute of Chartered Accountants of India

central government to state and union territory governments, PSUs and other parties.

When a government spends more than it collects by way of revenue, it incurs a budget deficit. There are various measures that capture government deficit and they have their own implications for the economy.

Budgetary Deficit or Overall Deficit

Budgetary Deficit is defined as the excess of total estimated expenditure over total estimated revenue is the difference between all receipts and expenditure, both revenue and capital.

Revenue Deficit

The revenue deficit refers to the excess of government's revenue expenditure over revenue receipts. It shows the shortfall of government's current receipts over current expenditure. It shows the government revenue is insufficient to meet the regular expenditures in connection with the normal functioning of the government, or the government is diverting resources from other sectors to finance its current expenditure.

Revenue deficit = Revenue expenditure – Revenue receipts

Fiscal Deficit

When the government's non-borrowed receipts fall short of its entire expenditure, it has to borrow money from the public to meet the shortfall. The excess of total expenditure over total receipts excluding borrowings during a given fiscal year is called the fiscal deficit. In other words, fiscal deficit is the difference between the government's total expenditure and its total receipts excluding borrowing. It is often presented as a percentage of the gross domestic product (GDP).

Total Receipts excluding borrowing = Revenue Receipts + Capital Receipts excluding borrowing or (Non debt creating capital receipts). Non debt creating capital receipts include recoveries of loans advanced by the government and sale proceeds of government assets, including those realized from divestment of government equity in public sector undertakings (PSUs).

Fiscal deficit = Total Expenditure –Total Receipts excluding borrowing

Fiscal Deficit = (Revenue Expenditure + Capital Expenditure) – (Revenue Receipts + Capital Receipts excluding borrowing)

Fiscal Deficit = (Revenue Expenditure- Revenue Receipts) + (Capital Expenditure – Capital Receipts excluding borrowing)

Fiscal Deficit = Revenue Deficit + (Capital Expenditure - Capital Receipts excluding borrowing)

© The Institute of Chartered Accountants of India

The fiscal deficit will have to be financed by borrowing. Therefore fiscal deficit points to the total borrowing requirements of the government from all sources. In case revenue deficit occupies a substantial share of fiscal deficit, it is an indication that a large part of borrowing is used for consumption purposes rather than for investment.

Primary Deficit

Primary deficit is defined as fiscal deficit of current year minus interest payments on previous borrowings. In other words whereas fiscal deficit indicates borrowing requirement inclusive of interest payment, primary deficit indicates borrowing requirement exclusive of interest payment. It tells how much of the government's borrowings are going towards meeting expenses other than interest payments. Primary deficit thus gives an estimate of borrowings on account of current expenditure exceeding current revenues. The goal of measuring primary deficit is to focus on present fiscal imbalances.

Primary deficit = Fiscal deficit – Net Interest liabilities

Net interest liabilities interest payments minus interest receipts by the government on domestic lending.

Finance Bill

The Bill produced immediately after the presentation of the union budget detailing the Imposition, abolition, alteration or regulation of taxes proposed in the budget.

Outcome budget

The outcome budget establishes a direct link between budgetary allocations of schemes and its annual performance targets measured through output and outcome indicators. The outcome budget is a progress card on what various ministries and departments have done with the outlays in the previous annual budget. It measures the development outcomes of all government programs and whether the money has been spent for the purpose it was sanctioned including the outcome of the fund usage.

Guillotine

The parliament has very limited time for examining the expenditure demands of all the ministries. So, once the prescribed period for the discussion on demands for grants is over, the speaker of Lok Sabha puts all the outstanding demands for grants, whether discussed or not, to the vote of the house. This process is popularly known as 'Guillotine'.

Cut Motions

Motions for reduction to various demands for grants are made in the form of cut motions seeking to reduce the sums sought by government on grounds of economy or difference of opinion on matters of policy or just in order to voice a grievance.

© The Institute of Chartered Accountants of India

Consolidated Fund of India

All revenues received, loans raised and all moneys received by the government in repayment of loans are credited to the Consolidated Fund of India and all expenditures of the government are incurred from this fund. Money can be spent through this fund only if appropriated by the parliament. The consolidated Fund has further been divided into 'revenue' and 'capital' divisions.

Contingency Fund of India

A fund placed at the disposal of the President to enable him/her to make advances to the executive/Government to meet urgent unforeseen expenditure. Contingency fund enables the government to meet unforeseen expenditure and does not require prior legislative approval, unlike with the Consolidated Fund. For meeting such exigencies, advances are made to the executive from the contingency fund which is subsequently reported to the Parliament for recoupment from the Consolidated Fund of India.

Public Account

Under provisions of Article 266(1) of the Constitution of India, public account is used in relation to all the fund flows where government is acting as a banker. Examples include Provident Funds and Small Savings. This money does not belong to government but is to be returned to the depositors. The expenditure from this fund need not be approved by the parliament.

TEST YOUR KNOWLEDGE

Multiple Choice Questions

1. *The difference between the budget deficit of a government and its debt service payments is*

   (a) Fiscal deficit

   (b) Budget deficit

   (c) Primary deficit

   (d) None of the above

   The following hypothetical figures relate to country A

	₹ Crores
Revenue receipts	*20,000*
Recovery of loans	*1,500*

© The Institute of Chartered Accountants of India

Borrowing	*15,000*
Other Receipts	*5,000*
Expenditure on revenue account	*24,500*
Expenditure on capital account	*26,000*
Interest payments	*2,000*

2. *The revenue deficit for country A is*

   (a) 5,000

   (a) 24,000

   (c) 4,500

   (d) None of the above

3. *Fiscal deficit of country A is*

   (a) 14,000

   (b) 24,000

   (c) 23,500

   (d) None of the above

4. *Primary deficit of Country A is*

   (a) 26,000

   (b) 26,500

   (c) 22,000

   (d) 24,500

5. *In NITI Aayog, NITI stands for*

   (a) National Initiative for Transforming India

   (b) National Institution for Transforming India

   (c) National Institute for Technology and Innovation

   (d) None of the above

6. *The Appropriation Bill is intended to*

   (a) reduce unnecessary expenditure on the part of the government

© The Institute of Chartered Accountants of India

(b) *give authority to government to incur expenditure from and out of the Consolidated Fund of India*

(c) *give authority to government to incur expenditure from the revenue receipts only*

(d) *be passed before the budget is taken for discussion*

7. *Public debt management aims at*

(a) *An efficient budgetary policy to avail of domestic debt facilities*

(b) *Raising loans from international agencies at lower rates of interest*

(c) *Raising the required amount of funding at the desired risk and cost levels*

(d) *Management of public expenditure to reduce public debt*

8. *The railway budget is*

(a) *Part of the general budget, but is presented by the railway minister*

(b) *Part of the general budget from the budget for financial year 2017-18.*

(c) *Part of the general budget from the budget for financial year 2021-22*

(d) *Part of the general budget but presented on the next day of the general budget*

9. *Outcome budgeting*

(a) *shares information about the money allocated for various purposes in a budget*

(b) *establishes a direct link between budgetary allocations and performance targets measured through output and outcome indicators*

(c) *establishes a direct link between budgetary performance targets and public account disbursals*

(d) *shares information about public policies and programmes under the budget*

10. *Corporate tax*

(a) *is collected by the union government and can be a capital receipt or revenue receipt*

(b) *may be collected by the respective states and fall under revenue receipts*

(c) *may be collected either by the centre or states and fall under revenue receipts*

(d) *is collected by the union government and is a revenue receipt*

© The Institute of Chartered Accountants of India

11. *Government borrowings from foreign governments and institutions*

(a) *Capital receipt*

(b) *Revenue receipt*

(c) *Accounts for fiscal deficit*

(d) *Any of the above depending on the purpose of borrowing*

The following table relates to the revenue and expenditure figures of a hypothetical economy

In ₹ lakh Crores

(a)	*Recovery of loans*	*5.1*
(b)	*Salaries of govt. servants*	*41.1*
(c)	*Capital Expenditure*	*45.0*
(d)	*Interest payments*	*1.3*
(e)	*Payments towards subsidies*	*3.2*
(f)	*Other receipts (mainly from disinvestment)*	*11.6*
(g)	*Tax revenue (net of states' share)*	*26.3*
(h)	*Non-tax revenue*	*12.3*
(i)	*Borrowings and other liabilities*	*6.8*
(j)	*States' share in tax revenue*	*11.9*

12. *The capital receipts are*

(a) *23.5*

(b) *19.7*

(c) *11.3*

(d) *None of the above*

13. *Revenue deficit is*

(a) *23.6*

(b) *13.0*

(c) *7.0*

© The Institute of Chartered Accountants of India

(d) 2.6

14. The non–debt capital receipts of this country is

(a) 45.1

(b) 16.7

(c) 15.8

(d) None of the above

15. A budget is said to be unbalanced when

(a) when government's revenue exceeds government's expenditure

(b) when government's expenditure exceeds government's revenue

(c) either budget surplus of budget deficit occurs

(d) All the above

16. Fiscal deficit refers to

(a) the excess of government's revenue expenditure over revenue receipts

(b) The excess of total expenditure over total receipts excluding borrowings

(c) Primary deficit - interest payments

(d) None of these

17. Budget of the government generally impacts

(a) the resource allocation in the economy

(b) redistribution of income and enhance equity

(c) stability in the economy by measures to control price fluctuations

(d) all the above

18. Which of the following is a statement submitted along with the budget as a requirement of FRBM Act

(a) Annual Financial Statement

(b) Macro -Economic Framework Statement

(c) Medium-Term Fiscal Policy cum Fiscal Policy Strategy Statement

(d) (b) and (c) above

19. Government borrowing is treated as capital receipt because

(a) It is mainly used for creating assets by government

© The Institute of Chartered Accountants of India

(b) *It creates a liability for the government*

(c) *Both a) and b) above are correct*

(d) *None of the above is correct*

20. *'Retail Direct 'scheme is*

(a) *Initiated by the Reserve Bank of India*

(b) *facilitate investment in government securities by individual investors.*

(c) *Direct sale of goods and services by government departments*

(d) *Both (a) and (b) are correct*

21. *Non-debt capital receipts*

(a) *do not add to the assets of the government and therefore not treated as capital receipts*

(b) *are those that do not create any future repayment burden for the government*

(c) *are those that create future liabilities for the government*

(d) *facilitate capital investments at low cost*

22. *Which of the following is a capital receipt?*

(a) *Licence fee received*

(b) *Sale proceeds from disinvestment*

(c) *Assistance from Japan for covid vaccine*

(d) *Dividend from a public sector enterprise*

23. *Grants given by the central government to state governments is*

(a) *A revenue expenditure as it is meant to meet the current expenditure of the states*

(b) *A revenue expenditure as it does neither creates any asset, nor reduces any liability of the government*

(c) *A capital expenditure because it increase the capital base of the states*

(d) *It is a grant and so does not come under revenue expenditure or capital expenditure.*

© The Institute of Chartered Accountants of India

24. *Short-term credit from the Reserve Bank to state governments to bridge temporary mismatches in cash flows is known as*

(a) RBI credit to states

(b) Commercial credit of RBI

(c) Ways and Means Advances (WMA)

(d) Short term facility

ANSWERS

1.	**(c)**	2	**(c)**	3	**(b)**	4.	**(c)**	5.	**(b)**	6.	**(b)**
7.	**(c)**	8.	**(b)**	9.	**(b)**	10.	**(d)**	11.	**(a)**	12.	**(a)**
13.	**(c)**	14.	**(b)**	15.	**(d)**	16.	**(d)**	17.	**(d)**	18.	**(d)**
19.	**(b)**	20.	**(d)**	21.	**(b)**	22.	**(b)**	23	**(b)**	24	**(c)**

© The Institute of Chartered Accountants of India

UNIT – 4: FISCAL POLICY

LEARNING OUTCOMES

After studying this Chapter, you will be able to –

- define fiscal policy and list out its objectives
- explain the various instruments of fiscal policy
- describe the expansionary and contractionary fiscal policies
- elucidate the limitations fiscal policy

CHAPTER OVERVIEW

4.1 INTRODUCTION

The governments of all countries pursue numerous policies to accomplish their economic goals such as rapid economic growth, equitable distribution of wealth and income, reduction of poverty, price stability, exchange rate stability, full-employment, balanced regional development etc. Government budget is one among the most powerful instruments of economic policy. The important tools in the budgetary policy could be broadly classified into public revenue including taxation, public expenditure, public debt and finally deficit financing to bridge the gap between public receipts and payments. When all these tools are used for achieving certain goals of economic policy, public finance is transformed into what is called fiscal policy. In other words, through the use of these instruments governments intend to favourably influence the level of economic activity of a country. These, in fact, form the subject matter of fiscal policy.

Fiscal policy is the deliberate policy of the government under which it uses the instruments of taxation, public expenditure and public borrowing to influence both the pattern of economic activity and level of aggregate demand, output and employment. Fiscal policy is in the nature of a demand-side policy. An economy which is producing at full-employment level does not require government action in the form of fiscal policy.

© The Institute of Chartered Accountants of India

The classical economists held the belief that the government should not intervene in the economy because the market mechanism makes the economy self-adjusting and keeps the economy at or near the natural level of real GDP at all times. Since the economy always tends to have stable prices and operates at full employment where the resources are utilized at their full capacity, and there will be no unemployment. The government should have a balanced budget and any deliberate fiscal policies are unnecessary.

The significance of fiscal policy as a strategy for achieving certain socio economic objectives was not recognized or widely acknowledged before 1930 due to the faith in the limited role of government advocated by the then prevailing laissez-faire approach. The depression resulted in very low aggregate demand along with high levels of unemployment. The classical economics could not provide any solution to this problem. In 1936, the British economist John Maynard Keynes in his book 'The General Theory of Employment, Interest, and Money' advocated increase in government spending to combat the recessionary forces in the economy and to solve the problem of unemployment. In recent times, especially after being threatened by the global financial crisis and recession, many countries have preferred to have a more active fiscal policy.

4.2 OBJECTIVES OF FISCAL POLICY

The objectives of fiscal policy, like those of other economic policies of the government, are derived from the aspirations and goals of the society. We have seen in our previous unit on market failure that it is the responsibility of the government to provide various goods and services like, highways, primary education healthcare etc to ensure social welfare.

Since nations differ in numerous aspects, the objectives of fiscal policy also may vary from country to country. However, the most common objectives of fiscal policy are:

- Achievement and maintenance of full employment,
- maintenance of price stability,
- acceleration of the rate of economic development, and
- equitable distribution of income and wealth,

The importance as well as order of priority of these objectives may vary from country to country and from time to time. For instance, while stability and equality may be the priorities of developed nations, economic growth, employment and equity may get higher priority in developing countries.

Governments may directly as well as indirectly influence the way resources are used in an economy. Fiscal policy is a powerful tool for managing the economy because of its ability to influence the total amount of output produced viz. gross domestic product. The ability of

© The Institute of Chartered Accountants of India

fiscal policy to influence output by affecting aggregate demand makes it a potential instrument for stabilization of the economy. We shall now see how this happens by investigating into the fundamental equation of national income accounting that measures gross domestic product (GDP) according to expenditures.

$$GDP = C + I + G + NX$$

The right side of the equation shows the different sources of aggregate spending or demand. We know that the market demand is influenced by government actions such as tax rates and government expenditure. The governments can influence the level of economic activity (GDP) by directly controlling G (government expenditure i.e purchases of goods and services by the government) and indirectly influencing C (private consumption), I (investment), and NX (net exports or exports minus imports), through changes in taxes, transfer payments and public expenditure.

4.3 TYPES OF FISCAL POLICY

As we are aware, while pursuing fiscal policy, the government makes deliberate attempts to adjust revenues, expenditures and public debt to eliminate unemployment during recession and to achieve price stability during in inflation. Contra cyclical fiscal policy or fiscal policy measures to correct different problems created by business-cycle instability are of two basic types namely, expansionary fiscal policy and contractionary fiscal policy.

a) Expansionary Fiscal Policy

Expansionary fiscal policy is designed to stimulate the economy during the contractionary phase of a business cycle or when there is an anticipation of a business cycle contraction. A recession is said to occur when the overall economic activity declines, or in other words, when the economy 'contracts'. A 'demand-deficient' recession sets in with a period of falling real GDP, low aggregate demand and reduced consumer spending and rising unemployment. To combat such a slump in overall economic activity, the government can resort to expansionary fiscal policies. We may technically refer to this as a policy measure to close a 'recessionary gap'. How does the government achieve this?

- The government may cut all types of taxes, direct and indirect, leaving the taxpayers with extra money to spend so that there is more purchasing power and more demand for goods and services. Consequently aggregate demand, output and employment increase.
- An increase in government expenditure (discussed in detail below) will pump money into the economy and increase aggregate demand. This in turn will increase output and employment.

© The Institute of Chartered Accountants of India

- A combination of increase in government spending and decrease in personal income taxes and/or business taxes

While resorting to expansionary fiscal policy, the government may run into budget deficits because tax cuts reduce government income and the government expenditures exceed tax revenues in a given year.

b) Contractionary fiscal policy

Contractionary fiscal policy is basically the opposite of expansionary fiscal policy. Contractionary fiscal policy is designed to restrain the levels of economic activity of the economy during an inflationary phase or when there is anticipation of a business-cycle expansion which is likely to induce inflation. Contractionary fiscal policy refers to the deliberate policy of government applied to curtail aggregate demand and consequently the level of economic activity. In other words, it is fiscal policy aimed at eliminating an 'inflationary gap'. In other words, if the state of the economy is such that its growth rate is extraordinarily high causing inflation and asset bubbles, contractionary fiscal policy can be used to confine it into sustainable levels.

Contractionary fiscal policy works through:

- Decrease in government spending: With decrease in government spending, the total amount of money available in the economy is reduced which in turn has the effect of reducing the aggregate demand.
- Increase in personal income taxes and/or business taxes**:** An increase in personal income taxes reduces disposable incomes leading to fall in consumption spending and aggregate demand. An increase in taxes on business profits reduces the surpluses available to businesses, and as a result, firms' investments shrink causing aggregate demand to fall. Increased taxes also dampen the prospects of profits of potential entrants who will respond by holding back fresh investments.
- A combination of decrease in government spending and increase in personal income taxes and/or business taxes**.**

Contractionary fiscal policy should ideally lead to a smaller government budget deficit or a larger budget surplus.

We have understood in general that governments influence the economy through their policies in respect of taxation, expenditure and borrowing. To sum up:

- during inflation or when there is excessive levels of utilization of resources, fiscal policy aims at controlling excessive aggregate spending, and

© The Institute of Chartered Accountants of India

- during deflation or during a period of sluggish economic activity when the rate of utilization of resources is less, fiscal policy aims to compensate the deficiency in effective demand by boosting aggregate spending.

We shall now describe the application of each of the fiscal policy tools.

4.4 THE INSTRUMENTS OF FISCAL POLICY

The tools of fiscal policy are taxes, government expenditure, public debt and the government budget. We shall discuss each of them in the following paragraphs.

4.4.1 Government Expenditure as an Instrument of Fiscal Policy

Government expenditure is an important instrument of fiscal policy. Public expenditure includes governments' expenditure towards consumption, investment, and transfer payments. Government expenditure constitutes a considerable part of the total expenditure in the economy. Fiscal policy relates to decisions that determine whether the government's expenditure is more or less than what it receives. A reduction or increase in it may result in significant variations in the country's total income. As such, public expenditure can be instrumental in adjusting consumption and investment to achieve full employment.

Public expenditures are income generating and include all types of government expenditure such as capital expenditure on public works, relief expenditures, subsidy payments of various types, transfer payments and other social security benefits. Government expenditures include:

1. current expenditures to meet the day to day running of the government,
2. capital expenditures which are in the form of investments made by the government in capital equipments and infrastructure, and
3. transfer payments i.e. government spending which does not contribute to GDP because income is only transferred from one group of people to another without any direct contribution from the receivers.

Government may spend money on performance of its large and ever-growing functions and also for deliberately bringing in stabilization.

During a recession, it may initiate a fresh wave of public works, such as construction of roads, irrigation facilities, sanitary works, ports, electrification of new areas etc. Government expenditure involves employment of labour as well as purchase of multitude of goods and services. These expenditures directly generate incomes to labour and suppliers of materials and services. Apart from the direct effect, there is also indirect effect in the form of working of multiplier. The incomes generated are spent on purchase of consumer goods. The extent

© The Institute of Chartered Accountants of India

of spending by people depends on their marginal propensity to consume (MPC). There is generally surplus capacity in consumer goods industries during recession and an increase in demand for various goods leads to expansion in production in those industries as well.

A relevant question here is; from where will the government find resources to increase its expenditure? We know that if government resorts to increase in taxes, it is self- defeating as increased taxes will reduce the disposable incomes and therefore aggregate demand. The government should in such cases go for a deficit budget which may be financed either through borrowing or through monetization (creation of additional money to finance expenditure). The former runs the risk of crowding out private spending.

Additionally, a programme of public investment will strengthen the general confidence of businessmen and consequently their willingness to invest. Primary employment in public works programmes will induce secondary and tertiary employment, and before long the economy is put on an expansion track.

Public expenditure is also used as a policy instrument to reduce the severity of inflation and to bring down the prices. This is done by reducing government expenditure when there is a fear of inflationary rise in prices. Reduced incomes on account of decreased public spending help eliminate excess aggregate demand.

4.4.2 Taxes as an Instrument of Fiscal Policy

Taxes form the most important source of revenue for governments. Taxation policies are effectively used for establishing stability in an economy. Tax as an instrument of fiscal policy consists of changes in government revenues or in rates of taxes aimed at encouraging or restricting private expenditures on consumption and investment. Taxes determine the size of disposable income in the hands of the general public which in turn determines aggregate demand and possible inflationary and deflationary gaps. The structure of tax rates is varied in the context of the overall economic conditions prevailing in an economy.

During recession and depression, the tax policy is framed to encourage private consumption and investment. A general reduction in income taxes leaves higher disposable incomes with people inducing higher consumption. Low corporate taxes increase the prospects of profits for business and promote further investment. The extent of tax reduction and /or increase in government spending required depends on the size of the recessionary gap and the magnitude of the multiplier.

During inflation, new taxes can be levied and the rates of existing taxes are raised to reduce disposable incomes and to wipe off the surplus purchasing power. However, excessive taxation usually stifles new investments and therefore the government has to be cautious about a policy of tax increase.

© The Institute of Chartered Accountants of India

4.4.3 Public Debt as an Instrument of Fiscal Policy

A rational policy of public borrowing and debt repayment is a potent weapon to fight inflation and deflation. Public debt may be internal or external; when the government borrows from its own people in the country, it is called internal debt. On the other hand, when the government borrows from outside sources, the debt is called external debt. Public debt takes two forms namely, market loans and small savings.

In the case of market loans, the government issues treasury bills and government securities of varying denominations and duration which are traded in debt markets. For financing capital projects, long-term capital bonds are floated and for meeting short-term government expenditure, treasury bills are issued.

The small savings represent public borrowings, which are not negotiable and are not bought and sold in the market. In India, various types of schemes are introduced for mobilising small savings e.g., National Savings Certificates, National Development Certificates, etc. Borrowing from the public through the sale of bonds and securities curtails the aggregate demand in the economy. Repayments of debt by governments increase the availability of money in the economy and increase aggregate demand.

4.4.4 Budget as an Instrument of Fiscal Policy

Government's budget is widely used as a policy tool to stimulate or contract aggregate demand as required. The budget is simply a statement of revenues earned from taxes and other sources and expenditures made by a nation's government in a year. The net effect of a budget on aggregate demand depends on the government's budget balance.

A government's budget can either be balanced, surplus or deficit.

- A balanced budget results when expenditures in a year equal its tax revenues for that year. Such a budget will have no net effect on aggregate demand since the leakages from the system in the form of taxes collected are equal to the injections in the form of expenditures made.
- A budget surplus that occurs when the government collects more than what it spends, though sounds like a highly attractive one, has in fact a negative net effect on aggregate demand since leakages exceed injections.
- A budget deficit wherein the government expenditure in a year is greater than the tax revenue it collects has a positive net effect on aggregate demand since total injections exceed leakages from the system.

While a budget surplus reduces national debt, a budget deficit will add to the national debt. Deliberate changes to the composition of revenue and expenditure components of the budget

© The Institute of Chartered Accountants of India

are extensively used to change macro economic variables such as level of economic growth, inflation, unemployment and external stability.

4.4.5 Fiscal Policy for Long-run Economic Growth

We have been discussing so far about how fiscal policy acts as an effective tool for managing aggregate demand in the short-run to help maintain price stability and employment levels. However, we know that economic growth is indispensable for sustainable development and favourable social outcomes. The demand-side fiscal policies unaccompanied by policies to stimulate aggregate supply cannot produce long-run economic growth.

Fiscal policy influence economic growth through its effects on the incentives faced by individuals and firms. For example;

- Fiscal policies such as those involving infrastructure spending generally have positive supply-side effects. When government supports building a modern infrastructure, the private sector is provided with the requisite overheads it needs.
- Government provision of public goods such as education, healthcare, nutrition, research and development etc. provide momentum for long-run economic growth through human capital formation. Increase in human capital makes physical capital more productive.
- Taxes can have either positive or negative impact on economic growth depending on whether it encourages or discourages saving and investment.
- A well designed tax policy that rewards innovation and entrepreneurship, without discouraging incentives will promote private businesses who wish to invest and thereby help the economy grow. For example, an increase in corporate taxes to raise extra revenue may have adverse consequences on incentives and output.
- Tax and spending policies (e.g. subsidies) can be effectively used to correct market failures resulting from externalities.
- Increase in environment taxes increase the cost of firms and reduce their output
- Subsidies on inputs and support prices to producers (e.g. farmers) generate higher output.

4.4.6 Fiscal Policy for Reduction in Inequalities of Income and Wealth

Many developed and developing economies are facing the challenge of rising inequality in incomes and opportunities. Fiscal policy is a chief instrument available for governments to influence income distribution and plays a significant role in reducing inequality and achieving

© The Institute of Chartered Accountants of India

equity and social justice. Generally, the policy makers in developing countries try to address socioeconomic issues such as illiteracy, poverty, unemployment, and inequality by deliberately changing the tax rates and tax structure and the levels and direction of public spending.

Government revenues and expenditure have traditionally been regarded as important instruments for carrying out desired redistribution of income. The distribution of income in the society is influenced by fiscal policy both directly and indirectly. We shall see a few such measures as to how each of these can be manipulated to achieve desired distributional effects.

- A progressive direct tax system ensures that those who have greater ability to pay contribute more towards defraying the expenses of government and that the tax burden is distributed fairly among the population.
- Indirect taxes can be differential: for example, the commodities which are primarily consumed by the richer income group, such as luxuries, are taxed heavily and the commodities the expenditure on which forms a larger proportion of the income of the lower income group, such as necessities, are taxed light or not taxed at all.
- A carefully planned policy of public expenditure helps in redistributing income from the rich to the poorer sections of the society. This is done through spending programmes targeted at welfare measures for the disadvantaged, such as

  (i) poverty alleviation programmes

  (ii) free or subsidized medical care, education, housing, essential commodities etc. to improve the quality of living of the poor

  (iii) infrastructure provision on a selective basis (e.g. rural roads, water supply for tribal area)

  (iv) various social security schemes under which people are entitled to old-age pensions, unemployment relief, sickness allowance etc.

  (v) subsidized production of products of mass consumption

  (vi) public production and/ or grant of subsidies to ensure sufficient supply of essential goods, and

  (vii) strengthening of human capital for enhancing employability etc.

  Choice of a progressive tax system with high marginal taxes may act as a strong deterrent to work save and invest. Therefore, the tax structure has to be carefully framed to mitigate possible adverse impacts on production and efficiency. Additionally, a highly redistributive fiscal policy with excessively generous social programs can reduce incentives to work and save.

© The Institute of Chartered Accountants of India

4.4.7 Limitations of Fiscal Policy

We have seen above that fiscal policy is the conscious manipulation of government spending and taxes to influence the economy. However, there are some significant limitations in respect of choice and implementation of fiscal policy.

- One of the biggest problems with using planned fiscal policy to counteract fluctuations is the different types of lags involved in fiscal-policy action. There are significant lags namely:
  - Recognition lag: The economy is a complex phenomenon and the state of the macro economic variables is usually not easily comprehensible. There is difficulty in collecting accurate and timely data. There may be delay on the part of the government to recognize the need for a policy change.
  - Decision lag: Once the need for intervention is recognized, the government has to evaluate the possible alternative policies. Delays are likely to occur to make a decision on the most appropriate policy.
  - Implementation lag: even when appropriate policy measures are decided on, there are possible delays in bringing in legislation and implementing them on account of bureaucracy. This is specially so under a democratic set up.
  - Impact lag: impact lag occurs when the outcomes of a policy are not visible for some time.
- Fiscal policy changes may at times be badly timed due to the various lags so that it is highly possible that an expansionary policy is initiated when the economy is already on a path of recovery and vice versa.
- There are difficulties in instantly changing governments' spending and taxation policies.
- It is practically difficult to reduce government spending on various items such as defence and social security as well as on huge capital projects which are already midway.
- Public works cannot be adjusted easily along with movements of the trade cycle because many huge projects such as highways and dams have long gestation period. Besides, some urgent public projects cannot be postponed for reasons of expenditure cut to correct fluctuations caused by business cycles.
- Supply-side economists are of the opinion that certain fiscal measures will cause disincentives. For example, increase in profits tax may adversely affect the incentives of firms to invest and an increase in social security benefits may adversely affect incentives to work and save.

© The Institute of Chartered Accountants of India

- Deficit financing increases the purchasing power people. The production of goods and services, especially in under developed countries may not catch up simultaneously to meet the increased demand. This will result in prices spiraling beyond control.
- Increase is government borrowing creates perpetual burden on even future generations as debts have to be repaid. If the economy lags behind in productive utilization of borrowed money, sufficient surpluses will not be generated for servicing debts. External debt burden has been a constant problem for India and many developing countries.
- If governments compete with the private sector to borrow money for spending, it is likely that interest rates will go up, and firms' willingness to invest may be reduced. Individuals too may be reluctant to borrow and spend and the desired increase in aggregate demand may not be realized. This phenomenon is described below.

4.4.8 Crowding Out

We shall now discuss the secondary effects that fiscal policy may have on the economy. Some economists are of the opinion that government spending would sometimes substitute private spending and when this happens the impact of government spending on aggregate demand would be smaller than what it should be. In such cases, fiscal policy may become ineffective.

When government aims to solve the problem of recession with an expansionary fiscal policy, it will resort to increase in spending and/or a reduction in taxes. The government runs a budget deficit as income decreases and expenditure increases. The budget deficit, which is the difference between government expenditures and tax revenues, is financed by government borrowing from the credit market. The government adds to national debt by issuing long-term, interest-bearing bonds and uses the proceeds to finance the deficit.

Substantial government borrowing in the credit market tends to reduce the amount of funds available and pushes the interest rates up. Higher interest rates slow down business investment expenditures and consumption expenditures that are sensitive to interest rates. An increase in the size of government spending during recessions will 'crowd-out' private spending in an economy. In other words, when spending by government in an economy replaces private spending, the latter is said to be crowded out. As a result, the effectiveness of expansionary fiscal policy in stimulating aggregate demand will be diminished to a great extent. This may also possibly reduce the economy's prospects of long-run economic growth.

However, during deep recessions, crowding-out is less likely to happen as private sector investment is already minimal and therefore there is only insignificant private spending to crowd out. Moreover, during a recession phase the government would be able to borrow from the market without increasing interest rates.

© The Institute of Chartered Accountants of India

4.4.9 Conclusion

Well designed and timely fiscal responses are necessary for an economy which is going through stages of recession or inflation or on a drive to achieve economic growth and/ or equitable distribution of income. During periods of recession when there are idle productive capacity and unemployed workers, an increase in aggregate demand will generally bring about an increase in total output without changing the level of prices. On the contrary, if an economy is functioning at full employment, an expansionary fiscal policy will exert pressure on prices to go up and will have no impact on total output. Fiscal policy is also a potent instrument for bringing in economic growth and equality in distribution of income.

SUMMARY

- Fiscal policy involves the deliberate use of government spending, taxation and borrowing to influence both the pattern of economic activity and level of growth of aggregate demand, output and employment.
- Laissez-faire approach advocated limited role of government resulting in non recognition of the significance of fiscal policy as a strategy for achieving certain socio economic objectives till 1930.
- Through the use budgetary instruments such as public revenue, public expenditure, public debt and deficit financing, governments intend to favourably influence the level of economic activity of a country.
- The objectives of fiscal policy may vary from country to country, but generally they are: achievement and maintenance of full employment, maintenance of price stability, acceleration of the rate of economic development and equitable distribution of income and wealth.
- Since GDP = C + I + G + NX, governments can influence economic activity (GDP), by controlling G directly and influencing C, I, and NX indirectly, through changes in taxes, transfer payments and expenditure.
- The Keynesian school is of the opinion that fiscal policy can have very powerful effects in altering aggregate demand, employment and output in an economy when the economy is operating at less than full employment levels and when there is a need to offer a stimulus to demand.
- The tools of fiscal policy are taxes, government expenditure, public debt and the budget.
- Expansionary fiscal policy is designed to stimulate the economy during the contractionary phase of a business cycle and is accomplished by increasing aggregate

© The Institute of Chartered Accountants of India

expenditures and aggregate demand through an increase in all types of government spending and / or a decrease in taxes.

- Contractionary fiscal policy is designed to restrain the levels of economic activity of the economy during an inflationary phase by decreasing the aggregate expenditures and aggregate demand through a decrease in all types of government spending and/ or an increase in taxes.
- A recession sets in with a period of declining real income, as measured by real GDP and a situation of rising unemployment.
- A recessionary gap, also known as a contractionary gap, is said to exist if the existing levels of aggregate production is less than what would be produced with the full employment of resources.
- Government expenditure, an important instrument of fiscal policy, generates incomes and also has indirect effect in the form of working of multiplier.
- Taxes determine the size of disposable income in the hands of general public which in turn determines aggregate demand and possible inflationary and deflationary gaps.
- During recession and depression, the tax policy is framed to encourage private consumption and investment. A general reduction in income taxes and lower corporate taxes increase aggregate demand and investments respectively.
- During inflation new taxes can be levied and the rates of existing taxes may be raised to reduce disposable incomes and to wipe off the surplus purchasing power.
- Borrowing from the public through the sale of bonds and securities curtails the money available for spending which in turn reduces the aggregate demand in the economy. Repayment of debts increases the availability of money in the economy and increase aggregate demand.
- Budget is widely used as a policy tool to stimulate or to contract aggregate demand as required.
- Fiscal Policy also aims to attain long-run economic growth through policies to stimulate aggregate supply.
- Fiscal policy is a chief instrument available for governments to influence income distribution and plays a significant role in reducing inequality and achieving equity and social justice.
- Contractionary fiscal policy is aimed at eliminating inflationary gaps and to trim down the aggregate demand by decrease in government spending and an increase in

© The Institute of Chartered Accountants of India

personal income taxes and/or business taxes causing less disposable incomes and lower incentives to invest.

- Fiscal policy suffers from limitations such as limitations in respect of choice of appropriate policy, recognition lag, decision lag, implementation lag, impact lag, inappropriate timing, difficulties of forecasting due to uncertainties, possible conflicts between different objectives, possibility of generating disincentives, practical difficulty to reduce government expenditures and the possibility of certain fiscal measures replacing private spending.
- An increase in the size of government spending during recessions will 'crowd-out' private spending in an economy. In other words, when spending by government in an economy replaces private spending, the latter is said to be crowded out.
- As a result of crowding out, the effectiveness of expansionary fiscal policy in stimulating aggregate demand will be diminished to a great extent. This may also possibly reduce the economy's prospects of long-run economic growth.
- During deep recessions, crowding-out is less likely to happen as private sector investment is already minimal and therefore there is only insignificant private spending to crowd out.

TEST YOUR KNOWLEDGE

Multiple Choice Questions

1. *Fiscal policy refers to the*

   (a) use of government spending, taxation and borrowing to influence the level of economic activity

   (b) government activities related to use of government spending for supply of essential goods

   (c) use of government spending, taxation and borrowing for reducing the fiscal deficits

   (d) and (b) above

2. *If real GDP is continuously declining and the rate of unemployment in the economy is increasing, the appropriate policy should be to*

   (a) Increase taxes and decrease government spending

   (b) Decrease both taxes and government spending

© The Institute of Chartered Accountants of India

(c) *Decrease taxes and increase government spending*

(d) *Either (a) or (c)*

3. *Which of the following are likely to occur when an economy is in an expansionary phase of a business cycle?*

(A) *Rising unemployment rate*

(B) *Falling unemployment rate*

(C) *Rising inflation rate*

(D) *Deflation*

(E) *Falling or stagnant wage for workers*

(F) *Increasing tax revenue*

(G) *Falling tax revenue*

(a) *A, B and F are most likely to occur*

(b) *B, C and F are most likely to occur*

(c) *D, E and F are most likely to occur*

(d) *A, E and G are most likely to occur*

4. *During recession the fiscal policy of the government should be directed towards*

(a) *Increasing the taxes and reducing the aggregate demand*

(b) *Decreasing taxes to ensure higher disposable income*

(c) *Increasing government expenditure and increasing taxes*

(d) *None of the above*

5. *According to Keynesian economics, when we have inflation an effective fiscal policy should not include*

(a) *increase corporate taxes.*

(b) *decrease aggregate demand.*

(c) *Increase government purchases.*

(d) *None of the above is correct*

6. *Keynesian economists believe that*

(a) *fiscal policy can have very powerful effects in altering aggregate demand, employment and output in an economy*

© The Institute of Chartered Accountants of India

(b) *when the economy is operating at less than full employment levels and when there is a need to offer stimulus to demand fiscal policy is of great use*

(c) *Wages are flexible and therefore business fluctuations would be automatically adjusted*

(d) *(a) and (b) above*

7. *Which of the following may ensure a decrease in aggregate demand during inflation?*

(a) *decrease in all types of government spending and/ or an increase in taxes*

(b) *increase in government spending and/ or a decrease in taxes*

(c) *decrease in government spending and/ or a decrease in taxes*

(d) *All the above*

8. *A recession is characterized by*

(a) *Declining prices and rising employment*

(b) *Declining unemployment and rising prices*

(c) *Declining real income and rising unemployment.*

(d) *Rising real income and rising prices*

9. *Which one of the following is an example of fiscal policy?*

(a) *A tax cut aimed at increasing the disposable income and spending*

(b) *A reduction in government expenditure to contain inflation*

(c) *An increase in taxes and decrease in government expenditure to control inflation*

(d) *All the above*

10. *Which of the following would illustrate a recognition lag?*

(a) *The time required to identify the appropriate policy*

(b) *The time required to identify to pass a legislation*

(c) *The time required to identify the need for a policy change*

(d) *The time required to establish the outcomes of fiscal policy*

11. *An expansionary fiscal policy, taking everything else constant, would in the short-run have the effect of*

(a) *a relative large increase in GDP and a smaller increase in price*

(b) *a relative large increase in price, a relatively smaller increase in GDP*

© The Institute of Chartered Accountants of India

(c) *both GDP and price will be increasing in the same proportion*

(d) *both GDP and price will be increasing in a smaller proportion*

12. *Which statement (s) is (are) correct about crowding out?*

I. *A decline in private spending may be partially or completely offset by the expansion of demand resulting from an increase in government expenditure.*

II. *Crowding out effect is the negative effect fiscal policy may generate when money from the private sector is 'crowded out' to the public sector.*

III *When spending by government in an economy increases government spending would be crowded out.*

IV. *Private investments, especially the ones which are interest –sensitive, will be reduced if interest rates rise due to increased spending by government*

(a) *I and III only*

(b) *I, II, and III*

(c) *I, II, and IV*

(d) *III only*

13. *Which of the following policies is likely to shift an economy's aggregate demand curve to the right?*

(a) *Increase in government spending*

(b) *Decrease in taxes*

(c) *A tax cut along with increase in public expenditure*

(d) *All the above*

14. *Identify the incorrect statement*

(a) *A progressive direct tax system ensures economic growth with stability because it distributes the burden of taxes unequally*

(b) *A carefully planned policy of public expenditure helps in redistributing income from the rich to the poorer sections of the society.*

(c) *There are possible conflicts between different objectives of fiscal policy such that a policy designed to achieve one goal may adversely affect another*

(d) *An increase in the size of government spending during recessions may possibly 'crowd-out' private spending in an economy.*

© The Institute of Chartered Accountants of India

15. *Read the following statements*

I. Fiscal policy is said to be contractionary when revenue is higher than spending i.e., the government budget is in surplus

II. Other things constant, a fiscal expansion will raise interest rates and "crowd out" some private investment

III. During inflation new taxes can be levied and the rates of existing taxes are raised to reduce disposable incomes

IV. Classical economists advocated contractionary fiscal policy to solve the problem of inflation

Of the above statements

(a) I and II are correct

(b) I, II and III are correct

(c) Only III is correct

(d) All are correct

16. *While resorting to expansionary fiscal policy*

(a) the government may possibly have a budget surplus as increased expenditure will bring more output and more tax revenue

(b) the government may run into budget deficits because tax cuts reduce government income and the government expenditures exceed tax revenues in a given year

(c) it is important to have a balanced budget to avoid inflation and bring in stability

(d) None of the above will happen

17. *Contractionary fiscal policy*

(a) is resorted to when government expenditure is greater than tax revenues of any particular year

(b) increase the aggregate demand to sustain the economy

(c) to increase the disposable income of people through tax cuts and to enable greater demand

(d) is designed to restrain the levels of economic activity of the economy during an inflationary phase

18. *When government spending is deliberately reduced to bring in stability*

(a) the government is resorting to contractionary fiscal policy

© The Institute of Chartered Accountants of India

(b) *the government is resorting to expansionary fiscal policy*

(c) *trying to limit aggregate demand to sustainable levels*

(d) *(a) and c) above*

19. *An increase in personal income taxes*

(a) *reduces disposable incomes leading to fall in consumption spending and aggregate demand*

(b) *is desirable during inflation or when there is excessive levels of aggregate demand*

(c) *is to compensate the deficiency in effective demand by boosting aggregate spending*

(d) *both a) and b) are correct*

20. *While the government resorts to deliberate fiscal policy it may not attempt to manipulate*

(a) *Government expenditures on public works*

(b) *The rates of personal income taxes and corporate taxes*

(c) *Government expenditures on goods and services purchased by government*

(d) *The rate of interest prevailing in the economy*

21. *Which of the following fiscal remedy would you advice when an economy is facing recession*

(a) *the government may cut interest rates to encourage consumption and investment*

(b) *the government may cut taxes to increase aggregate demand*

(c) *the government may follow a policy of balanced the budget.*

(d) *None of the above will work*

22. *While if governments compete with the private sector to borrow money for securing resources for expansionary fiscal policy*

(a) *it is likely that interest rates will go up and firms may not be willing to invest*

(b) *it is likely that interest rates will go up and the individuals too may be reluctant to borrow and spend*

(c) *it is likely that interest rates will go up and the desired increase in aggregate demand may not be realized*

(d) *All the above are possible.*

© The Institute of Chartered Accountants of India

ANSWERS

1.	**(a)**	2	**(c)**	3	**(b)**	4.	**(b)**	5.	**(c)**	6.	**(d)**
7.	**(a)**	8.	**(c)**	9.	**(d)**	10.	**(c)**	11.	**(a)**	12.	**(c)**
13.	**(d)**	14.	**(a)**	15.	**(b)**	16.	**(b)**	17.	**(d)**	18.	**(d)**
19.	**(d)**	20.	**(d)**	21.	**(b)**	22.	**(d)**				

© The Institute of Chartered Accountants of India

© The Institute of Chartered Accountants of India

CHAPTER 8

MONEY MARKET

UNIT - 1: THE CONCEPT OF MONEY DEMAND: IMPORTANT THEORIES

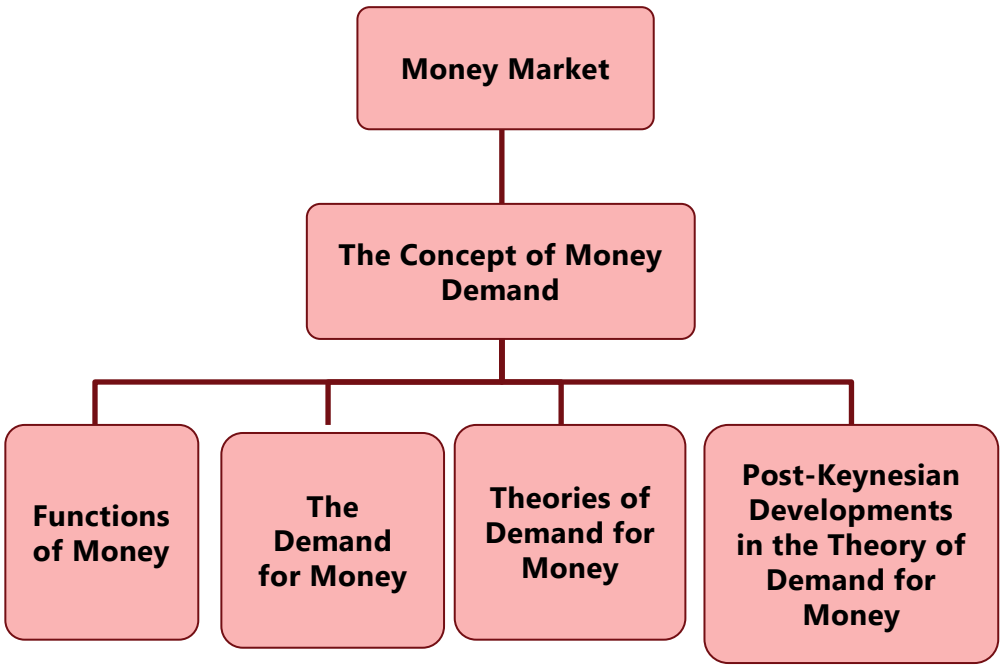
LEARNING OUTCOMES

After studying this Unit, you will be able to –

- Define money and describe its nature and characteristics
- Explain the functions performed by money
- Describe the various theories related to demand for money
- Identify the factors that affect the demand for money.
- Distinguish between the different variables considered by each of the theories of demand for money

© The Institute of Chartered Accountants of India

CHAPTER OVERVIEW



1.1 INTRODUCTION

Money may make the world go around, it plays an essential role in causing the things in life to work as they should; to underlie the fulfilment of the needs of human existence. And most people in the world probably have handled money, many of them on a daily basis. But despite its familiarity, probably few people could tell you exactly what money is, or how it works.

In short, money can be anything that can serve as a

(1) store of value, which means people can save it and use it later—smoothing their purchases over time;

(2) unit of account, that is, provide a common base for prices; or

(3) medium of exchange, something that people can use to buy and sell from one another.

Perhaps the easiest way to think about the role of money is to consider what would change if we did not have it.

If there were no money, we would be reduced to a barter economy. Every item someone wanted to purchase would have to be exchanged for something that person could provide.

© The Institute of Chartered Accountants of India

For example, a person who specialises in fixing cars and needed to trade for food would have to find a farmer with a broken car. But what if the farmer did not have anything that needed to be fixed? Or what if a farmer could only give the mechanic more eggs than the mechanic could reasonably use? Having to find specific people to trade with makes it very difficult to specialise. People might starve before they were able to find the right person with whom to barter.

But with money, you don't need to find a particular person. You just need a market in which to sell your goods or services. In that market, you don't barter for individual goods. Instead you exchange your goods or services for a common medium of exchange—that is, money. You can then use that money to buy what you need from others who also accept the same medium of exchange. As people become more specialised, it is easier to produce more, which leads to more demand for transactions and, hence, more demand for money.

To put it a different way, money is something that holds its value over time, can be easily translated into prices, and is widely accepted. Many different things have been used as money over the years—among them, cowry shells, barley, peppercorns, gold, and silver.

Fiat Money

Until relatively recently, gold and silver were the main currency people used. Gold and silver are heavy, though, and over time, instead of carrying the actual metal around and exchanging it for goods, people found it more convenient to deposit precious metals at banks and buy and sell using a note that claimed ownership of the gold or silver deposits. Anyone who wanted to could go to the bank and get the precious metal that backs the note. Eventually, the paper claim on the precious metal was delinked from the metal. When that link was broken, fiat money was born. Fiat money is materially worthless, but has value simply because a nation collectively agrees to ascribe a value to it. In short, money works because people believe that it will. As the means of exchange evolved, so did its source—from individuals in barter, to some sort of collective acceptance when money was barley or shells, to governments in more recent times.

'There is no unique definition of 'money', either as a concept in economic theory or as measured in practice. Money can be defined for policy purposes as the set of liquid financial assets, the variation in the stock of which could impact on aggregate economic activity. As a statistical concept, money could include certain liquid liabilities of a particular set of financial intermediaries or other issuers'. (Reserve Bank of India Manual on Financial and Banking Statistics, 2007)

There are some general characteristics that money should possess in order to make it serve its functions as money. Money should be:

- generally acceptable

© The Institute of Chartered Accountants of India

- durable or long-lasting
- effortlessly recognizable.
- difficult to counterfeit i.e. not easily reproducible by people
- relatively scarce, but has elasticity of supply
- portable or easily transported
- possessing uniformity; and
- divisible into smaller parts in usable quantities or fractions without losing value

How money is measured

In official statistics, the amount of money in an economy is generally measured through what is called broad money, which encompasses everything that providers a store of value and liquidity. Liquidity refers to the extent to which financial assets can be sold at close to full market value at short notice. That is, they can easily be converted into another form of money, such as cash. Although currency and transferable deposits (narrow money) are included by all countries in broad money, there are other components that may also provide sufficient store of value and liquidity to count as broad money. Among the things the IMF (2000) says can be counted as broad money are the following:

National currencies (generally issued by the central government).

Transferable deposits, which include demand deposits (transferable by check or money order), bank checks (if used as a medium of exchange), travelers checks (if used for transactions with residents), and deposits otherwise commonly used to make payments (such as some Foreign-Currency deposits).

Other deposits, such as nontransferable savings deposits., term deposits (funds left on deposit for a fixed period of time), or repurchase agreements (in which one party sells a security and agrees to buy it back at a fixed price).

Securities other than shares of stock. Such as tradable certificates of deposit and commercial paper (which is essentially a corporate IOU).

Source : IMF

1.2 THE DEMAND FOR MONEY

Having understood the role of money in an economy, we shall now examine the concept of demand for money. If people desire to hold money, we say there is demand for money. As we are aware, the demand for money is in the nature of derived demand; it is demanded for

© The Institute of Chartered Accountants of India

its purchasing power. The demand for money is a demand for real balances. In other words, people demand money because they wish to have command over real goods and services with the use of money. Demand for money is actually demand for liquidity and demand to store value. The demand for money is a decision about how much of one's given stock of wealth should be held in the form of money rather than as other assets such as bonds. Although it gives little or no return, individuals, households as well as firms hold money because it is liquid and offers the most convenient way to accomplish their day to day transactions.

Demand for money has an important role in the determination of interest, prices and income in an economy. Understanding money demand and how various factors affect that demand is the basic requirement in setting a target for the monetary authority.

Before we go into the theories of demand for money, we shall have a quick look at some important variables on which demand for money depends on. The quantity of nominal money or how much money people would like to hold in liquid form depends on many factors, such as income, general level of prices, rate of interest, real GDP, and the degree of financial innovation etc. Higher the income of individuals, higher the expenditure; richer people hold more money to finance their expenditure. The quantity which people desire to hold is directly proportional to the prevailing price level; higher the prices, higher should be the holding of money. As mentioned above, one may hold his wealth in any form other than money, say as an interest yielding asset. It follows that the opportunity cost of holding money is the interest rate a person could earn on other assets. Therefore, higher the interest rate, higher would be opportunity cost of holding cash and lower the demand for money. Innovations such as internet banking, application based transfers and automated teller machines reduce the need for holding liquid money. Just as households do, firms also hold money essentially for the same basic reasons.

1.3 THEORIES OF DEMAND FOR MONEY

1.3.1 Classical Approach: The Quantity Theory of Money (QTM)

The quantity theory of money, one of the oldest theories in Economics, was first propounded by Irving Fisher of Yale University in his book 'The Purchasing Power of Money' published in 1911 and later by the neoclassical economists. Both versions of the QTM demonstrate that there is a strong relationship between money and price level and the quantity of money is the main determinant of the price level or the value of money**.** In other words, changes in the general level of commodity prices or changes in the value or purchasing power of money are determined first and foremost by changes in the quantity of money in circulation.

© The Institute of Chartered Accountants of India

Fisher's version, also termed as 'equation of exchange' or 'transaction approach' is formally stated as follows:

$$MV = PT$$

Where, M = the total amount of money in circulation (on an average) in an economy

V = transactions velocity of circulation i.e. the average number of times across all transactions a unit of money (say Rupee) is spent in purchasing goods and services

P = average price level (P= MV/T)

T = the total number of transactions.

(Later economists replaced T by the real output Y).

Subsequently, Fisher extended the equation of exchange to include demand (bank) deposits (M') and their velocity (V') in the total supply of money. Thus, the expanded form of the equation of exchange becomes:

$$MV + M'V' = PT$$

Where M' = the total quantity of credit money

V' = velocity of circulation of credit money

The total supply of money in the community consists of the quantity of actual money (M) and its velocity of circulation (V). Velocity of money in circulation (V) and the velocity of credit money (V') remain constant. T is a function of national income. Since full employment prevails, the volume of transactions T is fixed in the short run. Briefly put, the total volume of transactions (T) multiplied by the price level (P) represents the demand for money. The demand for money (PT) is equal to the supply of money (MV + M'V)'. In any given period, the total value of transactions made is equal to PT and the value of money flow is equal to MV+ M'V'.

There is an aggregate demand for money for transaction purposes and more the number of transactions people want, greater will be the demand for money. The total volume of transactions multiplied by the price level (PT) represents the demand for money.

1.3.2 The Cambridge approach

In the early 1900s, Cambridge Economists Alfred Marshall, A.C. Pigou, D.H. Robertson and John Maynard Keynes (then associated with Cambridge) put forward a fundamentally different approach to quantity theory, known as cash balance approach. The Cambridge version holds that money increases utility in the following two ways:

© The Institute of Chartered Accountants of India

1. enabling the possibility of split-up of sale and purchase to two different points of time rather than being simultaneous, and

2. being a hedge against uncertainty.

While the first above represents transaction motive, just as Fisher envisaged, the second points to money's role as a temporary store of wealth. Since sale and purchase of commodities by individuals do not take place simultaneously, they need a 'temporary abode' of purchasing power as a hedge against uncertainty. As such, demand for money also involves a precautionary motive in the Cambridge approach. Since money gives utility in its store of wealth and precautionary modes, one can say that money is demanded for itself.

Now, the question is how much money will be demanded? The answer is: it depends partly on income and partly on other factors of which important ones are wealth and interest rates. The former determinant of demand i.e. income, points to transactions demand such that higher the income, the greater the quantity of purchases and as a consequence greater will be the need for money as a temporary abode of value to overcome transaction costs. The demand for money was primarily determined by the need to conduct transactions which will have a positive relationship to the money value of aggregate expenditure. Since the latter is equal to money national income, the Cambridge money demand function is stated as:

$$Md = k\,PY$$

Where

M_d = is the demand for money balances,

Y = real national income

P = average price level of currently produced goods and services

PY = nominal income

k = proportion of nominal income (PY) that people want to hold as cash balances

The term 'k' in the above equation is called 'Cambridge k' is a parameter reflecting economic structure and monetary habits, namely the ratio of total transactions to income and the ratio of desired money balances to total transactions. The equation above explains that the demand for money (M) equals k proportion of the total money income.

Thus we see that the neoclassical theory changed the focus of the quantity theory of money to money demand and hypothesized that demand for money is a function of only money income. Both these versions are chiefly concerned with money as a means of transactions or exchange, and therefore, they present models of the transaction demand for money.

© The Institute of Chartered Accountants of India

1.3.3 The Keynesian Theory of Demand for Money

Keynes' theory of demand for money is known as 'Liquidity Preference Theory'. 'Liquidity preference', a term that was coined by John Maynard Keynes in his masterpiece 'The General Theory of Employment, Interest and Money' (1936), denotes people's desire to hold money rather than securities or long-term interest-bearing investments.

According to Keynes, people hold money (M) in cash for three motives:

(i) Transactions motive,

(ii) Precautionary motive, and

(iii) Speculative motive.

(a) The Transactions Motive

The transactions motive for holding cash relates to 'the need for cash for current transactions for personal and business exchange.' The need for holding money arises because there is lack of synchronization between receipts and expenditures. The transaction motive is further classified into income motive and business (trade) motive, both of which stressed on the requirement of individuals and businesses respectively to bridge the time gap between receipt of income and planned expenditures.

Keynes did not consider the transaction balances as being affected by interest rates. The transaction demand for money is directly related to the level of income. The transactions demand for money is a direct proportional and positive function of the level of income and is stated as follows:

$$Lr = kY$$

Where

L_r, is the transactions demand for money,

k is the ratio of earnings which is kept for transactions purposes

Y is the earnings.

Keynes considered the aggregate demand for money for transaction purposes as the sum of individual demand and therefore, the aggregate transaction demand for money is a function of national income.

(b) The Precautionary Motive

Many unforeseen and unpredictable contingencies involving money payments occur in our day to day life. Individuals as well as businesses keep a portion of their income to finance such unanticipated expenditures. The amount of money demanded under the precautionary

© The Institute of Chartered Accountants of India

motive depends on the size of income, prevailing economic as well as political conditions and personal characteristics of the individual such as optimism/ pessimism, farsightedness etc. Keynes regarded the precautionary balances just as balances under transactions motive as income elastic and by itself not very sensitive to rate of interest.

(c) The Speculative Demand for Money

The speculative motive reflects people's desire to hold cash in order to be equipped to exploit any attractive investment opportunity requiring cash expenditure. According to Keynes, people demand to hold money balances to take advantage of the future changes in the rate of interest, which is the same as future changes in bond prices. It is implicit in Keynes theory, that the 'rate of interest', ***i***, is really the return on bonds. Keynes assumed that that the expected return on money is zero, while the expected returns on bonds are of two types, namely:

(i) the interest payment

(ii) the expected rate of capital gain.

The market value of bonds and the market rate of interest are inversely related. A rise in the market rate of interest leads to a decrease in the market value of the bond, and vice versa. Investors have a relatively fixed conception of the 'normal' or 'critical' interest rate and compare the current rate of interest with such 'normal' or 'critical' rate of interest.

If wealth-holders consider that the current rate of interest is high compared to the 'normal or critical rate of interest', they expect a fall in the interest rate (rise in bond prices). At the high current rate of interest, they will convert their cash balances into bonds because:

(i) they can earn high rate of return on bonds

(ii) they expect capital gains resulting from a rise in bond prices consequent upon an expected fall in the market rate of interest in future.

Conversely, if the wealth-holders consider the current interest rate as low, compared to the 'normal or critical rate of interest', i.e., if they expect the rate of interest to rise in future (fall in bond prices), they would have an incentive to hold their wealth in the form of liquid cash rather than bonds because:

(i) the loss suffered by way of interest income forgone is small,

(ii) they can avoid the capital losses that would result from the anticipated increase in interest rates, and

(iii) the return on money balances will be greater than the return on alternative assets

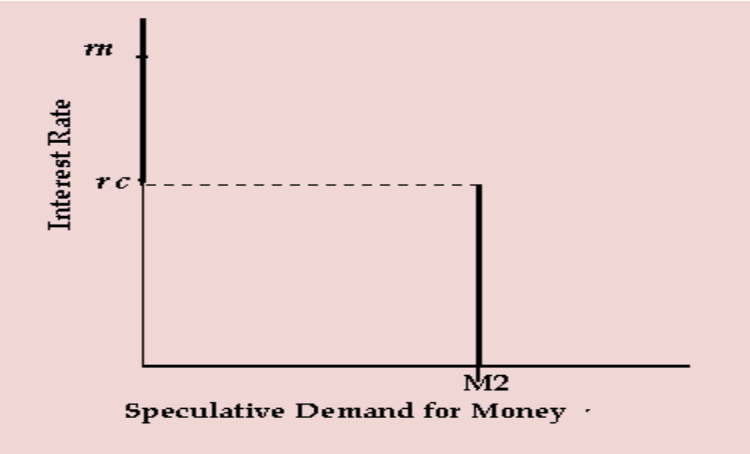
© The Institute of Chartered Accountants of India

(iv) If the interest rate does increase in future, the bond prices will fall and the idle cash balances held can be used to buy bonds at lower price and can thereby make a capital-gain.

Summing up, so long as the current rate of interest is higher than the critical rate of interest, a typical wealth-holder would hold in his asset portfolio only government bonds, and if the current rate of interest is lower than the critical rate of interest, his asset portfolio would consist wholly of cash. When the current rate of interest is equal to the critical rate of interest, a wealth-holder is indifferent to holding either cash or bonds. The inference from the above is that the speculative demand for money and interest are inversely related.

The speculative demand for money of individuals can be diagrammatically presented as follows:

Figure: 2.1.1
Individual's Speculative Demand for Money

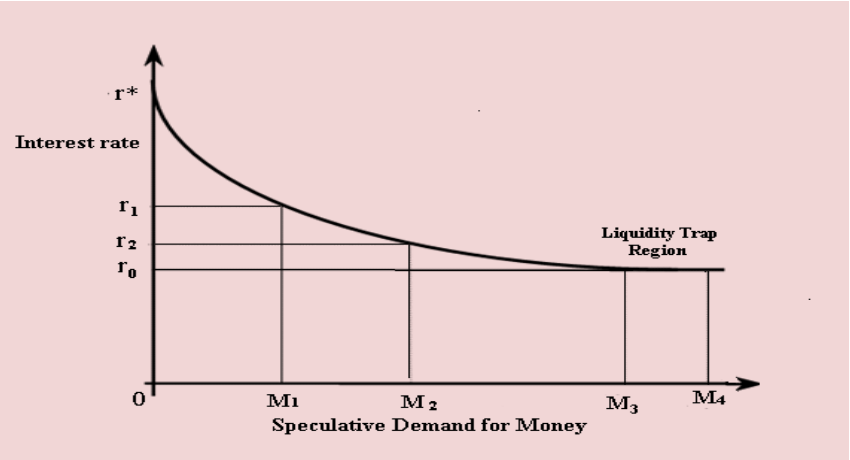


The discontinuous portfolio decision of a typical individual investor is shown in the figure above. When the current rate of interest ***rn*** is higher than the critical rate of interest **rc**, the entire wealth is held by the individual wealth-holder in the form of government bonds. If the rate of interest falls below the critical rate of interest ***rc***, the individual will hold his entire wealth in the form of speculative cash balances.

When we go from the individual speculative demand for money to the aggregate speculative demand for money, the discontinuity of the individual wealth-holder's demand curve for the speculative cash balances disappears and we obtain a continuous downward sloping demand function showing the inverse relationship between the current rate of interest and the speculative demand for money as shown in figure below:

© The Institute of Chartered Accountants of India

Figure: 2.1.2
Aggregate Speculative Demand for Money



According to Keynes, higher the rates of interest, lower the speculative demand for money, and lower the rate of interest, higher the speculative demand for money.

The concept of Liquidity Trap

Liquidity trap is a situation when expansionary monetary policy (increase in money supply) does not increase the interest rate, income and hence does not stimulate economic growth. Liquidity trap is the extreme effect of monetary policy. It is a situation in which the general public is prepared to hold on to whatever amount of money is supplied, at a given rate of interest. They do so because of the fear of adverse events like deflation, war. In that case, a monetary policy carried out through open market operations has no effect on either the interest rate, or the level of income. In a liquidity trap, the monetary policy is powerless to affect the interest rate.

There is a liquidity trap at short term zero percent interest rate. When interest rate is zero, public would not want to hold any bond, since money, which also pays zero percent interest, has the advantage of being usable in transactions.

In other words, investors would maintain cash savings rather than hold bonds. The speculative demand becomes perfectly elastic with respect to interest rate and the speculative money demand curve becomes parallel to the X axis. This situation is called a 'Liquidity trap'.

In such a situation, the monetary authority is unable to stimulate the economy with monetary policy. Since the opportunity cost of holding money is zero, even if the monetary authority increases money supply to stimulate the economy, people would prefer to hoard money. Consequently, excess funds may not be converted into new investment. The liquidity trap is synonymous with ineffective monetary policy.

© The Institute of Chartered Accountants of India

The Bank of Japan's experience is a real-life example of the Keynesian economic theory of a liquidity trap, in which money printed by a central bank is hoarded in anticipation of further deflation rather than invested. Japan's 10-year yield dropped to a record 0.2 percent.

1.4 POST-KEYNESIAN DEVELOPMENTS IN THE THEORY OF DEMAND FOR MONEY

Most post-Keynesian theories of demand for money emphasize the store-of-value or the asset function of money.

1.4.1 Inventory Approach to Transaction Balances

Baumol (1952) and Tobin (1956) developed a deterministic theory of transaction demand for money, known as Inventory Theoretic Approach, in which money or 'real cash balance' was essentially viewed as an inventory held for transaction purposes.

Inventory models assume that there are two media for storing value:

(a) money and

(b) an interest-bearing alternative financial asset.

There is a fixed cost of making transfers between money and the alternative assets e.g. broker charges. While relatively liquid financial assets other than money (such as, bank deposits) offer a positive return, the above said transaction cost of going between money and these assets justifies holding money.

© The Institute of Chartered Accountants of India

Baumol put forward a new approach to demand for money which explains the transaction demand for money from the viewpoint of the inventory management. Baumol asserts that individuals hold money (inventory of money) for the transaction purposes.

According to him, individuals have to keep optimum inventory of money for their day to day transaction purposes. They also incur cost when they hold inventories of money and the cost forgone is the interest rate which they could have earned if they had kept their wealth in saving deposits or fixed deposits or invested in bonds or shares. This forgone cost is also called opportunity cost. Money that people hold in the form of currency and demand deposits which are very safe and riskless but pays no interest. While bonds or shares provide returns (interest) but are risky and may also involve capital loss if people invest in them.

But saving deposits in banks is quite safe and risk free but also gives some interest. So, Baumol questions why people hold money in the form of currency or cash or demand deposits instead of saving deposits which are quite safe and risk free and also earn some interest as well.

According to him, it is for convenience and capability of it being easily used for transactions purposes. Baumol and Tobin proclaim that transactions demand for money depends on the rate of interest.

As interest rates on savings deposits go up people will hold less money in the form of currency or cash or demand deposits and vice versa. So, individuals compare the costs and benefits of funds in the form of money with no interest with the money in the form of savings deposits with some interest. According to Baumol, the cost forgone when people hold money is the opportunity cost of these funds.

Baumol has proved that the average amount of cash withdrawal which minimises cost is given by –

$C = \sqrt{2bY/r}$

This means that the average amount of cash withdrawal which minimises cost is the square root of the two times broker's fee multiplied by the size of an individual's income and divided by the interest rate. This is also called Square Root Rule.

The inventory-theoretic approach also suggests that the demand for money and bonds depend on the cost of making a transfer between money and bonds e.g. the brokerage fee**.** An increase in the brokerage fee raises the marginal cost of bond market transactions and consequently lowers the number of such transactions. The increase in the brokerage fee raises the transactions demand for money and lowers the average bond holding over the period. This result follows because an increase in the brokerage fee makes it more costly to switch funds temporarily into bond holdings. An individual combines his asset portfolio of cash and bond in such proportions that his overall cost of holding the assets is minimised.

© The Institute of Chartered Accountants of India

1.4.2 Friedman's Restatement of the Quantity Theory

Milton Friedman (1956) extended Keynes' speculative money demand within the framework of asset price theory. Friedman treats the demand for money as nothing more than the application of a more general theory of demand for capital assets. Demand for money is affected by the same factors as demand for any other asset, namely

1. Permanent income.
2. Relative returns on assets. (which incorporate risk)

Friedman maintains that it is *permanent income*– and not *current income* as in the Keynesian theory – that determines the demand for money. Permanent income which is Friedman's measure of wealth is the present expected value of all future income. To Friedman, money is a good as any other durable consumption good and its demand is a function of a great number of factors.

Friedman identifies the following four determinants of the demand for money. The nominal demand for money:

- is a function of total wealth, which is represented by permanent income divided by the discount rate, defined as the average return on the five asset classes in the monetarist theory world, namely money, bonds, equity, physical capital and human capital.
- is positively related to the price level, P. If the price level rises the demand for money increases and vice versa.
- rises if the opportunity costs of money holdings (i.e. returns on bonds and stock) decline and vice versa.
- is influenced by inflation, a positive inflation rate reduces the real value of money balances, thereby increasing the opportunity costs of money holdings.

1.4.3 The Demand for Money as Behaviour toward Risk

James Tobin, an American economist, in his analysis makes a valid assumption that people prefer more wealth to less. According to him, an investor is faced with a problem of what proportion of his portfolio of financial assets he should keep in the form of ready money (which earns no interest) and in the form of investment (which earns interest) such as bonds. An individual's portfolio may also consist of more risky assets such as shares.

According to Tobin, when individuals are faced with various safe and risky assets, they diversify their portfolio by holding a balanced combination of safe and risky assets.

According to Tobin, an individual's behaviour shows risk aversion, which means they prefer less risk to more risk at a given rate of return.

© The Institute of Chartered Accountants of India

If an individual chooses to hold a greater proportion of risky assets such as bonds or shares in his portfolio, then he will be earning a higher average return but will bear a higher degree of risk. Tobin argues that a risk averter will not choose such a portfolio with all risky bonds or a greater proportion of them.

In the other case, an individual who, in his portfolio of wealth, holds only safe and riskless assets such as money in form of cash or demand deposits, he will be taking almost zero risk but will also be getting no return. Therefore, people prefer a mixed or diversified portfolio of money, bonds and shares, with each person opting for a little different balance between risk and return.

Tobin's Liquidity Preference Function

Tobin derived his liquidity preference function showing the relationship between rate of interest and demand for money. He argues that with the increase in the rate of return on bonds, individuals will be attracted to hold a greater proportion of their wealth in bonds and less in the form of ready money.

At a higher rate of interest, the demand for holding money will be less and people will hold more bonds in their portfolio and vice versa.

In Tobin's portfolio approach demand function for money as an asset slopes downwards, where horizontal axis shows the demand for money and vertical axis shows the rate of interest.

The downward sloping liquidity preference function curve shows that the asset demand for money in the portfolio increases as the rate of interest on bonds falls. In this way Tobin derives the aggregate liquidity preference curve by determining the effects of changes in the interest rate on the asset demand for money in the portfolio of peoples.

Tobin's liquidity preference theory has been found to be true by the empirical studies conducted to measure interest elasticity of the demand for money as an asset.

1.5 CONCLUSION

We have discussed the important theories pertaining to demand for money. All the theories have provided significant insights into the concept of demand for money. While the transactions version of Fisher focused on the supply of money as determining prices, **the cash balance approach of the Cambridge University economists established the formal relationship between demand for real money and the real income. Keynes developed the money demand theory on the basis of explicit motives for holding money and formally introduced the interest rate as an additional explanatory variable that determines the demand for real balances.** The post-Keynesian economists developed a number of models to provide alternative explanations to confirm the formulation relating real

© The Institute of Chartered Accountants of India

money balances with real income and interest rates. However, we find that all these theories establish a positive relation of demand for money to real income and an inverse relation to the rate of return on earning assets, i.e. the interest rate. However, the propositions in these theories need to be supported by empirical evidence. As countries differ in respect of various determinants of demand for money, we cannot expect any uniform pattern of behaviour. Broadly speaking, real income, interest rates and expectations in respect to inflation are significant predictors of demand for money.

SUMMARY

- Money refers to assets which are commonly used and accepted as a means of payment or as a medium of exchange or for transferring purchasing power.
- Money is totally liquid, has generalized purchasing power and is generally acceptable in settlement of all transactions and in discharge of other kinds of business obligations including future payments.
- The functions of money are: acting as a medium of exchange to facilitate easy exchanges of goods and services, providing a 'common measure of value' or 'common denominator of value', serving as a unit or standard of deferred payments and facilitating storing of value both as a temporary abode of purchasing power and as a permanent store of value.
- Money should be generally acceptable, durable, difficult to counterfeit, relatively scarce, easily transported, divisible without losing value and effortlessly recognizable.
- The demand for money is derived demand and is a decision about how much of one's given stock of wealth should be held in the form of money rather than as other assets such as bonds.
- Both versions of the theory of money, namely, the classical approach and the neoclassical approach demonstrate that there is strong relationship between money and price level and the quantity of money is the main determinant of the price level or the value of money.
- Keynes' theory of demand for money is known as the 'liquidity preference theory'. 'Liquidity preference', is a term that was coined by John Maynard Keynes in his masterpiece 'The General Theory of Employment, Interest and Money' (1936).
- According to Keynes, people hold money (M) in cash for three motives: the transactions, precautionary and speculative motives.

© The Institute of Chartered Accountants of India

- The transaction motive for holding cash is directly related to the level of income and relates to 'the need for cash for the current transactions for personal and business exchange.'
- The amount of money demanded under the precautionary motive is to meet unforeseen and unpredictable contingencies involving money payments and depends on the size of the income, prevailing economic as well as political conditions and personal characteristics of the individual such as optimism/ pessimism, farsightedness etc.
- The speculative motive reflects people's desire to hold cash in order to be equipped to exploit any attractive investment opportunity requiring cash expenditure. The speculative demand for money and interest are inversely related.
- So long as the current rate of interest is higher than the critical rate of interest (rc), a typical wealth-holder would hold in his asset portfolio only government bonds while if the current rate of interest is lower than the critical rate of interest, his asset portfolio would consist wholly of cash.
- Liquidity trap is a situation where the desire to hold bonds is very low and approaches zero, and the demand to hold money in liquid form as an alternative approaches infinity. People expect a rise in interest rate and the consequent fall in bond prices and the resulting capital loss. The speculative demand becomes perfectly elastic with respect to interest rate and the speculative money demand curve becomes parallel to the X axis.
- Baumol (1952) and Tobin (1956) developed a deterministic theory of transaction demand for 'real cash balance', known as Inventory Theoretic Approach, in which money is essentially viewed as an inventory held for transaction purposes.
- People hold an optimum combination of bonds and cash balance, i.e., an amount that minimizes the opportunity cost.
- The optimal average money holding is: a positive function of income Y, a positive function of the price level P, a positive function of transactions costs c, and a negative function of the nominal interest rate i.
- Milton Friedman (1956) extending Keynes' speculative money demand within the framework of asset price theory holds that demand for money is affected by the same factors as demand for any other asset, namely, permanent income and relative returns on assets.

© The Institute of Chartered Accountants of India

- The nominal demand for money is positively related to the price level, P; rises if bonds and stock returns, r_b and r_e, respectively decline and vice versa; is influenced by inflation; and is a function of total wealth
- The Demand for Money as Behaviour toward 'aversion to risk' propounded by Tobin states that money is a safe asset but an investor will be willing to exercise a trade-off and sacrifice to some extent, the higher return from bonds for a reduction in risk
- According to Tobin, rational behaviour induces individuals to hold an optimally structured wealth portfolio which is comprised of both bonds and money and the demand for money as a store of wealth depends negatively on the interest rate.

TEST YOUR KNOWLEDGE

Multiple Choice Type Questions

1. *Choose the incorrect statement*
   - (a) *Anything that would act as a medium of exchange is money*
   - (b) *Money has generalized purchasing power and is generally acceptable in settlement of all transactions*
   - (c) *Money is a totally liquid asset and provides us with means to access goods and services*
   - (d) *Currency which represents money does not necessarily have intrinsic value.*
2. *Money performs all of the three functions mentioned below, namely*
   - (a) *medium of exchange, price control, store of value*
   - (b) *unit of account, store of value , provide yields*
   - (c) *medium of exchange, unit of account, store of value*
   - (d) *medium of exchange, unit of account, income distribution*
3. *Demand for money is*
   - (a) *Derived demand*
   - (b) *Direct demand*
   - (c) *Real income demand*
   - (d) *Inverse demand*

© The Institute of Chartered Accountants of India

4. *Higher the _____, higher would be _____of holding cash and lower will be the _____*

   (a) demand for money, opportunity cost, interest rate

   (b) price level , opportunity cost, interest rate

   (c) real income , opportunity cost, demand for money

   (d) interest rate, opportunity cost, demand for money

5. *The quantity theory of money holds that*

   (a) changes in the general level of commodity prices are caused by changes in the quantity of money

   (b) there is strong relationship between money and price level and the quantity of money is the main determinant of the price

   (c) changes in the value of money or purchasing power of money are determined first and foremost by changes in the quantity of money in circulation

   (d) All the above

6. *The Cambridge approach to quantity theory is also known as*

   (a) Cash balance approach

   (b) Fisher's theory of money

   (c) Classical approach

   (d) Keynesian Approach

7. *Fisher's approach and the Cambridge approach to demand for money consider*

   (a) money's role in acting as a store of value and therefore, demand for money is for storing value temporarily.

   (b) money as a means of exchange and therefore demand for money is termed as for liquidity preference

   (c) money as a means of transactions and therefore, demand for money is only transaction demand for money.

   (d) None of the above

8. *Real money is*

   (a) nominal money adjusted to the price level

   (b) real national income

© The Institute of Chartered Accountants of India

(c) *money demanded at given rate of interest*

(d) *nominal GNP divided by price level*

9. *The precautionary money balances people want to hold*

(a) *as income elastic and not very sensitive to rate of interest*

(b) *as income inelastic and very sensitive to rate of interest*

(c) *are determined primarily by the level of transactions they expect to make in the future.*

(d) *are determined primarily by the current level of transactions*

10. *Speculative demand for money*

(a) *is not determined by interest rates*

(b) *is positively related to interest rates*

(c) *is negatively related to interest rates*

(d) *is determined by general price level*

11. *According to Keynes, if the current interest rate is high*

(a) *people will demand more money because the capital gain on bonds would be less than return on money*

(b) *people will expect the interest rate to rise and bond price to fall in the future.*

(c) *people will expect the interest rate to fall and bond price to rise in the future.*

(d) *Either a) or b) will happen*

12. *The inventory-theoretic approach to the transactions demand for money*

(a) *explains the negative relationship between money demand and the interest rate.*

(b) *explains the positive relationship between money demand and the interest rate.*

(c) *explains the positive relationship between money demand and general price level*

(d) *explains the nature of expectations of people with respect to interest rates and bond prices*

13. *According to Baumol and Tobin's approach to demand for money, the optimal average money holding is:*

(a) *a positive function of income Y and the price level P*

(b) *a positive function of transactions costs c,*

© The Institute of Chartered Accountants of India

(c) *a negative function of the nominal interest rate i*

(d) *All the above*

14. _____ *considered demand for money is as an application of a more general theory of demand for capital assets*

(a) *Baumol*

(b) *James Tobin*

(c) *J M Keynes*

(d) *Milton Friedman*

15. *The nominal demand for money rises if*

(a) *the opportunity costs of money holdings – i.e. bonds and stock returns, r_B and r_E, respectively- decline and vice versa*

(b) *the opportunity costs of money holdings – i.e. bonds and stock returns, r_B and r_E, respectively- rises and vice versa*

(c) *the opportunity costs of money holdings – i.e. bonds and stock returns, r_B and r_E, respectively remain constant*

(d) *b) and c) above*

ANSWERS

1.	**(a)**	2.	**(c)**	3.	**(a)**	4.	**(d)**	5.	**(d)**	6	**(a)**
7.	**(c)**	8.	**(a)**	9.	**(a)**	10.	**(c)**	11.	**(c)**	12	**(a)**
13.	**(d)**	14.	**(d)**	15.	**(a)**						

© The Institute of Chartered Accountants of India

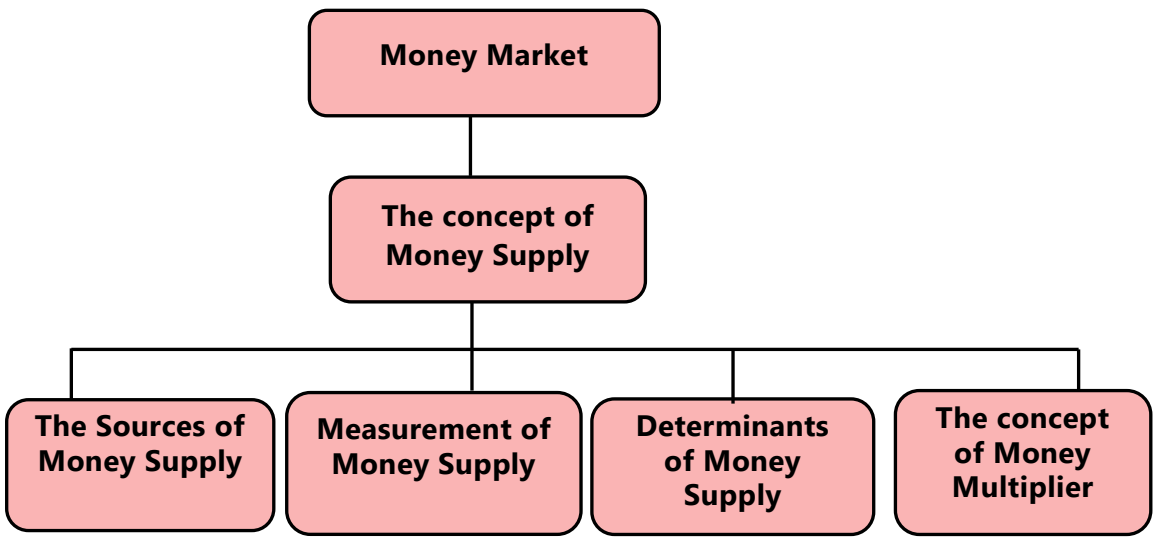
UNIT – 2: CONCEPT OF MONEY SUPPLY

LEARNING OUTCOMES

After studying this Unit, you will be able to –

- Define money supply and describe its different components
- List out the need for and rationale of measuring money supply
- Elucidate the different sources of money supply
- Illustrate the various measures of money supply
- Distinguish between money multiplier and credit multiplier, and
- Describe the different determinants of money supply

UNIT OVERVIEW



© The Institute of Chartered Accountants of India

2.1 INTRODUCTION

In the previous unit, we discussed the theories related to the demand for money. Money as a means of payment and thus a lubricant that facilitates exchange. Irrespective of the form of money, in any economy, money performs three primary functions – a medium of exchange, a unit of account, and a store of value. Money as a medium of exchange may be used for any transactions wherein goods or services are purchased or sold. Money as a unit of account can be used to value goods or services and express it in monetary terms. Money can also be stored or conserved for future purposes.

In the real world, however, money provides monetary services along with tangible remuneration. It is for this reason that money must have a relationship with the activities that economic entities pursue. Money can, therefore, be defined for policy purposes as a set of liquid financial assets, the variation in the stock of which could impact aggregate economic activity.

Economic stability requires that the supply of money at any time should to be maintained at an optimum level. A pre-requisite for achieving this is to accurately estimate the stock of money supply on a regular basis and appropriately regulate it in accordance with the monetary requirements of the country. In this unit, we shall look into various aspects related to the supply of money.

Money Supply on December 30th, 2022

Item	Outstanding as on	
	2022	2022
	March 31	December 30
1	2	3
M3 (In Crores)	**2,04,93,729**	**2,18,59.358**
Components (i+ii+iii+iv)		
i) Currency with the Public	30,35,689	31,22,019
ii) Demand deposits with Banks	22,12,992	23,41,912
iii) Time Deposits with Banks	1,51,86,605	1,63,32,494
iv) 'Other' Deposits with Reserve Bank	58,444	62,932
Source (i+ii+iii+iv – v)		
i) Net Bank Credit to Government Sector (a+b)	64,77,629	65,65,472
(a) Reserve Bank	14,50,596	11,70,253

© The Institute of Chartered Accountants of India

	(b) Other Banks	50,27,033	53,95,219
ii)	Bank Credit to Commercial Sector (a+b)	1,26,16,520	1,40,44,417
	(a) Reserve Bank	16,571	19,852
	(b) Other Banks	1,25,99,950	1,40,24,565
iii)	Net Foreign Exchange Assets of Banking Sector	48,54,063	47,46,428
iv)	Government Currency Liabilities to the Public	28,013	29,384
v)	Banking Sector's Net Non-Monetary Liabilities	34,82,496	35,26,343
	of which: Net Non-Monetary Liabilities of R.B.I.	13,08,500	14,94,789

Source : RBI Press Release: 2022-2023/1540

M3 is broad money. M3 = M1 + Time deposits with the banking system. M2 = M1 + Savings deposits of post office savings banks. M1 = Currency with public + Demand deposits with the Banking system (savings account, current account).

Broad money (M3) includes currency, deposits with an agreed maturity of up to two years, deposits redeemable at notice of up to three months and repurchase agreements, money market fund shares/units, and debt securities up to two years

The term 'public' is defined to include all economic units (households, firms, and institutions) except the producers of money (i.e. the government and the banking system).

The government, in this context, includes the central government and all state governments and local bodies; and the banking system means the Reserve Bank of India and all the banks that accept demand deposits (i.e. deposits from which money can be withdrawn by cheque mainly CASA deposits). The word 'public' is inclusive of all local authorities, non-banking financial institutions, and non-departmental public-sector undertakings, foreign central banks and governments and the International Monetary Fund which holds a part of Indian money in India in the form of deposits with the RBI. In other words, while discussing the definition of 'supply of money' and the standard measures of money, interbank deposits and money held by the government and the banking system are not included.

2.2 RATIONALE OF MEASURING MONEY SUPPLY

The empirical analysis of the money supply is important for two reasons:

1. It facilitates analysis of monetary developments in order to provide a deeper understanding of the causes of money growth.

© The Institute of Chartered Accountants of India

2. It is essential from a monetary policy perspective as it provides a framework to evaluate whether the stock of money in the economy is consistent with the standards for price stability and to understand the nature of deviations from this standard. The central banks all over the world adopt monetary policy to stabilise price level and GDP growth by directly controlling the supply of money. This is achieved mainly by managing the quantity of monetary base. The success of monetary policy depends to a large extent on the controllability of the monetary base and the money supply.

2.3 THE SOURCES OF MONEY SUPPLY

The supply of money in the economy depends on:

(a) the decision of the central bank based on the authority conferred on it, and

(b) the supply responses of the commercial banking system of the country to the changes in policy variables initiated by the central bank to influence the total money supply in the economy.

Money either has intrinsic value or represents title to commodities that have intrinsic value or title to other debt instruments. In modern economies, the currency is a form of money that is issued exclusively by the sovereign (or a central bank as its representative) and is legal tender. Paper currency is such a representative money, and it is essentially a debt instrument.

It is a liability of the issuing central bank (and sovereign) and an asset of the holding public. The central banks of all countries are empowered to issue currency and, therefore, the central bank is the primary source of money supply in all countries. In effect, high powered money issued by monetary authorities is the source of all other forms of money. The currency issued by the central bank is **'fiat money'** and is backed by supporting reserves and its value is guaranteed by the government.

The currency issued by the central bank is, in fact, a liability of the central bank and the government. Therefore, in principle, it must be backed by an equal value of assets mainly consisting of gold and foreign exchange reserves. In practice, however, most countries have adopted a 'minimum reserve system' wherein the central bank is empowered to issue currency to any extent by keeping only a certain minimum reserve of gold and foreign securities.

The second major source of money supply is the banking system of the country. The total supply of money in the economy is also determined by the extent of credit created by the commercial banks in the country. Banks create money supply in the process of borrowing and lending transactions with the public. Money so created by the commercial banks is called 'credit money'. The high-powered money and the credit money broadly constitute the most

© The Institute of Chartered Accountants of India

common measure of money supply, or the total money stock of a country. (For a brief note on the process of creation of credit money, refer to Box 1, end of this chapter).

With the developments in the economy and the evolution of the payments system, the form and functions of money has changed over time, and it will continue to influence the future course of currency. The concept of money has experienced evolution from Commodity to Metallic Currency to Paper Currency to Digital Currency. The changing features of money are defining new financial landscape of the economy. Further, with the advent of cutting-edge technologies, digitalization of money is the next milestone in the monetary history. Advancement in technology has made it possible for the development of new form of money viz. Central Bank Digital Currencies (CBDCs).

Recent innovations in technology-based payments solutions have led central banks around the globe to explore the potential benefits and risks of issuing a CBDC so as to maintain the continuum with the current trend in innovations. RBI has also been exploring the pros and cons of introduction of CBDCs for some time and is currently engaged in working towards a phased implementation strategy, going step by step through various stages of pilots followed by the final launch, and simultaneously examining use cases for the issuance of its own CBDC (Digital Rupee (e₹)), with minimal or no disruption to the financial system. Currently, we are at the forefront of a watershed movement in the evolution of currency that will decisively change the very nature of money and its functions.

Reserve Bank broadly defines CBDC as the legal tender issued by a central bank in a digital form. It is akin to sovereign paper currency but takes a different form, exchangeable at par with the existing currency and shall be accepted as a medium of payment, legal tender and a safe store of value. CBDCs would appear as liability on a central bank's balance sheet.

The Crypto currencies face significant legislative uncertainties and are not legally recognized in India as currency. Hence, these are not categorized as money. In a massive development for crypto traders in India, the Reserve Bank of India (RBI) has said that banks or other financial entities cannot cite RBI's 2018 order that barred them from dealing with virtual cryptocurrencies.

2.4 MEASUREMENT OF MONEY SUPPLY

There is virtually a profusion of different types of money, especially credit money, and this makes measurement of money supply a difficult task. Different countries follow different practices in measuring money supply. The measures of money supply vary from country to country, from time to time and from purpose to purpose. Reference to such different measures is beyond the scope of this unit. Just as other countries do; a range of monetary and liquidity

© The Institute of Chartered Accountants of India

measures are compiled and published by the RBI. Money supply will change if the magnitude of any of its constituents changes.

In this unit, we shall be concentrating on the Indian case only and in the following discussion, we shall focus on the alternative measures of money supply prepared and published periodically by the Reserve Bank of India.

Since July 1935, the Reserve Bank of India has been compiling and disseminating monetary statistics. Till 1967-68, the RBI used to publish only a single 'narrow measure of money supply' (M1) defined as the sum of currency and demand deposits held by the public. From 1967-68, a 'broader' measure of money supply, called 'aggregate monetary resources' (AMR) was additionally published by the RBI. From April 1977, following the recommendations of the Second Working Group on Money Supply (SWG), the RBI has been publishing data on four alternative measures of money supply denoted by M1, M2, M3 and M4 besides the reserve money. The respective empirical definitions of these measures are given below:

M_1 = Currency notes and coins with the people + demand deposits with the banking system (Current and Saving deposit accounts) + other deposits with the RBI.

M_2 = M1 + savings deposits with post office savings banks.

M_3 = M1 + time deposits with the banking system.

M_4 = M3 + total deposits with the Post Office Savings Organization (excluding National Savings Certificates).

2.5 DETERMINANTS OF MONEY SUPPLY

There are two alternate theories in respect of determination of money supply. According to the first view, money supply is determined *exogenously* by the central bank. The second view holds that the money supply is determined endogenously by changes in the economic activities which affect people's desire to hold currency relative to deposits, rate of interest, etc. The current practice is to explain the determinants of money supply based on 'money multiplier approach' which focuses on the relation between the money stock and money supply in terms of the monetary base or high-powered money. The monetary base is the sum of currency in circulation and bank reserves. This approach holds that total supply of nominal money in the economy is determined by the joint behaviour of the central bank, the commercial banks and the public. Before we discuss the determinants of money supply, it is necessary that we know the concept of money multiplier.

© The Institute of Chartered Accountants of India

2.6 THE CONCEPT OF MONEY MULTIPLIER

The money created by the Reserve Bank of India is the monetary base, also known as high-powered money. Banks create money by making loans. A bank loans or invests its excess reserves to earn more interest. A one-rupee increase in the monetary base causes the money supply to increase by more than one rupee. The increase in the money supply is the money multiplier.

The money supply is defined as

Money is either currency held by the public or bank deposits: M = C + D.

$$\mathbf{M = m \times MB}$$

Where M is the money supply, *m* is the money multiplier and MB is the monetary base or high-powered money. From the above equation, we can derive the money multiplier (m) as

$$\text{Money Multiplier (m)} = \frac{\text{Money supply}}{\text{Monetary base}} \ldots$$

Money multiplier *m* is defined as a ratio that relates the changes in the money supply to a given change in the monetary base. It is the ratio of the stock of money to the stock of high-powered money.

For instance, if there is an injection of Rs.100 Cr through an open market operation by the central bank of the country and if it leads to an increment of Rs.500 Cr. of final money supply, then the money multiplier is said to be 5. Hence, the multiplier indicates the change in monetary base which is transformed into money supply.

The multiplier indicates what multiple of the monetary base is transformed into money supply. In other words, money and high-powered money are related by the money multiplier. We make two simplifying assumptions as follows;

- Banks never hold excess reserves.
- Individuals and non-bank corporations never hold currency.

What determines the size of the money multiplier? The money multiplier is the reciprocal of the reserve ratio. Deposits, unlike currency held by people, keep only a fraction of the high-powered money in reserves and the rest is lent out and culminate in money creation. If R is the reserve ratio in a country for all commercial banks, then each unit of (say Rupee) money reserves generates 1/R money.

Therefore, for any value of R, the Money Multiplier is $\frac{1}{R}$

© The Institute of Chartered Accountants of India

For example, if R =10%, the value of money multiplier will be 10. If the reserve ratio is only 5 %, then money multiplier is 20. Thus, the higher the reserve ratio, the less of each deposit banks loan out, and the smaller the money multiplier.

If some portion of the increase in high-powered money finds its way into currency, this portion does not undergo multiple deposit expansion. The size of the money multiplier is reduced when funds are held as cash rather than as demand deposits. In other words, as a rule, an increase in the monetary base that goes into currency is not multiplied, whereas an increase in monetary base that goes into supporting deposits is multiplied.

2.7 THE MONEY MULTIPLIER APPROACH TO SUPPLY OF MONEY

The money multiplier approach to money supply propounded by Milton Friedman and Anna Schwartz, (1963) considers three factors as immediate determinants of money supply, namely:

(a) the stock of high-powered money (H)

(b) the ratio of reserves to deposits or reserve-ratio *r* = {Reserves/Deposits R/D} and

(c) the ratio of currency to deposits, or currency-deposit ratio *c={C/D}*

You may note that these represent the behaviour of the central bank, behaviour of the commercial banks and the behaviour of the general public respectively. We shall now describe how each of the above contributes to the determination of aggregate money supply in an economy.

a) The Behaviour of the Central Bank

The behaviour of the central bank which controls the issue of currency is reflected in the supply of the nominal high-powered money. Money stock is determined by the money multiplier and the monetary base (H) is controlled by the monetary authority. If the behaviour of the public and the commercial banks remains unchanged over time, the total supply of nominal money in the economy will vary directly with the supply of the nominal high-powered money issued by the central bank.

b) The Behaviour of Commercial Banks

By creating credit, the commercial banks determine the total amount of nominal demand deposits. The behaviour of the commercial banks in the economy is reflected in the ratio of their cash reserves to deposits known as the 'reserve ratio'. If the required reserve ratio on demand deposits increases while all the other variables remain the same, more reserves would be needed. This implies that banks must contract their loans, causing a decline in deposits and hence in the money supply. If the required reserve ratio falls, there will be greater

© The Institute of Chartered Accountants of India

expansions of deposits because the same level of reserves can now support more deposits and the money supply will increase. To sum up, smaller the reserve ratio larger will be the money multiplier.

In actual practice, however, the commercial banks keep only the required fraction of their total deposits in the form of cash reserves. However, for the commercial banking system as a whole, the actual reserves ratio may be greater than the required reserve ratio since the banks keep a higher than the statutorily required percentage of their deposits in the form of cash reserves as a buffer against unexpected events requiring cash.

The excess reserves (ER) which are funds that a bank keeps back beyond what is required by regulation form a very important determinant of money supply. 'Excess reserves' are the difference between total reserves (TR) and required reserves (RR). Therefore, ER=TR-RR. If total reserves are Rs 800 billion, whereas the required reserves are Rs 600billion, then the excess reserves are Rs 200 billion.

We know that the cost to a bank while holding excess reserves is in terms of its opportunity cost, i.e. the interest that could have been earned on loans or securities if the bank had chosen to invest in them instead of excess reserves. If interest rate increases, it means that the opportunity cost of holding excess reserves rises because the banks have to sacrifice possible higher earnings and hence the desired ratio of excess reserves to deposits falls. Conversely, a decrease in interest rate will reduce the opportunity cost of excess reserves, and excess reserves will rise. Therefore, we conclude that the banking system's excess reserves ratio r is negatively related to the market interest rate.

If banks fear that deposit outflows are likely to increase (that is, if expected deposit outflows increase), they will want more assurance against this possibility and will increase the excess reserves ratio. Conversely, a decline in expected deposit outflows will reduce the benefit of holding excess reserves and excess reserves will fall.

As we know, money is mostly held in the form of deposits with commercial banks. Therefore, money supply may become subject to 'shocks' on account of behaviour of commercial banks which may present variations overtime either cyclically and more permanently. For instance, in times of financial crises, banks may be unwilling to lend to the small and medium scale industries who may become credit constrained facing a higher risk premia on their borrowings. The rising interest rates on bank credit to the commercial sector reflecting higher risk premia can co-exist with the lowering of policy rates by the central bank. The lower credit demand can lead to a sharp deceleration in monetary growth at a time when the central bank pursues an easy monetary policy. (Refer Box *1 below).

© The Institute of Chartered Accountants of India

c) The Behaviour of the Public

As we know, demand deposits undergo multiple expansions while currency in your hands does not. Hence, when bank deposits are being converted into currency, banks can create only less credit money. The overall level of multiple expansion declines, and therefore, money multiplier also falls. Hence, we conclude that money multiplier and the money supply are negatively related to the currency ratio *c*.

The currency-deposit ratio (c) represents the degree of adoption of banking habits by the people. This is related to the level of economic activities or the GDP growth and is influenced by the degree of financial sophistication in terms of ease and access to financial services, availability of a richer array of liquid financial assets, financial innovations, institutional changes etc.

The smaller the currency-deposit ratio, the larger would be the money multiplier. This is because a smaller proportion of high powered money is being used as currency and therefore, a larger proportion is available to be reserves which get transformed into money.

The time deposit-demand deposit ratio i.e. how much money is kept as time deposits compared to demand deposits, also has an important implication for the money multiplier and, hence for the money stock in the economy. An increase in TD/DD ratio means that greater availability of free reserves and consequent enlargement of volume of multiple deposit expansion and monetary expansion.

To summarise the money multiplier approach, the size of the money multiplier is determined by the required reserve ratio (*r*) at the central bank, the excess reserve ratio (*e*) of commercial banks and the currency ratio (*c*) of the public. The lower these ratios are, the larger the money multiplier is. In other words, the money supply is determined by high powered money (H) and the money multiplier (m) and varies directly with changes in the monetary base, and inversely with the currency and reserve ratios. Although these three variables do not completely explain changes in the nominal money supply, nevertheless they serve as useful devices for analysing such changes. Consequently, these variables are designated as the 'proximate determinants' of the nominal money supply in the economy.

We may now rewrite the money multiplier including the above variables.

$$M = C+D \qquad (1)$$

$$H = C+ \text{ reserves} \qquad (2)$$

Where C is currency and D is deposits which are assumed to be demand deposits. We summarise the behaviour of the public, banks and the central bank by three variables namely, currency-deposit ratio c= C/D, reserve-ratio *r*= Reserves/D, and the stock of high-powered money (H)

© The Institute of Chartered Accountants of India

Rewriting equation (1) and (2) above as

$M = (c+1)\ D,$

$H = (c+r)\ D$

$M = \frac{1+c}{r+c} \times H = m \times H$

$m = \frac{1+c}{r+c}$

When there are excess reserves, the money multiplier m is expressed as

$m = \frac{1+c}{r+e+c}$

Money Supply $M = \frac{1+c}{r+e+c} \times H$

The money multiplier is a function of:

(a) the currency ratio set by depositors c which depends on the behaviour of the public

(b) excess reserves ratio set by banks e, and

(c) the required reserve ratio set by the central bank r, which depends on prescribed CRR and the balances necessary to meet settlement obligations.

A simple example will explain the concept

Numerical Illustration

(a) In Gladys land,

r = 10%= 0.10

Currency = 400 billion

Deposits = 800 billion

Excess Reserves = 0.8 billion = 800 million

Money Supply is M = Currency + Deposits = 1200 billion

c = C/D = 400 billion/800 billion = 0.5 or depositors hold 50 percent of their money as currency

e= 0.8 billion /800 billion = 0.001 or banks hold 0.1% of their deposits as excess reserves.

Multiplier $m = \frac{1+c}{r+e+c}$

© The Institute of Chartered Accountants of India

$\therefore = 1+0.5/\ 0.1+0.001+0.5 \quad = 1.5/\ 0.\ 601 = 2.5$

Therefore, a 1 unit increase in H leads to a 2.50 units increase in M.

The simple deposit multiplier in this example would be 1/r= 1/0.1=10

The difference is due to inclusion of currency and excess reserves in calculating the multiplier.

(b) If the reserve ratio is increased to 15 percent, the value of the money multiplier will be,

$= \ 1+0.5/\ 0.15+0.001+0.5 \quad = 1.5/\ 0.\ 651 = 2.3$

Obviously, r and m are negatively related: m falls when r rises, and m rises when r falls. The reason is that less multiple deposit creation can occur when r rises, while more multiple deposit creation can occur when r falls.

2.8 MONETARY POLICY AND MONEY SUPPLY

If the central bank of a country wants to stimulate economic activity it does so by infusing liquidity into the system. Let us take the example of open market operations (OMO) by central banks. Purchase of government securities injects high powered money (monetary base) into the system. Assuming that banks do not hold excess reserves and people do not hold more currency than before, and also that there is demand for loans from businesses, the credit creation process by the banking system in the country will create money to the tune of

$$\Delta\text{Money supply} = \frac{1}{R} X\ \Delta\ \text{Reserves}$$

The effect of an open market sale is very similar to that of open market purchase, but in the opposite direction. In other words, an open market purchase by central bank will reduce the reserves and thereby reduce the money supply.

Is it possible that the value of money multiplier is zero? It may happen when the interest rates are too low and the banks prefer to hold the newly injected reserves as excess reserves with no risk attached to it.

2.9 EFFECT OF GOVERNMENT EXPENDITURE ON MONEY SUPPLY

Whenever the central and the state governments' cash balances fall short of the minimum requirement, they are eligible to avail of a facility called Ways and Means Advances (WMA)/overdraft (OD) facility. When the Reserve Bank of India lends to the governments

© The Institute of Chartered Accountants of India

under WMA /OD, it results in the generation of excess reserves (*i.e.*, excess balances of commercial banks with the Reserve Bank). This happens because when government incurs expenditure, it involves debiting the government balances with the Reserve Bank and crediting the receiver (for e.g., salary account of government employee) account with the commercial bank. The excess reserves thus created can potentially lead to an increase in money supply through the money multiplier process.

The Credit Multiplier

The Credit Multiplier also referred to as the deposit multiplier or the deposit expansion multiplier, describes the amount of additional money created by commercial bank through the process of lending the available money it has in excess of the central bank's reserve requirements. The deposit multiplier is, thus inextricably tied to the bank's reserve requirement. This measure tells us how much new money will be created by the banking system for a given increase in the high-powered money. It reflects a bank's ability to increase the money supply.

The credit multiplier is the reciprocal of the required reserve ratio. If reserve ratio is 20%, then credit multiplier = 1/0.20 = 5.

$$\text{Credit Multiplier} = \frac{1}{\text{Required Reserve Ratio}}$$

The existence of the credit multiplier is the outcome of fractional reserve banking. It explains how increase in money supply is caused by the commercial banks' use of depositors' funds to lend money. When a bank uses the deposited money for lending, the bank generates another claim on a given amount of deposited money. For example, if A deposits ₹ 1000/ in cash at a bank (Bank X), this constitutes the bank's current total cash deposits. If the required reserve is 10 percent, the bank would lend ₹ 900/ to B. By lending B ₹ 900/, the bank creates a deposit for ₹ 900/ that B can now use. It is as though B owns ₹ 900/. This in turn means that A will continue to have a claim against ₹ 1000/ while B will have a claim against ₹ 900/. The bank has ₹ 1000/ in cash against claims of ₹ 1900/. In short, the bank has created ₹ 900/ out of "thin air" since these ₹ 900/ are not supported by any genuine money. At any time, the fractional reserve commercial banks have more cash liabilities than cash in their vaults.

Now suppose B buys goods worth ₹ 900/ from C and pays C by cheque. C places the cheque with his bank, Bank Y. After clearing the cheque, Bank Y will have an increase in cash of ₹ 900/, which it may take advantage of and use to lend out ₹ 810/ to D which may again be deposited in another bank, say Bank Z. Again 10 per cent of ₹ 810 (₹ 81) has to be kept as required reserves and the remaining ₹ 719/ can be lent out, say to E. This sequence keeps on continuing until the initial deposit amount ₹ 1,000 grows exactly by the multiple of required reserves (in

© The Institute of Chartered Accountants of India

this case, 10%). Ultimately, the expanded credit availability would be 1000 + 900 (90% of 1000) + 810 (90% of 900) + 729 (90% of 810) + (90% of 719) +..... This summation would end with an amount which is equivalent to 1/10% of 1000, which is ₹ 10,000. Thus, in our example, the initial deposit is capable of multiplying itself out 10 times. In short, we find that the fact that banks make use of demand deposits for lending it sets in motion a series of activities leading to expansion of money that is not backed by money proper. It is interesting to know that there is no difference between the type of money created by commercial banks and that which are issued by the central bank.

The deposit multiplier and the money multiplier though closely related are not identical because:

a) generally banks do not lend out all of their available money but instead maintain reserves at a level above the minimum required reserve.

b) all borrowers do not spend every Rupee they have borrowed. They are likely to convert some portion of it to cash.

We need to keep in mind that creating money through credit by banks does not mean creating wealth. Money creation is not the same as wealth creation.

*** 1 NOTE**

While the Reserve Bank of India was pursuing all possible measures to encourage lending to combat the negative outcomes of COVID pandemic, the banks were risk averse to lending and were comfortable parking funds under reverse repo despite the very low reverse repo rate of 3.35 per cent. The average deposit of funds in the overnight reverse repo window in India increased more than three times – from an average of Rs 2.4-lakh crore during the March quarter to Rs 7-lakh crores during the June quarter. In the month of May, banks parked nearly ₹ 8-lakh crores under reverse repo on a daily average basis.

Numerical illustrations

ILLUSTRATION 1

Calculate Narrow Money (M_1) from the following data

Currency with public	*₹ 90000 crore*
Demand Deposits with Banking System	*₹ 200000 crore*
Time Deposits with Banking System	*₹ 220000 crore*
Other Deposits with RBI	*₹ 280000 crore*
Saving Deposits of Post office saving banks	₹ 60000 crore

© The Institute of Chartered Accountants of India

SOLUTION

M_1 = Currency with public + Demand Deposits with Banking System + Other Deposits with the RBI

= 90000 crore + 200000 crore + 280000 crore **= 57 0000crore**

ILLUSTRATION 2

Compute credit multiplier if the required reserved ratio is 10% and 12.5% for every ₹ 1, 00,000 deposited in the banking system. What will be the total credit money created by the banking system in each case?

SOLUTION

Credit Multiplier is the reciprocal of required reserved ratio.

$$\text{Credit Multiplier} = \frac{1}{\text{Required Reserverd Ratio}}$$

For RRR = 0.10 i.e. 10% the credit multiplier = $\frac{1}{0.10} = 10$

For RRR = 0.125i.e. 12.5% the credit multiplier = $\frac{1}{0.125} = 8$

Credit creation = Initial deposits * $\frac{1}{\text{RRR}}$

For RRR 0.10 credit creation will be 1, 00,000× 1/0.10 = Rs, 10, 00,000

For RRR 0.125 credit creation will be 1, 00,000× 1/0.125= Rs, 8, 00,000

ILLUSTRATION 3

Calculate currency with the Public from the following data (₹ Crore)

1.1 Notes in Circulation	*2496611*
1.2 Circulation of Rupee Coin	*25572*
1.3 Circulation of Small Coins	*743*
1.4 Cash on Hand with Banks	*98305*

SOLUTION

Currency with the Public (1.1 + 1.2 + 1.3 – 1.4) =(2496611+25572+743) – 98305 =**2424621**

© The Institute of Chartered Accountants of India

ILLUSTRATION 4

If the required reserve ratio is 10 percent, currency in circulation is ₹ 400 billion, demand deposits are ₹ 1000 billion, and excess reserves total ₹ 1 billion, find the value of money multiplier.

SOLUTION

r = 10% = 0.10

Currency = 400 billion

Deposits = 1000 billion

Excess Reserves = 1 billion

Money Supply is M = Currency + Deposits = 1400 billion

c = C/D =

400 billion/1000 billion = 0. 4 or depositors hold 40 percent of their money as currency

e= 1billion /1000 billion = 0.001 or banks hold 0.1% of their deposits as excess reserves.

Multiplier

= 1+0.4/ 0.1+0.001+0.4 = 1.5/ 0. 501 =2.79

Therefore, a 1 unit increase in MB leads to a 2.79 units increase in M.

SUMMARY

- The measures of money supply vary from country to country, from time to time and from purpose to purpose.
- The high-powered money and the credit money broadly constitute the most common measure of money supply, or the total money stock of a country.
- High powered money is the source of all other forms of money. The second major source of money supply is the banking system of the country. Money created by the commercial banks is called 'credit money'.
- Measurement of money supply is essential from a monetary policy perspective because it enables a framework to evaluate whether the stock of money in the economy is consistent with the standards for price stability, to understand the nature of deviations from this standard and to study the causes of money growth.
- The stock of money always refers to the total amount of money at any particular point of time i.e. it is the stock of money available to the 'public' as a means of payments and store of value and does not include inter-bank deposits.

© The Institute of Chartered Accountants of India

- The monetary aggregates are:
  - M1 = Currency and coins with the people + demand deposits of banks (Current and Saving accounts) + other deposits of the RBI;
  - M2 = M1 + savings deposits with post office savings banks,
  - M3 = M1 + net time deposits of banks and
  - M4 = M3 + total deposits with the Post Office Savings Organization (excluding National Savings Certificates).
- Following the recommendations of the Working Group on Money (1998), the RBI has started publishing a set of four new monetary aggregates as: Reserve Money = Currency in circulation + Bankers' deposits with the RBI + Other deposits with the RBI, NM1 = Currency with the public + Demand deposits with the banking system + 'Other' deposits with the RBI, NM2 = NM1 +Short-term time deposits of residents (including and up to contractual maturity of one year),NM3 = NM2 + Long-term time deposits of residents + Call/Term funding from financial institutions
- The Liquidity aggregates are:
  - L1 = NM3 + All deposits with the post office savings banks (excluding National Savings Certificates).
  - L2 = L1 +Term deposits with term lending institutions and refinancing institutions (FIs) + Term borrowing by FIs + Certificates of deposit issued by FIs.
- The Reserve money, also known as central bank money, base money or high powered money determines the level of liquidity and price level in the economy.
- The money multiplier approach showing relation between the money stock and money supply in terms of the monetary base or high-powered money holds that total supply of nominal money in the economy is determined by the joint behaviour of the central bank, the commercial banks, and the public.
- M= m X MB; Where M is the money supply, m is money multiplier and MB is the monetary base or high powered money. It shows the relationship between the reserve money and the total money stock.
- The money multiplier is a function of the currency ratio which depends on the behaviour of the public, excess reserves ratio of the banks and the required reserve ratio set by the central bank.

© The Institute of Chartered Accountants of India

- The additional units of high-powered money that goes into 'excess reserves' of the commercial banks do not lead to any additional loans, and therefore, these excess reserves do not lead to the creation of deposits.
- When the required reserve ratio falls, there will be greater multiple expansions for demand deposits.
- Excess reserves ratio e is negatively related to the market interest rate i. If interest rate increases, the opportunity cost of holding excess reserves rises, and the desired ratio of excess reserves to deposits falls.
- An increase in time deposit-demand deposit ratio (TD/DD) means that greater availability of free reserves for banks and consequent enlargement of volume of multiple deposit expansion and monetary expansion.
- When the Reserve Bank lends to the governments under WMA /OD it results in the generation of excess reserves (*i.e.*, excess balances of commercial banks with the Reserve Bank).

TEST YOUR KNOWLEDGE

Multiple Choice Type Questions

1. *Reserve money is also known as*
   - *(a) central bank money*
   - *(b) base money*
   - *(c) high powered money*
   - *(d) all the above*
2. *Choose the correct statement from the following*
   - *(a) Money is deemed as something held by the public and therefore only currency held by the public is included in money supply.*
   - *(b) Money is deemed as something held by the public and therefore inter-bank deposits are included in money supply.*
   - *(c) Since inter-bank deposits are not held by the public, therefore inter-bank deposits are excluded from the measure of money supply.*
   - *(d) Both (a) and (c) above.*

© The Institute of Chartered Accountants of India

3. *Reserve Money is composed of*

   (a) *currency in circulation + demand deposits of banks (Current and Saving accounts) + Other deposits with the RBI.*

   (b) *currency in circulation + Bankers' deposits with the RBI + Other deposits with the RBI.*

   (c) *currency in circulation + demand deposits of banks + Other deposits with the RBI.*

   (d) *currency in circulation + demand and time deposits of banks + Other deposits with the RBI.*

4. *M1 is the sum of*

   (a) *currency and coins with the people + demand deposits of banks (Current and Saving accounts) + other deposits of the RBI.*

   (b) *currency and coins with the people + demand and time deposits of banks (Current and Saving accounts) + other deposits of the RBI.*

   (c) *currency in circulation + Bankers' deposits with the RBI + Other deposits with the RBI*

   (d) *none of the above*

5. *Under the' minimum reserve system' the central bank is*

   (a) *empowered to issue currency to any extent by keeping an equivalent reserve of gold and foreign securities.*

   (b) *empowered to issue currency to any extent by keeping only a certain minimum reserve of gold and foreign securities.*

   (c) *empowered to issue currency in proportion to the reserve money by keeping only a minimum reserve of gold and foreign securities.*

   (d) *empowered to issue currency to any extent by keeping a reserve of gold and foreign securities to the extent of ₹ 350 crores*

6. *The primary source of money supply in all countries is*

   (a) *the Reserve Bank of India*

   (b) *the Central bank of the country*

   (c) *the Bank of England*

   (d) *the Federal Reserve*

© The Institute of Chartered Accountants of India

7. *The supply of money in an economy depends on*

   (a) *the decision of the central bank based on the authority conferred on it.*

   (b) *the decision of the central bank and the supply responses of the commercial banking system.*

   (c) *the decision of the central bank in respect of high powered money.*

   (d) *both a) and c) above.*

8. *Banks in the country are required to maintain deposits with the central bank*

   (a) *to provide the necessary reserves for the functioning of the central bank*

   (b) *to meet the demand for money by the banking system*

   (c) *to meet the central bank prescribed reserve requirements and to meet settlement obligations.*

   (d) *to meet the money needs for the day to day working of the commercial banks*

9. *If the behaviour of the public and the commercial banks is constant, then*

   (a) *the total supply of nominal money in the economy will vary directly with the supply of the nominal high-powered money issued by the central bank*

   (b) *the total supply of nominal money in the economy will vary directly with the rate of interest and inversely with reserve money*

   (c) *the total supply of nominal money in the economy will vary inversely with the supply of high powered money*

   (d) *all the above are possible*

10. *Under the fractional reserve system*

   (a) *the money supply is an increasing function of reserve money (or high powered money) and the money multiplier.*

   (b) *the money supply is an decreasing function of reserve money (or high powered money) and the money multiplier.*

   (c) *the money supply is an increasing function of reserve money (or high powered money) and a decreasing function of money multiplier.*

   (d) *none of the above as the determinants of money supply are different*

11. *The money multiplier and the money supply are*

   (a) *positively related to the excess reserves ratio* ***e***.

© The Institute of Chartered Accountants of India

(b) *negatively related to the excess reserves ratio* ***e***.

(c) *not related to the excess reserves ratio* ***e***.

(d) *proportional to the excess reserves ratio e.*

12. *The currency ratio represents*

(a) *the behaviour of central bank in the issue of currency.*

(b) *the behaviour of central bank in respect cash reserve ratio.*

(c) *the behaviour of the public.*

(d) *the behaviour of commercial banks in the country.*

13. *The size of the money multiplier is determined by*

(a) *the currency ratio (c) of the public,*

(b) *the required reserve ratio (r) at the central bank, and*

(c) *the excess reserve ratio (e) of commercial banks.*

(d) *all the above*

14. *_____tells us how much new money will be created by the banking system for a given increase in the high-powered money.*

(a) *The currency ratio*

(b) *The excess reserve ratio (e)*

(c) *The credit multiplier*

(d) *The currency ratio (c)*

15. *The money multiplier will be large*

(a) *for higher currency ratio (c), lower required reserve ratio (r) and lower excess reserve ratio (e)*

(b) *for constant currency ratio (c), higher required reserve ratio (r) and lower excess reserve ratio (e)*

(c) *for lower currency ratio (c), lower required reserve ratio (r) and lower excess reserve ratio (e)*

(d) *None of the above*

16. *The ratio that relates the change in the money supply to a given change in the monetary base is called the*

(a) *required reserve ratio.*

© The Institute of Chartered Accountants of India

(b) *money multiplier.*

(c) *deposit ratio.*

(d) *discount rate.*

17. *For a given level of the monetary base, an increase in the required reserve ratio will denote*

(a) *a decrease in the money supply.*

(b) *an increase in the money supply.*

(c) *an increase in demand deposits.*

(d) *Nothing precise can be said*

18. *For a given level of the monetary base, an increase in the currency ratio causes the money multiplier to _____ and the money supply to _____.*

(a) *decrease; increase*

(b) *increase; decrease*

(c) *decrease; decrease*

(d) *increase; increase*

19. *If commercial banks reduce their holdings of excess reserves*

(a) *the monetary base increases.*

(b) *the monetary base falls.*

(c) *the money supply increases.*

(d) *the money supply falls.*

ANSWERS

1.	**(d)**	2.	**(c)**	3.	**(b)**	4.	**(a)**	5.	**(b)**	6	**(b)**
7.	**(b)**	8.	**(c)**	9.	**(a)**	10.	**(a)**	11.	**(b)**	12	**(c)**
13.	**(d)**	14.	**(c)**	15.	**(c)**	16.	**(b)**	17.	**(a)**	18	**(c)**
19.	**(c)**										

© The Institute of Chartered Accountants of India

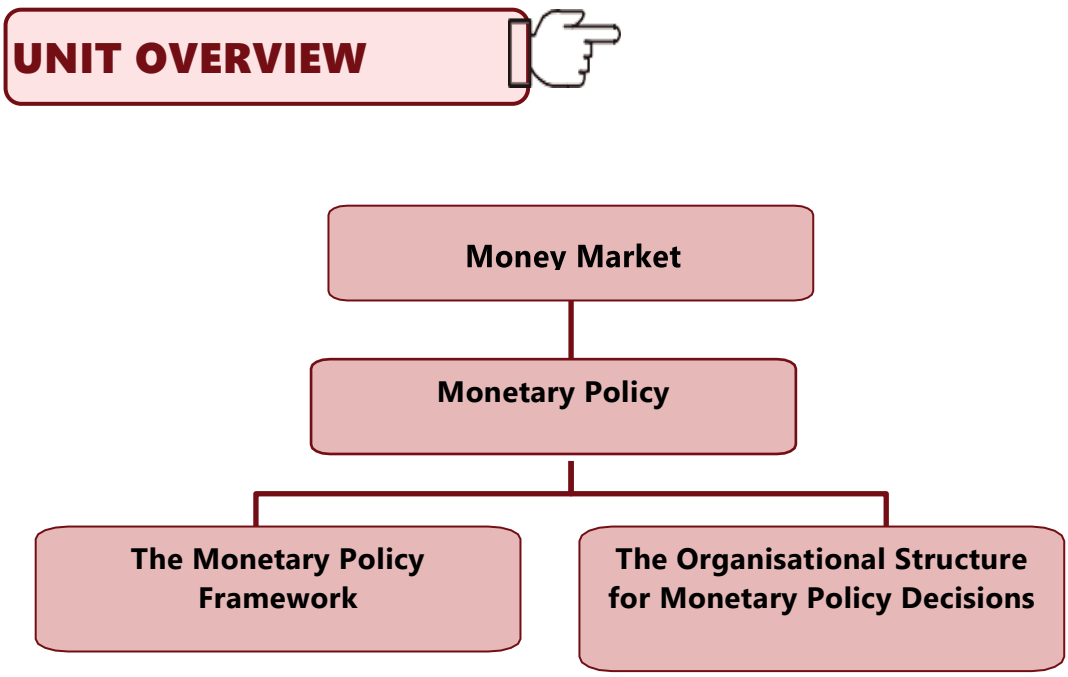
UNIT - 3: MONETARY POLICY

LEARNING OUTCOMES

After studying this Unit, you will be able to –

- Define monetary policy and describe its objectives
- Elucidate different components of the monetary policy framework
- Illustrate the analytics of monetary policy
- Explain the operating procedures and instruments of monetary policy, and
- Describe the organizational structure for monetary policy decisions

UNIT OVERVIEW



© The Institute of Chartered Accountants of India

3.1 INTRODUCTION

We observe that the Reserve Bank of India is occasionally manipulating policy rates for manoeuvring liquidity conditions with reasons thereof explicitly notified. In fact, we have only a limited understanding of the monetary phenomena which could strengthen or paralyse the domestic economy. The discussion that follows is an attempt to throw light on the well-acknowledged monetary measures undertaken by governments to fight economic instability.

3.2 MONETARY POLICY DEFINED

Reserve Bank of India uses monetary policy to manage economic fluctuations and achieve price stability, which means that inflation is low and stable. Reserve Bank of India conducts monetary policy by adjusting the supply of money, usually through buying or selling securities in the open market. Open market operations affect short-term interest rates, which in turn influence longer-term rates and economic activity. When central banks lower interest rates, monetary policy is easing. When it raises interest rates, monetary policy is tightening.

3.3 THE MONETARY POLICY FRAMEWORK

The central bank, in its execution of monetary policy, functions within an articulated monetary policy framework which has three basic components, viz.

(i) the objectives of monetary policy,

(ii) the analytics of monetary policy which focus on the transmission mechanisms, and

(iii) The operating procedure which focuses on the operating targets and instruments.

3.3.1 The Objectives of Monetary Policy

The objectives set for monetary policy are important because they provide explicit guidance to policymakers. The monetary policy of a country is in fact a reflection of its economic policy and therefore, the objectives of monetary policy generally coincide with the overall objectives of economic policy.

The Reserve Bank of India Act, 1934, in its preamble sets out the objectives of the Bank as 'to regulate the issue of bank notes and the keeping of reserves with a view to securing monetary stability in India and generally to operate the currency and credit system of the country to its advantage'. Fundamentally, the primary objective of monetary policy has been the maintenance of a judicious balance between price stability and economic growth.

© The Institute of Chartered Accountants of India

Given the development needs of developing countries, the monetary policy of such countries also incorporates explicit objectives such as:

(i) maintenance the economic growth,

(ii) ensuring an adequate flow of credit to the productive sectors,

(iii) sustaining - a moderate structure of interest rates to encourage investments, and

(iv) creation of an efficient market for government securities.

Considerations of financial and exchange rate stability have assumed greater importance in India recently on account of the increasing openness of the economy and the progressive economic and financial sector reforms.

3.3.2 Transmission of Monetary Policy

The transmission of the monetary policy describes how changes made by the Reserve Bank to its monetary policy settings flow through to economic activity and inflation. This process is complex and there is a large degree of uncertainty about the timing and size of the impact on the economy. In simple terms, the transmission can be summarised in two stages.

1. Changes to monetary policy affect interest rates in the economy.

2. Changes to interest rates affect economic activity and inflation.

Although we know that monetary policy does influence output and inflation, we are not certain about how exactly it does so, because the effects of such policy are visible often after a time lag which is not completely predictable.

CHANNELS OF MONETARY POLICY TRANSMISSION

Saving and Investment Channel

Monetary policy influences economic activity by changing the incentives for saving and investment. This channel typically affects consumption, housing investment, and business investment.

- Lower interest rates on bank deposits reduce the incentives households must save their money. Instead, there is an increased incentive for households to spend their money on goods and services.
- Lower interest rates for loans can encourage households to borrow more as they face lower repayments. Because of this, lower lending rates support higher demand for assets, such as housing.

© The Institute of Chartered Accountants of India

- Lower lending rates can increase investment spending by businesses (on capital goods like new equipment or buildings). This is because the cost of borrowing is lower, and because of increased demand for the goods and services they supply. This means that returns on these projects are now more likely to be higher than the cost of borrowing, helping to justify going ahead with the projects. This will have a more direct effect on businesses that borrow to fund their projects with debt rather than those that use the business owners' funds.

Cash-flow Channel

- Monetary policy influences interest rates, which affects the decisions of households and businesses by changing the amount of cash they have available to spend on goods and services. This is an important channel for those that are liquidity constrained (for example, those who have already borrowed up to the maximum that banks will provide).
- A reduction in lending rates reduces interest repayments on debt, increasing the amount of cash available for households and businesses to spend on goods and services. For example, a reduction in interest rates lowers repayments for households with variable-rate mortgages, leaving them with more disposable income.
- At the same time, a reduction in interest rates reduces the amount of income that households and businesses get from deposits, and some may choose to restrict their spending.

These two effects work in opposite directions, but a reduction in interest rates can be expected to increase spending in the Indian economy through this channel (with the first effect larger than the second)

Asset Prices and Wealth Channel

- Asset prices and people's wealth influence how much they can borrow and how much they spend in the economy. The asset prices and wealth channel typically affects consumption and investment.
- Lower interest rates support asset prices (such as housing and equities) by encouraging demand for assets. One reason for this is that the present discounted value of future income is higher when interest rates are lower.
- Higher asset prices also increase the equity (collateral) of an asset that is available for banks to lend against. This can make it easier for households and businesses to borrow.

© The Institute of Chartered Accountants of India

- An increase in asset prices increases people's wealth. This can lead to higher consumption and housing investment as households generally spend some share of any increase in their wealth.

Exchange Rate Channel

The exchange rate can have an important influence on economic activity and inflation. It is typically more important for sectors that are export-oriented or exposed to competition from imported goods and services.

- If the Reserve Bank lowers the cash rate it means that interest rates in India have fallen compared with interest rates in the rest of the world (all else being equal).
- Lower interest rates reduce the returns investors earn from assets in India (relative to other countries). Lower returns reduce demand for assets in India (as well as for Indian rupees) with investors shifting their funds to foreign assets (and currencies) instead.
- A reduction in interest rates (compared with the rest of the world) results in a lower exchange rate, making foreign goods and services more expensive compared with those produced in India. This leads to an increase in exports and domestic activity. A lower exchange rate also adds to inflation because imports become more expensive in Indian rupees.

3.3.3 Operating Procedures and Instruments

Quantitative tools –

The tools applied by the policy that impact money supply in the entire economy, including sectors such as manufacturing, agriculture, automobile, housing, etc.

Reserve Ratio

Banks are required to keep aside a set percentage of cash reserves or RBI approved assets. Reserve ratio is of two types:

Cash Reserve Ratio (CRR) – Banks are required to set aside this portion in cash with the RBI. The bank can neither lend it to anyone nor can it earn any interest rate or profit on CRR.

Statutory Liquidity Ratio (SLR) – Banks are required to set aside this portion in liquid assets such as gold or RBI approved securities such as government securities. Banks are allowed to earn interest on these securities, however it is very low.

Open Market Operations (OMO)

In order to control money supply, the RBI buys and sells government securities in the open market. These operations conducted by the Central Bank in the open market are referred to as Open Market Operations.

© The Institute of Chartered Accountants of India

When the RBI sells government securities, the liquidity is sucked from the market, and the exact opposite happens when RBI buys securities. The latter is done to control inflation. The objective of OMOs are to keep a check on temporary liquidity mismatches in the market, owing to foreign capital flow.

Qualitative tools

Unlike quantitative tools which have a direct effect on the entire economy's money supply, qualitative tools are selective tools that have an effect in the money supply of a specific sector of the economy.

Margin requirements – The RBI prescribes a certain margin against collateral, which in turn impacts the borrowing habit of customers. When the margin requirements are raised by the RBI, customers will be able to borrow less.

Moral suasion – By way of persuasion, the RBI convinces banks to keep money in government securities, rather than certain sectors.

Selective credit control – Controlling credit by not lending to selective industries or speculative businesses.

Market Stabilisation Scheme (MSS) -

Policy Rates

Bank rate – The interest rate at which RBI lends long term funds to banks is referred to as the bank rate. However, presently RBI does not entirely control money supply via the bank rate. It uses Liquidity Adjustment Facility (LAF) – repo rate as one of the significant tools to establish control over money supply.

Bank rate is used to prescribe penalty to the bank if it does not maintain the prescribed SLR or CRR.

Liquidity Adjustment Facility (LAF) – RBI uses LAF as an instrument to adjust liquidity and money supply. The following types of LAF are:

Repo rate: Repo rate is the rate at which banks borrow from RBI on a short-term basis against a repurchase agreement. Under this policy, banks are required to provide government securities as collateral and later buy them back after a pre-defined time.

Reverse Repo rate: It is the reverse of repo rate, i.e., this is the rate RBI pays to banks in order to keep additional funds in RBI. It is linked to repo rate in the following way:

Reverse Repo Rate = Repo Rate – 1

Marginal Standing Facility (MSF) Rate: MSF Rate is the penal rate at which the Central Bank lends money to banks, over the rate available under the rep policy. Banks availing MSF Rate can use a maximum of 1% of SLR securities.

MSF Rate = Repo Rate + 1MSF Rate = Repo Rate + 1

© The Institute of Chartered Accountants of India

3.4 THE ORGANISATIONAL STRUCTURE FOR MONETARY POLICY DECISIONS

We have discussed above the instruments of monetary policy. An understanding of the organizational structure for monetary policy decisions is necessary to understand the way monetary policy is conducted in India.

The Reserve Bank of India (RBI) Act, 1934 was amended on June 27, 2016, for giving a statutory backing to the Monetary Policy Framework Agreement (MPFA) and for setting up a Monetary Policy Committee (MPC). The Monetary Policy Framework Agreement is an agreement reached between the Government of India and the Reserve Bank of India (RBI) on the maximum tolerable inflation rate that the RBI should target to achieve price stability. The amended RBI Act (2016) provides for a statutory basis for the implementation of the 'flexible inflation targeting framework'.

Announcement of an official target range for inflation is known as inflation targeting. The Expert Committee under Urijit Patel to revise the monetary policy framework, in its report in January, 2014 suggested that RBI abandon the 'multiple indicator' approach and make inflation targeting the primary objective of its monetary policy. The inflation target is to be set by the Government of India, in consultation with the Reserve Bank, once in every five years. Accordingly,

- The Central Government has notified 4 per cent Consumer Price Index (CPI) inflation as the target for the period from August 5, 2016 to March 31, 2021 with the upper tolerance limit of 6 per cent and the lower tolerance limit of 2 per cent.
- The RBI is mandated to publish a Monetary Policy Report every six months, explaining the sources of inflation and the forecasts of inflation for the coming period of six to eighteen months.
- The following factors are notified by the central government as constituting a failure to achieve the inflation target:
  - (a) The average inflation is more than the upper tolerance level of the inflation target for any three consecutive quarters; or
  - (b) The average inflation is less than the lower tolerance level for any three consecutive quarters.

The choice of CPI was made because it closely reflects cost of living and has larger influence on inflation expectations compared to other anchors. With this step, India is following countries such as the New Zealand, the USA, the UK, European Union, and Brazil. In recent times many countries are moving away from this approach and are targeting nominal GDP growth.

© The Institute of Chartered Accountants of India

3.5 CONCLUSION

The theoretical exposition of monetary policy might appear uncomplicated. However, the choice of a monetary policy action is rather complicated in view of the surrounding uncertainties and the need for exercising complex judgment to balance growth and inflation concerns. Additional complexities arise in the case of an emerging market like India. There are many challenges which need to be addressed, such as rudimentary and non-competitive financial systems, lack of integrated money and interbank markets, external uncertainties and issues related to operational autonomy of the central bank. Explicit inflation targeting requires a good degree of operational autonomy for the central bank and a system in which there is a good coordination between fiscal and monetary authorities.

SUMMARY

- Monetary policy refers to the use of monetary policy instruments which are at the disposal of the central bank to regulate the availability, cost and use of money and credit so as to promote economic growth, price stability, optimum levels of output and employment, balance of payments equilibrium, stable currency or any other goal of government's economic policy.
- The monetary policy framework which has three basic components, viz. the objectives of monetary policy, the analytics of monetary policy which focus on the transmission mechanism, and the operating procedure which focuses on the operating targets and instruments.
- Though multiple objectives are pursued, the most commonly pursued objectives of monetary policy of the central banks across the world has become maintenance of price stability (or controlling inflation) and achievement of economic growth.
- The process or channels through which the evolution of monetary aggregates affects the level of production and price level is known as 'monetary transmission mechanism' i.e how they impact real variables such as aggregate output and employment.
- There are mainly four different mechanisms, namely, the interest rate channel, the exchange rate channel, the quantum channel, and the asset price channel.
- A contractionary monetary policy-induced increase in interest rates increases the cost of capital and the real cost of borrowing for firms and households who respond by cut back on their investment and consumption respectively.

© The Institute of Chartered Accountants of India

- The exchange rate channel works through expenditure switching between domestic and foreign goods on account of appreciation / depreciation of the domestic currency with its impact on net exports and consequently on domestic output and employment.
- Two distinct credit channels- the bank lending channel and the balance sheet channel- operate by altering access of firm and household to bank credit and by the effect of monetary policy on the firm's balance sheet respectively.
- Asset prices generate important wealth effects that impact, through spending, output and employment.
- The operating framework of monetary policy relates to all aspects of implementation namely, choosing the operating target, choosing the intermediate target, and choosing the policy instruments.
- The day-to-day implementation of monetary policy by central banks through various instruments is referred to as 'operating procedures'.
- Monetary policy instruments are the various tools that a central bank can use to influence money market and credit conditions and pursue its monetary policy objectives. There are direct instruments and indirect instruments.
- The Cash Reserve Ratio (CRR) refers to the fraction of the total net demand and time liabilities (NDTL) of a scheduled commercial bank in India which it should maintain as cash deposit with the Reserve Bank irrespective of its size or financial position.
- The Statutory Liquidity Ratio (SLR) is what the scheduled commercial banks in India are required to maintain as a stipulated percentage of their total Demand and Time Liabilities (DTL) / Net DTL (NDTL) in Cash, Gold or approved investments in securities.
- On the basis of the recommendations of Narsimham Committee on banking sector reforms the RBI introduced Liquidity Adjustment Facility (LAF) under which RBI provides financial accommodation to the commercial banks through repos/reverse repos.
- Repurchase Options or in short Repo, is defined as 'an instrument for borrowing funds by selling securities with an agreement to repurchase the securities on a mutually agreed future date at an agreed price which includes interest for the funds borrowed'.
- In India, the fixed repo rate quoted for sovereign securities in the overnight segment of Liquidity Adjustment Facility (LAF) is considered as the 'policy rate'.
- Repo or repurchase option is a collaterised lending because banks borrow money from Reserve bank of India to fulfil their short term monetary requirements by selling

© The Institute of Chartered Accountants of India

securities to RBI with an explicit agreement to repurchase the same at predetermined date and at a fixed rate. The rate charged by RBI for this transaction is called the 'repo rate'.

- Reverse Repo is defined as an instrument for lending funds by purchasing securities with an agreement to resell the securities on a mutually agreed future date at an agreed price which includes interest for the funds lent.
- The Marginal Standing Facility (MSF) refers to the facility under which scheduled commercial banks can borrow additional amount of overnight money from the central bank over and above what is available to them through the LAF window by dipping into their Statutory Liquidity Ratio (SLR) portfolio up to a limit.
- Under the Market Stabilisation Scheme (MSS) the Government of India borrows from the RBI (such borrowing being additional to its normal borrowing requirements) and issues treasury-bills/dated securities.
- Bank Rate refers to "the standard rate at which the Reserve Bank is prepared to buy or re-discount bills of exchange or other commercial paper eligible for purchase under the Act.
- OMOs is a general term used for market operations conducted by the Reserve Bank of India by way of sale/ purchase of Government securities to/ from the market with an objective to adjust the rupee liquidity conditions in the market on a regular basis.
- The Monetary Policy Committee (MPC) consisting of six members shall determine the policy rate to achieve the inflation target through debate and majority vote by a panel of experts.
- The Monetary Policy Framework Agreement is an agreement reached between the Government of India and the Reserve Bank of India (RBI) to keep the Consumer Price Index CPI) inflation rate between 2 to 6 per cent.
- Choice of a monetary policy action is rather complex in view of the surrounding uncertainties and the need for exercising trade-offs between growth and inflation concerns. Additional complexities arise in the case of an emerging market like India where inflation is influenced by factors such as international petroleum prices and food prices.

© The Institute of Chartered Accountants of India

TEST YOUR KNOWLEDGE

Multiple Choice Type Questions

1. *Which of the following is the function of monetary policy?*

   (a) regulate the exchange rate and keep it stable

   (b) regulate the movement of credit to the corporate sector

   (c) regulate the level of production and prices

   (d) regulate the availability, cost and use of money and credit

2. *The main objective of monetary policy in India is _____:*

   (a) reduce food shortages to achieve stability

   (b) economic growth with price stability

   (c) overall monetary stability in the banking system

   (d) reduction of poverty and unemployment

3. *The monetary transmission mechanism refers to*

   (a) how money gets circulated in different sectors of the economy post monetary policy

   (b) the ratio of nominal interest and real interest rates consequent on a monetary policy

   (c) the process or channels through which the evolution of monetary aggregates affects the level of product and prices

   (d) none of the above

4. *A contractionary monetary policy-induced increase in interest rates*

   (a) increases the cost of capital and the real cost of borrowing for firms

   (b) increases the cost of capital and the real cost of borrowing for firms and households

   (c) decreases the cost of capital and the real cost of borrowing for firms

   (d) has no interest rate effect on firms and households

© The Institute of Chartered Accountants of India

5. *During deflation*

   (a) *the RBI reduces the CRR in order to enable the banks to expand credit and increase the supply of money available in the economy*

   (b) *the RBI increases the CRR in order to enable the banks to expand credit and increase the supply of money available in the economy*

   (c) *the RBI reduces the CRR in order to enable the banks to contract credit and increase the supply of money available in the economy*

   (d) *the RBI reduces the CRR but increase SLR in order to enable the banks to contract credit and increase the supply of money available in the economy*

6. *Which of the following statements is correct?*

   (a) *The governor of the RBI in consultation with the Ministry of Finance decides the policy rate and implements the same*

   (b) *While CRR has to be maintained by banks as cash with the RBI, the SLR requires holding of approved assets by the bank itself*

   (c) *When repo rates increase, it means that banks can now borrow money through open market operations (OMO)*

   (d) *None of the above*

7. *RBI provides financial accommodation to the commercial banks through repos/reverse repos under*

   (a) *Market Stabilisation Scheme (MSS)*

   (b) *The Marginal Standing Facility (MSF)*

   (c) *Liquidity Adjustment Facility (LAF).*

   (d) *Statutory Liquidity Ratio (SLR)*

8. *_____is a money market instrument, which enables collateralised short term borrowing and lending through sale/purchase operations in debt instruments.*

   (a) *OMO*

   (b) *CRR*

   (c) *SLR*

   (d) *Repo*

© The Institute of Chartered Accountants of India

9. *In India, the term 'Policy rate' refers to*

   (a) The bank rate prescribed by the RBI in its half yearly monetary policy statement

   (b) The CRR and SLR prescribed by RBI in its monetary policy statement

   (c) the fixed repo rate quoted for sovereign securities in the overnight segment of Liquidity Adjustment Facility (LAF)

   (d) the fixed repo rate quoted for sovereign securities in the overnight segment of Marginal Standing Facility (MSF)

10. *Reverse repo operation takes place when*

   (a) RBI borrows money from banks by giving them securities

   (b) banks borrow money from RBI by giving them securities

   (c) banks borrow money in the overnight segment of the money market

   (d) RBI borrows money from the central government

11. *The Monetary Policy Framework Agreement is on*

   (a) the maximum repo rate that RBI can charge from government

   (b) the maximum tolerable inflation rate that RBI should target to achieve price stability.

   (c) the maximum repo rate that RBI can charge from the commercial banks

   (d) the maximum reverse repo rate that RBI can charge from the commercial banks

12. *An open market operation is an instrument of monetary policy which involves buying or selling of _____from or to the public and banks*

   (a) bonds and bills of exchange

   (b) debentures and shares

   (c) government securities

   (d) none of these

13. *Which statement (s) is (are) true about Monetary Policy Committee?*

   I. The Reserve Bank of India (RBI) Act, 1934 was amended on June 27, 2016, for giving a statutory backing to the Monetary Policy Framework Agreement and for setting up a Monetary Policy Committee

© The Institute of Chartered Accountants of India

II. The Monetary Policy Committee shall determine the policy rate through debate and majority vote by a panel of experts required to achieve the inflation target.

III. The Monetary Policy Committee shall determine the policy rate through consensus from the governor of RBI

IV. The Monetary Policy Committee shall determine the policy rate through debate and majority vote by a panel of bankers chosen for eth purpose

(a) I only

(b) I and II only

(c) III and IV

(d) III only

ANSWERS

1.	**(d)**	2	**(b)**	3	**(c)**	4.	**(b)**	5.	**(a)**	6.	**(b)**
7.	**(c)**	8.	**(d)**	9.	**(c)**	10.	**(a)**	11.	**(b)**	12.	**(c)**
13.	**(b)**										

© The Institute of Chartered Accountants of India

© The Institute of Chartered Accountants of India

CHAPTER 9

INTERNATIONAL TRADE

UNIT - 1: THEORIES OF INTERNATIONAL TRADE

LEARNING OUTCOMES

After studying this Unit, you will be able to –

- Define international trade and describe how it differs from internal trade
- Elucidate the arguments in favour of and against liberal trade
- Explain the mercantilists' views on international trade
- Illustrate how trade can be based on absolute advantage
- Describe the Ricardian theory of comparative advantage
- Explain the basis of trade according to modern theory of trade

© The Institute of Chartered Accountants of India

CHAPTER OVERVIEW

1.1 INTRODUCTION

International trade is the exchange of goods and services as well as resources between countries. It involves transactions between residents of different countries. If there is a point on which most economists agree, it is that trade among nations makes the world better off. International trade reduces production cost and improves living standards of people. The foreign producer also benefits by making more sales than it could selling solely in its own market and by earning foreign exchange (currency) that can be used by itself or others in the country to purchase foreign-made products. International trade is an integral part of international relations and has become an important engine of growth in developed as well as developing countries.

Benefits of International Trade

(i) International trade is a powerful stimulus to economic efficiency and contributes to economic growth and rising incomes. The wider market made possible owing to trade induces companies to reap the quantitative and qualitative benefits of division of labour.

(ii) Efficient deployment of productive resources to their best use is a direct economic advantage of foreign trade. Greater efficiency in the use of natural, human, industrial and financial resources ensures productivity gains. Since international trade also tends to decrease the likelihood of domestic monopolies, it is always beneficial to the community.

© The Institute of Chartered Accountants of India

(iii) Trade provides access to new markets and new materials and enables sourcing of inputs and components internationally at competitive prices. This reflects in innovative products at lower prices and wider choice in products and services for consumers. It also enables nations to acquire foreign exchange reserves necessary for imports which are crucial for sustaining their economies.

(iv) International Trade necessitates increased use of automation, supports technological change, stimulates innovations, and facilitates greater investment in research and development and productivity improvement in the economy.

(v) Trade also provides greater stimulus to innovative services in banking, insurance, logistics, consultancy services etc.

(vi) For emerging economies, improvement in the quality of output of goods and services, superior products, finer labour and environmental standards etc. enhance the value of their products and enable them to move up the global value chain.

(vii) Opening up of new markets results in broadening the productive base and facilitates export diversification so that new production possibilities are opened up.

(viii) Trade can also contribute to human resource development, by facilitating fundamental and applied research and exchange of know-how and best practices between trade partners.

(ix) Trade strengthens bonds between nations by bringing citizens of different countries together in mutually beneficial exchanges and, thus, promotes harmony and cooperation among nations.

Despite being a dynamic force, which has an enormous potential to generate overall economic gains, liberal global trade and investments are often criticised as detrimental to national interests. The major arguments put forth against trade openness are:

(i) International trade is often not equally beneficial to all nations. Potential unequal market access and disregard for the principles of a fair trading system may even amplify the differences between trading countries, especially if they differ in their wealth.

(ii) Economic exploitation is a likely outcome when underprivileged countries become vulnerable to the growing political power of corporations operating globally. The domestic entities can be easily outperformed by financially stronger transnational companies.

(iii) Substantial environmental damage and exhaustion of natural resources in a shorter span of time could have serious negative consequences on the society at large.

© The Institute of Chartered Accountants of India

(iv) Trade cycles and the associated economic crises occurring in different countries are also likely to get transmitted rapidly to other countries.

(v) Risky dependence of underdeveloped countries on foreign nations impairs economic autonomy and endangers their political sovereignty. Such reliance often leads to widespread exploitation and loss of cultural identity. Substantial dependence may also have severe adverse consequences in times of wars and other political disturbances.

(vi) Too much export orientation may distort actual investments away from the genuine investment needs of a country.

(vii) Finally, there is often a lack of transparency and predictability in respect of many aspects related to trade policies of trading partners. There are also many risks in trade which are associated with changes in governments' policies of participating countries, such as imposition of an import ban, high import tariffs or trade embargoes.

1.2 IMPORTANT THEORIES OF INTERNATIONAL TRADE

You might have noticed that many goods and services are imported by us because they are simply not produced in our country for various reasons and therefore not available domestically. However, we do import many things which can be produced or are being produced within our country. Why do we do so? Is it beneficial to engage in international trade? The theories of international trade which we discuss in the following sections provide answers to these and other related questions.

1.2.1 The Mercantilists' View of International Trade

Mercantilism, which is derived from the word mercantile, "trade and commercial affairs". Mercantilism according to Microsoft Encarta Dictionary (2009), is the economic policy trending in Europe from the 16th to the 18th centuries, where the government used power to control industry and trade with the theoretical belief that national power is achieved and sustained by having constant large quantities of exports over imports. Nations' human and material resources are unevenly endowed, distributed and developed. This allows flow of labour, raw materials, capital and finished products across national boundaries and markets; thus resulting in "mercantilism" as the earliest international economic system that proposes massive and aggressive export over import to accumulate wealth, to have favourable balance of payment and trade and to be still relevant in today's economy.

© The Institute of Chartered Accountants of India

1.2.2 The Theory of Absolute Advantage

Adam Smith, the father of economics, thought that the basis of international trade was absolute cost advantage. According to his theory, trade between two countries would be mutually beneficial if one country could produce one commodity at absolute advantage (over the other commodity) and the other countries could, in turn, produce another commodity at an absolute advantage over the first. In other words, the principle of absolute advantage refers to the ability of a party (an individual, or firm, or country) to produce a greater quantity of a good, product, or service than competitors, using the same amount of resources. Adam Smith first described the principle of absolute advantage in the context of international trade, using labour as the only input. Since absolute advantage is determined by a simple comparison of labour productivity, it is possible for a nation to have no absolute advantage in anything; in that case, according to the theory of absolute advantage, no trade will occur with the other nation. It can be contrasted with the concept of comparative advantage which refers to the ability to produce specific goods at a lower opportunity cost.

Assumptions of the Absolute Advantage Theory:

- Trade between the two countries.
- He took into consideration a two-country and two-commodity framework for his analysis.
- There is no transportation cost.
- Smith assumed that the costs of the commodities were computed by the relative amounts of labour required in their respective production processes.
- He assumed that labour was mobile within a country but immobile between countries.
- He implicitly assumed that any trade between the two countries considered would take place if each of the two countries had an absolutely lower cost in the production of one of the commodities.

1.2.3 The Theory of Comparative Advantage

In one of the most important concepts in economics, David Ricardo observed that trade was driven by *comparative* rather than *absolute* costs (of producing a good). One country may be more productive than others in all goods, in the sense that it can produce any good using fewer inputs (such as capital and labour) than other countries require to produce the same good. Ricardo's insight was that such a country would still benefit from trading according to its *comparative advantage*—exporting products in which its absolute advantage was greatest, and importing products in which its absolute advantage was comparatively less (even if still

© The Institute of Chartered Accountants of India

positive). Even a country that is more efficient (has absolute advantage) in everything it makes would benefit from trade. Consider an example:

Country A: One hour of labour can produce either three kilograms of steel or two shirts.

Country B: One hour of labour can produce either one kilogram of steel or one shirt.

Country A is more efficient in both products.

Now suppose Country B offers to sell Country A two shirts in exchange for 2.5 kilograms of steel.

To produce these additional two shirts, Country B diverts two hours of work from producing (two kilograms) of steel.

Country A diverts one hour of work from producing (two) shirts. It uses that hour of work to instead produce three additional kilograms of steel.

Overall, the same number of shirts is produced: Country A produces two fewer shirts, but Country B produces two additional shirts.

However, more steel is now produced than before: Country A produces three additional kilograms of steel, while Country B reduces its steel output by two kilograms.

The extra kilogram of steel is a measure of the gains from trade.

Though a country may be twice as productive as its trading partners in making clothing, if it is three times as productive in making steel or building aeroplanes, it will benefit from making and exporting these products and importing clothes. Its partner will gain by exporting clothes—in which it has a comparative but not absolute advantage—in exchange for these other products. The notion of comparative advantage also extends beyond physical goods to trade in services—such as writing computer code or providing financial products.

Because of comparative advantage, trade raises the living standards of both countries. Douglas Irwin (2009) calls comparative advantage "good news" for economic development. "Even if a developing country lacks an absolute advantage in any field, it will always have a comparative advantage in the production of some goods," and will trade profitably with advanced economies.

1.2.4 The Heckscher-Ohlin Theory of Trade

Differences in comparative advantage may arise for several reasons. In the early 20th century, Swedish economists Eli Heckscher and Bertil Ohlin identified the role of labour and capital, so-called factor endowments, as a determinant of advantage.

The Heckscher-Ohlin proposition maintains that countries tend to export goods whose production uses intensively the factor of production that is relatively abundant in the country.

© The Institute of Chartered Accountants of India

Countries well endowed with capital—such as factories and machinery—should export capital-intensive products, while those well endowed with labour should export labour-intensive products. Economists today think that factor endowments matter, but that there are also other important influences on trade patterns.

The increase in competition coming from foreign firms puts pressure on profits, forcing less efficient firms to contract and making room for more efficient firms. Expansion and new entry bring with them better technologies and new product varieties. Likely the most important is that trade enables greater selection across different types of goods (say refrigerators). This explains why there is a lot of intra-industry trade (for example, countries that export household refrigerators may import industrial coolers), which is something that the factor endowment approach does not encompass.

There are clear efficiency benefits from trade that results in *more* products—not only more of the same products, but greater product variety. An even greater benefit may be the more efficient investment spending that results from firms having access to a wider variety and quality of intermediate and capital inputs (think lithium battery manufacturing by China rather than manufacturing electrical cars). By enhancing overall investment and facilitating innovation, trade can bring sustained higher growth.

Indeed, economic models used to assess the impact of trade typically neglect influences involving technology transfer and pro-competitive forces such as the expansion of product varieties. That is because these influences are difficult to model, and results that do incorporate them are subject to greater uncertainty. Where this has been done, however, researchers have concluded that the benefits of trade reforms—such as reducing tariffs and other nontariff barriers to trade—are much larger than suggested by conventional models.

The table 4.1.3 presents, though not exhaustive, a comparison of the theory of comparative costs and modern theory.

Table 4.1.3

Comparison of Theory of Comparative Costs and Modern Theory

Theory of Comparative Costs	Modern Theory
The basis is the difference between countries is comparative costs	Explains the causes of differences in comparative costs as differences in factor endowments
Based on labour theory of value	Based on money cost which is more realistic.
Considered labour as the sole factor of production and presents a one-factor (labour) model	Widened the scope to include labour and capital as important factors of production. This is 2-factor model and can be extended to more factors.

© The Institute of Chartered Accountants of India

Treats international trade as quite distinct from domestic trade	International trade is only a special case of inter-regional trade.
Studies only comparative costs of the goods concerned	Considers the relative prices of the factors which influence the comparative costs of the goods
Attributes the differences in comparative advantage to differences in productive efficiency of workers	Attributes the differences in comparative advantage to the differences in factor endowments.
Does not take into account the factor price differences	Considers factor price differences as the main cause of commodity price differences
Does not provide the cause of differences in comparative advantage.	Explains the differences in comparative advantage in terms of differences in factor endowments.
Normative; tries to demonstrate the gains from international trade	Positive; concentrates on the basis of trade

1.2.5 Globalization and New International Trade Theory

The revolution that swept through the theory of international trade in the first half of the 1980s-the rise of the so-called new trade theory'-left many of the insights of traditional trade theory intact. In particular, introducing imperfect competition and increasing returns into the picture does not alter the fundamental point that trade is a positive-sum game, generally carried on to countries' mutual benefit. Indeed, the new trade theory adds to the positive sum: by enlarging markets, international trade increases competition and allows greater exploitation of economies of scale, both of which represent gains over and above those due to comparative advantage.

The new trade theory suggests that in practice many traded goods are produced by industries that are both oligopolistic and subject to external economies (e.g., because of economies of scale in the production of nontraded intermediates). Thus instead of a picture of an international economy that is at a Pareto optimum, the new trade theory offers a picture of one in which markets normally lead to suboptimal results.

American economist and journalist Paul Krugman received the 2008 Nobel Prize for Economics for his work in economic geography and in identifying international trade patterns. In the late 1970s, Paul Krugman noticed that the accepted model that economists used to explain patterns of international trade did not fit the data. The Heckscher-Ohlin model predicted that trade would be based on such factors as the ratio of capital to labor, with "capital-rich" countries exporting capital-intensive goods and importing labor-intensive goods from "labor-rich" countries. But Krugman noticed that most international trade takes place between

© The Institute of Chartered Accountants of India

countries with roughly the same ratio of capital to labor. The auto industry in capital-intensive Sweden, for example, exports cars to capital-intensive America, while Swedish consumers also import cars from America. This is particularly true in key economic sectors in India such as electronics, IT, food, and automotive. We have cars made in India, yet we purchase many cars made in other countries.

Krugman defended free trade. He was passionate and showed deep concern for the well-being of people around the world. One such example is "In Praise of Cheap Labor," published in Slate in 1997. In it, Krugman told of Smokey Mountain, a huge garbage dump in Manila in which men, women, and children made a living combing through garbage for valuable items. Low-wage jobs in multinational companies' factories in the Philippines, Bangladesh, and other poor countries, he noted, are much better alternatives. Because multinational companies hired many of these poor workers, he wrote that "the result has been to move hundreds of millions of people from abject poverty to something still awful but nonetheless significantly better.

According to NTT, two key concepts give advantages to countries that import goods to compete with products from the home country:

- Economies of Scale: As a firm produces more of a product, its cost per unit keeps going down. So if the firm serves domestic as well as foreign market instead of just one, then it can reap the benefit of large scale of production consequently the profits are likely to be higher.
- Network effects refer to the way one person's value for a good or service is affected by the value of that good or service to others. The value of the product or service is enhanced as the number of individuals using it increases. This is also referred to as the 'bandwagon effect'. Consumers like more choices, but they also want products and services with high utility, and the network effect increases utility obtained from these products over others. A good example will be Mobile App such as What's App and software like Microsoft Windows.

SUMMARY

- International trade is the exchange of goods and services as well as resources between countries and involves greater complexity compared to internal trade.
- Trade can be a powerful stimulus to economic efficiency, contributes to economic growth and rising incomes, enlarges manufacturing capabilities, ensures benefits from economies of large-scale production, and enhances competitiveness and profitability by adoption of cost reducing technology and business practices.
- Efficient deployment of productive resources to their best use, productivity gains, decrease in the likelihood of domestic monopolies, cost-effective sourcing of inputs

© The Institute of Chartered Accountants of India

and components internationally, innovative products at lower prices and wider choice in products and services for consumers are claimed as benefits of trade.

- Enhanced foreign exchange reserves, increased scope for mechanization and specialisation, research and development, creation of jobs, reduction in poverty, augmenting factor incomes, raising standards of livelihood, increase in overall demand for goods and services and greater stimulus to innovative services are other benefits of trade.
- There are also other possible positive outcomes of trade in the form of prospects of employment generating investments, improvement in the quality of output, superior products, labour and environmental standards, broadening of productive base, export diversification, stability in prices and supply of goods, human resource development and strengthening of bonds between nations.
- The arguments against trade converge on negative labour market outcomes, economic exploitation, profit-driven exhaustion of natural resources, shift towards a consumer culture, risky dependence, shortages resulting in inflation, disregard for welfare of people, quick transmission of trade cycles, rivalries and risks in trade associated with changes in governments' policies of participating countries.
- Mercantilism advocated maximizing exports in order to bring in more precious metals and minimizing imports through the state imposing very high tariffs on foreign goods.
- According to Adam Smith's Absolute Cost Advantage theory, a country will specialize in the production and export of a commodity in which it has an absolute cost advantage.
- Ricardo's theory of comparative advantage states that a nation should specialize in the production and export of the commodity in which its absolute disadvantage is smaller (this is the commodity of its comparative advantage) and import the commodity in which its absolute disadvantage is greater (this is the commodity of its comparative disadvantage).
- Haberler resolved the issue of dependence on labour alone in the case of theory of comparative advantage when he introduced the opportunity cost concept. Opportunity cost which is the value of the forgone option.
- The Heckscher-Ohlin theory of trade, also referred to as Factor-Endowment Theory of Trade or Modern Theory of Trade, states that comparative advantage in cost of production is explained exclusively by the differences in factor endowments.
- A country tends to specialize in the export of a commodity whose production requires intensive use of its abundant resources and imports a commodity whose production requires intensive use of its scarce resources.

© The Institute of Chartered Accountants of India

- Accordingly, a capital abundant country will produce and export capital-intensive goods relatively more cheaply and a labour-abundant country will produce and export labour-intensive goods relatively more cheaply than other country.
- The Factor-Price Equalization Theorem states that international trade equalizes the factor prices between the trading nations. Therefore, with free trade, wages and returns on capital will converge across the countries.
- NTT is the latest entrant to explain the rising proportion of world trade between the developed and bigger developing economies (such as BRICS), which trade in similar products. These countries constitute more than 50% of world trade.

TEST YOUR KNOWLEDGE

Multiple Choice Type Questions

1. *Which of the following does not represent a difference between internal trade and international trade?*

   (a) transactions in multiple currencies

   (b) homogeneity of customers and currencies

   (c) differences in legal systems

   (d) none of the above

2. *The theory of absolute advantage states that*

   (a) national wealth and power are best served by increasing exports and decreasing imports

   (b) nations can increase their economic well-being by specializing in the production of goods they produce more efficiently than anyone else.

   (c) that the value or price of a commodity depends exclusively on the amount of labour going into its production and therefore factor prices will be the same

   (d) differences in absolute advantage explains differences in factor endowments in different countries

3. *Which of the following theories advocates that countries should produce those goods for which it has the greatest relative advantage?*

   (a) Modern theory of international trade

   (b) The factor endowment theory

   (c) The Heckscher-Ohlin Theory

   (d) None of the above

© The Institute of Chartered Accountants of India

4. *Which of the following holds that a country can increase its wealth by encouraging exports and discouraging imports*

   (a) Capitalism

   (b) Socialism

   (c) Mercantilism

   (d) Laissez faire

5. *Given the number of labour hours to produce cloth and grain in two countries, which country should produce grain?*

Labour cost (hours) for production of one unit

	Country A	***Country B***
Cloth	*40*	*80*
Grain	*80*	*40*

   (a) Country A

   (b) Country B

   (c) Neither A nor B

   (d) Both A and B

6. *According to the theory of comparative advantage*

   (a) trade is a zero-sum game so that the net change in wealth or benefits among the participants is zero.

   (b) trade is not a zero-sum game so that the net change in wealth or benefits among the participants is positive

   (c) nothing definite can be said about the gains from trade

   (d) gains from trade depends upon factor endowment and utilization

7. *Given the number of labour hours to produce wheat and rice in two countries and that these countries specialise and engage in trade at a relative price of 1:1 what will be the gain of country X?*

Labour cost (hours) for production of one unit

	Wheat	***Rice***
Country X	*10*	*20*
Country Y	*20*	*10*

   (a) 20 labour hours

© The Institute of Chartered Accountants of India

(b) *10 labour hours*

(c) *30 labour hours*

(d) *Does not gain anything*

8. *Assume India and Bangladesh have the unit labour requirements for producing tables and mats shown in the table below. It follows that:*

Labour cost (hours) for production of one unit

	India	***Bangladesh***
Tables	*3*	*8*
Mats	*2*	*1*

(a) *Bangladesh has a comparative advantage in mats*

(b) *India has a comparative advantage in tables*

(c) *Bangladesh has an absolute advantage in mats*

(d) *All the above are true*

9. *Comparative advantage refers to*

(a) *a country's ability to produce some good or service at the lowest possible cost compared to other countries*

(b) *a country's ability to produce some good or service at a lower opportunity cost than other countries.*

(c) *Choosing a productive method which uses minimum of the abundant factor*

(d) *(a) and (b) above*

10. *Ricardo explained the law of comparative advantage on the basis of*

(a) *opportunity costs*

(b) *the law of diminishing returns*

(c) *economies of scale*

(d) *the labour theory of value*

ANSWERS

1.	**(b)**	2.	**(b)**	3.	**(d)**	4.	**(c)**	5.	**(b)**	6	**(b)**
7.	**(b)**	8.	**(d)**	9.	**(b)**	10.	**(d)**				

© The Institute of Chartered Accountants of India

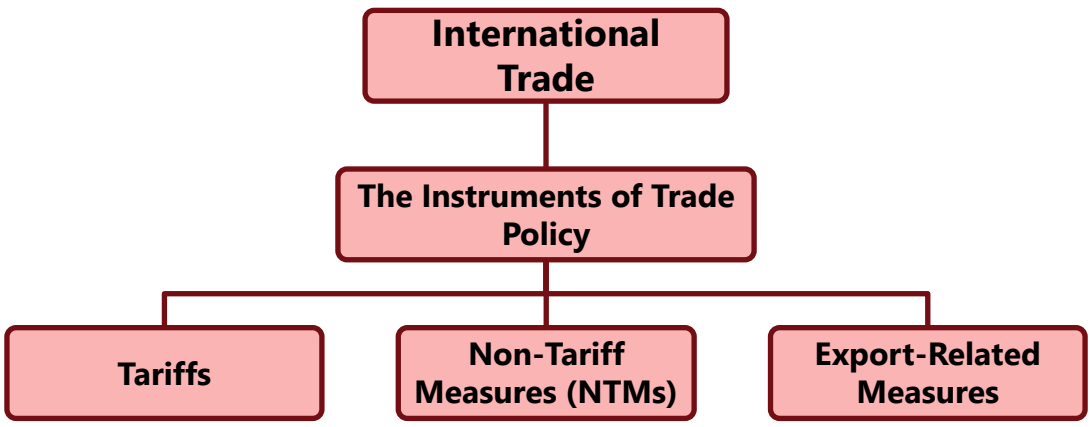
UNIT - 2: THE INSTRUMENTS OF TRADE POLICY

LEARNING OUTCOMES

After studying this Unit, you will be able to –

- Define trade policy and describe its objectives
- Distinguish between different types of trade policy measures
- Evaluate the use of tariffs as a trade policy instrument
- Describe the 'trigger price mechanisms' for protection of domestic industry
- Outline the different Non-Tariff Measures adopted by countries

UNIT OVERVIEW



© The Institute of Chartered Accountants of India

2.1 INTRODUCTION

Before we go into the subject matter of this unit, we shall take a quick look at a few recent developments in India's international trade strategy.

- After a decade of eschewing free trade deals, India has embarked on an FTA-signing spree that is quickly transforming the country into one of the most FTA-engaged countries in the world.
- The reinvigorated Free Trade Agreement rush began with an agreement with Mauritius on 1 April 2021, followed by fast-track negotiations with the United Arab Emirates (UAE), Australia, the United Kingdom (UK), Canada and the European Union (EU).
- On 18 February 2022, a comprehensive economic partnership agreement (CEPA) with the UAE was concluded within 90 days of the commencement of negotiations and has been in force since 1 May 2022. In addition, an Economic Cooperation and Trade Agreement (ECTA) with Australia also concluded on 2 April 2022.
- The next highly-anticipated Free Trade Agreement in the works is with the UK, which is expected to conclude by Diwali (the festival of lights) in October 2022. Free Trade Agreement discussions are also on the fast track with Canada, the EU, as well as with the Gulf Cooperation Council (GCC – Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE) and Israel.

As we know, under free trade, buyers and sellers from separate economies voluntarily trade with minimum of state interference. The free interplay of market forces of supply and demand decides prices. Protectionism, on the other hand, is a state policy aimed to protect domestic producers against foreign competition through the use of tariffs, quotas and non-tariff trade policy instruments. Trade liberalization refers to opening up of domestic markets to goods and services from the rest of the world by bringing down trade barriers.

In unit 1, we have seen that there are clear efficiency benefits from trade in terms of economic growth, job-creation and welfare. The persuasive academic arguments for open trade presuppose that fair competition, without distortions, is maintained between domestic and foreign producers. However, it is a fact that fair competition does not always exist and unobstructed international trade also brings in severe dislocation to many domestic firms and industries on account of difficult adjustment problems. Therefore, individuals and organizations continue to pressurize policymakers and regulatory authorities to restrict imports or to artificially boost up the size of exports.

Historically, as part of their protectionist measures, governments of different countries have applied many different types of policy instruments, not necessarily based on their economic merit, for restricting the free flow of goods and services across national boundaries. While

© The Institute of Chartered Accountants of India

some such measures of government intervention are simple, widespread, and relatively transparent, others are complex, less apparent and frequently involve many types of distortions.

In this unit, we shall describe some of the most frequently used forms of interference with trade. Understanding the uses and implications of the common trade policy instruments, will enable formulation of appropriate policy responses and more balanced dialogues on trade policy issues and international trade agreements.

Trade policy encompasses all instruments that governments may use to promote or restrict imports and exports. Trade policy also includes the approach taken by countries in trade negotiations. While participating in the multilateral trading system and/or while negotiating bilateral trade agreements, countries assume obligations that shape their national trade policies. The instruments of trade policy that countries typically use to restrict imports and/ or to encourage exports can be broadly classified into price- related measures such as tariffs and non-price measures or non-tariff measures (NTMs).

In the following sections, we shall briefly touch upon the different trade policy measures adopted by countries to protect their domestic industries.

2.2 TARIFFS

Tariffs, also known as customs duties, are basically taxes or duties imposed on goods and services which are imported or exported. Different tariffs are generally applied to different commodities. It is defined as a financial charge in the form of a tax, imposed at the border on goods going from one customs territory to another. They are the most visible and universally used trade measures that determine market access for goods. Instead of a single tariff rate, countries have a tariff schedule which specifies the tariff collected on every particular good and service. Import duties being pervasive than export duties, tariffs are often identified with import duties and in this unit, the term 'tariff' would refer to import duties.

Tariffs are aimed at altering the relative prices of goods and services imported, so as to contract the domestic demand and thus regulate the volume of their imports. Tariffs leave the world market price of the goods unaffected; while raising their prices in the domestic market. The main goals of tariffs are to raise revenue for the government, and more importantly to protect the domestic import-competing industries.

2.2.1 Forms of Import Tariffs

(i) **Specific Tariff:** Specific tariff is the fixed amount of money per physical unit or according to the weight or measurement of the commodity imported or exported. This tariff can vary according to the type of good imported. Example, a specific tariff of

© The Institute of Chartered Accountants of India

₹1000/ may be charged on each imported bicycle. The disadvantage of specific tariff as an instrument for protection of domestic producers is that its protective value varies inversely with the price of the import. For example: if the price of the imported cycle is ₹ 5,000/- and the rate of tariff is 20%; then, if due to inflation, the price of bicycle rises to ₹ 10,000, the specific tariff is still only 10% of the value of the import. Since the calculation of these duties does not involve the value of merchandise, customs valuation is not applicable in this case.

(ii) **Ad valorem tariff**: When the duty is levied as a fixed percentage of the value of the traded commodity, it is called as valorem tariff. An *ad valorem* tariff is levied as a constant percentage of the monetary value of one unit of the imported good. A 20% ad valorem tariff on any bicycle generates a ₹ 1000/ payment on each imported bicycle priced at ₹ 5,000/ in the world market; and if the price rises to ₹10,000, it generates a payment of ₹ 2,000/. While *ad valorem* tariff preserves the protective value of tariff on home producer, it gives incentives to deliberately undervalue the good's price on invoices and bills of lading to reduce the tax burden. Nevertheless, *ad valorem* tariffs are widely used across the world.

There are many other variations of the above tariffs, such as:

(a) **Mixed Tariffs**: Mixed tariffs are expressed either on the basis of the value of the imported goods (an ad valorem rate) or on the basis of a unit of measure of the imported goods (a specific duty) depending on which generates the most income (or least income at times) for the nation. For example, duty on cotton: 5 per cent *ad valorem* or ₹ 3000/per tonne, whichever is higher.

Compound Tariff or a Compound Duty is a combination of an ad valorem and a specific tariff. That is, the tariff is calculated on the basis of both the value of the imported goods (an ad valorem duty) and a unit of measure of the imported goods (a specific duty). It is generally calculated by adding up a specific duty to an ad valorem duty. Thus, on an import with quantity q and price p, a compound tariff collects a revenue equal to $t_s q + t_a pq$, where t_s is the specific tariff and t_a is the ad valorem tariff. For example: duty on cheese at 5 per cent *advalorem* plus 100 per kilogram.

(b) **Technical/Other Tariff**: These are calculated on the basis of the specific contents of the imported goods i.e. the duties are payable by its components or related items. For example: ₹ 3000/ on each solar panel plus ₹ 50/ per kg on the battery.

(c) **Tariff Rate Quotas**: Tariff rate quotas (TRQs) combine two policy instruments: quotas and tariffs. Imports entering under the specified quota portion are usually subject to a lower (sometimes zero) tariff rate. Imports above the quantitative threshold of the quota face a much higher tariff.

© The Institute of Chartered Accountants of India

(d) **Most-Favoured Nation Tariffs**: MFN tariffs refer to import tariffs which countries promise to impose on imports from other members of the WTO, unless the country is part of a preferential trade agreement (such as a free trade area or customs union). This means that, in practice, MFN rates are the highest (most restrictive) that WTO members charge each other. Some countries impose higher tariffs on countries that are not part of the WTO.

(e) **Variable Tariff**: A duty typically fixed to bring the price of an imported commodity up to level of the domestic support price for the commodity.

(f) **Preferential Tariff**: Nearly all countries are part of at least one preferential trade agreement, under which they promise to give another country's products lower tariffs than their MFN rate. These agreements are reciprocal. A lower tariff is charged from goods imported from a country which is given preferential treatment. Examples are preferential duties in the EU region under which a good coming from one EU country to another is charged zero tariff rate. Another example is North American Free Trade Agreement (NAFTA) among Canada, Mexico and the USA where the preferential tariff rate is zero on essentially all products. Countries, especially the affluent ones also grant 'unilateral preferential treatment' to select list of products from specified developing countries. The Generalized System of Preferences (GSP) is one such system which is currently prevailing.

(g) **Bound Tariff**: Under this, a WTO member binds itself with a legal commitment not to raise tariff rate above a certain level. By binding a tariff rate, often during negotiations, the members agree to limit their right to set tariff levels beyond a certain level. The bound rates are specific to individual products and represent the maximum level of import duty that can be levied on a product imported by that member. A member is always free to impose a tariff that is lower than the bound level. Once bound, a tariff rate becomes permanent and a member can only increase its level after negotiating with its trading partners and compensating them for possible losses of trade. A bound tariff ensures transparency and predictability.

(h) **Applied Tariffs**: An 'applied tariff' is the duty that is actually charged on imports on a Most-Favoured Nation (MFN) basis. A WTO member can have an applied tariff for a product that differs from the bound tariff for that product as long as the applied level is not higher than the bound level.

(i) **Escalated Tariff** structure refers to the system wherein the nominal tariff rates on imports of manufactured goods are higher than the nominal tariff rates on intermediate inputs and raw materials, i.e. the tariff on a product increases as that product moves through the value-added chain. For example, a four percent tariff on iron ore or iron ingots and twelve percent tariff on steel pipes. This type of tariff is

© The Institute of Chartered Accountants of India

discriminatory as it protects manufacturing industries in importing countries and dampens the attempts of developing manufacturing industries of exporting countries. This has special relevance to trade between developed countries and developing countries. Developing countries are thus forced to continue to be suppliers of raw materials without much value addition.

(j) **Prohibitive tariff**: A prohibitive tariff is one that is set so high that no imports can enter.

(k) **Import subsidies**: Import subsidies also exist in some countries. An import subsidy is simply a payment per unit or as a percent of value for the importation of a good (i.e., a negative import tariff).

(l) **Tariffs as Response to Trade Distortions**: Sometimes countries engage in 'unfair' foreign-trade practices which are trade distorting in nature and adverse to the interests of the domestic firms. The affected importing countries, upon confirmation of the distortion, respond quickly by measures in the form of tariff responses to offset the distortion. These policies are often referred to as "trigger-price" mechanisms. The following sections relate to such tariff responses to distortions related to foreign dumping and export subsidies.

(m) **Anti-dumping Duties**: An anti-dumping duty is a protectionist tariff that a domestic government imposes on foreign imports that it believes are priced below fair market value. Dumping occurs when manufacturers sell goods in a foreign country below the sales prices in their domestic market or below their full average cost of the product. Dumping may be persistent, seasonal, or cyclical. Dumping may also be resorted to as a predatory pricing practice to drive out established domestic producers from the market and to establish monopoly position. Dumping is an international price discrimination favouring buyer of exports, but in fact, the exporters deliberately forego money in order to harm the domestic producers of the importing country.

Dumping is unfair and constitutes a threat to domestic producers and therefore when dumping is found, anti-dumping measures may be initiated as a safeguard instrument by imposing additional import duties/tariffs so as to offset the foreign firm's unfair price advantage. This is justified only if the domestic industry is seriously injured by import competition, and protection is in the national interest (that is, the associated costs to consumers would be less than the benefits that would accrue to producers). For example: In January 2017, India imposed anti-dumping duties on colour-coated or pre-painted flat steel products imported into the country from China and European nations for a period not exceeding six months and for jute and jute products from Bangladesh and Nepal.

© The Institute of Chartered Accountants of India

(n) **Countervailing Duties**: Countervailing duties are tariffs that aim to offset the artificially low prices charged by exporters who enjoy export subsidies and tax concessions offered by the governments in their home country. If a foreign country does not have a comparative advantage in a particular good and a government subsidy allows the foreign firm to be an exporter of the product, then the subsidy generates a distortion from the free-trade allocation of resources. In such cases, CVD is charged in an importing country to negate the advantage that exporters get from subsidies to ensure fair and market-oriented pricing of imported products and thereby protecting domestic industries and firms. For example, in 2016, in order to protect its domestic industry, India imposed 12.5% countervailing duty on Gold jewellery imports from ASEAN.

2.2.2 Effects of Tariffs

A tariff levied on an imported product affects both the exporting country and the importing country.

(i) Tariff barriers create obstacles to trade, decrease the volume of imports and exports and therefore of international trade. The prospect of market access of the exporting country is worsened when an importing country imposes a tariff.

(ii) By making imported goods more expensive, tariffs discourage domestic consumers from consuming imported foreign goods. Domestic consumers suffer a loss in consumer surplus because they must now pay a higher price for the good and also because compared to free trade quantity, they now consume lesser quantity of the good.

(iii) Tariffs encourage consumption and production of the domestically produced import substitutes and thus protect domestic industries.

(iv) Producers in the importing country experience an increase in well-being as a result of imposition of tariff. The price increase of their product in the domestic market increases producer surplus in the industry. They can also charge higher prices than would be possible in the case of free trade because foreign competition has reduced.

(v) The price increase also induces an increase in the output of the existing firms and possibly addition of new firms due to entry into the industry to take advantage of the new high profits and consequently an increase in employment in the industry.

(vi) Tariffs create trade distortions by disregarding comparative advantage and prevent countries from enjoying gains from trade arising from comparative advantage. Thus, tariffs discourage efficient production in the rest of the world and encourage inefficient production in the home country.

© The Institute of Chartered Accountants of India

(vii) Tariffs increase government revenues of the importing country by the value of the total tariff it charges.

Trade liberalization in recent decades, either through government policy measures or through negotiated reduction through the WTO or regional and bilateral free trade agreements, has diminished the importance of tariff as a tool of protection. Currently, trade policy is focusing increasingly on not so easily observable forms of trade barriers usually called non-tariff measures (NTMs). NTMs are thought to have important restrictive and distortionary effects on international trade. They have become so invasive that the benefits due to tariff reduction are practically offset by them.

2.3 NON–TARIFF MEASURES (NTMS)

From the discussion above, we have learnt that tariffs constitute the visible barriers to trade and have the effect of increasing the prices of imported merchandise. By contrast, the non-tariff measures which have come into greater prominence than the conventional tariff barriers, constitute the hidden or 'invisible' measures that interfere with free trade.

Non-tariff measures (NTMs) are policy measures, other than ordinary customs tariffs, that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both (UNCTAD, 2010). Non-tariff measures comprise all types of measures which alter the conditions of international trade, including policies and regulations that restrict trade and those that facilitate it. NTMs consist of mandatory requirements, rules, or regulations that are legally set by the government of the exporting, importing, or transit country.

It should be kept in mind that NTMs are not the same as non-tariff barriers (NTBs). NTMs are sometimes used as means to circumvent free-trade rules and favour domestic industries at the expense of foreign competition. In this case they are called non-tariff barriers (NTBs). In other words, non-tariff barriers are discriminatory non-tariff measures imposed by governments to favour domestic over foreign suppliers. NTBs are thus a subset of NTMs that have a 'protectionist or discriminatory intent'. Compared to NTBs, non-tariff measures encompass a broader set of measures.

According to WTO agreements, the use of NTMs is allowed under certain circumstances. Examples of this include the Technical Barriers to Trade (TBT) Agreement and the Sanitary and Phytosanitary Measures (SPS) Agreement, both negotiated during the Uruguay Round. However, NTMs are sometimes used as a means to circumvent free-trade rules and favour domestic industries at the expense of foreign competition. In this case they are called non-tariff barriers (NTBs). It is very difficult, and sometimes impossible, to distinguish legitimate

© The Institute of Chartered Accountants of India

NTMs from protectionist NTMs, especially because the same measure may be used for several reasons.

Depending on their scope and/or design NTMs are categorized as:

I. Technical Measures: Technical measures refer to product-specific properties such as characteristics of the product, technical specifications and production processes. These measures are intended for ensuring product quality, food safety, environmental protection, national security and protection of animal and plant health.

II. Non-technical Measures: Non-technical measures relate to trade requirements; for example; shipping requirements, custom formalities, trade rules, taxation policies, etc.

These are further distinguished as:

(a) Hard measures (e.g. Price and quantity control measures),

(b) Threat measures (e.g. Anti-dumping and safeguards) and

(c) Other measures such as trade-related finance and investment measures.

Furthermore, the categorization also distinguishes between:

(i) Import-related measures which relate to measures imposed by the importing country, and

(ii) Export-related measures which relate to measures imposed by the exporting country itself.

(iii) In addition, to these, there are procedural obstacles (PO) which are practical problems in administration, transportation, delays in testing, certification etc which may make it difficult for businesses to adhere to a given regulation.

2.3.1 Technical Measures

I Sanitary and Phytosanitary (SPS) Measures: SPS measures are applied to protect human, animal or plant life from risks arising from additives, pests, contaminants, toxins or disease-causing organisms and to protect biodiversity.

These include ban or prohibition of import of certain goods, all measures governing quality and hygienic requirements, production processes, and associated compliance assessments. For example; prohibition of import of poultry from countries affected by avian flu, meat and poultry processing standards to reduce pathogens, residue limits for pesticides in foods etc.

II Technical Barriers To Trade (TBT): Technical Barriers to Trade (TBT) which cover both food and non-food traded products refer to mandatory 'Standards and Technical Regulations' that define the specific characteristics that a product should have, such as its size, shape,

© The Institute of Chartered Accountants of India

design, labelling / marking / packaging, functionality or performance and production methods, excluding measures covered by the SPS Agreement. The specific procedures used to check whether a product is really conforming to these requirements (conformity assessment procedures e.g. testing, inspection and certification) are also covered in TBT. This involves compulsory quality, quantity and price control of goods before shipment from the exporting country.

Just as SPS, TBT measures are standards-based measures that countries use to protect their consumers and preserve natural resources, but these can also be used effectively as obstacles to imports or to discriminate against imports and protect domestic products. Altering products and production processes to comply with the diverse requirements in export markets may be either impossible for the exporting country or would obviously raise costs, hurting the competitiveness of the exporting country. Some examples of TBT are: food laws, quality standards, industrial standards, organic certification, eco-labelling, and marketing and label requirements.

2.3.2 Non-technical Measures

These include different types of trade protective measures which are put into operation to neutralize the possible adverse effects of imports in the market of the importing country. Following are the most commonly practiced measures in respect of imports:

(i) Import Quotas: An import quota is a direct restriction which specifies that only a certain physical amount of the good will be allowed into the country during a given time period, usually one year. Import quotas are typically set below the free trade level of imports and are usually enforced by issuing licenses. This is referred to as a binding quota; a non-binding quota is a quota that is set at or above the free trade level of imports, thus having little effect on trade.

Import quotas are mainly of two types: absolute quotas and tariff-rate quotas. Absolute quotas or quotas of a permanent nature limit the quantity of imports to a specified level during a specified period of time and the imports can take place any time of the year. No condition is attached to the country of origin of the product. For example: 1000 tonnes of fish import which can take place any time during the year from any country. When country allocation is specified, a fixed volume or value of the product must originate in one or more countries. Example: A quota of 1000 tonnes of fish that can be imported any time during the year, but where 750 tonnes must originate in country A and 250 tonnes in country B. In addition, there are seasonal quotas and temporary quotas.

With a quota, the government, of course, receives no revenue. The profits received by the holders of such import licenses are known as 'quota rents'. While tariffs directly interfere with prices that can be charged for an imported good in the domestic market, import quota interferes with the market prices indirectly. Obviously, an import quota always raises the

© The Institute of Chartered Accountants of India

domestic price of the imported good. The license holders are able to buy imports and resell them at a higher price in the domestic market and they will be able to earn a 'rent' on their operations over and above the profit they would have made in a free market.

The welfare effects of quotas are similar to that of tariffs. If a quota is set below free trade level, the amount of imports will be reduced. A reduction in imports will lower the supply of the good in the domestic market and raise the domestic price. Consumers of the product in the importing country will be worse-off because the increase in the domestic price of both imported goods and the domestic substitutes reduces consumer surplus in the market. Producers in the importing country are better-off as a result of the quota. The increase in the price of their product increases producer surplus in the industry. The price increase also induces an increase in output of existing firms (and perhaps the addition of new firms), an increase in employment, and hence an increase in profit.

(ii) Price Control Measures: Price control measures (including additional taxes and charges) are steps taken to control or influence the prices of imported goods in order to support the domestic price of certain products when the import prices of these goods are lower. These are also known as 'para-tariff' measures and include measures, other than tariff measures, that increase the cost of imports in a similar manner, i.e. by a fixed percentage or by a fixed amount. Example: A minimum import price established for sulphur.

(iii) Non-automatic Licensing and Prohibitions: These measures are normally aimed at limiting the quantity of goods that can be imported, regardless of whether they originate from different sources or from one particular supplier. These measures may take the form of non-automatic licensing, or complete prohibitions. For example, textiles may be allowed only on a discretionary license by the importing country. India prohibits import/export of arms and related material from/to Iraq. Further, India also prohibits many items (mostly of animal origin) falling under 60 EXIM codes.

(iv) Financial Measures: The objective of financial measures is to increase import costs by regulating the access to and cost of foreign exchange for imports and to define the terms of payment. It includes measures such as advance payment requirements and foreign exchange controls denying the use of foreign exchange for certain types of imports or for goods imported from certain countries. For example, an importer may be required to pay a certain percentage of the value of goods imported three months before the arrival of goods or foreign exchange may not be permitted for import of newsprint.

(v) Measures Affecting Competition: These measures are aimed at granting exclusive or special preferences or privileges to one or a few limited group of economic operators. It may include government imposed special import channels or enterprises, and compulsory use of national services. For example, a statutory marketing board may be granted exclusive rights to import wheat: or a canalizing agency (like State Trading Corporation) may be given

© The Institute of Chartered Accountants of India

monopoly right to distribute palm oil. When a state agency or a monopoly import agency sells in the domestic market at prices above those existing in the world market, the effect will be similar to an import tariff.

(vi) Government Procurement Policies: Government procurement policies may interfere with trade if they involve mandates that the whole of a specified percentage of government purchases should be from domestic firms rather than foreign firms, despite higher prices than similar foreign suppliers. In accepting public tenders, a government may give preference to the local tenders rather than foreign tenders.

(vii) Trade-Related Investment Measures: These measures include rules on local content requirements that mandate a specified fraction of a final good should be produced domestically.

(a) requirement to use certain minimum levels of locally made components, (25 percent of components of automobiles to be sourced domestically)

(b) restricting the level of imported components, and

(c) limiting the purchase or use of imported products to an amount related to the quantity or value of local products that it exports. (A firm may import only up to 75 % of its export earnings of the previous year)

(viii) Distribution Restrictions: Distribution restrictions are limitations imposed on the distribution of goods in the importing country involving additional license or certification requirements. These may relate to geographical restrictions or restrictions as to the type of agents who may resell. For example: a restriction that imported fruits may be sold only through outlets having refrigeration facilities.

(ix) Restriction on Post-sales Services: Producers may be restricted from providing after-sales services for exported goods in the importing country. Such services may be reserved to local service companies of the importing country.

(x) Administrative Procedures: Another potential obstruction to free trade is the costly and time-consuming administrative procedures which are mandatory for import of foreign goods. These will increase transaction costs and discourage imports. The domestic import-competing industries gain by such non- tariff measures. Examples include specifying particular procedures and formalities, requiring licenses, administrative delay, red-tape and corruption in customs clearing frustrating the potential importers, procedural obstacles linked to prove compliance etc.

(xi) Rules of origin: Country of origin means the country in which a good was produced, or in the case of a traded service, the home country of the service provider. Rules of origin are the criteria needed by governments of importing countries to determine the national source of a product. Their importance is derived from the fact that duties and restrictions in several cases

© The Institute of Chartered Accountants of India

depend upon the source of imports. Important procedural obstacles occur in the home countries for making available certifications regarding origin of goods, especially when different components of the product originate in different countries.

(xii) Safeguard Measures: These are initiated by countries to restrict imports of a product temporarily if its domestic industry is injured or threatened with serious injury caused by a surge in imports. Restrictions must be for a limited time and non-discriminatory.

(xiii) Embargos: An embargo is a total ban imposed by government on import or export of some or all commodities to particular country or regions for a specified or indefinite period. This may be done due to political reasons or for other reasons such as health, religious sentiments. This is the most extreme form of trade barrier.

2.4. EXPORT-RELATED MEASURES

(i) Ban on exports: Export-related measures refer to all measures applied by the government of the exporting country including both technical and non-technical measures. For example, during periods of shortages, export of agricultural products such as onion, wheat etc. may be prohibited to make them available for domestic consumption. Export restrictions have an important effect on international markets. By reducing international supply, export restrictions have been effective in increasing international prices.

(ii) Export Taxes: An export tax is a tax collected on exported goods and may be either specific or ad valorem. The effect of an export tax is to raise the price of the good and to decrease exports. Since an export tax reduces exports and increases domestic supply, it also reduces domestic prices and leads to higher domestic consumption.

(iii) Export Subsidies and Incentives: We have seen that tariffs on imports hurt exports and therefore countries have developed compensatory measures of different types for exporters like export subsidies, duty drawback, duty-free access to imported intermediates etc. Governments or government bodies also usually provide financial contribution to domestic producers in the form of grants, loans, equity infusions etc. or give some form of income or price support. If such policies on the part of governments are directed at encouraging domestic industries to sell specified products or services abroad, they can be considered as trade policy tools.

(iv) Voluntary Export Restraints: Voluntary Export Restraints (VERs) refer to a type of informal quota administered by an exporting country voluntarily restraining the quantity of goods that can be exported out of that country during a specified period of time. Such restraints originate primarily from political considerations and are imposed based on negotiations of the importer with the exporter. The inducement for the exporter to agree to a VER is mostly to appease the importing country and to avoid the effects of possible

© The Institute of Chartered Accountants of India

retaliatory trade restraints that may be imposed by the importer. VERs may arise when the import-competing industries seek protection from a surge of imports from particular exporting countries. VERs cause, as do tariffs and quotas, domestic prices to rise and cause loss of domestic consumer surplus.

Over the past few decades, significant transformations are happening in terms of growth as well as trends of flows and patterns of global trade. The increasing importance of developing countries has been a salient feature of the shifting global trade patterns. Fundamental changes are taking place in the way countries associate themselves for international trade and investments. Trading through regional arrangements which foster closer trade and economic relations is shaping the global trade landscape in an unprecedented way. Alongside, the trading countries also have devised ingenious policies aimed at protecting their economic interests. The discussions in this unit are in no way comprehensive considering the faster pace of discovery of such protective strategies. Students are expected to get themselves updated on such ongoing changes.

SUMMARY

- Trade policy encompasses all instruments that governments may use to promote or restrict imports and exports.
- Trade policies are broadly classified into price-related measures such as tariffs and non-price measures or non-tariff measures (NTMs).
- Tariff, also known as customs duty is defined as a financial charge in the form of a tax, imposed at the border on goods going from one customs territory to another. Tariffs are the most visible and universally used trade measures.
- A specific tariff is an import duty that assigns a fixed monetary tax per physical unit of the good imported whereas an ad valorem tariff is levied as a constant percentage of the monetary value of one unit of the imported good.
- Mixed tariffs are expressed either on the basis of the value of the imported goods (an ad valorem rate) or on the basis of a unit of measure of the imported goods (a specific duty), depending on desired yields.
- Compound Tariff or a compound duty is a combination of an ad valorem and a specific tariff and is calculated on the basis of both the value of the imported goods (an ad valorem duty) and a unit of measure of the imported goods.
- Tariff rate quotas (TRQs) combine two policy instruments namely quotas and tariffs.

© The Institute of Chartered Accountants of India

- MFN tariffs are what countries promise to impose on imports from all members of the WTO, unless the country is part of a preferential trade agreement (such as a free trade area or customs union).
- Preferential tariff occurs when a country imposes tariffs lower than its MFN rate on another country's products.
- The bound tariff rate is specific to individual products and represents the maximum level of import duty that can be levied on a product imported by that member.
- An 'applied tariff' is the duty that is actually charged on imports on the most-favoured nation (MFN) basis.
- Escalated tariff structure refers to the system wherein the nominal tariff rates on imports of manufactured goods are higher than the nominal tariff rates on intermediate inputs and raw materials, i.e.the tariff on a product increases as that product moves through the value-added chain.
- A prohibitive tariff is one that is set so high that no imports will enter.
- Trigger-price mechanisms are quick responses of affected importing countries upon confirmation of trade distortion to offset the distortion. E.g. Anti-dumping duties.
- Dumping occurs when manufacturers sell goods in a foreign country below the sales prices in their domestic market or below their full average cost of the product. It hurts domestic producers.
- Anti-dumping measures are additional import duties so as to offset the foreign firm's unfair price advantage.
- Countervailing duties are tariffs to offset the artificially low prices charged by exporters who enjoy export subsidies and tax concessions offered by the governments in their home country.
- Tariff barriers create obstacles to trade, reduce the prospect of market access, make imported goods more expensive, increase consumption of domestic goods, protect domestic industries and increase government revenues
- Non-tariff measures (NTMs) are policy measures, other than ordinary customs tariffs, that can potentially have an economic effect on international trade in goods, changing quantities traded or prices or both
- Technical Barriers to Trade (TBT) are 'Standards and Technical Regulations' that define the specific characteristics that a product should have, such as its size, shape, design, labelling / marking / packaging, functionality or performance and production methods, excluding measures covered by the SPS Agreement.

© The Institute of Chartered Accountants of India

- Non-technical measures relate to trade requirements; for example; shipping requirements, custom formalities, trade rules, taxation policies, etc.
- SPS measures are applied to protect human, animal or plant life from risks arising from additives, pests, contaminants, toxins or disease-causing organisms and to protect biodiversity
- An import quota is a direct restriction which specifies that only a certain physical amount of the good will be allowed into the country during a given time period, usually one year.
- The objective of financial measures is to increase import costs by regulating the access to and cost of foreign exchange for imports and to define the terms of payment.
- Government procurement policies may interfere with trade if they involve mandates that the whole of a specified percentage of purchases should be from domestic firms rather than from foreign firms
- In the case of investments, local content requirements that mandate that a specified fraction of a final good be produced domestically may act as a trade barrier.
- Rules of origin are the criteria needed by governments of importing countries to determine the national source of a product.
- Safeguard measures are initiated by countries to temporarily restrict imports of a product its domestic industry is injured by the surge in imports while an embargo is a total ban imposed by government on import or export of some or all commodities to particular country or region for a specified or indefinite period.
- An export tax is a tax collected on exported goods and may be either specific or ad valorem. An export subsidy includes financial contribution to domestic producers in the form of grants, loans, equity infusions or some form of income or price support. Both distort trade.
- Voluntary Export Restraints (VERs) refer to a type of informal quota administered by an exporting country voluntarily restraining the quantity of goods that can be exported out of that country during a specified period of time. It is imposed based on negotiations to appease the importing country and to avoid the effects of possible trade restraints.

© The Institute of Chartered Accountants of India

TEST YOUR KNOWLEDGE

Multiple Choice Type Questions

1. *A specific tariff is*
   - (a) *a tax on a set of specified imported good*
   - (b) *an import tax that is common to all goods imported during a given period*
   - (c) *a specified fraction of the economic value of an imported good*
   - (d) *a tax on imports defined as an amount of currency per unit of the good*
2. *A tariff on imports is beneficial to domestic producers of the imported good because*
   - (a) *they get a part of the tariff revenue*
   - (b) *it raises the price for which they can sell their product in the domestic market*
   - (c) *it determines the quantity that can be imported to the country*
   - (d) *it reduces their producer surplus, making them more efficient*
3. *A tax applied as a percentage of the value of an imported good is known as*
   - (a) *preferential tariff*
   - (b) *ad valorem tariff*
   - (c) *specific tariff*
   - (d) *mixed or compound tariff*
4. *Escalated tariff refers to*
   - (a) *nominal tariff rates on raw materials which are greater than tariffs on manufactured products*
   - (b) *nominal tariff rates on manufactured products which are greater than tariffs on raw materials*
   - (c) *a tariff which is escalated to prohibit imports of a particular good to protect domestic industries*
   - (d) *none of the above*
5. *Voluntary export restraints involve:*
   - (a) *an importing country voluntarily restraining the quantity of goods that can be exported into the country during a specified period of time*

© The Institute of Chartered Accountants of India

(b) *domestic firms agreeing to limit the quantity foreign products sold in their domestic markets*

(c) *an exporting country voluntarily restraining the quantity of goods that can be exported out of a country during a specified period of time*

(d) *quantitative restrictions imposed by the importing country's government.*

6. *Anti-dumping duties are*

(a) *additional import duties so as to offset the effects of exporting firm's unfair charging of prices in the foreign market which are lower than production costs.*

(b) *additional import duties so as to offset the effects of exporting firm's increased competitiveness due to subsidies by government*

(c) *additional import duties so as to offset the effects of exporting firm's unfair charging of lower prices in the foreign market*

(d) *Both (a) and (c) above*

7. *A countervailing duty is*

(a) *a tariff that aim to offset artificially low prices charged by exporters who enjoy export subsidies and tax concessions in their home country*

(b) *charged by importing countries to ensure fair and market-oriented pricing of imported products*

(c) *charged by importing countries to protect domestic industries and firms from unfair price advantage arising from subsidies*

(d) *All the above*

8. *Which of the following is an outcome of tariff?*

(a) *create obstacles to trade and increase the volume of imports and exports*

(b) *domestic consumers enjoy consumer surplus because consumers must now pay only a lower price for the good*

(c) *discourage domestic consumers from consuming imported foreign goods and encourage consumption of domestically produced import substitutes*

(d) *increase government revenues of the importing country by more than value of the total tariff it charges*

9. *SPS measures and TBTs are*

(a) *permissible under WTO to protect the interests of countries*

© The Institute of Chartered Accountants of India

(b) *may result in loss of competitive advantage of developing countries*

(c) *increases the costs of compliance to the exporting countries*

(d) *All the above*

10. *Which of the following is not a non-tariff barrier.*

(a) *Complex documentation requirements*

(b) *Import quotas on specific goods*

(c) *Countervailing duties charged by importing country*

(d) *Pre shipment product inspection and certification requirements*

11. *Under tariff rate quota*

(a) *countries promise to impose tariffs on imports from members other than those who are part of a preferential trade agreement*

(b) *a country permits an import of limited quantities at low rates of duty but subjects an excess amount to a much higher rate*

(c) *lower tariff is charged from goods imported from a country which is given preferential treatment*

(d) *none of the above*

12. *Non -tariff barriers (NTBs) include all of the following except:*

(a) *import quotas*

(b) *tariffs*

(c) *export subsidies*

(d) *technical standards of products*

ANSWERS

1.	**(d)**	2.	**(b)**	3.	**(b)**	4.	**(b)**	5.	**(c)**	6	**(d)**
7.	**(d)**	8.	**(c)**	9.	**(d)**	10.	**(c)**	11.	**(b)**	12.	**(b)**

© The Institute of Chartered Accountants of India

UNIT - 3: TRADE NEGOTIATIONS

LEARNING OUTCOMES

At the end of this Unit, you will be able to:

- Distinguish between different types of regional trade agreements
- Outline the course of the history of trade negotiations
- Describe the structure and guiding principles of the WTO
- Give an overview of the WTO agreements
- List out the major concerns in respect of functioning of the WTO

UNIT OVERVIEW

3.1 INTRODUCTION

The recent years have seen intense bilateral and multilateral negotiations among different nations in the international arena. India, for example, has already become part of 19 such concluded agreements and is currently negotiating more than two dozens of such proposals. Major events in the year 2020, such as Britain's exit from the European Union, the new free

© The Institute of Chartered Accountants of India

trade agreement [which is a successor of the North American Free Trade Agreement (NAFTA)] concluded between Canada, Mexico, and United States, namely United States–Mexico–Canada Agreement (USMCA) and many other unpredictable developments in the trade front due to trade war between the US and China and the global pandemic, make trade negotiations a highly relevant area of study.

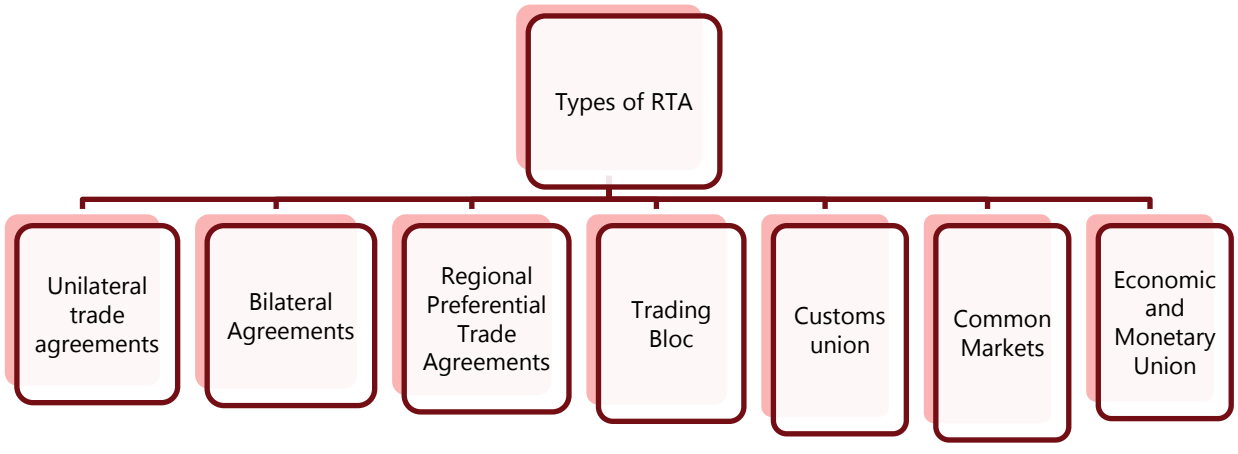
National governments are not the sole stakeholders in a trade negotiation. Many interest groups, lobbying groups, pressure groups and Non-Governmental Organizations (NGO) exert their influence on the process. As anyone can guess, the positions taken by each of the negotiating parties would represent their underlying agenda of interests. For example, in trade negotiations, when one of the parties seems to be bargaining for market access through reduction in tariffs, the other (s) may be clamouring on the issue of possible grant of protection to domestic industries.

Before we go into the discussion on multilateral trade negotiations and the related institutions, it is relevant to understand the nature of regional as well as free trade agreements which evolve through negotiations.

3.2 TAXONOMY OF REGIONAL TRADE AGREEMENTS (RTAS)

Regional Trade Agreements (RTAs) are defined as groupings of countries (not necessarily belonging to the same geographical region), which are formed with the objective of reducing barriers to trade between member countries. In other words, a regional trade agreement (RTA) is a treaty between two or more governments that define the rules of trade for all signatories. As of 1 February 2021, 339 RTAs were in force.

Trade negotiations result in different types of agreements which are shown in the chart below-



© The Institute of Chartered Accountants of India

1. **Unilateral trade agreements** under which an importing country offers trade incentives in order to encourage the exporting country, to engage in international economic activities that will improve the exporting country's economy. E.g. Generalized System of Preferences.

2. **Bilateral Agreements** are agreements that set rules of trade between two countries, two blocs or a bloc and a country. These may be limited to certain goods and services or certain types of market entry barriers. E.g. EU-South Africa Free Trade Agreement; ASEAN–India Free Trade Area.

3. **Regional Preferential Trade Agreements** among a group of countries reduce trade barriers on a reciprocal and preferential basis for only the members of the group. E.g. Global System of Trade Preferences among Developing Countries (GSTP)

4. **Trading Bloc** has a group of countries that have a free trade agreement between themselves and may apply a common external tariff to other countries. Example: Arab League (AL), European Free Trade Association (EFTA)

5. **Free-trade area** is a group of countries that eliminate all tariff and quota barriers on trade with the objective of increasing exchange of goods with each other. The trade among the member states flows tariff free, but the member states maintain their own distinct external tariff with respect to imports from the rest of the world. In other words, the members retain independence in determining their tariffs with non-members. Example: The ASEAN–India Free Trade Area (AIFTA) is a free trade area among the ten member states of the Association of Southeast Asian Nations (ASEAN) and India. it came into force on 1 August 2005

6. **A customs union** is a group of countries that eliminate all tariffs on trade among themselves but maintain a common external tariff on trade with countries outside the union (thus, technically violating MFN). The common external tariff which distinguishes a customs union from a free trade area implies that, generally, the same tariff is charged wherever a member imports goods from outside the customs union. The EU is a Customs Union; its 27 member countries form a single territory for customs purposes. Other examples are Gulf Cooperation Council (GCC), Southern Common Market (MERCOSUR).

7. **Common Market**: A Common Market deepens a customs union by providing for the free flow of output and of factors of production (labour, capital and other productive resources) by reducing or eliminating internal tariffs on goods and by creating a common set of external tariffs. The member countries attempt to harmonize some institutional arrangements and commercial and financial laws and regulations among themselves. There are also common barriers against non-members (e.g., EU, ASEAN)

© The Institute of Chartered Accountants of India

8. **Economic and Monetary Union**: For a common market, the free transit of goods and services through the borders increases the need for foreign exchange operations and results in higher financial and administrative expenses of firms operating within the region. The next stage in the integration sequence is formation of some form of monetary union. In an Economic and Monetary Union, the members share a common currency. Adoption of common currency also makes it necessary to have a strong convergence in macroeconomic policies. For example, the European Union countries implement and adopt a single currency.

There has been significant growth in international trade since the end of the Second World War, mostly due to the multilateral trade system which is both a political process and a set of political institutions. It is a political process because it is based on negotiations and bargaining among sovereign governments based on which they arrive at rules governing trade between or among themselves. The political institutions that facilitate trade negotiations, and support international trade cooperation by providing the rules of the game have been the former General Agreements on Tariffs and Trade (GATT) and the World Trade Organization (WTO).

3.3 THE GENERAL AGREEMENT ON TARIFFS AND TRADE (GATT)

The General Agreement on Tariffs and Trade (GATT) covers international trade in goods. The workings of the GATT agreement are the responsibility of the Council for Trade in Goods (Goods Council) which is made up of representatives from all WTO member countries. The Goods Council has 10 committees dealing with specific subjects (such as agriculture, market access, subsidies, anti-dumping measures, and so on). Again, these committees consist of all member countries.

Also reporting to the Goods Council are a working party on state trading enterprises, and the Information Technology Agreement (ITA) Committee.

The GATT lost its relevance by the 1980s because

- it was obsolete to the fast-evolving contemporary complex world trade scenario characterized by emerging globalisation
- international investments had expanded substantially
- intellectual property rights and trade in services were not covered by GATT
- world merchandise trade increased by leaps and bounds and was beyond its scope.
- the ambiguities in the multilateral system could be heavily exploited
- efforts at liberalizing agricultural trade were not successful

© The Institute of Chartered Accountants of India

- there were inadequacies in institutional structure and dispute settlement system
- it was not a treaty and therefore terms of GATT were binding only insofar as they are not incoherent with a nation's domestic rules.

3.4 THE URUGUAY ROUND AND THE ESTABLISHMENT OF WTO

The need for a formal international organization which is more powerful and comprehensive was felt by many countries by late 1980s.Having settled the most ambitious negotiating agenda that covered virtually every outstanding trade policy issue, the Uruguay Round brought about the biggest reform of the world's trading system. Members established 15 groups to work on limiting restrictions in the areas of tariffs, non-tariff barriers, tropical products, natural resource products, textiles and clothing, agriculture, safeguards against sudden 'surges' in imports, subsidies, countervailing duties, trade related intellectual property restrictions, trade related investment restrictions, services and four other areas dealing with GATT itself, such as, the GATT system, dispute settlement procedures and implementation of the NTB Codes of the Tokyo Round, especially on anti-dumping.

The Round started in Punta del Este in Uruguay in September 1986 and was scheduled to be completed by December 1990. However, due to many differences and especially due to heated controversies over agriculture, no consensus was arrived at. Finally, in December 1993, the Uruguay Round, the eighth and the most ambitious and largest ever round of multilateral trade negotiations in which 123 countries participated, was completed after seven years of elaborate negotiations. The agreement was signed by most countries on April 15, 1994, and took effect on July 1, 1995. It also marked the birth of the World Trade Organization (WTO) which is the single institutional framework encompassing the GATT, as modified by the Uruguay Round.

3.5 THE WORLD TRADE ORGANIZATION (WTO)

The World Trade Organization (WTO) is the only global international organization dealing with the rules of trade between nations. At its heart are the WTO agreements, negotiated and signed by the bulk of the world's trading nations and ratified in their parliaments. The goal is to ensure that trade flows as smoothly, predictably, and freely as possible. The principal objective of the WTO is to facilitate the flow of international trade smoothly, freely, fairly, and predictably.

© The Institute of Chartered Accountants of India

The WTO has six key objectives:

1. to set and enforce rules for international trade,
2. to provide a forum for negotiating and monitoring further trade liberalization,
3. to resolve trade disputes,
4. to increase the transparency of decision-making processes,
5. to cooperate with other major international economic institutions involved in global economic management, and
6. to help developing countries benefit fully from the global trading system.

The objectives of the WTO Agreements as acknowledged in the preamble of the Agreement creating the World Trade Organization, include "raising standards of living, ensuring full employment and a large and steadily growing volume of real income and effective demand, and expanding the production of and trade in goods and services. The WTO, whose primary purpose is to open trade for the benefit of all, does its functions by acting as a forum for trade negotiations among member governments, administering trade agreements, reviewing national trade policies, assisting developing countries in trade policy issues, through technical assistance and training programmes and cooperating with other international organizations

3.5.1 The Structure of the WTO

The WTO activities are supported by a Secretariat located in Geneva, headed by a Director General. It has a three-tier system of decision making. The WTO's top-level decision-making body is the Ministerial Conference which can take decisions on all matters under any of the multilateral trade agreements. The Ministerial Conference meets at least once every two years. The next level is the General Council which meets several times a year at the Geneva headquarters. The General Council also meets as the Trade Policy Review Body and the Dispute Settlement Body. At the next level, the Goods Council, Services Council and Intellectual Property (TRIPS) Council report to the General Council. These councils are responsible for overseeing the implementation of the WTO agreements in their respective areas of specialisation. The WTO Secretariat maintains working relations with almost 200 international organisations in activities ranging from statistics, research, standard-setting, and technical assistance and training. Numerous specialized committees, working groups and working parties deal with the individual agreements and other areas such as the environment, development, membership applications and regional trade agreements.

The WTO accounting for about 95% of world trade currently has 164 members, of which 117 are developing countries or separate customs territories. Around 24 others are negotiating membership. The WTO's agreements have been ratified in all members' parliaments.

© The Institute of Chartered Accountants of India

3.5.2 The Guiding Principles of World Trade Organization (WTO)

Right from its inception, the WTO has been driven by a number of fundamental principles which are the foundations of the multilateral trading system. Following are the major guiding principles:

Trade without discrimination

1. **Most-favoured-nation (MFN):** treating other people equally Under the WTO agreements, countries cannot normally discriminate between their trading partners. Grant someone a special favour (such as a lower customs duty rate for one of their products) and you have to do the same for all other WTO members.

This principle is known as most-favoured-nation (MFN) treatment (see box). It is so important that it is the first article of the General Agreement on Tariffs and Trade (GATT), which governs trade in goods. MFN is also a priority in the General Agreement on Trade in Services (GATS) (Article 2) and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) (Article 4), although in each agreement the principle is handled slightly differently. Together, those three agreements cover all three main areas of trade handled by the WTO.

Some exceptions are allowed. For example, countries can set up a free trade agreement that applies only to goods traded within the group — discriminating against goods from outside. Or they can give developing countries special access to their markets. Or a country can raise barriers against products that are considered to be traded unfairly from specific countries. And in services, countries are allowed, in limited circumstances, to discriminate. But the agreements only permit these exceptions under strict conditions. In general, MFN means that every time a country lowers a trade barrier or opens up a market, it has to do so for the same goods or services from all its trading partners — whether rich or poor, weak or strong.

2. **National treatment:** Treating foreigners and locals equally Imported and locally-produced goods should be treated equally — at least after the foreign goods have entered the market. The same should apply to foreign and domestic services, and to foreign and local trademarks, copyrights and patents. This principle of "national treatment" (giving others the same treatment as one's own nationals) is also found in all the three main WTO agreements (Article 3 of GATT, Article 17 of GATS and Article 3 of TRIPS), although once again the principle is handled slightly differently in each of these.

National treatment only applies once a product, service or item of intellectual property has entered the market. Therefore, charging customs duty on an import is not a violation of national treatment even if locally-produced products are not charged an equivalent tax. 3.5.3 Overview of the WTO agreements

© The Institute of Chartered Accountants of India

Freer trade: gradually, through negotiation

Lowering trade barriers is one of the most obvious means of encouraging trade. The barriers concerned include customs duties (or tariffs) and measures such as import bans or quotas that restrict quantities selectively. From time to time other issues such as red tape and exchange rate policies have also been discussed.

The WTO agreements allow countries to introduce changes gradually, through "progressive liberalization". Developing countries are usually given longer to fulfil their obligations.

Predictability: through binding and transparency

Sometimes, promising not to raise a trade barrier can be as important as lowering one, because the promise gives businesses a clearer view of their future opportunities. With stability and predictability, investment is encouraged, jobs are created and consumers can fully enjoy the benefits of competition — choice and lower prices.

In the WTO, when countries agree to open their markets for goods or services, they "bind" their commitments. For goods, these bindings amount to ceilings on customs tariff rates. Sometimes countries tax imports at rates that are lower than the bound rates. Frequently this is the case in developing countries. In developed countries, the rates actually charged and the bound rates tend to be the same.

A country can change its bindings, but only after negotiating with its trading partners, which could mean compensating them for loss of trade. One of the achievements of the Uruguay Round of multilateral trade talks was to increase the amount of trade under binding commitments. In agriculture, 100% of products now have bound tariffs. The result of all this: is a substantially higher degree of market security for traders and investors.

The system tries to improve predictability and stability in other ways as well. One way is to discourage the use of quotas and other measures used to set limits on quantities of imports — administering quotas can lead to more red-tape and accusations of unfair play. Another is to make countries' trade rules as clear and public ("transparent") as possible. Many WTO agreements require governments to disclose their policies and practices publicly within the country or by notifying the WTO. The regular surveillance of national trade policies through the Trade Policy Review Mechanism provides a further means of encouraging transparency both domestically and at the multilateral level.

Promoting fair competition

The WTO is sometimes described as a "free trade" institution, but that is not entirely accurate. The system does allow tariffs and, in limited circumstances, other forms of protection. More accurately, it is a system of rules dedicated to open, fair, and undistorted competition.

© The Institute of Chartered Accountants of India

The rules on non-discrimination — MFN and national treatment — are designed to secure fair conditions of trade. So too are those on dumping (exporting at below cost to gain market share) and subsidies. The issues are complex, and the rules try to establish what is fair or unfair, and how governments can respond, in particular by charging additional import duties calculated to compensate for damage caused by unfair trade.

Many of the other WTO agreements aim to support fair competition: in agriculture, intellectual property, services, for example. The agreement on government procurement (a "plurilateral" agreement because it is signed by only a few WTO members) extends competition rules to purchases by thousands of government entities in many countries. And so on.

Encouraging development and economic reform

The WTO system contributes to development. On the other hand, developing countries need flexibility in the time they take to implement the system's agreements. And the agreements themselves inherit the earlier provisions of GATT that allow for special assistance and trade concessions for developing countries.

Over three-quarters of WTO members are developing countries and countries in transition to market economies. During the seven and a half years of the Uruguay Round, over 60 of these countries implemented trade liberalization programmes autonomously. At the same time, developing countries and transition economies were much more active and influential in the Uruguay Round negotiations than in any previous round, and they are even more so in the current Doha Development Agenda.

At the end of the Uruguay Round, developing countries were prepared to take on most of the obligations that are required of developed countries. But the agreements did give them transition periods to adjust to the more unfamiliar and, perhaps, difficult WTO provisions — particularly so for the poorest, "least-developed" countries. A ministerial decision adopted at the end of the round says better-off countries should accelerate implementing market access commitments on goods exported by the least-developed countries, and it seeks increased technical assistance for them. More recently, developed countries have started to allow duty-free and quota-free imports for almost all products from least-developed countries. On all of this, the WTO and its members are still going through a learning process. The current Doha Development Agenda includes developing countries' concerns about the difficulties they face in implementing the Uruguay Round agreements.

WTO Agreements

The WTO agreements cover goods, services and intellectual property and the permitted exceptions. These agreements are often called the WTO's trade rules, and the WTO is often described as "rules-based", a system based on rules. (The rules are actually agreements that the governments negotiated).

© The Institute of Chartered Accountants of India

Following are the important agreements under WTO. Since a thorough discussion on the features of each agreement is beyond the scope of this unit, only the major provisions are given below:

1. Agreement on Agriculture aims at strengthening GATT disciplines and improving agricultural trade. It includes specific and binding commitments made by WTO Member governments in the three areas of market access, domestic support and export subsidies.

2. Agreement on the Application of Sanitary and Phytosanitary (SPS) Measures establishes multilateral frameworks for the planning, adoption and implementation of sanitary and phytosanitary measures to prevent such measures from being used for arbitrary or unjustifiable discrimination or for camouflaged restraint on international trade and to minimize their adverse effects on trade.

3. Agreement on Textiles and Clothing replaced the Multi-Fibre Arrangement (MFA) which was prevalent since 1974 and entailed import protection policies. ATC provides that textile trade should be deregulated by gradually integrating it into GATT disciplines over a 10-year transition period.

4. Agreement on Technical Barriers to Trade (TBT) aims to prevent standards and conformity assessment systems from becoming unnecessary trade barriers by securing their transparency and harmonization with international standards. Often excessive standards or misuse of standards in respect of manufactured goods, and safety/environment regulations act as trade barriers.

5. Agreement on Trade-Related Investment Measures (TRIMs) expands disciplines governing investment measures in relation to cross-border investments. It stipulates that countries receiving foreign investments shall not impose investment measures such as requirements, conditions and restrictions inconsistent with the provisions of the principle of national treatment and general elimination of quantitative restrictions. For example: measures such as local content requirements and trade balancing requirements should not be applied on investing corporations.

6. Anti-Dumping Agreement seeks to tighten and codify disciplines for calculating dumping margins and conducting dumping investigations, etc. in order to prevent anti-dumping measures from being abused or misused to protect domestic industries.

7. Customs Valuation Agreement specifies rules for more consistent and reliable customs valuation and aims to harmonize customs valuation systems on an international basis by eliminating arbitrary valuation systems.

8. Agreement on Pre-shipment Inspection (PSI) intends to secure transparency of pre-shipment inspection wherein a company designated by the importing country

© The Institute of Chartered Accountants of India

conducts inspection of the quality, volume, price, tariff classification, customs valuation, etc. of merchandise in the territory of the exporting country on behalf of the importing country's custom office and issues certificates. The agreement also provides for a mechanism for the solution of disputes between PSI agencies and exporters.

9. Agreement on Rules of Origin provides for the harmonization of rules of origin for application to all non-preferential commercial policy instruments. It also provides for dispute settlement procedures and creates the rules of origin committee.

10. Agreement on Import Licensing Procedures relates to simplification of administrative procedures and to ensure their fair operation so that import licensing procedures of different countries may not act as trade barriers.

11. Agreement on Subsidies and Countervailing Measures aims to clarify definitions of subsidies, strengthen disciplines by subsidy type and to strengthen and clarify procedures for adopting countervailing tariffs.

12. Agreement on Safeguards clarify disciplines for requirements and procedures for imposing safeguards and related measures which are emergency measures to restrict imports in the event of a sudden surge in imports.

13. General Agreement on Trade in Services (GATS): This agreement provides the general obligations regarding trade in services, such as most- favoured-nation treatment and transparency. In addition, it enumerates service sectors and stipulates that in the service sectors for which it has made commitments, a member country cannot maintain or introduce market access restriction measures and discriminatory measures that are severer than those that were committed during the negotiations.

14. Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS): This agreement stipulates most-favoured-nation treatment and national treatment for intellectual properties, such as copyright, trademarks, geographical indications, industrial designs, patents, IC layout designs and undisclosed information. In addition, it requires member countries to maintain high levels of intellectual property protection and to administer a system of enforcement of such rights. It also stipulates procedures for the settlement of disputes related to the agreement.

15. Trade Policy Review Mechanism (TPRM) provides the procedures for the trade policy review mechanism to conduct periodical reviews of members' trade policies and practices conducted by the Trade Policy Review Body (TPRB).

16. Plurilateral Trade Agreements: Multilateral negotiations are those negotiations involving the entire WTO contracting parties. The Plurilateral trade agreements involve several countries with a common interest but do not involve all WTO countries. Not all the plurilateral agreements are negotiated within the WTO framework.

© The Institute of Chartered Accountants of India

All the above-mentioned agreements entered into by the members are not static; they are renegotiated from time to time and new agreements evolve from negotiations. Example: Many agreements were negotiated under the Doha Development Agenda, launched by WTO trade ministers in Doha, Qatar, in November 2001.

3.6 THE DOHA ROUND

The Doha Round, formally the Doha Development Agenda, which is the ninth round since the Second World War was officially launched at the WTO's Fourth Ministerial Conference in Doha, Qatar, in November 2001. The round seeks to accomplish major modifications of the international trading system through lower trade barriers and revised trade rules. The negotiations include 20 areas of trade, including agriculture, services trade, market access for non-agricultural products (NAMA), trade in services, trade facilitation, environment, geographical indications and certain intellectual property issues. The most controversial topic in the Doha Agenda was agriculture trade.

3.7 G 20 ECONOMIES: FACILITATING TRADE

While some trade-restrictive measures have been lifted by G20 countries, the report indicates that the trend has been going in the wrong direction. Export restrictions contribute to shortages, price volatility, and uncertainty. G20 economies must build on their collective pledges from the 12th Ministerial Conference and demonstrate leadership to keep markets open and predictable, so that food and fertilizer in particular can flow to where they are needed," said WTO Director-General Ngozi Okonjo-Iweala, who will be attending the G20 Leaders' Summit in Bali, Indonesia, on 15-16 November.

The report indicates that supply chains on the whole have thus far proved to be resilient, despite the war in Ukraine, the continuing impacts of the COVID-19 pandemic, the highest inflation many countries have experienced in decades, and the impacts of monetary tightening by central banks seeking to limit price increases. That said, specific industries and regions have been differently impacted.

Overall, the pace of implementation of new export restrictions by WTO members has increased since 2020, first in the context of the pandemic and subsequently with the war in Ukraine and the food crisis. Some of these export restrictions have been gradually lifted, but several still remain in place.

As of mid-October 2022, WTO members still had in place 52 export restrictions on food, feed and fertilizers, in addition to 27 export restrictions on products essential to combat COVID-

© The Institute of Chartered Accountants of India

19. Of these, 44% of the export restrictions on food, feed and fertilizers, and 63% of the pandemic-related export restrictions, were maintained by G20 economies.

During the review period, G20 economies introduced 66 new trade-facilitating measures (covering trade worth USD 451.8 billion) and 47 trade-restrictive measures on goods (with a trade coverage of USD 160.1 billion). These measures were not related to the pandemic.

At the same time, the accumulated stockpile of G20 import restrictions continued to grow. By mid-October, 11.6% of G20 imports were affected by trade-restricting measures implemented since 2009 and still in force.

Initiations of trade remedy investigations by G20 economies declined sharply during the review period (17 initiations), after a peak in 2020 that was the highest since the beginning of the trade monitoring exercise in 2009. Anti-dumping measures continued to be the most frequent trade remedy action in terms of initiations and terminations.

Similarly, the implementation of new COVID-19-related trade measures by G20 economies decelerated over the past five months, with four new such measures recorded on goods and one on services. The number of new COVID-19-related support measures to mitigate the social and economic impacts of the pandemic also fell sharply over the past five months.

Since the beginning of the pandemic, 201 COVID-19 trade and trade-related measures in goods were implemented by G20 economies. Most (61%) were trade facilitating, while the rest (39%) could be considered trade restrictive.

G20 economies also continued to phase out pandemic-related import and export measures. By mid-October 2022, 77% of export restrictions had been repealed, leaving 17 restrictions in place. Although the number of the pandemic-related trade restrictions in place decreased, their trade coverage remained significant, at USD 122.0 billion.

The WTO trade monitoring reports have been prepared by the WTO Secretariat since 2009. G20 members are: Argentina; Australia; Brazil; Canada; China; the European Union; France; Germany; India; Indonesia; Italy; Japan; the Republic of Korea; Mexico; the Russian Federation; Saudi Arabia; South Africa; Türkiye; the United Kingdom; and the United States.

SUMMARY

- International trade negotiations, especially the ones aimed at formulation of international trade rules, are complex interactive processes engaged in by countries having competing objectives.
- Regional Trade Agreements (RTAs) are defined as groupings of countries (not necessarily belonging to the same geographical region) which are formed with the objective of reducing barriers to trade between member countries.

© The Institute of Chartered Accountants of India

- Trade negotiations result in different types of agreements, namely: unilateral trade agreements, bilateral agreements, regional preferential trade agreements, trading bloc, free-trade area, customs union, common market and economic and monetary union.
- The General Agreement on Tariffs and Trade (GATT) provided the rules for most of the world trade for 47 years, from 1948 to 1994.
- Eight multilateral negotiations known as "trade rounds "held under the auspices GATT resulted in substantial international trade liberalization.
- The eighth of the Uruguay Round of 1986-94, was the last and most consequential of all rounds and culminated in the birth of WTO and a new set of agreements replacing the General Agreement on Tariffs and Trade (GATT).
- The principal objective of the WTO is to facilitate the flow of international trade smoothly, freely, fairly and predictably.
- The WTO does its functions by acting as a forum for trade negotiations among member governments, administering trade agreements, reviewing national trade policies, cooperating with other international organizations and assisting developing countries in trade policy issues through technical assistance and training programmes.
- The WTO activities are supported by the Secretariat located in Geneva, headed by a Director General. It has a three-tier system of decision making. The top-level decision-making body is the Ministerial Conference, followed by councils namely, the General Council and the Goods Council, Services Council and Intellectual Property (TRIPS) Council.
- The WTO, accounting for about 95% of world trade, currently has 164 members, of which 117 are developing countries or separate customs territories.
- The major guiding principles of the WTO are trade without discrimination, most-favoured-nation treatment (MFN), the national treatment principle (NTP), free trade, predictability, general prohibition of quantitative restrictions, greater competitiveness, tariffs as legitimate measures for protection, transparency in decision making, progressive liberalization, market access and a transparent, effective and verifiable dispute settlement mechanism.
- The important agreements under WTO are on agriculture, (SPS) measures, textiles and clothing, technical barriers to trade (TBT), trade-related investment measures (TRIMs), anti-dumping, customs valuation, pre-shipment inspection (PSI) , rules of origin, import licensing procedures, subsidies and countervailing measures , safeguards, trade in services (GATS), intellectual property rights (TRIPS), settlement of disputes (DSU), trade

© The Institute of Chartered Accountants of India

policy review mechanism (TPRM) and plurilateral trade agreements on trade in civil aircraft and government procurement.

- The Doha Round, formally the Doha Development Agenda, which is the ninth round since the Second World War was officially launched at the WTO's Fourth Ministerial Conference in Doha, Qatar, in November 2001.
- The major issues related to the WTO are in respect of slow progress of multilateral negotiations, uncertainties resulting from regional trade agreements, inadequate or negligible trade liberalisation, and those which are specific to the developing countries, namely, protectionism and lack of willingness among developed countries to provide market access, difficulties that they face in implementing the present agreements, apparent north-south divide, exceptionally high tariffs, tariff escalation, erosion of preferences and difficulties with regards to adjustments.

TEST YOUR KNOWLEDGE

Multiple Choice Type Questions

1. *Which of the following culminated in the establishment of the World Trade Organization?*

   (a) The Doha Round

   (b) The Tokyo Round

   (c) The Uruguay Round

   (d) The Kennedy Round

2. *Choose the correct statement*

   (a) The GATT was meant to prevent exploitation of poor countries by richer countries

   (b) The GATT dealt with trade in goods only, while, the WTO covers services as well as intellectual property.

   (c) All members of the World Trade Organization are required to avoid tariffs of all types

   (d) All the above

3. *The 'National treatment' principle stands for*

   (a) the procedures within the WTO for resolving disagreements about trade policy among countries

© The Institute of Chartered Accountants of India

(b) *the principle that imported products are to be treated no worse in the domestic market than the local ones*

(c) *exported products are to be treated no worse in the domestic market than the local ones*

(d) *imported products should have the same tariff, no matter where they are imported from*

4. *'Bound tariff' refers to*

(a) *clubbing of tariffs of different commodities into one common measure*

(b) *the lower limit of the tariff below which a nation cannot be taxing its imports*

(c) *the upper limit on the tariff that a country can levy on a particular good, according to its commitments under the GATT and WTO.*

(d) *the limit within which the country's export duty should fall so that there are cheaper exports*

5. *The essence of 'MFN principle' is*

(a) *equality of treatment of all member countries of WTO in respect of matters related to trade*

(b) *favour one, country, you need to favour all in the same manner*

(c) *every WTO member will treat all its trading partners equally without any prejudice and discrimination*

(d) *all the above*

6. *The World Trade Organization (WTO)*

(a) *has now been replaced by the GATT*

(b) *has an inbuilt mechanism to settle disputes among members*

(c) *was established to ensure free and fair trade internationally.*

(d) *(b) and c) above*

7. *The Agreement on Agriculture includes explicit and binding commitments made by WTO Member governments*

(a) *on increasing agricultural productivity and rural development*

(b) *market access and agricultural credit support*

(c) *market access, domestic support and export subsidies*

© The Institute of Chartered Accountants of India

(d) *market access, import subsidies and export subsidies*

8. *The Agreement on Textiles and Clothing*

(a) *provides that textile trade should be deregulated gradually and the tariffs should be increased*

(b) *replaced the Multi-Fiber Arrangement (MFA) which was prevalent since 1974*

(c) *granted rights of textile exporting countries to increase tariffs to protect their domestic textile industries*

(d) *stipulated that tariffs in all countries should be the same*

9. *The Agreement on Trade-Related Aspects of Intellectual Property Rights*

(a) *stipulates to administer a system of enforcement of intellectual property rights.*

(b) *provides for most-favoured-nation treatment and national treatment for intellectual properties*

(c) *mandates to maintain high levels of intellectual property protection by all members*

(d) *all the above*

10 *The most controversial topic in the yet to conclude Doha Agenda is*

(a) *trade in manufactured goods*

(b) *trade in intellectual property rights-based goods*

(c) *trade in agricultural goods*

(d) *market access to goods from developed countries*

11. *The WTO commitments*

(a) *affect developed countries adversely because they have comparatively less agricultural goods*

(b) *affect developing countries more because they need to make radical adjustments*

(c) *affect both developed and developing countries equally*

(d) *affect none as they increase world trade and ensure prosperity to all*

ANSWERS

1.	**(c)**	2.	**(b)**	3.	**(b)**	4.	**(c)**	5.	**(d)**	6	**(d)**
7.	**(c)**	8.	**(b)**	9.	**(d)**	10.	**(c)**	11.	**(b)**		

© The Institute of Chartered Accountants of India

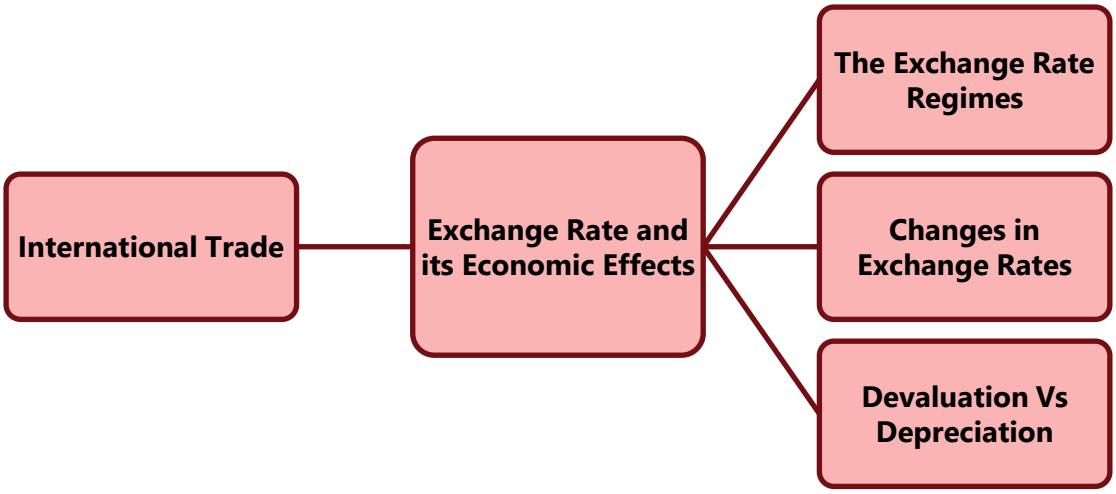
UNIT - 4: EXCHANGE RATE AND ITS ECONOMIC EFFECTS

LEARNING OUTCOMES

After studying this Unit, you will be able to –

- Define exchange rate and describe how it is determined
- Appraise different types of exchange rate regimes
- Describe the functioning of the foreign exchange market
- Explain changes in exchange rates and their impact on the real economy

UNIT OVERVIEW



© The Institute of Chartered Accountants of India

4.1 INTRODUCTION

Each day we get fascinating news about the currency which fuel our curiosity, such as Rupee gains 12 paise against US dollar, Dollar Spot/Forward Rates plummet, Rupee down, Euro holds steady, Pound strengthens etc. Ever wondered what this jargon mean? We shall try to understand a few fundamentals related to currency transactions in this unit.

In chapter 3, we examined the demand for and supply of domestic currency. It is not domestic currency alone that we need. Households, businesses and governments in India, for example, buy different types of goods and services produced in other countries. Similarly, residents of the rest of the world buy goods and services from residents in India. Foreign investors, businesses, and governments invest in our country, just as our nationals invest in other countries. In the same way, lending, and borrowing also take place internationally. These and similar other transactions give rise to an international dimension of money, which involves exchange of one currency for another. Obviously, this entails market transactions involving the determination of price of one currency in terms of another.

4.2 THE EXCHANGE RATE

A foreign currency transaction is a transaction that is denominated in or requires settlement in a foreign currency, including transactions arising when an enterprise either:

(a) buys or sells goods or services whose price is denominated in a foreign currency.

(b) borrows or lends funds when the amounts payable or receivable are denominated in a foreign currency.

(c) becomes a party to an unperformed forward exchange contract; or

(d) otherwise acquires or disposes of assets, or incurs or settles liabilities, denominated in a foreign currency.

4.3 THE EXCHANGE RATE REGIMES

Exchange rates are determined by demand and supply. But governments can influence those exchange rates in various ways. The extent and nature of government involvement in currency markets define alternative systems of exchange rates. In this section, we will examine some common systems and explore some of their macroeconomic implications.

There are three broad categories of exchange rate systems. In one system, exchange rates are set purely by private market forces with no government involvement. Values change constantly as the demand for and supply of currencies fluctuate. In another system, currency

© The Institute of Chartered Accountants of India

values are allowed to change, but governments participate in currency markets in an effort to influence those values. Finally, governments may seek to fix the values of their currencies, either through participation in the market or through regulatory policy.

An exchange rate regime is the system by which a country manages its currency with respect to foreign currencies. It refers to the method by which the value of the domestic currency in terms of foreign currencies is determined. There are two major types of exchange rate regimes at the extreme ends; namely:

(i) floating exchange rate regime (also called a flexible exchange rate), and

(ii) fixed exchange rate regime

In a free-floating exchange rate system, governments and central banks do not participate in the market for foreign exchange. The relationship between governments and central banks on the one hand and currency markets on the other is much the same as the typical relationship between these institutions and stock markets. Governments may regulate stock markets to prevent fraud, but stock values themselves are left to float in the market.

A free-floating system has the advantage of being self-regulating. There is no need for government intervention if the exchange rate is left to the market. Market forces also restrain large swings in demand or supply. Suppose, for example, that a dramatic shift in world preferences led to a sharply increased demand for goods and services produced in Canada. This would increase the demand for Canadian dollars, raise Canada's exchange rate, and make Canadian goods and services more expensive for foreigners to buy. Some of the impact of the swing in foreign demand would thus be absorbed in a rising exchange rate. In effect, a free-floating exchange rate acts as a buffer to insulate an economy from the impact of international events.

The primary difficulty with free-floating exchange rates lies in their unpredictability. Contracts between buyers and sellers in different countries must not only reckon with possible changes in prices and other factors during the lives of those contracts, they must also consider the possibility of exchange rate changes. An agreement by an Indian distributor to purchase a certain quantity of US goods each year, for example, will be affected by the possibility that the exchange rate between the Indian rupee and the U.S. dollar will change while the contract is in effect. Fluctuating exchange rates make international transactions riskier and thus increase the cost of doing business with other countries.

Managed Float Systems

Governments and central banks often seek to increase or decrease their exchange rates by buying or selling their own currencies. Exchange rates are still free to float, but governments try to influence their values. Government or central bank participation in a floating exchange rate system is called a managed float.

© The Institute of Chartered Accountants of India

Countries that have a floating exchange rate system intervene from time to time in the currency market in an effort to raise or lower the price of their own currency. Typically, the purpose of such intervention is to prevent sudden large swings in the value of a nation's currency. Such intervention is likely to have only a small impact, if any, on exchange rates.

Still, governments or central banks can sometimes influence their exchange rates. Suppose the price of a country's currency is rising very rapidly. The country's government or central bank might seek to hold off further increases in order to prevent a major reduction in net exports. An announcement that a further increase in its exchange rate is unacceptable, followed by sales of that country's currency by the central bank in order to bring its exchange rate down, can sometimes convince other participants in the currency market that the exchange rate will not rise further. That change in expectations could reduce demand for and increase the supply of the currency, thus achieving the goal of holding the exchange rate down.

Fixed Exchange Rates

In a fixed exchange rate system, the exchange rate between two currencies is set by government policy. There are several mechanisms through which fixed exchange rates may be maintained. Whatever the system for maintaining these rates, however, all fixed exchange rate systems share some important features.

In an open economy, the main advantages of a fixed rate regime are:

(i) A fixed exchange rate avoids currency fluctuations and eliminates exchange rate risks and transaction costs that can impede international flow of trade and investments. International trade and investment are less risky under fixed rate regime as profits are not affected by the exchange rate fluctuations.

(ii) A fixed exchange rate can thus, greatly enhance international trade and investment.

(iii) A reduction in speculation on exchange rate movements if everyone believes that exchange rates will not change.

(iv) A fixed exchange rate system imposes discipline on a country's monetary authority and therefore is more likely to generate lower levels of inflation.

(v) The government can encourage greater trade and investment as stability encourages investment.

(vi) Exchange rate peg can also enhance the credibility of the country's monetary-policy.

(vii) However, in the fixed or managed floating exchange rate regimes (where the market forces are allowed to determine the exchange rate within a band), the central bank is required to stand ready to intervene in the foreign exchange market and, also to maintain an adequate amount of foreign exchange reserves for this purpose.

© The Institute of Chartered Accountants of India

Basically, the free floating or flexible exchange rate regime is argued to be efficient and highly transparent as the exchange rate is free to fluctuate in response to the supply of and demand for foreign exchange in the market and clears the imbalances in the foreign exchange market without any control of the central bank or the monetary authority. A floating exchange rate has many advantages:

(i) A floating exchange rate has the greatest advantage of allowing a Central bank and/or government to pursue its own independent monetary policy.

(ii) Floating exchange rate regime allows exchange rate to be used as a policy tool: for example, policy-makers can adjust the nominal exchange rate to influence the competitiveness of the tradable goods sector.

(iii) As there is no obligation or necessity to intervene in the currency markets, the central bank is not required to maintain a huge foreign exchange reserves.

However, the greatest disadvantage of a flexible exchange rate regime is that volatile exchange rates generate a lot of uncertainties in relation to international transactions and add a risk premium to the costs of goods and assets traded across borders. In short, a fixed rate brings in more currency and monetary stability and credibility; but it lacks flexibility. On the contrary, a floating rate has greater policy flexibility; but less stability.

4.4 NOMINAL VERSUS REAL EXCHANGE RATES

We have been discussing so far about nominal exchange rate which refers to the rate at which a person can trade the currency of one country for the currency of another country. For any country, there are many nominal exchange rates because its currency can be used to purchase many foreign currencies. While studying exchange rate changes, economists make use of indexes that average these many exchange rates. An exchange rate index turns these many exchange rates into a single measure of the international value of currency.

Nominal Exchange Rates can be used to find the domestic price of foreign goods. However, trade flows are affected not by nominal exchange rates, but instead, by real exchange rates. The person or firm buying another currency is interested in what can be bought with it.

The real exchange rate is the rate at which a person can trade the goods and services of one country for the goods and services of another. It describes 'how many' of a good or service in one country can be traded for 'one' of that good or service in a foreign country. A country's real exchange rate is a key determinant of its net exports of goods and services.

For calculating real exchange rate, in the case of trade in a single good, we must first use the nominal exchange rate to convert the prices into a common currency. The real exchange rate

© The Institute of Chartered Accountants of India

(RER) between two currencies is the product of the nominal exchange rate and the ratio of prices between the two countries. It is calculated as:

$$\text{Real exchange Rate} = \frac{\text{(Nominal exchange Rate) x Domestic price}}{\text{Foreign price}}$$

Or

$$\text{Real exchange rate} = \text{Nominal exchange rate X} \frac{\text{Domestic Price}}{\text{Foreign price}}$$

Thus, real exchange rate depends on the nominal exchange rate and the prices of the good in two countries measured in the local currencies.

When studying the economy as a whole, we use price indices which measure the price of a basket of goods and services. Real exchange rate will then be:

$$\text{Real exchange rate} = \text{Nominal exchange rate X} \frac{\text{Domestic Price Index}}{\text{Foreign price Index}}$$

Another exchange rate concept, the Real Effective Exchange Rate (REER) is the nominal effective exchange rate (a measure of the value of a domestic currency against a weighted average of various foreign currencies) divided by a price deflator or index of costs. An increase in REER implies that exports become more expensive and imports become cheaper; therefore, an increase in REER indicates a loss in trade competitiveness.

4.5 THE FOREIGN EXCHANGE MARKET

Forex market participants mainly are commercial banks executing orders from exporters, importers, investment institutions, insurance and retirement funds, hedgers, and private investors. Commercial banks also perform trading operations in their own interests and at their own expense. Daily turnover of the largest banks often exceeds several billions of U.S. Dollars and many make their main profit by speculative operations with currency.

Brokerage houses are also playing an important role as contractors between large numbers of banks, funds, commission houses, dealing centers, etc. Commercial Banks and Brokerage Houses do not only execute currency exchange operations at prices set by other active players but come out with their own prices as well, actively influencing the price formation process and the market life. That is why they are called market makers.

In contrast to the above, passive players cannot set their own quotations and make trades at quotations offered by active market players. Passive market players normally pursue the following aims: payment of export-import contracts, foreign industrial investments, the opening of branches abroad or the creation of joint ventures, tourism, speculation on rate

© The Institute of Chartered Accountants of India

difference, hedging of currency risks (insurance against losses in case of unfavorable price changes), etc.

In the foreign exchange market, there are two types of transactions:

(i) current transactions which are carried out in the spot market and the exchange involves immediate delivery, and

(ii) future transactions wherein contracts are agreed upon to buy or sell currencies for future delivery which are carried out in forward and/or futures markets

Exchange rates prevailing for spot trading (for which settlement by and large takes two days) are called spot exchange rates. The exchange rates quoted in foreign exchange transactions that specify a future date are called forward exchange rates. The currency forward contracts are quoted just like spot rate; however, the actual delivery of currencies takes place at the specified time in future. When a party agrees to sell euro for dollars on a future date at a forward rate agreed upon, he has 'sold euros forward' and 'bought dollars forward'. A forward premium is said to occur when the forward exchange rate is more than a spot exchange rates. On the contrary, if the forward trade is quoted at a lower rate than the spot rate, then there is a forward discount. Currency futures, though conceptually similar to currency forward and perform the same function, they are distinct in their nature and details concerning settlement and delivery.

While a foreign exchange transaction can involve any two currencies, most transactions involve exchanges of foreign currencies for the U.S. dollars even when it is not the national currency of either the importer or the exporter. On account of its critical role in the forex markets, the dollar is often called a 'vehicle currency'.

4.6 DETERMINATION OF NOMINAL EXCHANGE RATE

As you already know, the key framework for analysing prices is the operation of forces of supply and demand in markets. Usually, the supply of and demand for foreign exchange in the domestic foreign exchange market determine the external value of the domestic currency, or in other words, a country's exchange rate.

Individuals, institutions and governments participate in the foreign exchange market for a number of reasons. On the demand side, people desire foreign currency to:

- purchase goods and services from another country
- for unilateral transfers such as gifts, awards, grants, donations or endowments
- to make investment income payments abroad
- to purchase financial assets, stocks or bonds abroad

© The Institute of Chartered Accountants of India

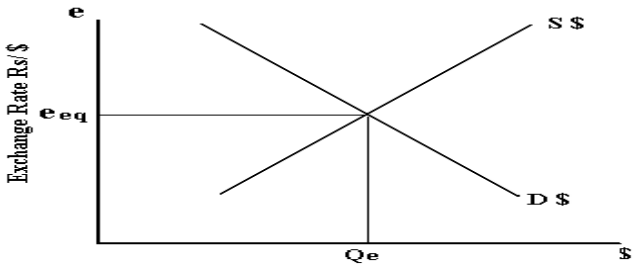
- to open a foreign bank account
- to acquire direct ownership of real capital, and
- for speculation and hedging activities related to risk-taking or risk-avoidance activity

The participants on the supply side operate for similar reasons. Thus, the supply of foreign currency to the home country results from purchases of home exports, unilateral transfers to home country, investment income payments, foreign direct investments and portfolio investments, placement of bank deposits and speculation.

We shall now look into how the foreign exchange markets work. Similar to any standard market, the exchange market also faces a downward-sloping demand curve and an upward-sloping supply curve.

Figure 4.4.1

Determination of Nominal Exchange Rate



The equilibrium rate of exchange is determined by the interaction of the supply and demand for a particular foreign currency. In figure 4.4.1, the demand curve (D$) and supply curve (S$) of dollars intersect to determine equilibrium exchange rate e_{eq} with Qe as the equilibrium quantity of dollars exchanged.

4.7 CHANGES IN EXCHANGE RATES

Changes in exchange rates portray depreciation or appreciation of one currency. The terms, ₹ currency appreciation' and 'currency depreciation' describe the movements of the exchange rate. Currency appreciates when its value increases with respect to the value of another currency or a basket of other currencies. On the contrary, currency depreciates when its value falls with respect to the value of another currency or a basket of other currencies. We shall try to understand this with the help of an example.

For example, the Rupee dollar exchange rate in the month of January is $1 = ₹ 70. and, we find that in the month of April it is $1 = ₹ 75. What does this indicate? In April, you will have to exchange a greater amount of Indian Rupees (₹75) to get the same 1 unit of US dollar. As such, the value of the Indian Rupee has gone down or Indian Rupee has

© The Institute of Chartered Accountants of India

depreciated in its value. Rupee depreciation here means that the rupee has become less valuable with respect to the U.S. dollar. Simultaneously, if you look at the value of dollar in terms of Rupees, you find that the value of the US dollar has increased in terms of the Indian Rupee. One dollar will now fetch ₹75 instead of ₹70 earlier. This is called appreciation of the US dollar. You might have observed that when one currency depreciates against another, the second currency must simultaneously appreciate against the first.

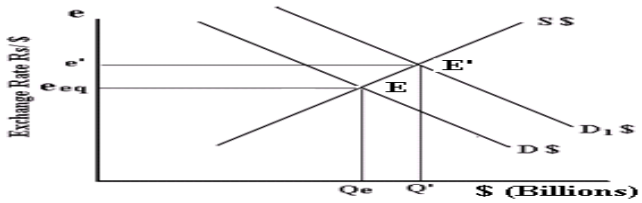
To put it more clearly:

- Home-currency depreciation (which is the same as foreign-currency appreciation) takes place when there is an increase in the home currency price of the foreign currency (or, alternatively, a decrease in the foreign currency price of the home currency). The home currency thus becomes relatively less valuable.
- Home-currency appreciation (or foreign-currency depreciation) takes place when there is a decrease in the home currency price of foreign currency (or alternatively, an increase in the foreign currency price of home currency). The home currency thus becomes relatively more valuable.

Under a floating rate system, if for any reason, the demand curve for foreign currency shifts to the right representing increased demand for foreign currency, and supply curve remains unchanged, then the exchange value of foreign currency rises and the domestic currency depreciates in value. This is illustrated in figure 4.4.2.

Figure 4.4.2

Home-Currency Depreciation under Floating Exchange Rates



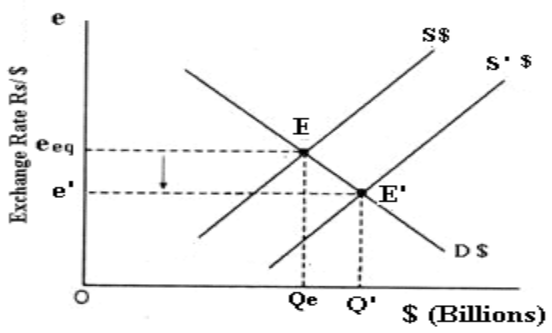
The market initially is in equilibrium at point E with equilibrium exchange rate $e_{eq.}$ An increase in domestic demand for the foreign currency, with supply of dollars remaining constant, is represented by a rightward shift of the demand curve to D_1\$. The equilibrium exchange rate rises to e^1. This indicates that more units of domestic currency (here Indian Rupees) are required to buy one unit of foreign currency (here dollar) and that the domestic currency (the Rupee) has depreciated.

We shall now examine what happens when there is an increase in the supply of dollars in the Indian market. This is illustrated in figure 4.4.3.

© The Institute of Chartered Accountants of India

Figure 4.4.3

Home-Currency Appreciation under Floating Exchange Rates



An increase in the supply of foreign exchange shifts the supply curve to the right to S^1 $ and as a consequence, the exchange rate declines to e^1. It means, that lesser units of domestic currency (here Indian Rupees) are required to buy one unit of foreign currency(dollar), and that the domestic currency (the Rupee) has appreciated.

As we are aware, in an open economy, firms and households use exchange rates to translate foreign prices in terms of domestic currency. Exchange rates also permit us to compare the prices of goods and services produced in different countries. Furthermore, import or export prices could be expressed in terms of the same currency in the trading contract. This is the reason why exchange rate movements can affect intentional trade flows.

4.8 DEVALUATION (REVALUATION) VS DEPRECIATION (APPRECIATION)

Devaluation is a deliberate downward adjustment in the value of a country's currency relative to another country's currency or group of currencies or standard. It is a monetary policy tool used by countries that have a fixed exchange rate or nearly fixed exchange rate regime and involves a discrete official reduction in the otherwise fixed par value of a currency. The monetary authority formally sets a new fixed rate with respect to a foreign reference currency or currency basket. In contrast, depreciation is a decrease in a currency's value (relative to other major currency benchmarks) due to market forces of demand and supply under a floating exchange rate and not due to any government or central bank policy actions.

Revaluation is the opposite of devaluation and the term refers to a discrete official increase of the otherwise fixed par value of a nation's currency. Appreciation, on the other hand, is an increase in a currency's value (relative to other major currencies) due to market forces of

© The Institute of Chartered Accountants of India

demand and supply under a floating exchange rate and not due to any government or central bank policy interventions.

4.9 IMPACTS OF EXCHANGE RATE FLUCTUATIONS ON DOMESTIC ECONOMY

The fact that among the macroeconomic variables, exchange rates are perhaps the most closely monitored, analysed and manipulated economic measure, highlights the overwhelming importance of exchange rates in an economy. The unpredictability of the markets caused by exchange rate fluctuations can profoundly determine a country's economic performance. Knowledge about the possible effects of exchange rate fluctuations enables us to have an understanding of the appropriateness of exchange rate policy, especially in developing countries. In the discussion that follows, we shall examine the impact of exchange rate fluctuations on the real economy.

The developments in the foreign exchange markets affect the domestic economy both directly and indirectly. The direct impact of fluctuations in rates is initially felt by economic agents who are directly involved in international trade or international finance.

(i) Fluctuations in the exchange rate have a significant role in determining the nature and extent of a country's trade.

(ii) Fluctuations in the exchange rate affect the economy by changing the relative prices of domestically-produced and foreign-produced goods and services. All else equal (or other things remaining the same), an appreciation of a country's currency raises the relative price of its exports and lowers the relative price of its imports. Conversely, depreciation lowers the relative price of a country's exports and raises the relative price of its imports. When a country's currency depreciates, foreigners find that its exports are cheaper and domestic residents find that imports from abroad are more expensive. An appreciation has opposite effects i.e foreigners pay more for the country's products and domestic consumers pay less for foreign products. For example; assume that there is devaluation or depreciation of Indian Rupee from $1=₹ 65/ to $1=₹ 70/. A foreigner who spends ten dollars on buying Indian goods will, post devaluation, get goods worth ₹ 700/ instead of ₹ 650/ prior to depreciation. An importer has to pay for his purchases in foreign currency, and, therefore, a resident of India, who wants to import goods worth $1 will have to pay ₹ 70/ instead of ₹ 65/ prior to depreciation. Importers will be affected most as they will have to pay more rupees on importing products. On the contrary, exporters will be benefitted as goods exported abroad will fetch dollars which can now be converted to more rupees.

© The Institute of Chartered Accountants of India

(iii) Exchange rate changes affect economic activity in the domestic economy. A depreciation of domestic currency primarily increases the price of foreign goods relative to goods produced in the home country and diverts spending from foreign goods to domestic goods. Increased demand, both for domestic import-competing goods and for exports, encourages economic activity and creates output expansion. Overall, the outcome of exchange rate depreciation is an expansionary impact on the economy at an aggregate level. The positive effect of currency depreciation, however, largely depends on whether the switching of demand has taken place in the right direction and in the right amount, as well as on the capacity of the home economy to meet that increased demand by supplying more goods.

(iv) For an economy where exports are significantly high, a depreciated currency would mean a lot of gain. In addition, if exports originate from labour-intensive industries, increased export prices will have positive effect on employment and potentially on wages.

(v) Depreciation is also likely to add to consumer price inflation in the short run, directly through its effect on prices of imported consumer goods and also due to increased demand for domestic goods. The impact will be greater if the composition of domestic consumption baskets consists more of imported goods. Indirectly, cost push inflation may result through possible escalation in the cost of imported inputs. In such an inflationary situation, the central bank of the country will have no incentive to cut policy rates as this is likely to increase the burden of all types of borrowers including businesses.

(vi) The fiscal health of a country whose currency depreciates is likely to be affected with rising export earnings and import payments and consequent impact on current account balance. A widening current account deficit is a danger signal as far as growth prospects of the overall economy is concerned. If export earnings rise faster than the imports spending then current account balance will improve.

(vii) Companies that have borrowed in foreign exchange through external commercial borrowings (ECBs) but have been careless and did not sufficiently hedge these loans against foreign exchange risks, would also be negatively impacted as they would require more domestic currency to repay their loans. A depreciated domestic currency would also increase their debt burden and lower their profits and impact their balance sheets adversely. These would signal investors who will be discouraged from investing in such companies.

(viii) Countries with foreign currency denominated government debts, currency depreciation will increase the interest burden and cause strain to the exchequer for

© The Institute of Chartered Accountants of India

repaying and servicing foreign debt. Fortunately, India's has small proportion of public debt in foreign currency.

(ix) Exchange rate fluctuations make financial forecasting more difficult for firms and larger amounts will have to be earmarked for insuring against exchange rate risks through hedging.

(x) With growth of investments across international boundaries, exchange rates have assumed special significance. Investors who have purchased a foreign asset, or the corporation which floats a foreign debt, will find themselves facing foreign exchange risk. Exchange rate movements have become the single most important factor affecting the value of investments at international level. They are critical to business volumes, profit forecasts, investment plans and investment outcomes. Depreciating currency hits investor sentiments and has radical impact on patterns of international capital flows.

(xi) Foreign investors are likely to be indecisive or highly cautious before investing in a country that has high exchange rate volatility. Foreign capital inflows are characteristically vulnerable when local currency weakens. Therefore, foreign portfolio investment flows into debt and equity as well as foreign direct investment flows are likely to shrink. This shoots up capital account deficits affecting the country's fiscal health.

To reduce the fiscal deficit at the end of 2022, Russia and India agreed to switch to trade settlements in their national currencies. Over the past year, trade turnover between Moscow and New Delhi has grown significantly and both intend to increase these volumes during 2023. Meanwhile, Russian exports to India significantly exceed Indian imports from this country, when the Indian Rupee has significantly dipped against the US Dollar and the Russian Ruble. We look at how such variations can be overcome, setting in motion mechanisms for additional mutual settlement schemes with countries whose currencies may not be as strong as the Ruble, and look at the 2023 prospects for Russia-India bilateral trade.

In mid-November last year, India announced plans to double the volume of trade with Russia, noting that the transition to settlements in national currencies would only be an additional incentive for this. In late autumn, the Indian authorities allowed the use of Rupees in international trade settlements.

An appreciation of currency or a strong currency (or possibly an overvalued currency) makes the domestic currency more valuable and, therefore, can be exchanged for a larger amount of foreign currency. An appreciation will have the following consequences on real economy:

© The Institute of Chartered Accountants of India

(i) An appreciation of currency raises the price of exports and, therefore, the quantity of exports would fall. Since imports become cheaper, we may expect an increase in the quantity of imports. Combining these two effects together, the domestic aggregate demand falls and, therefore, economic growth is likely to be negatively impacted.

(ii) The outcome of appreciation also depends on the stage of the business cycle as well. If appreciation sets in during the recessionary phase, the result would be a further fall in aggregate demand and higher levels of unemployment. If the economy is facing a boom, an appreciation of domestic currency would trim down inflationary pressures and soften the rate of growth of the economy.

(iii) An appreciation may cause reduction in the levels of inflation because imports are cheaper. Lower price of imported capital goods, components and raw materials lead to decrease in cost of production which reflects on decrease in prices. Additionally, decrease in aggregate demand tends to lower demand pull inflation. Living standards of people are likely to improve due to availability of cheaper consumer goods.

(iv) With increasing export prices, the competitiveness of domestic industry is adversely affected and therefore, firms have greater incentives to introduce technological innovations and capital-intensive production to cut costs to remain competitive.

(v) Increasing imports and declining exports are liable to cause larger deficits and worsen the current account. However, the impact of appreciation on current account depends upon the elasticity of demand for exports and imports. Relatively inelastic demand for imports and exports may lead to an improvement in the current account position. Higher the price elasticity of demand for exports, greater would be the fall in demand and higher will be the fall in the aggregate value of exports. This will adversely affect the current account balance.

(vi) Loss of competitiveness will be insignificant if currency appreciation is because of strong fundamentals of the economy.

From the discussions in this unit, we understand that all countries would desire to have steady exchange rates to eliminate the risks and uncertainties associated with international trade and investments. However, nations may sometimes go for trade-offs with weaker exchange rate to stimulate exports and aggregate demand, or a stronger exchange rate to fight inflation. Learners may keep themselves well-informed on contemporary exchange rate developments and their implications on the economic welfare of countries.

© The Institute of Chartered Accountants of India

SUMMARY

- Exchange rate is the rate at which the currency of one country exchanges for the currency of another country.
- A direct quote (European Currency Quotation) is the number of units of a local currency exchangeable for one unit of a foreign currency. For example, ₹ 65/US$.
- An indirect quote (American Currency Quotation) is the number of units of a foreign currency exchangeable for one unit of local currency; for example: $ 0.0151 per rupee.
- In a direct quotation, the foreign currency is the base currency and the domestic currency is the counter currency. In an indirect quotation, the domestic currency is the base currency and the foreign currency is the counter currency.
- The rate between Y and Z which is derived from the given rates of another set of two pairs of currency (say, X and Y, and, X and Z) is called cross rate.
- An exchange rate regime is the system by which a country manages its currency with respect to foreign currencies.
- There are two major types of exchange rate regimes at the extreme ends; namely floating exchange rate regime, (also called a flexible exchange rate) and fixed exchange rate regime.
- Under floating exchange rate regime, the equilibrium value of the exchange rate of a country's currency is market determined i.e. the demand for and supply of currency relative to other currencies determines the exchange rate.
- A fixed exchange rate, also referred to as pegged exchange rate, is an exchange rate regime under which a country's government announces, or decrees, what its currency will be worth in terms of either another country's currency or a basket of currencies or another measure of value, such as gold.
- A central bank may implement soft peg policy under which the exchange rate is generally determined by the market or a hard peg where the central bank sets a fixed and unchanging value for the exchange rate.
- A fixed exchange rate avoids currency fluctuations and eliminates exchange rate risks and transaction costs, enhances international trade and investment and lowers the levels of inflation. But the central bank has to maintain an adequate amount of reserves and be always ready to intervene in the foreign exchange market.

© The Institute of Chartered Accountants of India

- A floating exchange rate allows a government to pursue its own independent monetary policy and there is no need for market intervention or maintenance of reserves. However, volatile exchange rates generate a lot of uncertainties with regard to international transactions.
- The 'real exchange rate' incorporates changes in prices and describes 'how many' of a good or service in one country can be traded for 'one' of that good or service in a foreign country.
- Real exchange rate = Nominal exchange rate X $\frac{\text{Domestic price Index}}{\text{Foreign price Index}}$
- Real Effective Exchange Rate (REER) is the nominal effective exchange rate (a measure of the value of a currency against a weighted average of various foreign currencies) divided by a price deflator or index of costs.
- The wide-reaching collection of markets and institutions that handle the exchange of foreign currencies is known as the foreign exchange market. Being an over-the-counter market, it is not a physical place; rather, it is an electronically linked network bringing buyers and sellers together and has only very narrow spreads.
- On account of arbitrage, regardless of physical location, at any given moment, all markets tend to have the same exchange rate for a given currency. Arbitrage refers to the practice of making risk-less profits by intelligently exploiting price differences of an asset at different dealing places.
- There are two types of transactions in a forex market: current transactions which are carried out in the spot market and future transactions involving contracts to buy or sell currencies for future delivery which are carried out in forward and futures markets.
- Generally, the supply of and demand for foreign exchange in the domestic foreign exchange market determine the external value of the domestic currency, or in other words, a country's exchange rate.
- Changes in exchange rates portray depreciation or appreciation of one currency. The terms, 'currency appreciation' and 'currency depreciation' describe the movements of the exchange rate.
- Currency appreciates when its value increases with respect to the value of another currency or a basket of other currencies. On the contrary, currency depreciates when its value falls with respect to the value of another currency or a basket of other currencies.

© The Institute of Chartered Accountants of India

- Devaluation is a deliberate downward adjustment by central bank in the value of a country's currency relative to another currency, group of currencies or standard.
- An appreciation of a country's currency cause changes in import and export prices will lead to changes in import and export volumes, causing resulting in import spending and export earnings.
- Exchange rate depreciation lowers the relative price of a country's exports, raises the relative price of its imports, increases demand both for domestic import-competing goods and for exports, leads to output expansion, encourages economic activity, increases the international competitiveness of domestic industries, increases the volume of exports and improves trade balance.
- Currency appreciation raises the price of exports, decrease exports; increase imports, adversely affect the competitiveness of domestic industry, cause larger deficits and worsens the trade balance.

TEST YOUR KNOWLEDGE

Multiple Choice Type Questions

1. *Based on the supply and demand model of determination of exchange rate, which of the following ought to cause the domestic currency of Country X to appreciate against dollar?*

   (a) The US decides not to import from Country X

   (b) An increase in remittances from the employees who are employed abroad to their families in the home country

   (c) Increased imports by consumers of Country X

   (d) Repayment of foreign debts by Country X

2. *All else equal, which of the following is true if consumers of India develop taste for imported commodities and decide to buy more from the US?*

   (a) The demand curve for dollars shifts to the right and Indian Rupee appreciates

   (b) The supply of US dollars shrinks and, therefore, import prices decrease

   (c) The demand curve for dollars shifts to the right and Indian Rupee depreciates

   (d) The demand curve for dollars shifts to the left and leads to an increase in exchange rate

© The Institute of Chartered Accountants of India

3. *'The nominal exchange rate is expressed in units of one currency per unit of the other currency. A real exchange rate adjusts this for changes in price levels'. The statements are*

   (a) wholly correct

   (b) partially correct

   (c) wholly incorrect

   (d) None of the above

4. *Match the following by choosing the term which has the same meaning*

i)	***floating exchange rate***	*ii)*	***fixed exchange rate***
iii)	*pegged exchange rate*	*a.*	*depreciation*
iv)	*devaluation*	*b.*	*revaluation*
v)	*appreciation*	*c.*	*flexible exchange rate*

   (a) (i c); (ii d); (iii b); (iv a))

   (b) (i b); (ii a); (iii d); (iv c)

   (c) (i a); (ii d) ; (iii b); (iv c)

   (d) (i d); (ii a); (iii b); (iv c)

5. *Choose the correct statement*

   (a) An indirect quote is the number of units of a local currency exchangeable for one unit of a foreign currency

   (b) the fixed exchange rate regime is said to be efficient and highly transparent.

   (c) A direct quote is the number of units of a local currency exchangeable for one unit of a foreign currency

   (d) Exchange rates are generally fixed by the central bank of the country

6. *Which of the following statements is true?*

   (a) Home-currency appreciation or foreign-currency depreciation takes place when there is a decrease in the home currency price of foreign currency

© The Institute of Chartered Accountants of India

(b) *Home-currency depreciation takes place when there is an increase in the home currency price of the foreign currency*

(c) *Home-currency depreciation is the same as foreign-currency appreciation and implies that the home currency has become relatively less valuable.*

(d) *All the above*

7. *An increase in the supply of foreign exchange*

(a) *shifts the supply curve to the right and as a consequence, the exchange rate declines*

(b) *shifts the supply curve to the right and as a consequence, the exchange rate increases*

(c) *more units of domestic currency are required to buy a unit of foreign exchange*

(d) *the domestic currency depreciates and the foreign currency appreciates*

8. *Currency devaluation*

(a) *may increase the price of imported commodities and, therefore, reduce the international competitiveness of domestic industries*

(b) *may reduce export prices and increase the international competitiveness of domestic industries*

(c) *may cause a fall in the volume of exports and promote consumer welfare through increased availability of goods and services*

(d) *(a) and (c) above*

9. *At any point of time, all markets tend to have the same exchange rate for a given currency due to*

(a) *Hedging*

(b) *Speculation*

(c) *Arbitrage*

(d) *Currency futures*

© The Institute of Chartered Accountants of India

10. 'Vehicle Currency' refers to

(a) a currency that is widely used to denominate international contracts made by parties because it is the national currency of either of the parties

(b) a currency that is traded internationally and, therefore, is in high demand

(c) a type of currency used in euro area for synchronization of exchange rates

(d) a currency that is widely used to denominate international contracts made by parties even when it is not the national currency of either of the parties

ANSWERS

1.	**(b)**	2.	**(c)**	3.	**(a)**	4.	**(d)**	5.	**(c)**	6	**(d)**
7.	**(a)**	8.	**(b)**	9.	**(c)**	10.	**(d)**				

© The Institute of Chartered Accountants of India

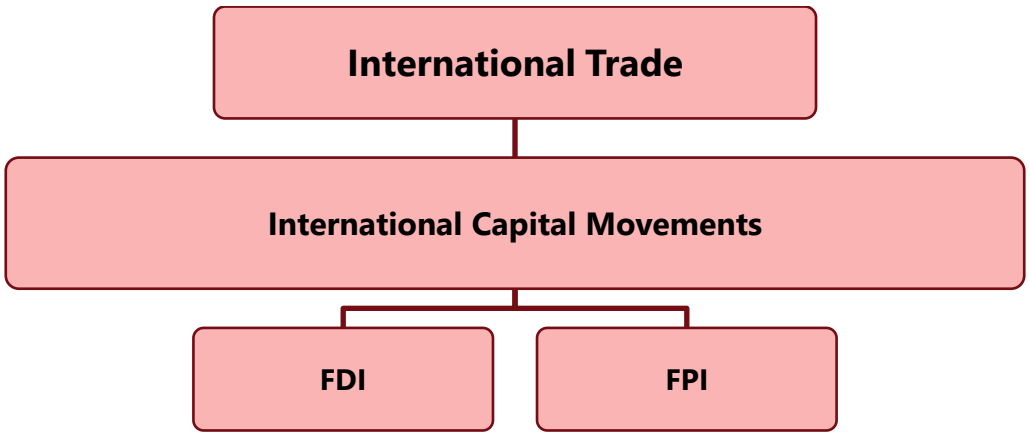
UNIT - 5: INTERNATIONAL CAPITAL MOVEMENTS

LEARNING OUTCOMES

After studying this Unit, you will be able to –

- Describe the nature and types of foreign capital
- Distinguish between foreign direct investment and foreign institutional investment
- Outline the factors influencing foreign investments
- Elucidate the potential costs and benefits of foreign direct investment
- Explain the state-of-affairs of foreign direct investment in India

UNIT OVERVIEW



© The Institute of Chartered Accountants of India

5.1 INTRODUCTION

In unit one, our focus was on international trade in goods and services. Lately, we have observed enormous increase in international movement of capital. This phenomenon has received a great deal of attention not only from economists and policy-makers, but also from people in different walks of life- including workers' organisations and members of the civil society. In this unit, we shall look into international capital movements; more precisely, why do capital move across national boundaries and what are the consequences of such capital movements. We shall also briefly touch upon the FDI situation in India.

5.2 TYPES OF FOREIGN CAPITAL

The term 'foreign capital' is a comprehensive one and includes any inflow of capital into the home country from abroad and therefore, we need to be clear about the distinction between movement of capital and foreign investment. Foreign capital may flow into an economy in different ways. Some of the important components of foreign capital flows are:

1. Foreign aid or assistance which may be:
   - (a) Bilateral or direct inter government grants.
   - (b) Multilateral aid from many governments who pool funds with international organizations like the World Bank.
   - (c) Tied aid with strict mandates regarding the use of money or untied aid where there are no such stipulations
   - (d) Foreign grants which are voluntary transfer of resources by governments, institutions, agencies or organizations.
2. Borrowings which may take different forms such as:
   - (a) Direct inter government loans
   - (b) Loans from international institutions (e.g. world bank, IMF, ADB)
   - (c) Soft loans for e.g. from affiliates of World Bank such as IDA
   - (d) External commercial borrowing, and
   - (e) Trade credit facilities
3. Deposits from non-resident Indians (NRI)
4. Investments in the form of :
   - (i) Foreign portfolio investment (FPI) in bonds, stocks and securities, and

© The Institute of Chartered Accountants of India

(ii) Foreign direct investment (FDI) in industrial, commercial and similar other enterprises

A detailed discussion about all types of capital movements is beyond the scope of this unit and therefore, we shall concentrate only on foreign investments.

5.3 FOREIGN DIRECT INVESTMENT (FDI)

Foreign direct investment (FDI), according to IMF manual on 'Balance of payments' is "all investments involving a long-term relationship and reflecting a lasting interest and control of a resident entity in one economy in an enterprise resident in an economy other than that of the direct investor". This typically occurs through acquisition of more than 10 percent of the shares of the target asset. Direct investment comprises not only the initial transaction establishing the relationship between the investor and the enterprise, but also all subsequent transactions between them and among affiliated enterprises, both incorporated and unincorporated.

According to the IMF and OECD definitions, the acquisition of at least ten percent of the ordinary shares or voting power in a public or private enterprise by non-resident investors makes it eligible to be categorized as foreign direct investment (FDI). India also follows the same pattern of classification. FDI has three components, viz., equity capital, reinvested earnings and other direct capital in the form of intra-company loans between direct investors (parent enterprises) and affiliate enterprises.

Foreign direct investors may be individuals, incorporated or unincorporated private or public enterprises, associated groups of individuals or enterprises, governments or government agencies, estates, trusts, or other organizations or any combination of the above-mentioned entities. The main forms of direct investments are: the opening of overseas companies, including the establishment of subsidiaries or branches, creation of joint ventures on a contract basis, joint development of natural resources and purchase or annexation of companies in the country receiving foreign capital.

Direct investments are real investments in factories, assets, land, inventories etc. and involve foreign ownership of production facilities. The investor retains control over the use of the invested capital and also seeks the power to exercise control over decision making to the extent of its equity participation. The lasting interest implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence by the investor on the management of the enterprise.

Based on the nature of foreign investments, FDI may be categorized as horizontal, vertical or conglomerate.

© The Institute of Chartered Accountants of India

i) A horizontal direct investment is said to take place when the investor establishes the same type of business operation in a foreign country as it operates in its home country, for example, a cell phone service provider based in the United States moving to India to provide the same service.

ii) A vertical investment is one under which the investor establishes or acquires a business activity in a foreign country which is different from the investor's main business activity yet in some way supplements its major activity. For example; an automobile manufacturing company may acquire an interest in a foreign company that supplies parts or raw materials required for the company.

iii) A conglomerate type of foreign direct investment is one where an investor makes a foreign investment in a business that is unrelated to its existing business in its home country. This is often in the form of a joint venture with a foreign firm already operating in the industry, as the investor has no previous experience.

Yet another category of investment is 'two- way direct foreign investments' which are reciprocal investments between countries. These investments occur when some industries are more advanced in one nation (for example, the computer industry in the United States), while other industries are more efficient in other nations (such as the automobile industry in Japan).

5.4 FOREIGN PORTFOLIO INVESTMENT (FPI)

Foreign portfolio investment is the flow of what economists call 'financial capital' rather than 'real capital' and does not involve ownership or control on the part of the investor. Examples of foreign portfolio investment are the deposit of funds in an Indian or a British bank by an Italian company, the purchase of a bond (a certificate of indebtedness) of a Swiss company or the Swiss government by a citizen or company based in France. Unlike FDI, portfolio capital, in general, moves to investment in financial stocks, bonds and other financial instruments and is effected largely by individuals and institutions through the mechanism of capital market. These flows of financial capital have their immediate effects on balance of payments or exchange rates rather than on production or income generation.

Foreign portfolio investment (FPI) is not concerned with either manufacture of goods or with provision of services. Such investors also do not have any intention of exercising voting power or controlling or managing the affairs of the company in whose securities they invest. The sole intention of a foreign portfolio investor is to earn a remunerative return through investment in foreign securities and is primarily concerned about the safety of their capital, the likelihood of appreciation in its value, and the return generated. Logically, portfolio capital moves to a recipient country which has revealed its potential for higher returns and profitability.

© The Institute of Chartered Accountants of India

Following international standards, portfolio investments are characterised by lower stake in companies with their total stake in a firm at below 10 percent. It is also noteworthy that unlike the FDIs, these investments are typically of short term nature, and therefore, are not intended to enhance the productive capacity of an economy by the creation of capital assets.

Portfolio investors will evaluate, on a separate basis, the prospects of each independent unit in which they might invest and may often shift their capital with changes in these prospects. Therefore, portfolio investments are, to a large extent, expected to be speculative. Once investor confidence is shaken, such capital has a tendency to speedily shift from one country to another, occasionally creating financial crisis for the host country.

Table 4.5.1

Foreign direct investment (FDI) VS Foreign portfolio investment (FPI)

Foreign Direct Investment (FDI)	Foreign Portfolio Investment (FPI)
Investment involves creation of physical assets	Investment is only in financial assets
Has a long term interest and therefore remain invested for long	Only short term interest and generally remain invested for short periods
Relatively difficult to withdraw	Relatively easy to withdraw
Not inclined to be speculative	Speculative in nature
Often accompanied by technology transfer	Not accompanied by technology transfer
Direct impact on employment of labour and wages	No direct impact on employment of labour and wages
Enduring interest in management and control	No abiding interest in management and control
Securities are held with significant degree of influence by the investor on the management of the enterprise	Securities are held purely as a financial investment and no significant degree of influence on the management of the enterprise

5.5 REASONS FOR FOREIGN DIRECT INVESTMENT

As we know, economic prosperity and the relative abundance of capital are necessary prerequisites for export of capital to other countries. Many economies and organisations have accumulation of huge mass of reserve capital seeking profitable use. The primary aim of economic agents being maximisation of their economic interests, the opportunity to generate profits available in other countries often entices such entities to make investments in other countries.

© The Institute of Chartered Accountants of India

The chief motive for shifting of capital between different regions or between different industries is the expectation of higher rate of return than what is possible in the home country. Investment in a host country may be considered as profitable by foreign firms because of some firm-specific knowledge or assets (such as superior management skills or an important patent) that enable the foreign firm to gainfully outperform the host country's domestic firms. There are many other reasons (as listed below) for international capital movements which have found adequate empirical support. Investments move across borders on account of:

- the increasing interdependence of national economies and the consequent trade relations and international industrial cooperation established among them
- internationalisation of production and investment of transnational corporations in their subsidiaries and affiliates.
- desire to reap economies of large-scale operation arising from technological growth
- lack of feasibility of licensing agreements with foreign producers in view of the rapid rate of technological innovations
- necessity to retain direct control of production knowledge or managerial skill (usually found in monopolistic or oligopolistic markets) that could easily and profitably be utilized by corporations
- desire to procure a promising foreign firm to avoid future competition and the possible loss of export markets
- risk diversification so that recessions or downturns may be experienced with reduced severity
- shared common language or common boundaries and possible saving in time and transport costs because of geographical proximity
- necessity to retain complete control over its trade patents and to ensure consistent quality and service or for creating monopolies in a global context
- promoting optimal utilization of physical, human, financial and other resources
- desire to capture large and rapidly growing high potential emerging markets with substantially high and growing population
- ease of penetration into the markets of those countries that have established import restrictions such as blanket bans, high customs duties or non-tariff barriers which make it difficult for the foreign firm to sell in the host-country market by 'getting behind the tariff wall'.
- lower environmental standards in the host country and the consequent relative savings in costs

© The Institute of Chartered Accountants of India

- stable political environment and overall favourable investment climate in the host country
- higher degree of openness to foreign capital exhibited by the recipient country and the prevalence of preferential investment systems such as special economic zones to encourage direct foreign investments
- the strategy to obtain control of strategic raw material or resource so as to ensure their uninterrupted supply at the lowest possible price; usually a form of vertical integration
- desire to secure access to minerals or raw material deposits located elsewhere and earn profits through processing them to finished form (Eg.FDI in petroleum)
- the existence of low relative wages in the host country because of relative labour abundance coupled with shortage and high cost of labour in capital exporting countries, especially when the production process is labour intensive.
- lower level of economic efficiency in host countries and identifiable gaps in development.
- tax differentials and tax policies of the host country which support foreign direct investment. However, a low tax burden cannot compensate for a generally fragile and unattractive FDI environment.
- inevitability of defensive investments in order to preserve a firm's competitive position.
- high gross domestic product and high per capita income coupled with their high rate of growth. There are also other philanthropic objectives such as strengthening of socio-economic infrastructure, alleviation of poverty and maintenance of ecological balance of the host country, and
- prevalence of high standards of social amenities and possibility of good quality of life in the host country.

Table 4.5.2

Host Country Determinants of Foreign Direct Investment

Economic Determinants	**Policy Framework**
Market -seeking FDI:	Economic, political, and social stability
Market size and per capita income	Rules regarding entry and operations
Market growth	Standards of treatment of foreign affiliates
Access to regional and global markets	
Country-specific consumer preferences	
Structure of markets	

© The Institute of Chartered Accountants of India

Resource - or asset-seeking FDI: Raw materials Low -cost unskilled labor Availability of skilled labor Technological, innovative, and other created assets (e.g., brand names) Physical infrastructure ***Efficiency -seeking FDI:*** Costs of above physical and human resources and assets (including an adjustment for productivity) Other input costs (e.g., intermediate products, transport costs) Membership of country in a regional integration agreement, which could be conducive to forming regional corporate networks	Policies on functioning and structure of markets (e.g., regarding competition, mergers) International agreements on FDI Privatization policy Trade policies and coherence of FDI and trade policies Tax policy ***Business Facilitation*** Investment promotion (including image building and investment-generating activities and investment-facilitation services) Investment incentives "Hassle costs" (related to corruption and administrative efficiency) Social amenities (e.g., bilingual schools, quality of life) After-investment services

Source: International economics (7th ed) International Economics, Dennis R. Appleyard; Alfred J. Field; Steven L. Cobb (P237)

Factors in the host country discouraging inflow of foreign investments are infrastructure lags, high rates of inflation, balance of payment deficits, poor literacy and low labour skills, rigidity in the labour market, bureaucracy and corruption, unfavourable tax regime, cumbersome legal formalities and delays, difficulties in contract enforcement, land acquisition issues, small size of market and lack of potential for its growth, political instability, absence of well-defined property rights, exchange rate volatility, poor track-record of investments, prevalence of non-tariff barriers, stringent regulations, lack of openness, language barriers, high rates of industrial disputes, lack of security to life and property, lack of facilities for immigration and employment of foreign technical and administrative personnel, double taxation and lack of a general spirit of friendliness towards foreign investors.

5.6 MODES OF FOREIGN DIRECT INVESTMENT (FDI)

Foreign direct investments can be made in a variety of ways, such as:

(i) Opening of a subsidiary or associate company in a foreign country,

© The Institute of Chartered Accountants of India

(ii) Equity injection into an overseas company,

(iii) Acquiring a controlling interest in an existing foreign company,

(iv) Mergers and acquisitions(M&A)

(v) Joint venture with a foreign company.

(vi) Green field investment (establishment of a new overseas affiliate for freshly starting production by a parent company).

(vii) Brownfield investments (a form of FDI which makes use of the existing infrastructure by merging, acquiring or leasing, instead of developing a completely new one. For e.g. in India 100% FDI under automatic route is allowed in Brownfield Airport projects.

5.7 BENEFITS OF FOREIGN DIRECT INVESTMENT

The benefits from and concerns about FDI are widely discussed and well documented. While recognizing the fact that there are also benefits and costs to the home country from capital outflow, in this unit we focus only on host-country effects of FDI with particular attention to the developing countries. Following are the benefits ascribed to foreign investments:

1. Entry of foreign enterprises usually fosters competition and generates a competitive environment in the host country. The domestic enterprises are compelled to compete with the foreign enterprises operating in the domestic market. This results in positive outcomes in the form of cost-reducing and quality-improving innovations, higher efficiency and increasing variety of better products and services at lower prices ensuring wider choice and welfare for consumers.

2. International capital allows countries to finance more investment than can be supported by domestic savings. The provision of increased capital to work with labour and other resources available in the host country can enhance the total output/GDP (as well as output per unit of input) flowing from the factors of production.

3. From the perspective of emerging and developing countries, FDI can accelerate growth and foster economic development by providing the much needed capital, technological know-how, management skills, marketing methods and critical human capital skills in the form of managers and technicians. The spill-over effects of the new technologies usually spread beyond the foreign corporations. In addition, the new technology can clearly enhance the recipient country's production possibilities.

4. Competition for FDI among national governments also has helped to promote political and structural reforms important to attract foreign investors, including legal systems and macroeconomic policies.

© The Institute of Chartered Accountants of India

5. Since FDI involves setting up of production base (in terms of factories, power plants, etc.), it generates direct employment in the recipient country. Subsequent FDI as well as domestic investments propelled in the downstream and upstream projects that come up in multitude of other services, generate multiplier effects on employment and income/GDP.

6. FDI not only creates direct employment opportunities but also, through backward and forward linkages, generate indirect employment opportunities. This impact is particularly important if the recipient country is a developing country with an excess supply of labour caused by population pressure.

7. Foreign direct investments also promote relatively higher wages for skilled jobs. More indirect employment will be generated to people in the lower-end services sector occupations thereby catering to an extent even to the less educated and unskilled persons engaged in those units.

8. Foreign corporations provide better access to foreign markets. Unlike portfolio investments, FDI generally entails people-to-people relations and is usually considered as a promoter of bilateral and international relations. Greater openness to foreign capital leads to higher national dependence on international investors, making the cost of discords higher.

9. There is also greater possibility for the promotion of ancillary units resulting in job creation and skill development for workers.

10. Foreign enterprises possessing marketing information with their global network of marketing are in a unique position to utilize these strengths to promote the exports of developing countries. If the foreign capital produces goods with export potential, the host country is in a position to secure scarce foreign exchange needed to import capital equipments or materials to assist the country's development plans or to ease its external debt servicing.

11. If the host country is in a position to implement effective tax measures, the foreign investment projects also would act as a source of new tax revenue which can be used for development projects.

12. It is likely that foreign investments enter into industries in which economies of scale can be realized so that consumer prices may be reduced. Domestic firms might not always be able to generate the necessary capital to achieve the cost reductions associated with large-scale production.

13. Increased competition resulting from the inflow of foreign direct investments facilitates weakening of the market power of domestic monopolies resulting in a possible increase in output and fall in prices.

© The Institute of Chartered Accountants of India

14. Since FDI has a distinct advantage over the external borrowings, it is considered to have a favourable impact on the host country's balance of payment position, and

15. Better work culture and higher productivity standards brought in by foreign firms may possibly induce productivity related awareness and may also contribute to overall human resources development.

5.8 POTENTIAL PROBLEMS ASSOCIATED WITH FOREIGN DIRECT INVESTMENT

In the above section, we have seen that a wide variety of benefits may result from an inflow of foreign direct investment. These gains do not occur in all cases, nor do they occur in the same magnitude. Despite the arguments in favour of FDI, many are highly critical of the impact of foreign capital, especially on developing economies. They argue that foreign entities are highly focused on profits and have an eye on exploiting the natural resources and are almost always not genuinely interested in the development needs of host countries. Foreign capital is perceived by the critics as an instrument of imperialism, perpetrator of dependence and source of inequality between and within the nations.

Following are the general arguments put forth against the entry of foreign capital:

1) FDIs are likely to concentrate on capital-intensive methods of production and service so that they need to hire only relatively few workers. Such technology is inappropriate for a labour-abundant country as it does not support generation of jobs which is a crucial requirement to address the two fundamental areas of concern for the less developed countries namely, poverty and unemployment

2) The inherent tendency of FDI flows to move towards regions or states which are well endowed in terms of natural resources and availability of infrastructure has the potential to accentuate regional disparity. Foreign capital is also criticized for accentuating the already existing income inequalities in the host country.

3) In the context of developing countries, it is usually alleged that the inflow of foreign capital may cause the domestic governments to slow down its efforts to generate more domestic savings, especially when tax mechanisms are difficult to implement. If the foreign corporations are able to secure incentives in the form of tax holidays or similar provisions, the host country loses tax revenues.

4) Often, the foreign firms may partly finance their domestic investments by borrowing funds in the host country's capital market. This action can raise interest rates in the host country and lead to a decline in domestic investments through 'crowding-out' effect. Moreover, suppliers of funds in developing economies would prefer foreign

© The Institute of Chartered Accountants of India

firms due to perceived lower risks and such shifts of funds may divert capital away from investments which are crucial for the development needs of the country.

5) The expected benefits from easing of the balance of payments situation might remain unrealised or narrowed down due to the likely instability in the balance of payments and the exchange rate. Obviously, FDI brings in more foreign exchange, improves the balance of payments and raises the value of the host country's currency in the exchange markets. However, when imported inputs need to be obtained or when profits are repatriated, a strain is placed on the host country's balance of payments and the home currency leading to its depreciation. Such instabilities jeopardize long-term economic planning. Foreign corporations also have a tendency to use their usual input suppliers which can lead to increased imports. Also, large scale repatriation of profits can be stressful on exchange rates and the balance of payments.

6) Jobs that require expertise and entrepreneurial skills for creative decision making may generally be retained in the home country and therefore the host country is left with routine management jobs that demand only lower levels of skills and ability. The argument of possible human resource development and acquisition of new innovative skills through FDI may not be realized in reality.

7) High profit orientation of foreign direct investors tend to promote a distorted pattern of production and investment such that production could get concentrated on items of elite and popular consumption and on non-essential items.

8) Foreign entities are usually accused of being anti-ethical as they frequently resort to methods like aggressive advertising and anticompetitive practices which would induce market distortions.

9) A large foreign firm with deep pockets may undercut a competitive local industry because of various advantages (such as in technology) possessed by it and may even drive out domestic firms from the industry resulting in serious problems of displacement of labour. The foreign firms may also exercise a high degree of market power and exist as monopolists with all the accompanying disadvantages of monopoly. The high growth of wages in foreign corporations can influence a similar escalation in the domestic corporations which are not able to cover this increase with growth of productivity. The result is decreasing competitiveness of domestic companies which might prove detrimental to the long-term interests of industrial development of the host country.

10) FDI usually involves domestic companies 'off –shoring', or shifting jobs and operations abroad in pursuit of lower operating costs and consequent higher profits. This has deleterious effects on employment potential of home country.

© The Institute of Chartered Accountants of India

11) The continuance of lower labour or environmental standards in host countries is highly appreciated by the profit seeking foreign enterprises. This is of great concern because efforts to converge such standards often fail to receive support from interested parties.

12) At times, there is potential national security considerations involved when foreign firms function in the territory of the host country, especially when acute hostilities prevail.

13) FDI may have adverse impact on the host country's commodity terms of trade (defined as the price of a country's exports divided by the price of its imports). This could occur if the investments go into production of export-oriented goods and the country is a large country in the sale of its exports. Thus, increased exports drive down the price of exports relative to the price of imports.

14) FDI is also held responsible by many for ruthless exploitation of natural resources and the possible environmental damage.

15) With substantial FDI in developing countries there is a strong possibility of emergence of a dual economy with a developed foreign sector and an underdeveloped domestic sector.

16) Perhaps the most disturbing of the various charges levied against foreign direct investment is that a large foreign investment sector can exert excessive amount of power in a variety of ways so that there is potential loss of control by host country over domestic policies and therefore the less developed host country's sovereignty is put at risk. Mighty multinational firms are often criticized of corruption issues, unduly influencing policy making and evasion of corporate social responsibility.

No general assessment can be made regarding whether the benefits of FDI outweigh the costs. Each country's situation and each firm's investment must be examined in the light of various considerations and a judgment about the desirability or otherwise of the investment should be arrived at.

Many safeguards and performance requirements are put in place by developed and developing countries to improve the ratio of benefits to costs associated with foreign capital. A few examples are: domestic content requirements on inputs, reservation of certain key sectors to domestic firms, requirement of a minimum percent of local employees, ceiling on repatriation of profits, local sourcing requirements and stipulations for full or partial export of output to earn foreign exchange.

5.9 FOREIGN DIRECT INVESTMENT IN INDIA

Foreign Direct Investment (FDI), in addition to being a key driver of economic growth, has been a significant non-debt financial resource for India's economic development. Foreign

© The Institute of Chartered Accountants of India

corporations invest in India to benefit from the country's particular investment privileges such as tax breaks and comparatively lower salaries. This helps India develop technological know-how and create jobs as well as other benefits. These investments have been coming into India because of the government's supportive policy framework, vibrant business climate, rising global competitiveness and economic influence.

The government has recently made numerous efforts, including easing FDI regulations in various industries, PSUs, oil refineries, telecom and defence. India's FDI inflows reached record levels during 2020-21. The total FDI inflows stood at US$ 81,973 million, a 10% increase over the previous financial year. According to the World Investment Report 2022, India was ranked eighth among the world's major FDI recipients in 2020, up from ninth in 2019. Information and technology, telecommunication and automobile were the major receivers of FDI in FY22. With the help of significant transactions in the technology and health sectors, multinational companies (MNCs) have pursued strategic collaborations with top domestic business groupings, fuelling an increase in cross-border M&A of 83% to US$ 27 billion.

5.10 OVERSEAS DIRECT INVESTMENT BY INDIAN COMPANIES

India is primarily a domestic demand-driven economy, with consumption and investments contributing to 70% of the economic activity. With an improvement in the economic scenario and the Indian economy recovering from the Covid-19 pandemic shock, India is relatively well placed than the rest of the world. Despite major headwinds that continue to pose risks in the short term, the Indian economy has remained strong owing to robust policy measures in place. This gives Indian businesses an advantage to make investments abroad and broaden their operational footprint in such nations. New innovations from abroad would be brought to India with the help of knowledge spillover, and India itself would contribute to the growth of other nations. In this manner, a mutual benefit is achieved. In this regard, there have been several overseas investments made by Indian companies. Some of the key overseas investments and developments that have taken place in the recent past are mentioned as follows:

According to data released by the Reserve Bank of India (RBI), overseas direct investment stood at US$ 1,922.51 million in September 2022.

The critical investments are as follows:

- In June 2022, Tata Steel announced plans to invest 7 million pounds (US$ 837.95 billion) for its Hartlepool Tube Mill in North-East England.
- Tata Communications invested US$ 690 million in its wholly-owned subsidiary in Singapore.

© The Institute of Chartered Accountants of India

- Jindal Steel and Power invested US$ 366 million in its wholly owned subsidiary in Mauritius
- Wipro invested US$ 204.96 million in its wholly-owned subsidiary in Cyprus.
- Jindal Saw invested US$ 64.5 million in its wholly-owned subsidiary in the United Arab Emirates.
- Restaurant Brand Aisa and Lupin Ltd invested US$ 141.34 million and US$ 131.25 million in their JVs in Indonesia and the US, respectively.
- Reliance New Energy invested US$ 87.73 million in its wholly owned subsidiary in Norway.
- Mohalla Internet Pvt. Ltd. invested US$ 86 million in its fully owned unit in Mauritius.
- ONGC Videsh invested US$ 83.31 million in a joint-venture in Russia.
- ICICI Bank ties up with Santander in Britain in a pact aimed at facilitating the banking requirements of corporates operating across both countries.
- ANI Technologies, the promoter of OLA, invested US$ 675 million in its wholly-owned subsidiary in Singapore.
- Dr Reddy invested US$ 149.99 million in a joint- venture (JV) in the US.
- A total of US$ 168.9 million was invested by Reliance New Energy in a JV and wholly-owned subsidy in Germany and Norway.
- Gail India, energy PSU invested US$ 70.17 million in a JV and wholly-owned unit in Myanmar and the US.
- ONGC invested US$ 74.15 million during the month in various countries in 5 different ventures.
- In July 2022, Reliance Brands Ltd. signed a distribution agreement with Maison Valentino, an Italian luxury fashion house, to open its first boutique in Delhi, followed by a flagship store in Mumbai.
- In July 2022, Reliance Retail Limited entered into a long-term partnership with Gap Inc. to bring the iconic American fashion brand, Gap, to India.
- In July 2022, Tata Steel signed a Memorandum of Understanding (MoU) with BHP, a leading global resources company, with the intention to jointly study and explore low-carbon iron and steelmaking technology.
- In January 2022, Ola Electric, the ride-hailing company's electric vehicle (EV) subsidiary, announced its plans to establish Ola Futurefoundry, a global hub for advanced

© The Institute of Chartered Accountants of India

engineering and vehicle design in the UK, investing US$ 100 million over the next 5 years.

- In January, Essar Group of India announced that it had created a joint venture with Progressive Energy of the UK to invest US$ 1.34 billion in a hydrogen manufacturing plant at its Essar Stanlow refinery complex.
- In January, Hindalco Ltd's US subsidiary, Novelis, announced its plans to invest US$ 365 million in a state-of-the-art vehicle recycling facility in North America.

SUMMARY

- ♦ Foreign capital may flow into an economy in different ways, such as foreign aid, grants, borrowings, deposits from non-resident Indians, investments in the form of foreign portfolio investment (FPI) and foreign direct investment (FDI)
- ♦ Foreign direct investment is defined as a process whereby the resident of one country (i.e. home country) acquires ownership of an asset in another country (i.e. the host country) and such movement of capital involves ownership, control as well as management of the asset in the host country.
- ♦ Direct investments are real investments in factories, assets, land, inventories etc. and have three components, viz., equity capital, reinvested earnings and other direct capital in the form of intra-company loans. FDI may be categorized as horizontal, vertical or conglomerate.
- ♦ Foreign portfolio investment is the flow of 'financial capital' with stake in a firm at below 10 percent, and does not involve manufacture of goods or provision of services, ownership management or control of the asset on the part of the investor.
- ♦ The main reasons for foreign direct investment are profits, higher rate of return, possible economies of large-scale in operation, risk diversification, retention of trade patents, capture of emerging markets, lower host country environmental and labour standards, bypassing of non-tariff and tariff barriers, cost–effective availability of needed inputs and tax and investment incentives.
- ♦ Foreign direct investment takes place through opening of a subsidiary or associate company, equity injection, acquiring a controlling interest, mergers and acquisitions (M&A), joint venture and green field investment.
- ♦ Benefits of foreign direct investment include positive outcomes of competition such as cost- reducing and quality-improving innovations, higher efficiency, huge variety of better products and services at lower prices, welfare for consumers, multiplier effects on employment, output and income, relatively higher wages, better access to foreign markets,

© The Institute of Chartered Accountants of India

control of domestic monopolies and improvement of balance of payments position.

- Potential problems of foreign direct investment include use of inappropriate capital-intensive methods in a labour-abundant country, increase in regional disparity, crowding-out of domestic investments, diversion of capital resulting in distorted pattern of production and investment, instability in the balance of payments and exchange rate and indiscriminate repatriation of the profits.
- FDIs are also likely to indulge in anti-ethical market distortions, off–shoring or shifting of jobs, overexploitation of natural resources causing environmental damage, exercising monopoly power, decrease in competitiveness of domestic companies, potentially jeopardizing national security and sovereignty, worsening commodity terms of trade and causing emergence of a dual economy.
- FDI in India (Inbound FDI), mostly a post reform phenomenon, is a major source of non-debt financial resource for economic development. The government has, at different stages, liberalized FDI by increasing sectoral caps, bringing in more activities under automatic route and easing conditions for foreign investment.
- Overseas direct investments by Indian companies (Outbound FDI), made possible by progressive relaxation of capital controls and simplification of procedures, have undergone substantial changes in terms of size, geographical spread and sectoral composition. Outward Foreign Direct Investment (OFDI) from India stood at US$ 1.86 billion in the month of June 2016.

TEST YOUR KNOWLEDGE

Multiple Choice Type Questions

1. *Which of the following statements is incorrect?*

   (a) Direct investments are real investments in factories, assets, land, inventories etc. and involve foreign ownership of production facilities.

   (b) Foreign portfolio investments involve flow of 'financial capital'.

   (c) Foreign direct investment (FDI) is not concerned with either manufacture of goods or with provision of services.

   (d) Portfolio capital moves to a recipient country which has revealed its potential for higher returns and profitability.

2. *Which of the following is a component of foreign capital?*

   (a) Direct inter government loans

© The Institute of Chartered Accountants of India

(b) *Loans from international institutions (e.g. World Bank, IMF, ADB)*

(c) *Soft loans for e.g. from affiliates of World Bank such as IDA*

(d) *All the above*

3. *Which of the following would be an example of foreign direct investment from Country X?*

(a) *A firm in Country X buys bonds issued by a Chinese computer manufacturer.*

(b) *A computer firm in Country X enters into a contract with a Malaysian firm for the latter to make and sell to it processors*

(c) *Mr. Z a citizen of Country X buys a controlling share in an Italian electronics firm*

(d) *None of the above*

4 *Which of the following types of FDI includes creation of fresh assets and production facilities in the host country?*

(a) *Brownfield investment*

(b) *Merger and acquisition*

(c) *Greenfield investment*

(d) *Strategic alliances*

5. *Which is the leading country in respect of inflow of FDI to India?*

(a) *Mauritius*

(b) *USA*

(c) *Japan*

(d) *USA*

6. *An argument in favour of direct foreign investment is that it tends to*

(a) *promote rural development*

(b) *increase access to modern technology*

(c) *protect domestic industries*

(d) *keep inflation under control*

7. *Which of the following is a reason for foreign direct investment?*

(a) *secure access to minerals or raw materials*

(b) *desire to capture of large and rapidly growing emerging markets*

© The Institute of Chartered Accountants of India

(c) *desire to influence home country industries*

(d) *(a) and (b) above*

8. *A foreign direct investor*

(a) *May enter India only through automatic route*

(b) *May enter India only through government route*

(c) *May enter India only through equity in domestic enterprises*

(d) *Any of the above*

9. *Foreign investments are prohibited in*

(a) *Power generation and distribution*

(b) *Highways and waterways*

(c) *Chit funds and Nidhi company*

(d) *Airports and air transport*

10. *Which of the following statement is false in respect of FPI?*

(a) *portfolio capital in general, moves to investment in financial stocks, bonds and other financial instruments*

(b) *is effected largely by individuals and institutions through the mechanism of capital market*

(c) *is difficult to recover as it involves purely long-term investments and the investors have controlling interest*

(d) *investors also do not have any intention of exercising voting power or controlling or managing the affairs of the company.*

ANSWERS

1.	**(c)**	2.	**(d)**	3.	**(c)**	4.	**(c)**	5.	**(a)**	6	**(b)**
7.	**(d)**	8.	**(d)**	9.	**(c)**	10.	**(c)**				

© The Institute of Chartered Accountants of India

CHAPTER 10

INDIAN ECONOMY

LEARNING OUTCOMES

After studying this Chapter, you will be able to –

- Describe the state of affairs of the pre British Indian economy
- Give an account of the Indian economic phenomena during the British rule
- Illustrate the turning points in the growth trajectory of India
- Explain the major reform initiatives post-independence and assess their impact
- Appreciate the role of NITI Aayog
- Portray the current status of the economy sector wise

10.1 STATUS OF INDIAN ECONOMY: PRE INDEPENDENCE PERIOD (1850 -1947)

Between the first and the seventeenth century AD, India is believed to have had the largest economy of the ancient and the medieval world. It was prosperous and self-reliant and is believed to have controlled between one third and one fourth of the world's wealth. The economy consisted of self-sufficient villages as well as cities which were centres of commerce,

© The Institute of Chartered Accountants of India

pilgrimage and administration. Compared to villages, cities presented more opportunities for diverse occupations, trades and gainful economic activities.

Simple division of labour intertwined with attributes such as race, class, and gender was the basis of the structure of the villages and acted as a built-in mechanism of economic and social differentiation. Though agriculture was the dominant occupation and the main source of livelihood for majority of people, the country had a highly skilled set of artisans and craftsmen who produced manufactures, handicrafts and textiles of superior quality and fineness for the worldwide market.

Box.1 Ancient Economic Philosophy of India

The earliest known treatise on ancient Indian economic philosophy is 'Arthashastra' the pioneering work attributed to Kautilya (Chanakya) (321–296 BCE)Arthashastra is recognized as one of the most important works on statecraft in the genre of political philosophy. It is believed to be a kind of handbook for King Chandragupta Maurya, the founder of Mauryan empire, containing directives as to how to reign over the kingdom and encouraging direct action in addressing political concerns without regard for ethical considerations.

Artha is not wealth alone; rather it encompasses all aspects of the material well-being of individuals. Arthashastra is the science of 'artha' or material prosperity, or "the means of subsistence of humanity," which is, primarily, 'wealth' and, secondarily, 'the land'. The major focus of the work is on the means of fruitfully maintaining and using land. Kautilya emphasizes the importance of robust agricultural initiatives for an abundant harvest which will go toward filling the state's treasury. Taxes, which were charged equal for private and state-owned businesses, must be fair to all and should be easily understood by the king's subjects.

Being a multidisciplinary discourse on areas such as politics, economics, military strategy, diplomacy, function of the state, and the social organization, Kautilya's writings relate to statecraft, political science, economic policy and military strategy.True kingship is defined as a ruler's subordination of his own desires and ambitions to the good of his people; i.e. a king's policies should reflect a concern for the greatest good of the greatest number of his subjects. The preservation and advancement of this good was comprised of seven vital elements, namely the King, Ministers, Farmlands, Fortresses, Treasury, Military and the Allies.

The advent of the Europeans and the British marked a shift in the economic history of India. The period of British rule can be divided into two sub periods:

1. The rule of East India Company from 1757 to 1858
2. British government in India from 1858 to 1947

The historical legacy of British colonialism is an important starting point to illustrate the development path of India. With the onset of Industrial revolution in the latter half of the 18th

© The Institute of Chartered Accountants of India

century, the manufacturing capabilities of Britain increased manifold, and consequently there arose the need to augment raw material supply as well as the need for finding markets for finished goods. This led to a virtual reversal of the nature of India's foreign trade from an exporter of manufactures to an exporter of raw materials.

The Indian exports of finished goods were subjected to heavy tariffs and the imports were charged lower tariffs under the policy of discriminatory tariffs followed by the British. This made the exports of finished goods relatively costlier and the imports cheaper. In this backdrop, the Indian goods lost their competitiveness. Consequently, the external as well as the domestic demand for indigenous products fell sharply culminating in the destruction of Indian handicrafts and manufactures. The destruction of Indian manufactures, mainly due to the hostile imperial policies to serve the British interests and the competition from machine-made goods, had far reaching adverse consequences on the Indian manufacturing sector. The problem was aggravated by the shift in patterns of demand by domestic consumers favouring foreign goods as many Indians wanted to affiliate themselves with western culture and ways of life.

The damage done to the long established production structure had far reaching economic and social consequences as it destroyed the internal balance of the traditional village economy which was characterized by the harmonious blending of agriculture and handicrafts. These were manifest as:

1. Large scale unemployment and absence of alternate sources of employment which forced many to depend on agriculture for livelihood
2. The increased pressure on land caused sub division and fragmentation of land holdings, subsistence farming, reduced agricultural productivity and poverty.
3. The imports of cheap machine made goods from Britain and an overt shift of tastes and fashion of Indians in favour of imported goods made the survival of domestic industries all the more difficult.
4. The systems of land tenure, especially the zamindari system created a class of people whose interests were focused on perpetuating the British rule.
5. Excessive pressure on land increased the demand for land under tenancy, and the zamindars got the opportunity to extract excessive rents and other payments
6. Absentee landlordism, high indebtedness of agriculturists, growth of a class of exploitative money lenders and low attention to productivity enhancing measures led to a virtual collapse of Indian agriculture.

We shall now have a look into the stagnated nature of industrialisation during the colonial era. Factory-based production did not exist in India before 1850.The 'Modern' industrial

© The Institute of Chartered Accountants of India

enterprises in colonial India started to grow in the mid-19th century. The cotton milling business grew steadily throughout the second half of the 19th century, and achieved high international competitiveness. The cotton mill industry in India had 9 million spindles in the 1930s, which placed India in the fifth position globally in terms of number of spindles.

Jute mills also expanded rapidly in and around Calcutta in response to a mounting global demand for ropes and other products, and Indian jute occupied a large share of the international market by the late 19th century. At the end of the 19th century, the Indian jute mill industry was the largest in the world in terms of the amount of raw jute consumed in production. In addition, brewing, paper-milling, leather-making, matches, and rice-milling industries also developed during the century. Heavy industries such as the iron industry were also established as early as 1814 by British capital. India's iron industry was ranked eighth in the world in terms of output in 1930. Due to progress in modern industrial enterprises, some industries even reached global standards by the beginning of the 20th century. Just before the Great Depression, India was ranked as the twelfth largest industrialised country measured by the value of manufactured products.

The producer goods industries, however, did not show high levels of expansion. Perhaps, the most important of the factors that led to this state of affairs was the pressure exerted by the English producers in matters of policy formulation to positively discourage the development of industries which were likely to compete with those of the English producers.

India's industrial growth was insufficient to bring in a general transformation in its economic structure. The share in the net domestic product (NDP) of the manufacturing sector (excluding small scale and cottage industries) had barely reached 7% even in 1946.Considering its slow progress, the share of factory employment in India was also small (i.e. 0.4% of the total population in 1900 and 1.4% in 1941).

10.2 INDIAN ECONOMY: POST-INDEPENDENCE (1947-1991)

At the time of independence, India was overwhelmingly rural inhabited by mostly illiterate people who were exceedingly poor. We had a deeply stratified society characterized by extreme heterogeneity on many counts. With the literacy rate just above 18 percent and barely 32 years of life expectancy in 1951, India's poverty was not just in terms of income alone, but also in terms of human capital,

For historical reasons, the Nehruvian model which supported social and economic redistribution and industrialization directed by the state came to dominate the post-Independence Indian economic policy. Centralized economic planning and direction was at the core of India's development strategy and the economic policies were crafted to

© The Institute of Chartered Accountants of India

accomplish rapid economic growth accompanied by equity and distributive justice. The Planning Commission of India was established to meticulously plan for the economic development of the nation in line with the socialistic strategy. This was carried through the five-year plans which were developed, implemented and monitored by the Planning Commission.

It is pertinent here to have a look at the ideology of industrialization prevailed in the early days of independence. India's political leadership was keen on establishing an economic system in which the central government would have authority to design the economic strategy and to carry out the necessary investments in coordination with the private sector. Rapid industrialization of the economy was the cornerstone of Nehru's development strategy. The concept of 'planned modernization' meant a systematic planning to support industrialization. The bureaucrats and the technocrats envisioned a substantially significant role for the state in industrialisation.

The Industrial Policy Resolution (1948) envisaged an expanded role for the public sector and licensing to the private sector. It granted state monopoly for strategic areas such as atomic energy, arms and ammunition and railways. Also, the rights to new investments in basic Industries were exclusively given to the state.

The policies in 1950's were guided by two economic philosophies:

1. The then prime minister Nehru's visualization to build a socialistic society with emphasis on heavy industry, and
2. The Gandhian philosophy of small scale and cottage industry and village republics

The Industrial Policy Resolution of 1956 though provided a comprehensive framework for industrial development, was lopsided as its guiding principle supported enormous expansion of the scope of the public sector. A natural outcome of the undue priority for public sector was the dampening of private initiative and enterprise. For obvious reasons, private investments were discouraged and this had long-lasting negative consequences for industrial growth.

India followed an open foreign investment policy and a relatively open trade policy until the late 1950s.A balance of payments crisis emerged in 1958 causing concerns regarding foreign exchange depletion. Consequently, there emerged a gradual tightening of trade and reduction in investment-licensing of new investments requiring imports of capital goods. The comprehensive import controls were maintained until 1966.

In the first three decades after independence (1950–80), India's average annual rate of growth of GDP- often referred to as the 'Hindu growth rate'- was a modest 3.5 percent. While agriculture was not neglected, the thrust of the first decade and a half was on capital goods—capital-intensive projects such as dams, power plants, and heavy industrialization—rather than consumer goods.

© The Institute of Chartered Accountants of India

The first major shift in Indian economic strategy was in the mid-1960s. Agriculture was not given adequate priority during the second plan and the outlays were reduced. The strategy for agricultural development till then was reliance on institutional model i.e. land reforms, farm cooperatives etc. and not much importance was given to technocratic areas such as research and development, irrigation etc. These institutional reforms were only modestly successful and the productivity increase in agriculture was meagre.

With continuous failures of monsoon, two severe and consecutive droughts struck India in 1966 and 1967. The agricultural sector recorded substantial negative growth and India faced a serious food problem. India had to depend on the United States for food aid under PL 480. A quantum jump in the food grain production was the need of the hour. Increasing productivity in agriculture was given the highest priority. This, in fact, kick-started a strategic change in the government's agricultural policies. The new wave of change relied less on the earlier efforts at institutional change and relied more on enhancing productivity of agriculture, especially of wheat. A thorough restructuring of agricultural policy referred to as the 'green revolution' was initiated. The green revolution was materialised by innovative farm technologies, including high yielding seed varieties and intensive use of water, fertilizer and pesticides. The green revolution was successful in increasing agricultural productivity through technical progress and significantly increased food grain production enabling India to tide over the food problem.

While India drastically changed its agricultural policies, the government introduced extra stringent administrative controls on both trade and industrial licensing and launched a wave of nationalization. The government nationalized 14 banks in 1969 and then followed it up with nationalizing another 6 in 1980. The wide sweep of the interventionist policies that had come to exist in the 1960s had irreparable consequences in the next decade.

The economic performance during the period of 1965-81 is the worst in independent India's history. The decline in growth during this period is attributed mainly to decline in productivity. The *license-raj,* the autarchic policies that dominated the 1960s and 1970s, the external shocks such as three wars (in 1962, 1965, and 1971), major droughts (especially 1966 and 1967), and the oil shocks of 1973 and 1979contributed to the decelerated growth that lasted two decades. India being practically a closed economy missed out on the opportunities created by a rapidly growing world economy.

Many government policies aimed at equitable distribution of income and wealth effectively killed the incentive for creating wealth. Equity driven policies were also largely anti growth. The Monopolies and Restrictive Trade Practices (MRTP) Act, 1969 was aimed at regulation of large firms which had relatively large market power. Several restrictions were placed on them in terms of licensing, capacity addition, mergers and acquisitions. Thus, policies restricting the possibility of expansion of big business houses kept their entry away from nearly all but a few

© The Institute of Chartered Accountants of India

highly capital intensive sectors.

In 1967, the policy of reservation of many products for exclusive manufacture by the small scale sector was initiated with the objective of promotion of small scale industries. It was argued that this policy will encourage labour-intensive economic growth and allow redistribution of income by shifting incomes towards lower wage earners. However, this policy excluded all big firms from labour intensive industries and India was not able to compete in the world market for these products. Stringent labour laws which were in place also discouraged starting of labour intensive industries in the organized sector.

There was a growing realisation among policymakers and industrialists that the prevailing strict regime is invariably counterproductive and that most of the controls and regulations had not delivered in the absence of adequate incentives and openness which are necessary conditions for sustained rapid growth.

10.3 THE ERA OF REFORMS

The seeds of early liberalisation and reforms were sown during the 1980s, especially after 1985. In early 1980s considerable efforts were initiated in different directions to restore reasonable price stability through a combination of tight monetary policy, fiscal moderation and a few structural reforms. These initiatives, spanning 1981 to 1989, practically referred to as 'early liberalization' were specifically aimed at changing the prevailing thrust on 'inward-oriented' trade and investment practices. In fact, this liberalization is often referred to as 'reforms by stealth' to denote its ad hoc and not widely publicized nature. Despite the fact that these efforts were not in the form of a comprehensive package (as the one in 1991) to reverse the centralised controls and the protectionist bias in policies, they started bearing fruits in the form of higher growth rate during the 1980s as compared with the previous three decades. The average annual growth rate of GDP during the sixth plan period (1980–1985) and the seventh plan period (1985–1990) were 5.7 and 5.8 percent respectively.

The early reforms of 1980's broadly covered three areas, namely industry, trade and taxation. Simultaneously, the government also embarked on a policy of skilful exchange rate management. The prominent industrial policy initiatives during this period directed towards removing constraints on growth and creating a more dynamic industrial environment were:

- In 1985 delicensing of 25 broad categories of industries was done. This was later extended to many others
- The facility of 'broad-banding' was accorded for industry groups to allow flexibility and rapid changes in their product mix without going in for fresh licensing. In other words, the firms in the engineering industry were allowed to change their product mix within

© The Institute of Chartered Accountants of India

their existing capacity. For example, firms may switch production between different production lines such as trucks and car without a new licence

- To relax the hold of the licensing and capacity constraints on larger MRTP firms, in 1985–86, the asset limit above which firms were subject to MRTP regulations was raised from 20 crore to 100 crore.
- The multipoint excise duties were converted into a modified value-added (MODVAT) tax which significantly reduced the taxation on inputs and the associated distortions.
- Establishment of the Securities and Exchange Board of India (SEBI) as a non-statutory body on April 12, 1988 through a resolution of the Government of India
- The open general licence (OGL) list was steadily expanded. The number of capital goods items included in the OGL list expanded steadily reaching1,329 in April 1990.
- Several export incentives were introduced and expanded
- The exchange rate was set at a realistic level which helped expand exports and in turn reduced pressure on foreign exchange needed for imports
- Price and distribution controls on cement and aluminum were entirely abolished.
- Based on the real effective exchange rate (REER), the rupee was depreciated by about 30.0 per cent from 1985–86 to 1989–90. This reflects a considerable change in the official attitude towards exchange rate depreciation
- The budget for 1986 introduced policies of cutting taxes further, liberalising imports and reducing tariffs.

However, the growth performance of the economy was thwarted due to structural inadequacies and distortions. The private sector investments were inhibited due to reasons such as convoluted licensing policies, public sector reservations and excessive government controls. Due to reservation of goods to small scale sector as well as excessive price and distribution controls, the private sector was virtually discouraged from making investments. The public sector which led the manufacturing and service sectors was plagued by inefficiency, government controls and bureaucratic procedures. Despite the fact that they were of massive in size and enjoyed monopoly in their respective areas, their performance was far from satisfactory and yielded very low returns on investment.

The MRTP act had many restrictive conditions creating barriers for entry, diversification and expansion for large industrial houses. Import controls in the form of tariffs, quotas and quantitative restrictions ensured that foreign manufactures and components did not cross the borders and compete with the domestic industries. Foreign investments and foreign competition were not allowed on grounds of affording protection to domestic industries. Briefly put, the rules and regulations which were aimed at promoting and regulating the

© The Institute of Chartered Accountants of India

economic activities became major hindrances to growth and development.

Though the reforms in 1980's were limited in scope and were without a clearly observable road map as compared to the New Economic Policy in 1990, they were instrumental in bringing confidence in the minds of politicians and policy makers regarding the efficacy of policy changes to produce sustained economic growth. The belief that well-regulated competitive markets can ensure economic growth and also increase total welfare got fostered in the minds of policy makers. In other words, the idea that government intervention in markets need not always be accepted as 'the standard' and that markets should be given priority over government in the conduct of a good number of economic activities gained a broad acceptance. Thus, the liberalization in the 1980s served as the necessary foundation for the more universal and organized reforms of the 1990s.

10.4 THE ECONOMIC REFORMS OF 1991

India embarked on a bold set of economic reforms in 1991 under the Narsimha Rao government.

The causes attributed to the immediate need for such a drastic change are:

1. The fiscal initiatives for enhanced economic growth in 1980s saw the government revenue expenditure consistently exceeding revenue receipts. The fiscal deficit was financed by huge amounts of domestic as well as external debt. The high level current expenditure proved clearly unsustainable and got manifested on extremely large fiscal deficits and adverse balance of payments.
2. Persistent huge deficits led to swelling public debt and a large proportion of government revenues had to be earmarked for interest payments.
3. The surge in oil prices triggered by the gulf war in 1990 and the consequent severe strain on a balance of payments.
4. The foreign exchange reserves touched the lowest point with a reserve of only $1.2 billion which was barely sufficient for two weeks of imports. This was the major context that triggered economic reforms.
5. Tightening of import restrictions to muster forex for essential imports resulted in reduction in industrial output.
6. India had to depend on external borrowing from the International Monetary Fund which in turn put forth stringent conditions in terms of corrective policy measures before additional drawings could be made.

© The Institute of Chartered Accountants of India

7. The fragile political situation along with the crises in the economic front ballooned into what may be called a 'crisis of confidence'.

The year 1991 marked a paradigm shift in the Indian policy reforms. The nation which had embraced the 'socialist model', with the state playing an overriding role in the economy had the history of the government persistently intervening in the markets. Collapse of the Soviet Union and the spectacular success of China, based on outward oriented policies were lessons for the Indian policy makers. The reforms instituted in 1991 aimed to move the economy toward greater market orientation and external openness.

The reforms, popularly known as liberalization, privatization and globalisation, spelt a major shift in economic philosophy and fundamental change in approach and had two major objectives:

1. reorientation of the economy from a centrally directed and highly controlled one to a 'market friendly' or market oriented economy.
2. macroeconomic stabilization by substantial reduction in fiscal deficit.

A detailed description of reform measures is beyond the scope of this unit. We shall now have a brief account of the major measures taken in 1991.

As we know, the momentum for reforms originated in the critical economic, fiscal and balance of payments crises. Therefore, the reform package was structured as a core package of mutually supportive reforms to address the balance of payment crisis and the structural rigidities. The policy paradigm focused on shifting from central direction to market orientation.

The policies can be broadly classified as :

1. stabilisation measures which were short term measures to address the problems of inflation and adverse balance of payment and
2. the structural reform measures which are long term and of continuing nature aimed at bringing in productivity and competitiveness by removing the structural rigidities in different sectors of the economy.

10.4.1 The Fiscal Reforms

The escalating deficit levels rendered the stabilisation efforts rather complicated. Bringing in fiscal discipline by reducing the fiscal deficit was vital because the crisis was caused by excess domestic demand, surge in imports and the widening of the current account deficit (CAD) which was to be financed by drawing down on reserves. This was attempted by radical measures to augment revenues and to curtail government expenditure. Measures to this effect included:

© The Institute of Chartered Accountants of India

1. Introduction of a stable and transparent tax structure,
2. Ensuring better tax compliance,
3. Thrust on curbing government expenditure
4. Reduction in subsidies and abolition of unnecessary subsidies
5. Disinvestment of part of government's equity holdings in select public sector undertakings and
6. Encouraging private sector participation.

In order to bring in fiscal discipline, it was essential to do away with the temptation to finance deficit thorough the easy path of money creation. Therefore, the government entered into a historic agreement with the Reserve Bank in September 1994 to bring down the fiscal deficit in a phased manner to nil by 1997–98.

10.4.2 Monetary and Financial Sector Reforms

Drastic monetary and financial sector reforms were introduced with the objective of making the financial system more efficient and transparent. The focus was mostly on reducing the burden of nonperforming assets on government banks, introducing and sustaining competition, and deregulating interest rates. These included many measures, important among them are:

1. Interest rate liberalization and reduction in controls on banks by the Reserve Bank of India in respect of interest rates chargeable on loans and payable on deposits.
2. Opening of new private sector banks and facilitating greater competition among public sector, private sector and foreign banks and simultaneously removal of administrative constraints that reduced efficiency
3. Reduction in reserve requirements namely, statutory liquidity ratio (SLR) and cash reserve ratio (CRR) in line with the recommendations of the Narasimham Committee Report, 1991.
4. Liberalisation of bank branch licensing policy and granting of freedom to banks in respect of opening, relocating or closure of branches
5. Prudential norms of accounting in respect of classification of assets, disclosure of income and provisions for bad debt were introduced in tune with the Narasimham Committee recommendations to ensure that the books of commercial banks reflect the accurate and truthful picture of their financial position.

© The Institute of Chartered Accountants of India

10.4.3 Reforms in Capital Markets

The Securities and Exchange Board of India (SEBI) which was set up in 1988 was given statutory recognition in 1992. SEBI has been mandated as an independent regulator of the capital market so as to create a transparent environment which would facilitate mobilization of adequate resources and their efficient allocation.

10.4.4 The 'New Industrial Policy'

The 'New Industrial Policy' announced by the government on 24 July 1991 sought to substantially deregulate industry so as to promote growth of a more efficient and competitive industrial economy. In order to provide greater competitive stimulus to the domestic industry, a series of reforms were introduced

1. The New Economic Policy put an end to the 'License Raj' by removing licensing restrictions for all industries except for 18 that 'related to security and strategic concerns, social reasons, problems related to safety and overriding environmental issues'. Consequently, 80 percent of the industry was taken out of the licensing framework. This is subsequently reduced to 5,namely, arms and ammunition, atomic substances, narcotic drugs and hazardous chemicals, distillation and brewing of alcoholic drinks and cigarettes and cigars as these have severe implications on health, safety, and environment.
2. Public sector was limited to eight sectors based on security and strategic grounds. Subsequently only two items remained – railway transport and atomic energy
3. The Monopolies and Restrictive Trade Practices (MRTP) Act was restructured and the provisions relating to merger, amalgamation, and takeover were repealed. This has eliminated the need for pre-entry scrutiny of investment decisions and prior approval for large companies for capacity expansion or diversification.
4. Many goods produced by small-scale industries have been de reserved enabling entry of large scale industries.
5. The policy ended the public sector monopoly in many sectors The number of areas reserved for public sector was narrowed down to ensure liberal participation by the private sector. Only eight industries which are of importance due to strategic and security concerns were reserved for the public sector. The changes continued and we find that now the industries reserved for the public sector are only a part of atomic energy generation and some core activities in railway transport.
6. Foreign investment was also liberalised. The concept of automatic approval was introduced for foreign direct investments up to 51 percent which was later extended

© The Institute of Chartered Accountants of India

to nearly all industries except the reserved ones. FDI is prohibited only in four sectors viz. retail trade, atomic energy, lottery business and betting and gambling.

7. External trade was further liberalised by substituting 'the positive list approach' of listing license-free items on the OGL list with the negative list approach. The policy did away with import licensing on all but a handful of intermediate and capital goods. The consumer goods which remained under licensing was made free 10 years later. Today, except for a handful of goods disallowed on health, environmental and safety grounds, and few others such as edible oil, fertilizer and petroleum products all goods can be imported

8. In 1990-91, the highest tariff rate was 355%, The top tariff rate was brought down to 85% in 1993-94 and to 50% in 1995-96 and by 2007-08, it has come down to 10% with some exceptions such as automobile at 100%

9. Rupee was devalued by 18% against the dollar. From 1994 onwards, all current account transactions including business, education, medical and foreign travel were permitted at market exchange rate and rupee became officially convertible on current account

10. The disinvestment of government holdings of equity share capital of public sector enterprises was a very bold step. The hitherto constrained public sector units were provided with greater autonomy in decision making and opportunity for professional management for ensuring reasonable returns. The budgetary support to public sector was progressively reduced.

10.4.5 Trade Policy Reforms

The trade policy reforms aimed at:

- dismantling of quantitative restrictions on imports and exports
- focusing on a more outward oriented regime with phased reduction and simplification of tariffs, and
- removal of licensing procedures for imports.

A number of export incentives were continued and new ones were initiated for boosting exports. Export duties were removed to increase the competitive position of Indian goods in the international markets. In 1991, India still had a fixed exchange rate system, under which the rupee was pegged to the value of a basket of currencies of major trading partners. In July 1991 the Indian government devalued the rupee by between 18 and 19 percent. In March 1992 the government decided to establish a dual exchange rate regime. The government allowed importers to pay for some imports with foreign exchange valued at free-market rates and other imports could be purchased with foreign exchange purchased at a government-

© The Institute of Chartered Accountants of India

mandated rate In March 1993 the government unified the exchange rate and allowed, for the first time, the rupee to float. From 1993 onwards, India has followed a managed floating exchange rate system.

India has witnessed vast changes over the last 31 years of economic reforms. Changes enumerated below are only broad observations and are in no way comprehensive.

- India has increasingly integrated its economy with the global economy.
- India has progressively moved towards a market oriented economy, with a sizeable reduction in government's market intervention and controls
- There is an unprecedented growth of private sector investment and initiatives
- A number of sectors such as auto components, telecommunications, software, pharmaceuticals, biotechnology, and professional services have achieved vey high levels of international competitiveness
- Easing of trade controls has enabled easier access to foreign technology, inputs, know-how and finance
- Stable foreign direct investment inflows and substantial foreign portfolio investments
- India enjoys a solid cushion of foreign exchange reserves close to eight months of import cover. India has one of the largest holdings of international reserves in the world.
- Robust demand for information technology and financial services has kept the services trade surplus high at around 3.7 percent of GDP
- Pressure on the Indian rupee is lower compared to other emerging market economies (EMEs)
- Increased incomes, large domestic market and high levels of aggregate demand sustains the economy.
- India is better placed than most of the emerging market economies to deal with global headwinds
- Poverty has reduced substantially
- Reforms led to increased competition in sectors like banking, insurance and other financial services leading to greater customer choice and increased efficiency. It has also led to increased investment and growth of private players in these sectors.
- Infrastructure sectors have achieved phenomenal growth
- Value-added share of agriculture and allied activities has declined steadily over the past four decades.

© The Institute of Chartered Accountants of India

- India's financial sector has also deepened considerably due to increased financial sector liberalisation.

However, the country is constrained by high levels of fiscal deficit, inflation and a high level of debt as a share of GDP at 86 percent of GDP in FY21/22. Among the emerging market and developing economies (EMDEs), India's debt is higher than their average of 64.5% for 2022(IMF).

10.5 GDP GROWTH RATES POST 1991 REFORMS

As we are aware, GDP growth rate is regarded as the most reliable indicator of economic growth. The following table and graphical presentation present data on GDP growth rate post 1991 reforms.

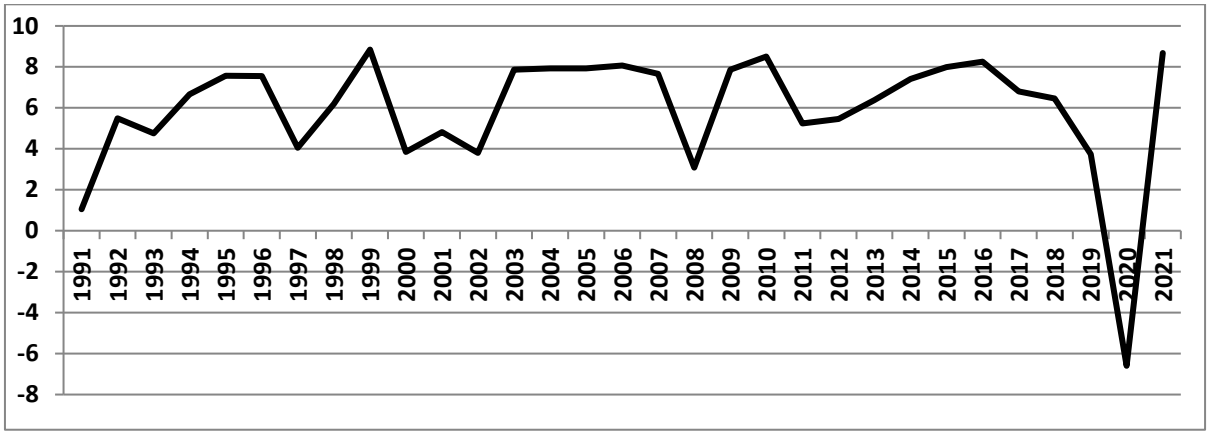
Table 10.1
GDP Growth (Annual %) – India from 1991 to 2021

Year	GDP Growth (Annual %)	Year	GDP Growth (Annual %)
1991	1.056831	2006	8.060733
1992	5.482396	2007	7.660815
1993	4.750776	2008	3.086698
1994	6.658924	2009	7.861889
1995	7.574492	2010	8.497585
1996	7.549522	2011	5.241315
1997	4.049821	2012	5.456389
1998	6.184416	2013	6.386106
1999	8.845756	2014	7.410228
2000	3.840991	2015	7.996254
2001	4.823966	2016	8.256306
2002	3.803975	2017	6.795383
2003	7.860381	2018	6.453851
2004	7.922937	2019	3.737919
2005	7.923431	2020	-6.59608
		2021	8.681229

© The Institute of Chartered Accountants of India

Figure 10.1

GDP Growth (Annual %) – India from 1991 to 2021



Source: Extracted from GDP growth (annual %) - India - World Bank Data.
data.worldbank.org › indicator › NY.GDP.MKTP.KD.ZG

10.6 NITI AAYOG: A BOLD STEP FOR TRANSFORMING INDIA

For nearly sixty four years, the Planning Commission of India - a powerful advocate of public investment-led development - was one of the most important institutions within India's central government. The new ideologies of the neoliberal era with their centre of attention on market orientation and shrinking roles of the government and the collapse of the planning system called for a change in the nature, composition and scope of institutions of governance.

On 1st January 2015, the apex policy-making body namely Planning Commission, was replaced by the National Institution for Transforming India (NITI) Aayog. The major objective of such a move was to 'spur innovative thinking by objective 'experts' and promote 'co-operative federalism' by enhancing the voice and influence of the states'. NITI Aayog is expected to serve as a 'Think Tank' of the government. [and] a 'directional and policy dynamo'.

NITI Ayog will work towards the following objectives*:

1. To evolve a shared vision of national development priorities, sectors and strategies with the active involvement of states.
2. To foster cooperative federalism through structured support initiatives and mechanisms with the states on a continuous basis, recognizing that strong states make a strong nation.
3. To develop mechanisms to formulate credible plans at the village level and aggregate these progressively at higher levels of government.

© The Institute of Chartered Accountants of India

4. To ensure, on areas that are specifically referred to it, that the interests of national security are incorporated in economic strategy and policy.
5. To pay special attention to the sections of our society that may be at risk of not benefiting adequately from economic progress.
6. To design strategic and long-term policy and programme frameworks and initiatives, and monitor their progress and their efficacy
7. To provide advice and encourage partnerships between key stakeholders and national and international like-minded think tanks, as well as educational and policy research institutions.
8. To create a knowledge, innovation and entrepreneurial support system through a collaborative community of national and international experts, practitioners and other partners.
9. To offer a platform for the resolution of inter-sectoral and inter departmental issues in order to accelerate the implementation of the development agenda.
10. To maintain a state-of-the-art resource centre, be a repository of research on good governance and best practices in sustainable and equitable development as well as help their dissemination to stake-holders.
11. To actively monitor and evaluate the implementation of programmes and initiatives, including the identification of the needed resources so as to strengthen the probability of success and scope of delivery.
12. To focus on technology up gradation and capacity building for implementation of programmes and initiatives.
13. To undertake other activities as may be necessary in order to further the execution of the national development agenda, and the objectives mentioned above. *NITI Aaayog https://niti.gov.in/objectives-and-features

The key initiatives of NITI Aayog are:

1. 'Life' which envisions replacing the prevalent 'use-and-dispose' economy
2. The National Data and Analytics Platform (NDAP) facilitates and improves access to Indian government data
3. Shoonya campaign aims to improve air quality in India by accelerating the deployment of electric vehicles
4. E-Amrit is a one-stop destination for all information on electric vehicles
5. India Policy Insights (IPI)

© The Institute of Chartered Accountants of India

6. 'Methanol Economy' programme is aimed at reducing India's oil import bill, greenhouse gas (GHG) emissions, and converting coal reserves and municipal solid waste into methanol, and

7. 'Transforming India's Gold Market' constituted by NITI Aayog to recommend measures for tapping into the potential of the sector and provide a stimulus to exports and economic growth

There are arguments put forth by experts about the weaknesses of the system. They argue that NITI has a limited role; it does not produce national plans, control expenditures, or review state plans. The major shortcoming of NITI is its exclusion from the budgeting process. It also lacks autonomy and balance of power within the policy making apparatus of the central government. The termination of the Planning Commission has strengthened the hand of the Ministry of Finance, with its 'fixation on near-term macroeconomic stability and the natural instinct to limit expenditure'. But NITI lacks the independence and power to perform as a 'counterweight' to act as a "voice of development" concerned with inequities.

10.7 THE CURRENT STATE OF THE INDIAN ECONOMY: A BRIEF OVERVIEW

On account of the enormity of the economic phenomena and the dynamic nature of economic variables, it is not possible to have an up-to-date and comprehensive documentation on the current state of the economy. Given the constraints of the unit, an attempt is made in the following sections to present the broad nature of the present day Indian economy based on the three sectors namely, primary, secondary and tertiary.

10.7.1 The Primary Sector

Agriculture, with its allied sectors, is indisputably the largest source of livelihood in India. Till the end of 1960's, India was a food deficient nation and depended on imports. India has emerged as the world's largest producer of milk, pulses, jute and spices. India has the largest area planted under wheat, rice and cotton. It is the second-largest producer of fruits, vegetables, tea, farmed fish, cotton, sugarcane, wheat, rice, cotton, and sugar. Indian food and grocery market is the world's sixth largest, with retail contributing 70% of the sales. India has the world's largest cattle herd (buffaloes).The Indian livestock sector attained a record growth of 6.6 per cent during the last decade (2010-19) emerging as a major producer of milk, egg and meat in the world. India grows large varieties of cash crops of which cotton, jute and sugarcane are prominent. Although the share of agriculture has been declining in overall gross value added (GVA) of India, it continues to grow in absolute terms.

© The Institute of Chartered Accountants of India

According to the latest estimates, 47 per cent of India's population is directly dependent on agriculture for living. It also contributes a significant figure to the Gross Domestic Product (GDP). Gross Value Added by the agriculture and allied sector was 18.8% in 2021-22 (until 31 January, 2022).

The index numbers of agricultural production in 2021-22 (base: triennium ending 2007-08=100) for categories namely, all crops, food-grains, cereals, wheat and coarse cereals was above 140; and that of rice and pulses was 138.7 and 196.2 respectively. For non- food grains, it was 142.9. These figures show sustained increase in agricultural output. Food grains production has reached 315.7 million tonnes in 2021-22. Private investment in agriculture has increased to 9.3% in 2020-21. *(Source: Handbook of Statistics on the Indian Economy, 2021-22)*

As per the economic survey, 2022-23, agriculture remained robust, recording a growth of 3.5 per cent in 2022-23, driven by buoyant rabi sowing and allied activities. The performance of the agriculture and allied sectors has been buoyant over the past several years, much of which is on account of the measures taken by the government to:

- augment crop and livestock productivity,
- ensure certainty of returns to the farmers through price support (The Minimum Support Price (MSP) of all 23 mandated crops is fixed at 1.5 times of all India weighted average cost of production)
- promote crop diversification,
- improve market infrastructure through the impetus provided for the setting up of farmer-producer organisations and
- promotion of investment in infrastructure facilities through the Agriculture Infrastructure Fund.

India has achieved a remarkable shift from a food deficient and import dependent nation during the early nineteen sixties to a food exporting nation. India is among the top ten exporters of agricultural products in the world. Export of agricultural and allied products has witnessed significant increase during the last few years and touched an all-time peak of 374611 crore during the last one year. Exports of agricultural and processed food products rose by 25 percent within six months of the current financial year 2022-23 (April-September) in comparison to the corresponding period in 2021-22. Agricultural and Processed Food Export Development Authority (APEDA) is entrusted with the responsibility of export promotion of agri-products.

A number of liberalization measures are adopted by the government. The Government of India has allowed 100% FDI in marketing of food products and in food product E-commerce under the automatic route. Considering the diverse needs of the agricultural sector and the larger

© The Institute of Chartered Accountants of India

farming community, a large number of interventions are undertaken by different governments. A few such recent measures are:

- Income support to farmers through PM KISAN
- Fixing of Minimum Support Price (MSP) at one-and-a half times the cost of production
- Institutional credit for agriculture sector at concessional rates
- Launch of the National Mission for Edible Oils
- Pradhan Mantri Fasal BimaYojana (PMFBY) – a novel insurance scheme for financial support to farmers suffering crop loss/damage
- Mission for Integrated Development of Horticulture (MIDH) for the holistic growth of the horticulture sector
- Provision of Soil Health Cards
- Paramparagat Krishi Vikas Yojana (PKVY) supporting and promoting organic farming, and improvement of soil health.
- Agri Infrastructure Fund, a medium / long term debt financing facility for investment in viable projects for post-harvest management Infrastructure and community farming assets
- Promotion of Farmer Producer Organisations (FPOs) to ensure better income for the producers through an organization of their own.
- Per Drop More Crop (PDMC) scheme to increase water use efficiency at the farm level
- Setting up of Micro Irrigation Fund
- Initiatives towards agricultural mechanization
- Setting up of E-NAM -a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities.
- Introduction of Kisan Rail for improvement in farm produce logistics, and
- Creation of a Start-up Eco system in agriculture and allied sectors

Despite phenomenal increase in output of both food crops and commercial crops, Indian agriculture faces many issues such as:

- Indian agriculture is dominated by small and medium farmers. Small and fragmented landholdings, low farm productivity and subsistence farming result in very little marketable surplus and the consequent lower income levels of the agriculturists. These also reduce their ability to participate in the domestic as well as export market.

© The Institute of Chartered Accountants of India

- Indian agriculture is resource intensive, cereal centric and regionally biased. There is Increasing stress on water resources and soil fertility. Unscientific and wasteful agricultural practices lead to desertification and land degradation in many parts of the country.
- Inadequate agro-processing infrastructure and failure to build competitive value chains from producers to urban centers and export markets
- Sluggish agricultural diversification to higher-value commodities
- Inadequate adoption of environmentally sustainable and climate resistant new farm technology
- Poor adoption of new agricultural technologies
- Lopsided marketing practices and ineffective credit delivery
- Complexities associated with adaptation to climate change disturbances
- High food price volatility
- Heavy dependence on monsoons and loss of crops and livelihood due to vagaries of nature
- Issues related to marketing and warehousing of agricultural products
- Inability to tap the full export potential of primary as well as value added products
- Inability to effectively channelize huge surpluses in some commodities to alternative profitable destinations
- Inadequate post-harvest infrastructure and management practices
- Incidence of poverty and malnutrition

10.7.2 The Secondary Sector

The Indian industry holds a significant position in the Indian economy contributing about 30 percent of total gross value added in the country and employing over 12.1 crores of people. The industrial sector in India broadly comprises of manufacturing, heavy industries, fertilizers, pharmaceuticals, chemicals and petrochemicals, oil and natural gas, food processing, mining, defence products, textiles, retail, micro, small & medium enterprises, cottage industries and tourism. The share of informal sector in the economy is more than 50% of GVA. Rapid industrial growth of domestic industries and diversification of industrial structure are essential elements for sustainable economic growth. The development of a robust manufacturing sector is a key priority of the Indian Government.

© The Institute of Chartered Accountants of India

A detailed discussion on industrial development is beyond the scope of this unit. Starting with the industrial growth figures, we shall briefly touch upon the general aspects related to industries. In India, industrial production measures the output of businesses integrated in industrial sector of the economy. Manufacturing is the most important sector and accounts for 78 percent of total production. The manufacturing GVA at current prices was estimated at US$ 77.47 billion in the third quarter of financial year 2021-22 and has contributed around 16.3% to the nominal GVA during the past ten years. In 2022- 23 (until September 2022), the combined index of eight core industries* stood at 142.8 driven by the production of coal, refinery products, fertilizers, steel, electricity and cement industries. In Jan 31, 2023 the Manufacturing Purchasing Managers' Index (PMI) in India stood at 55.4. India's rank in the Global Innovation Index (GII) improved to 40th in 2022 from 81st in 2015.

*[*ICI measures combined and individual performance of production of eight core industries viz. Coal, Crude Oil, Natural Gas, Refinery Products, Fertilizers, Steel, Cement and Electricity. The Eight Core Industries comprise 40.27 percent of the weight of items included in the Index of Industrial Production (IIP)].*

The Department for Promotion of Industry and Internal Trade (DPIIT) has a role in the formulation and implementation of industrial policy and strategies for industrial development in conformity with the development needs and national objectives. Ever since independence, many innovative schemes are undertaken by different governments from time to time to boost industrial performance. Some of the policies are presented below:

- Introduction of goods and services tax (GST) on 1 July 2017 as a single domestic indirect tax law for the entire country replacing many indirect taxes in India such as the excise duty, VAT, services tax, etc.
- Reduction of corporate tax to domestic companies giving an option to pay income-tax at the rate of 22% subject to condition that they will not avail any exemption/incentive.
- 'Make in India' is a 'Vocal for Local' initiative launched in 2014 to facilitate investment, foster innovation, build excellent infrastructure and make India a hub for manufacturing, design and innovation. Make in India 2.0' is now focusing on 27 sectors, which include 15 manufacturing sectors and 12 service sectors.
- 'Ease of Doing Business' with key focus areas as simplification of procedures, rationalization of legal provisions, digitization of government processes, and decriminalization of minor, technical or procedural defaults. India ranks 63rdin the World Bank's annual Doing Business Report (DBR), 2020 as against 77thrank in 2019 registering a jump of 14 ranks.

© The Institute of Chartered Accountants of India

- The National Single Window System is a one-stop-shop for investor related approvals and services in the country and aims to provide continuous facilitation and support to investors.
- PM Gati Shakti National Master Plan to facilitate data-based decisions related to integrated planning of multimodal infrastructure, thereby reducing logistics cost.
- National Logistics Policy (NLP) launched in September 2022, aims to lower the cost of logistics and make it at par with other developed countries.
- Keeping in view India's vision of becoming 'Atmanirbhar', the Production Linked Incentive (PLI) Scheme was initiated in March 2020 for 14 key sectors to enhance India's manufacturing capabilities and export competitiveness. PLI Scheme is now extended for white goods (air conditioners and led lights).
- Industrial Corridor Development Programme: Greenfield Industrial regions/areas/nodes with sustainable infrastructure and to make available 'plug and play' infrastructure at the plot level.
- FAME-India Scheme (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles) to promote manufacturing of electric and hybrid vehicle technology and to ensure sustainable growth of the same.
- 'Udyami Bharat' aims at the empowerment of Micro Small and Medium Enterprises (MSMEs).
- PM Mega Integrated Textile Region and Apparel (PM MITRA): to ensure world-class industrial infrastructure which would attract cutting age technology and boost FDI and local investment in the textiles sector.
- Opening up for global investments: To make India a more attractive investment destination, the government has implemented several radical and transformative FDI reforms across sectors such as defence, pension, e-commerce activities etc.
- 100 per cent FDI under automatic route is permitted for the sale of coal, and coal mining activities, including associated processing infrastructure and for insurance intermediaries.
- Foreign Investment Promotion Board (FIPB) was abolished in May 2017, and a new regime namely Foreign Investment Facilitation Portal (FIF) has been put in place. Under the new regime, the process for granting FDI approvals has been simplified. 853 FDI proposals were disposed off in the last 5 years. FDI has increased jumped by 39% since FIF came into being.
- Remission of Duties and Taxes on Export Products (RoDTEP) 2021 formed to replace the existing MEIS (Merchandise Exports from India Scheme) to boost exports. It

© The Institute of Chartered Accountants of India

provides for rebate of all hidden central, state, and local duties/taxes/levies on the goods exported which have not been refunded under any other existing scheme.

- Initiatives towards fostering innovation include incubation, handholding, funding, industry-academia partnership and mentorship and strengthening of IPR regime.
- National Logistics Policy (NLP) is comprehensive policy framework for the Logistics Sector.
- Start-up India Programme acts as the facilitator for ideas and innovation in the country. India's rank in the Global Innovation Index (GII) has improved from 81st in 2015 to 40th in 2022.
- Public Procurement (Preference to Make in India) Order, 2017gives preference to locally manufactured goods, works and services in public procurement thereby giving boost to industrial growth.
- The Emergency Credit Line Guarantee Scheme (ECLGS)is a fully guaranteed emergency credit line to monitor lending institutions.

India is gearing up for the fourth industrial revolution or Industry 4.0 in which manufacturing transformation needs to integrate new technologies such as cloud computing, IoT, machine learning, and artificial intelligence (AI). The National Manufacturing Policy which aims to increase the share of manufacturing in GDP to 25 percent by 2025 is a step in this direction.

India is an attractive hub for foreign investments in the manufacturing sector. Over the last few years, FDI equity inflows in the manufacturing sector have been progressively rising. India continues to open up its sectors to global investors by raising FDI limits and removing regulatory barriers in addition to developing infrastructure and improving the business environment. According to the Department for Promotion of Industry and Internal Trade (DPIIT), India received a total foreign direct investment (FDI) inflow of US$ 58.77 billion in 2021-22.

There are many challenges to the industrial sector; a few of these are enumerated below:

- Shortage of efficient infrastructure and manpower and consequent reduced factor productivity.
- Reliance on imports, exchange rate volatility and associated time and cost overruns
- The MSME sector is relatively less favorably placed in terms of credit availability.
- Industrial locations established without reference to cost-effective points tend to experience unsustainable cost structure.
- Heavy losses, inefficiencies, lower productivity and unsustainable returns plaguing public sector industries.

© The Institute of Chartered Accountants of India

- Strained labor-management relations and loss of man hours.
- Lower export competitiveness, slowing external demand and imposition of non tariff barriers by other countries.
- Global supply chain disruptions and uncertainties.
- Inflation and associated macro economic developments leading to input cost escalations and lower demand.
- Global slowdown and related negative sentiments affecting investment.
- Aggressive tightening of monetary policy and increases in cost of credit.
- High and increasing fuel prices, and
- Mounting presence of informal sector.

10.7.3 The Tertiary Sector

A remarkable feature of the post reform Indian economy is the overarching role of the services sector in generating growth of income and employment. Unlike the usual economic development process of nations where economic growth has led to a shift from agriculture to industries, or from the primary sector to the secondary sector, India has the unique experience of bypassing the secondary sector in the growth trajectory by a shift from agriculture to the services sector.

India's services sector covers a wide variety of activities. (Refer Box 2 Below)

	BOX 2. The broad classification of services as per the National Industrial Classification, 2008
1.	Wholesale and retail trade and repair of vehicles
2.	Transportation and storage
3.	Accommodation and food service activities
4.	Information and communication
5.	Financial and insurance activities
6.	Real estate activities
7.	Professional, scientific and technical activities
8.	Administrative and support services
9.	Public administration, defence and compulsory social security
10.	Education
11.	Human health and social work activities
12.	Arts, entertainments and recreation

© The Institute of Chartered Accountants of India

13.	Other service activities
14.	Activities of households as employers, undifferentiated goods and services producing activities of households for own use
15.	Activities of extra territorial organizations and bodies

Source: The Service Sector in India Arpita Mukherjee ADB Economics Working Paper Series No. 352 / June 2013

The service sector refers to the industry producing intangible goods viz. services as output. The services sector is the largest sector of India and accounts for 53.89% of total India's GVA. The Gross Value Added (GVA) at current prices for the services sector is estimated at ₹ 96.54 lakh crore in 2020-21.

The service sector is the fastest growing sector in India and has the highest labour productivity. Both domestic and global factors influence the growth of the services sector. The exceptionally rapid expansion of knowledge-based services such as professional and technical services has been responsible for the faster growth of the services sector. The production and consumption of information-intensive service activities such as computing, accounting, inventory management, quality control, personnel administration, marketing, advertising and legal services has increased manifold due to application of state- of the- art information technology. Services sector growth can also complement growth in the manufacturing sector. The start-ups which have grown remarkably over the last few years mostly belong to the services sector.

India is among the top 10 World Trade Organization (WTO) members in service exports and imports. India's services exports at US$ 27.0 billion recorded robust growth in November 2022 due to software, business, and travel services. While exports from all other sectors were adversely affected, India's services exports have remained resilient during the Covid-19 pandemic. The reasons are the higher demand for digital support and need for digital infrastructure modernization.

The Indian services sector is the largest recipient of FDI inflows. FDI equity inflows into the services sector accounted for more than 60 per cent of the total FDI equity inflows into India. The World Investment Report 2022 of UNCTAD places India as the seventh largest recipient of FDI in the top 20 host countries in 2021. In 2021-22, India received the highest-ever FDI inflows of US$ 84.8 billion including US$ 7.1 billion FDI equity inflows in the services sector.

To ensure the liberalisation of investment in various industries, the government has permitted 100 per cent foreign participation in telecommunication services through the Automatic Route including all services and infrastructure providers. The FDI ceiling in insurance companies was also raised from 49 to 74 per cent. Measures undertaken by the Government, such as the launch of the National Single-Window system and enhancement in the FDI ceiling through the automatic route, have played a significant role in facilitating investment.

© The Institute of Chartered Accountants of India

10.8 CONCLUSION

The India Development Update (IDU) of the World Bank published in November 2022, observes that India had to face an unusually challenging external environment following the Russia-Ukraine war, increased crude oil and commodity prices, persistent global supply disruptions, tighter financial conditions and high domestic inflationary pressures. Despite all these, the real GDP of India grew by 6.3 percent in July-September of 2022-23 driven by strong private consumption and investment. The report observes that India's economy is relatively more insulated from global spillovers than other emerging markets and is less exposed to international trade flows on account of reliance on its large domestic market. As such, compared to other emerging economies, India is much more resilient to withstand adversities in the global arena.

SUMMARY

- India is believed to have had the largest economy of the ancient and the medieval world and controlled between one third and one fourth of the world's wealth. It was prosperous and self-reliant and had flourishing cities and self sufficient villages.
- The advent of the Europeans and the rule of British from 1757 to 1947 brought about a marked shift in the economic history of India.
- Higher production on account of industrial revolution in Britain necessitated raw materials and markets for finished goods for which India was made the target. This, along with adverse imperial policies towards Indian manufacturing and the ease of importing cheap machine made goods decreased the competitiveness of Indian manufactures and reduced their domestic demand leading to a virtual destruction of the Indian manufacturing sector.
- The consequence of collapse of manufacturing sector was felt heavily on agricultural sector in the form of overcrowding on farms, subdivision and fragmentation, subsistence farming, low productivity, lower incomes and aggravated poverty.
- Institutional inadequacies in land tenure and growth of a class of exploitative money lenders and zamindars resulted in vices such as absentee landlordism, high rents, high indebtedness, deterioration of fertility of land and low productivity.
- During the British period, modern industrial sector saw lopsided growth with preponderance of cotton and jute industry. Producer goods industries lagged behind

© The Institute of Chartered Accountants of India

due to the discriminatory attitudes of self interested British rulers. The share of manufacturing and of employment in this sector was pathetically low.

- At the time of independence, India was overwhelmingly rural, inhabited by mostly illiterate and poor people with low life expectancy. The social structure was deeply stratified and exceedingly heterogeneous on many counts. The country was deficient in physical, financial and human capital.
- The economic development strategy adopted was the Nehruvian model which supported social and economic redistribution and industrialization directed by the state. Accordingly the Planning Commission of India was established to meticulously plan for economic development on socialistic lines with equity and distributive justice. The five-year plans were developed, implemented, and monitored by the Planning Commission with this objective.
- Rapid industrialization of the economy was the cornerstone of Nehru's development strategy. The concept of 'planned modernization' meant a systematic planning to support industrialization.
- The Industrial Policy Resolution (1948) envisaged an expanded role for the public sector and licensing to the private sector.
- The policies in 1950's were guided by both Nehruvian and Gandhian philosophies with the former visualizing a socialistic society with emphasis on heavy industries and the latter stressing on small scale and cottage industry and village republics.
- The Industrial Policy Resolution of 1956 supported undue priority and enormous expansion of the scope of the public sector which resulted in dampening of private initiative and enterprise.
- In the first three decades after independence (1950–80), India's average annual rate of growth of GDP, often referred to as the 'Hindu growth rate', was a modest 3.5 percent.
- The first major shift in Indian economic strategy was in the mid-1960s. Due to continuous failures of monsoon, droughts struck India in 1966 and 1967 and food crisis set in. The need for increased productivity in agriculture kick-started a strategic change in agriculture policies.
- The strategy for agricultural development which had so far relied on institutional model such as land reforms gave way to technological and farm management reforms giving rise to a revolutionary transformation in agricultural production and productivity.

© The Institute of Chartered Accountants of India

- This radical change materialised by innovative farm technologies, including high yielding seed varieties and intensive use of water, fertilizer and pesticides is referred to as 'Green Revolution'.
- Many government policies aimed at prevention of growth of monopolies and equitable distribution of income and wealth such as reservation of many products for exclusive manufacture by the small scale sector and the Monopolies and Restrictive Trade Practices Act, 1969 (MRTP) (which placed several restrictions on large enterprises in terms of licensing, capacity addition, mergers and acquisitions) effectively killed the incentive for creating wealth.
- The economic performance during the period of 1965-81 is the worst in independent India's history. The *license-raj,* the autarchic policies that dominated the 1960s and 1970s, and the external shocks such as three wars, major droughts, and the oil shocks of 1973 and 1979 contributed to the decelerated growth lasting two decades.
- The seeds of early liberalisation and reforms were sown during the 1980s, especially after 1985. In early 1980s considerable efforts were made to restore reasonable price stability through a combination of tight monetary policy, fiscal moderation and a few structural reforms.
- The reform initiatives- covering three areas, namely industry, trade and taxation- spanning 1981 to 1989, is referred to as 'early liberalization' or 'reforms by stealth' to denote its ad hoc and not widely publicized nature. They were aimed at changing the prevailing thrust on 'inward-oriented' trade and investment practices.
- The major reforms in 1980's included de licensing of 25 broad categories of industries, granting of the facility of 'broad-banding' to allow flexibility and rapid changes in the product mix of industries without going in for fresh licensing, increase in the asset limit of MRTP firms from 20 crore to 100 crore, introduction of modified value-added (MODVAT), establishment of the Securities and Exchange Board of India (SEBI) as a non-statutory body ,extension of the Open General Licence (OGL), export incentives, liberalisation of imports , reduction in tariffs and removal of price and distribution controls on cement and aluminium.
- The private sector investments were inhibited due to reasons such as convoluted licensing policies, public sector reservations and excessive government controls, reservation of goods to small scale sector as well as excessive price and distribution controls.

© The Institute of Chartered Accountants of India

- The public sector which led the manufacturing and service sectors was plagued by inefficiency, government controls and bureaucratic procedures and yielded very low returns on investment.
- Import controls in the form of tariffs, quotas and quantitative restrictions, and restrictions on foreign trade and investments virtually insulated the economy from foreign competition.
- The reforms in 1980'swere instrumental in bringing confidence in the minds of politicians and policy makers that a well-regulated competitive market can ensure economic growth and increase in overall welfare.
- Extremely large fiscal deficits, severe strain on balance of payments, heavy internal as well as external debt, unprecedented levels of interest payments, all-time low foreign exchange reserves, lessons from collapse of Soviet Union, spectacular success of China through adoption of outward oriented policies and above all, the stringent conditions put forth by the International Monetary Fund for availing further loans were the reasons for launching the drastic economic reforms of 1991.
- The twin objectives of reforms were reorientation of the economy from a centrally directed and highly controlled one to a 'market friendly' or 'market oriented' economy and macroeconomic stabilization by substantial reduction in fiscal deficit.
- The reform policies can be broadly classified as a) stabilisation measures which were short term measures to address the problems of inflation and adverse balance of payment and b) structural reform measures which are long term and of continuing nature aimed at bringing in productivity and competitiveness by removing the structural rigidities in different sectors of the economy.
- The fiscal reforms included introduction of a stable and transparent tax structure, better tax compliance, control of government expenditure, reduction /abolition of subsidies, disinvestment of part of government's equity holdings and encouraging private sector participation.
- The monetary and financial sector reforms were in the form of interest rate liberalization, reduction in controls on banks by the Reserve Bank of India in respect of interest rates and facilitating greater competition in the banking sector by private participation and foreign competition, reduction in reserve requirements, liberalisation of bank branch licensing policy and establishing prudential norms of accounting in respect of classification of assets, disclosure of income and provisions for bad debt.

© The Institute of Chartered Accountants of India

- Reforms in Capital Markets included granting of statutory recognition to the Securities and Exchange Board of India (SEBI) to facilitate mobilization of adequate resources and their efficient allocation.
- The 'New Industrial Policy' announced by the government on 24 July 1991 sought to substantially deregulate industry so as to promote growth of a more efficient and competitive industrial economy.
- The policy put an end to the 'License Raj' by removing licensing restrictions for all industries except for 18 on strategic considerations.
- Other initiatives included reduction in the number of industries reserved for the public sector and the small scale sector, restructuring of the polices related to merger, amalgamation, and takeover under the MRTP act, devaluation of rupee, liberalization of foreign investments and disinvestment of government holdings of equity share capital of public sector enterprises.
- The trade policy reforms included liberalisation of external trade, removal of licensing for imports, dismantling of quantitative restrictions on imports and exports and phased reduction and simplification of tariffs.
- Reforms resulted in major changes such as increasing integration with the global economy, progressive shift towards a market oriented economy, sizeable reduction in government's market intervention and controls, unprecedented growth of private sector investments and initiatives, increased levels of international competitiveness, easier access to foreign technology, inputs ,know-how and finance, steady inflow of foreign direct and portfolio investments , solid cushion of foreign exchange reserves, increased incomes, large domestic market, sustainable levels of aggregate demand, substantial reduction in poverty, greater customer choice, increased efficiency, phenomenal growth of infrastructure sector and the deepening of the financial sector.
- The GDP growth rate, on an average, has been commendable throughout the post reform period except for the pandemic ridden year 2020 when the economy registered a negative growth rate.
- Despite the above achievements, the country is constrained by high levels of fiscal deficit, growing inequalities, inflation and high levels of debt as a share of GDP.
- The Planning Commission of India was one of the most important institutions within India's central government for nearly sixty four years. The new ideologies of the neoliberal era called for a change in the nature, composition and scope of institutions of governance.

© The Institute of Chartered Accountants of India

- On 1st January 2015, the apex policy-making body namely Planning Commission, was replaced by the National Institution for Transforming India (NITI) Aayog with the objective to 'spur innovative thinking by objective 'experts' and promote 'co-operative federalism' by enhancing the voice and influence of the states'.
- NITI Aayog is expected to serve as a 'Think Tank' of the government. [and] as 'directional and policy dynamo'. The key initiatives of NITI Aayog are: 'Life', The National Data and Analytics Platform (NDAP), Shoonya, E-Amrit, India Policy Insights (IPI), and 'Transforming India's Gold Market'.
- The weaknesses of the system are that NITI has a limited role; it is excluded from the budgeting process, lacks autonomy and balance of power within the policy making apparatus of the central government and that it lacks the independence and power to perform as a 'counterweight' to act as a "voice of development" concerned with inequities.
- The Primary sector i.e agriculture with its allied sectors is the largest source of livelihood for people. India has emerged as the world's largest producer of milk, pulses, jute and spices and has the largest area planted under wheat, rice and cotton. It is the second largest producer of fruits, vegetables tea, farmed fish, cotton, sugarcane, wheat, rice, cotton, and sugar. Forty seven per cent of India's population is directly dependent on agriculture for living which contributes a significant figure to the Gross Domestic Product18.8% in 2021-22 (until 31 January, 2022). Food grains production has reached 315.7 million tonnes in 2021-22.
- India is among the top ten exporters of agricultural products in the world. Agricultural and Processed Food Export Development Authority (APEDA) is entrusted with the responsibility of export promotion of agri-products.
- Various measures are adopted by the government such as 100% FDI in marketing of food products and in food product E-commerce, income support to farmers through PM KISAN, fixing of Minimum Support Price (MSP) at one-and-a half times the cost of production, institutional credit for agriculture sector at concessional rates , National Mission for Edible Oils, Pradhan Mantri Fasal BimaYojana (PMFBY) a novel insurance scheme, Mission for Integrated Development of Horticulture (MIDH, Soil Health Cards, Paramparagat Krishi Vikas Yojana (PKVY), Agri Infrastructure Fund, Promotion of Farmer Producer Organisations (FPOs), Per Drop More Crop (PDMC), setting up of Micro Irrigation Fund, creation of E-NAM -a pan-India electronic trading portal, introduction of Kisan Rail and creation of a Start-up Eco system in agriculture and allied sectors.

© The Institute of Chartered Accountants of India

- Indian agriculture faces many issues, such as small and fragmented landholdings, low farm productivity and subsistence farming, low marketable surplus and the consequent lower income levels, inability to participate in the domestic as well as export market, inadequate agro-processing infrastructure, failure to build competitive value chains, sluggish agricultural diversification to higher-value commodities, inadequate adoption of environmentally sustainable and climate resistant new farm technology, lopsided marketing practices, ineffective credit delivery, high food price volatility, heavy dependence on monsoons, poor warehousing, inadequate post-harvest infrastructure management practices and incidence of poverty and malnutrition.
- The industrial sector contributes about 30 percent of total gross value added and employs over 12.1 crores of people. Manufacturing is the most important sector and accounts for 78 percent of total production.
- In 2022- 23 (until September 2022), the combined index of eight core industries stood at 142.8 In Jan 31, 2023 the Manufacturing Purchasing Managers' Index (PMI) in India stood at 55.4. India's rank in the Global Innovation Index (GII) improved to 40th in 2022 from 81st in 2015.
- The Department for Promotion of Industry and Internal Trade (DPIIT) has a role in the formulation and implementation of industrial policy and strategies for industrial development.
- Some of the policies for industrial development include introduction of goods and services tax (GST) 2017 as a single domestic indirect tax law for the entire country, reduction in corporate tax of domestic companies, 'Make In India' a 'Vocal for Local' initiative, Ease of Doing Business , the National Single Window System, PM Gati Shakti National Master Plan, National Logistics Policy (NLP), Production Linked Incentive (PLI) Scheme, Industrial Corridor Development Programme, FAME-India Scheme, Udyami Bharat', PM Mega Integrated Textile Region and Apparel, Remission of Duties and Taxes on Export Products (RoDTEP) ,National Logistics Policy (NLP), Start-up India, Programme of Public Procurement (Preference to Make in India) and the Emergency Credit Line Guarantee Scheme.
- The major challenges to the industrial sector are shortage of efficient infrastructure and manpower, reduced factor productivity, heavy reliance on imports, exchange rate volatility, industrial locations established without reference to cost-effective points, heavy losses, inefficiencies, lower productivity and unsustainable returns plaguing the public sector industries, strained labour-management relations, lower export competitiveness, slowing external demand, imposition of non tariff barriers by other

© The Institute of Chartered Accountants of India

countries, global supply chain disruptions and uncertainties, inflation, leading to input cost escalations and lower demand, global slowdown and related negative sentiments affecting investments , aggressive tightening of monetary policy and increases in cost of credit ,high and increasing fuel prices and the mounting presence of informal sector .

- A remarkable feature of the post reform Indian economy is the unconventional experience of bypassing the secondary sector in the growth trajectory by a shift from agriculture to the services sector.
- The services sector is the largest sector of India and accounts for 53.89% of total India's GVA. It has the highest labour productivity and is the fastest growing sector. The exceptionally rapid expansion of knowledge-based services such as professional and technical services has contributed substantially to the growth of tertiary sector.
- India is among the top 10 World Trade Organization (WTO) members in service exports and imports. India's services exports at US$ 27.0 billion recorded robust growth in November 2022 due to software, business, and travel services.
- To ensure the liberalisation of investment in various industries, the government has permitted 100 per cent foreign participation in telecommunication services through the Automatic Route including all services and infrastructure providers.
- The India Development Update (IDU) of the World Bank published in November 2022 holds the optimistic view that compared to other emerging economies, India is much more resilient to withstand adversities in the global arena, while acknowledging the fact that India had to face an unusually challenging external environment following the Russia-Ukraine war, increased crude oil and commodity prices, persistent global supply disruptions, tighter financial conditions and high domestic inflationary pressures.

TEST YOUR KNOWLEDGE

Multiple Choice Type Questions

1. *The Indian industry stagnated under the colonial rule because*

   (a) Indians were keen on building huge structures and monuments only

   (b) Deterioration was caused by high prices of inputs due to draught

   (c) The Indian manufactures could not compete with the imports of cheap machine made goods

   (d) None of the above

© The Institute of Chartered Accountants of India

2. *The first wave of liberalization starts in India*

   (a) *In 1951*

   (b) *In 1980's*

   (c) *In 1990*

   (d) *In 1966*

3. *The sequence of growth and structural change in Indian economy is characterized by*

   (a) *The historical pattern of prominence of sectors as agriculture, industry, services*

   (b) *The historical pattern of prominence of sectors as industry, services, agriculture*

   (c) *Unique experience of the sequence as agriculture, services, industry*

   (d) *All the above are correct*

4. *Merchandise Exports from India Scheme was replaced by -*

   (a) *Remission of Duties and Taxes on Export Products (RoDTEP) in 2021*

   (b) *National Logistics Policy (NLP) in 2020*

   (c) *Remission of Duties and Taxes on Export Products (RoDTEP) in 2019*

   (d) *None of the above*

5. *The Foreign Investment Promotion Board (FIPB)*

   (a) *a government entity through which inward investment proposals were routed to obtain required government approvals*

   (b) *no more exists as the same is replaced by a new regime namely Foreign Investment Facilitation Portal*

   (c) *no more exists as all inward investments are through automatic route and need no approval*

   (d) *is the body which connects different ministries in respect of foreign portfolio investments*

6. *FAME-India Scheme aims to*

   (a) *Enhance faster industrialization through private participation*

   (b) *to promote manufacturing of electric and hybrid vehicle technology*

   (c) *to spread India's fame among its trading partners*

   (d) *None of the above*

© The Institute of Chartered Accountants of India

7. *In terms of Ease of Doing Business in 2020 India ranks*

   (a) *63*

   (b) *77*

   (c) *45*

   (d) *None of the above*

8. *E-NAM is -*

   (a) *An electronic name card given to citizens of India*

   (b) *National Agriculture Market with the objective of creating a unified national market for agricultural commodities.*

   (c) *a pan-India electronic trading portal which networks the existing APMC mandis*

   (d) *b) and c) above*

9. *Which of the following is not a policy reform included in the new economic policy of 1991 -*

   (a) *removing licensing requirements for all industries*

   (b) *Foreign investment was liberalized*

   (c) *Liberalisation of international trade*

   (d) *The disinvestment of government holdings of equity share capital of public sector enterprises*

10. *Imports of foreign goods and entry of foreign investments were restricted in India because -*

    (a) *The government wanted people to follow the policy of' Be Indian; Buy Indian'*

    (b) *Because foreign goods were costly and meant loss of precious foreign exchange*

    (c) *Government policy was directed towards protection of domestic industries from foreign competition*

    (d) *Government wanted to preserve Indian culture and to avoid influence of foreign culture*

11. *The 'Hindu growth rate' is a term used to refer to -*

    (a) *the high rate of growth achieved after the new economic policy of 1991*

    (b) *the low rate of economic growth of India from the 1950s to the 1980s, which averaged around 3.5 per cent per year*

© The Institute of Chartered Accountants of India

(c) *the low growth of the economy during British period marked by an average of 3.5 percent*

(d) *the growth rate of the country because India is referred to as 'Hindustan'*

12. *In the context of the new economic policy of 1991, the term 'disinvestment' stands for -*

(a) *A policy whereby government investments are reduced to correct fiscal deficit*

(b) *The policy of sale of portion of the government shareholding of a public sector enterprise*

(c) *The policy of public partnership in private enterprise*

(d) *A policy of opening up government monopoly to the privates sector*

13. *The objective of introducing Monopolies and Restrictive Trade Practices Act 1969 was -*

(a) *to ensure that the operation of the economic system does not result in the concentration of economic power in hands of a few*

(b) *to provide for the control of monopolies*

(c) *to prohibit monopolistic and restrictive trade practice*

(d) *all the above*

14. *Which one of the following is a feature of green revolution -*

(a) *use of soil friendly green manure to preserve fertility of soil*

(b) *grow more crops by redistributing land to landless people*

(c) *High yielding varieties of seeds and scientific cultivation*

(d) *Diversification to horticulture*

15. *The strategy of agricultural development in India before green revolution was -*

(a) *High yielding varieties of seeds and chemical fertilizers to boost productivity*

(b) *Institutional reforms such as land reforms*

(c) *Technological up gradation of agriculture*

(d) *All the above*

16. *The Industrial Policy Resolution (1948) aimed at -*

(a) *Market oriented economic reforms and opening up of economy*

(b) *A shift from state led industrialization to private sector led industrialisation*

(c) *an expanded role for the public sector and licensing to the private sector*

© The Institute of Chartered Accountants of India

(d) an expanded role of private sector a limited role of public sector

17. The new economic policy of 1991 manifest in -

(a) State led industrialization and import substitution

(b) Rethinking the role of markets versus the state

(c) Emphasized the role of good governance

(d) Bringing about reduction in poverty and redistributive justice

18. The post independence economic policy was rooted in -

(a) A capitalist mode of production with heavy industrialization

(b) social and economic redistribution and industrialization directed by the state

(c) social and economic redistribution through private sector initiatives

(d) Industrialization led by private entrepreneurs and redistribution by state

ANSWERS

1.	**(c)**	2.	**(b)**	3.	**(c)**	4.	**(a)**	5.	**(b)**	6	**(b)**
7.	**(a)**	8.	**(d)**	9.	**(a)**	10.	**(c)**	11.	**(b)**	12.	**(b)**
13.	**(d)**	14.	**(c)**	15.	**(b)**	16.	**(c)**	17.	**(b)**	18.	**(b)**

© The Institute of Chartered Accountants of India

GLOSSARY

1. **Economics:** It the branch of knowledge which is concerned with production, consumption and transfer of wealth.
2. **Business Economics:** The use of economic analysis to make business decisions involving the best use of an organization's scarce resources.
3. **Micro Economics:** It is basically the study of behaviour of different individuals and organizations within an economic system. Here the focus is on a small number of group of units rather than all the units combined.
4. **Macro Economics:** It is the study of the overall economic phenomena of the economy as a whole, rather than its individual parts. Accordingly, in Macro Economics, we study the behaviour of the large economic aggregates.
5. **Positive Economics:** It is the branch of economics that concerns the description and explanation of economic phenomena. It focuses on facts and cause and effect relationships.
6. **Normative Economics:** It is that part of economics that expresses value judgements about economic fairness or what the outcome of the economy or goals of public policy ought to be.
7. **Economic System:** An economic system refers to the sum total of arrangements for the production and distribution of goods and services in a society. It includes various individuals and economic systems.
8. **Capitalist Economy:** An economic system in which all means of production are owned and controlled by private individuals for profit.
9. **Socialist Economy:** An economic system where the resources are allocated according to the commands of a central planning authority and market forces have no role to play in the allocation of resources.
10. **Mixed Economy:** An economic system which depends on both markets and governments for allocation of resources. The aim is to include the best features of both Capitalist and Socialist Economy.
11. **Demand:** The various quantities of a given commodity or service which the consumers would buy in one market during a given period of time, at various prices, or at various incomes, or at various prices of related goods.
12. **Market Demand:** It is defined as the sum of individual demands for a product at a price per unit of time.

© The Institute of Chartered Accountants of India

13. **Elasticity of Demand:** It is defined as the responsiveness of the quantity demanded of a good to changes in one of the variables on which demand depends. More precisely, elasticity of demand is the percentage change in quantity demanded divided by the percentage change in one of the variables on which demand depends.

14. **Inferior Goods:** Inferior goods are those goods whose quantity demanded decreases with the increase in money income.

15. **Price Elasticity:** It expresses the response of quantity demanded of a good to a change in its price, given the consumer's income, his tastes and prices of all other goods.

16. **Income Elasticity:** It is the degree of responsiveness of quantity demanded of a good to changes in the income of consumers.

17. **Cross Demand:** It refers to the quantities of a commodity or service which will be purchased with reference to changes in price, not of that particular commodity, but of other inter-related commodities, other things remaining the same.

18. **Cross Elasticity:** A change in the demand for one good in response to a change in the price of another good represents cross elasticity of demand of the former good for the latter good.

19. **Advertisement Elasticity:** Advertisement elasticity of sales or promotional elasticity of demand is the responsiveness of a good's demand to changes in firm's spending or advertising. The advertising elasticity of demand measures the percentage change in demand that occurs given a one percent change in advertisement expenditure.

20. **Producers Goods:** Producers goods are those goods which are used for the production of other goods- either consumer goods or producer goods themselves.

21. **Consumer Goods:** Those goods which are used for final consumption.

22. **Utility:** Utility is the anticipated satisfaction by the consumer, and satisfaction is the actual satisfaction derived.

23. **Total Utility:** It is the sum of utility derived from different units of a commodity consumed by a consumer.

24. **Marginal Utility:** It is the addition made to total utility by the consumption of an additional unit of a commodity.

25. **Consumer Surplus:** Is is defined as the excess of price that the the consumer is ready to pay from which he actually pays.

26. **Indifference Curve:** It is a curve which represents all those combinations of two goods which give same satisfaction to the consumer.

27. **Indifference Map:** A collection of many indifference curves where each curve represents a certain level of satisfaction. In short, a set of indifference curve is called indifference map.

© The Institute of Chartered Accountants of India

28. **Supply:** It refers to the amount of a good or service that the producers are willing and able to offer to the market at various prices during a given period of time.

29. **Elasticity of Supply:** It is defined as the responsiveness of the quantity supplied of a good to a change in its price.

30. **Equilibrium Price:** The price at which the wishes of both the buyers and sellers are satisfied. At this price, the amount that buyers want to buy and sellers want to sell are equal.

31. **Production:** It is the organized activity of transforming resources into finished products in the form of goods and services.

32. **Land:** The term "land" is used in a special sense in economics. It does not mean soil or earth's surface alone, but refers to all free gifts of nature.

33. **Labour:** The term labour means any mental or physical exertion directed to produce goods and services.

34. **Capital:** Capital is that part of wealth of an individual which is used for further production of wealth. Capital is a stock concept which yields a periodical income which is a flow concept.

35. **Entrepreneur:** A factor which mobilizes all other factor of production like land, labour, capital, and combines them in the right proportion, initiates the process of production and bears the risk involved in it.

36. **Average Product:** Average product is the total product per unit of the variable factor.

37. **Marginal Product:** It is the change in total product per unit change in the quantity of variable factor.

38. **Isoquant:** An isoquant represents all those combinations of inputs which are capable of producing the same level of output.

39. **Cost Analysis:** The study of behaviour of cost in relation to one or more production criteria, namely, size of output, scale of operations, prices of the factor of production and other relevant economic variables.

40. **Accounting Costs:** Accounting costs relate to those costs which involve cash payments by the entrepreneur of the firm. These are explicit cost and are the expenses already incurred by the firm.

41. **Economic cost:** The cost which takes into account the explicit as well as the implicit cost is known as Economic cost.

42. **Social Cost:** Social cost refers to the total cost borne by the society on account of a business activity and includes private cost and external cost.

© The Institute of Chartered Accountants of India

43. **Fixed Cost:** The costs which do not vary with the level of output upto a certain level of activity are known as fixed cost.

44. **Variable Cost:** These costs are a function of output and hence vary with the production.

45. **Marginal Cost:** Marginal cost is the addition made to the total cost by production of an additional unit of output.

46. **Market:**A market is a collection of buyers and sellers with a potential to trade. The actual or potential interactions of the buyers and sellers determine the price of a product or service.

47. **Perfect competition:** It is a type of market which is characterized by many sellers selling identical products to many buyers.

48. **Monopoly:** It is a situation where there is a single seller and many buyers. The product sold does not have any close substitutes.

49. **Monopolistic competition:** This type of market is characterized by many sellers selling differentiated products to many buyers.

50. **Oligopoly:** There a few sellers selling competing products to many buyers.

51. **Average revenue:** It is the revenue earned per unit of output. It is nothing but the price of one unit of output.

52. **Marginal revenue:** It is the change in total revenue resulting from the sale of an additional unit of the commodity.

53. **Price discrimination:** It is a method of pricing adopted by a monopolist to earn abnormal profits. It refers to the practice of charging different prices for different units of the same commodity.

54. **Cartel:-**Cartel refers to a group of firms that explicitly agree to coordinate their activities.

55. **Business Cycle:-**The rhythmic fluctuations in aggregate economic activity that an economy experiences over a period of time are called business cycles or trade cycles. A typical business cycle has four distinct phases namely Expansion, Boom, Contraction, Trough.

56. **Absolute advantage**: The advantage of greater efficiency that one nation may have over another/others to produce a good or service using fewer resources. Considered as basis for international trade by Adam Smith.

57. **Ad valorem tariff:** A tariff expressed as a constant percentage of the monetary value of one unit of the value of the imported good.

58. **Administered interest rates**: The deposit and lending rates are not market determined; these are prescribed by the central bank.

© The Institute of Chartered Accountants of India

59. **Adverse selection:** Opportunism characterized by an informed person's benefiting from trading or otherwise contracting with a less-informed person who does not know about an unobserved characteristic of the informed person. Eg. A disproportionately large share of unhealthy people tends to buy insurance policy.

60. **Aggregate demand**: The total demand for goods and services in an economy which is equal to the total spending on goods and services. The four *components* of *Aggregate Demand* (AD) are Consumption (C), Investment (I), Government Spending (G) and Net Exports (X-M).

61. **Agreement on Subsidies and Countervailing Measures**: A WTO agreement that aims to clarify definitions of subsidies, strengthen disciplines by subsidy type and to strengthen and clarify procedures for adopting countervailing tariffs

62. **Agreement on Technical Barriers to Trade (TBT):** A WTO agreement that aims to prevent the standards and conformity assessment systems from becoming unnecessary trade barriers by securing their transparency and harmonization with international standards

63. **Agreement on Textiles and Clothing**: A WTO agreement which replaced the Multi-Fiber Arrangement (MFA) provides that textile trade should be deregulated by gradually integrating it into GATT disciplines over a 10-year transition period.

64. **Agreement on Trade-Related Investment Measures (TRIMs):** A WTO agreement that expands disciplines governing investment measures in relation to cross-border investments.

65. **Allocation function**: Government role to ensure optimal or efficient allocation of scarce resources to correct the sources of inefficiency in the economic system.

66. **American currency quotation**: An indirect quote showing the number of units of a foreign currency exchangeable for one unit of local currency; for example: $ 0.0151 per rupee

67. **Anti-dumping Duties**: Additional import duties so as to offset the foreign firm's unfair price advantage. (*see dumping)*

68. **Antitrust laws:** Also referred to as 'competition laws', regulate the conduct and organization of business corporations, generally to promote fair competition for the benefit of consumers.

69. **Arbitrage**: The purchase of a currency or good where it is lower priced for immediate resale in a market where it is higher priced in order to make a profit.

70. **Asymmetric information**: A situation where one party to an economic transaction possesses greater material knowledge than the other party.

71. **Autonomous consumption spending**: The part of consumption spending that is independent of income; also the vertical intercept of the consumption function.

© The Institute of Chartered Accountants of India

72. **Balance of payments**: A summary statement of all the international transactions of the residents of a nation with the rest of the world during a particular period of time, usually a year.

73. **Bank Rate**: The standard rate at which the Reserve Bank of India is prepared to buy or re-discount bills of exchange or other commercial papers eligible for purchase under the RBI Act.

74. **Base money** *see Reserve Money*

75. **Bilateral agreements:** Agreements between two nations regarding quantities and terms of specific trade transactions.

76. **Bond:** A debt investment in which an investor lends money to an entity (corporate or governmental) which borrows the funds for the purpose of raising capital for a defined period of time at a variable or fixed interest rate.

77. **Bound Tariff**: A tariff which a WTO member binds itself with a legal commitment not to raise above a certain level

78. **Bretton Woods institutions**: The World Bank and the International Monetary Fund.

79. **Brownfield investment**: The purchase or lease of an existing production facility in order to use it for a new activity.

80. **Budget deficit**: The amount by which spending exceeds the income of an entity over a particular period of time.

81. **Budget surplus**: The amount by which income exceeds the spending of an entity over a particular period of time.

82. **Cambridge approach**: The Neo classical Approach or cash balance approach to quantity theory of money put forth by Cambridge economists

83. **Capital consumption**: Depreciation of a fixed asset

84. **Capital-intensive commodity**: The commodity with the higher capital- labour ratio at all relative factor prices.

85. **Cash Reserve Ratio (CRR):** The fraction of the total net demand and time liabilities (NDTL) of a scheduled commercial bank in India which it should maintain as cash deposit with the Reserve Bank of India irrespective of its size or financial position.

86. **Circular flow of income**: The continuous interlinked phases in circulation of production, income generation and expenditure involving different sectors of the economy; a simple model that shows how goods, resources, and money payments flow between households and firms.

87. **Club goods**: Impure public goods which are replicable and therefore individuals who are excluded from one facility may get similar services from an equivalent provider.

© The Institute of Chartered Accountants of India

88. **Common market**: A free trade area with no barriers on trade among members who harmonize trade policies toward the rest of the world, and also allow the free movement of labour and capital among member nations. Eg. the European Union (EU).

89. **Common resource**: A non-excludable and rival good, generally available free of charge.

90. **Comparative advantage**: The advantage conferred on an individual or country in producing a good or service if the opportunity cost of producing the good or service is lower for that individual or country than for other producers.

91. **Compensatory spending**: Government spending carried out with the obvious intention to compensate the deficiency in private investment.

92. **Compound Tariff**: A combination of an ad valorem and a specific tariff.

93. **Consumer Price Index (CPI):** Measures changes in the price level of market basket of consumer goods and services purchased by households; constructed using the prices of a sample of representative items whose prices are collected periodically.

94. **Consumer surplus**: The difference between what consumers are willing to pay for a specific amount of a commodity and what they actually pay for it.

95. **Consumption function**: The functional relationship between aggregate consumption expenditure and aggregate disposable income, expressed as $C = f(Y)$**.** The specific form consumption function, proposed by Keynes $C = a + bY$

96. **Contractionary fiscal policy**: Government policy designed to restrain levels of economic activity of the economy during an inflationary phase by decreasing the aggregate expenditures and aggregate demand through a decrease in all types of government spending and/ or an increase in taxes.

97. **Contractionary monetary policy**: Type of monetary policy to combat inflation; implemented by central banks by decreasing the money supply of an economy and thus making money and credit more costly and less accessible to individuals and businesses.

98. **Copyrigh**t: The exclusive legal right of the creator of a literary or artistic work to profit from that work; it is a temporary monopoly like a patent.

99. **Countervailing duties (CVDs):** Tariffs imposed on imports to offset artificially low prices charged by exporters who enjoy export subsidies and tax concessions offered by the Governments in their home country.

100. **Crawling bands**: The value of currency is maintained within certain fluctuation margins say (±1-2 %) around a central rate that is adjusted periodically.

101. **Crawling peg**: The system under which the par value or exchange rates are changed by very small preannounced amounts at frequent and clearly specified intervals until the equilibrium exchange rate is reached.

© The Institute of Chartered Accountants of India

102. **Credit money**: Part of total money supply created by commercial by banks

103. **Credit multiplier**: Also referred to as the 'deposit multiplier' or the 'deposit expansion multiplier', describes the amount of additional money created by commercial bank through the process of lending the available money it has in excess of the central bank's reserve requirements.

104. **Cross rate**: The rate between Y currency and Z currency derived from the given rates of the two pairs of currencies (X and Y, and, X and Z).

105. **Crowding Out**: A decline in one sector's spending caused by an increase in some other sector's spending.

106. **Crowding-out effect:** the negative effect fiscal policy may generate when money from the private sector is 'crowded out' to the public sector.

107. **Currency appreciation**: A decrease in the domestic currency price of the foreign currency in a floating-rate system, which is the same as an increase in the value of a currency.

108. **Currency convertibility**: The ability to exchange one national currency for another without any restriction or limitation.

109. **Customs union**: A group of countries that eliminate all tariffs on trade among themselves but maintain a common external tariff on trade with countries outside the union. Example the European Union (EU).

110. **Customs Valuation Agreement:** A WTO agreement that specifies rules for more consistent and reliable customs valuation. It aims to harmonize customs valuation systems on an international basis by eliminating arbitrary valuation systems.

111. **Deadweight loss**: The loss in total surplus that occurs whenever an action or a policy reduces the quantity transacted below the efficient market equilibrium quantity.

112. **Deficit in the balance of payments**: The excess of debits over credits in the current and capital accounts, or autonomous transactions.

113. **Deflation:** A state of sustained decrease in prices and increase in purchasing power of money.

114. **Demerit goods:** Goods which impose significant negative externalities on the society as a whole and therefore believed to be socially undesirable.

115. **Desired or planned investment**: The level of investment expenditures that business would like to undertake.

116. **Devaluation:** A deliberate downward adjustment in the value of a country's currency relative to another currency, group of currencies or standard.

© The Institute of Chartered Accountants of India

117. **Disposable Personal Income (DI):** A measure of the amount of the money in the hands of the individuals that is available for their consumption or savings. DI = Personal Income - Personal Income Taxes.

118. **Doha Round**: The multilateral trade negotiations launched in November 2001 in Doha (Qatar) which was scheduled to be completed in 2004, to address, among other things greater trade access by developing countries in developed countries.

119. **Dollarization:** The situation whereby a nation adopts another nation's currency as its legal tender.

120. **Domestic content requirements**: Mandate that a specified fraction of a final good should be produced domestically. *See Local Content Requirements.*

121. **Dumping**: The export of a commodity at below their full average cost or at a lower price than the sales prices in their domestic market.

122. **Duty-free zones or Free Economic Zones**: Areas set up to attract foreign investments by allowing raw materials and intermediate products duty free.

123. **Economic integration**: The commercial policy of discriminatively reducing or eliminating trade barriers only among the nations joining together.

124. **Effective exchange rate:** A weighted average of the exchange rates between the domestic currency and the nation's most important trade partners, with weights given by the relative importance of the nation's trade with each of these trade partners.

125. **Efficiency costs:** see deadweight loss

126. **Embargo** : A total ban imposed by government on import or export of some or all commodities to particular country or regions for a specified or indefinite period.

127. **Emissions standard**: Legal limit on the amount of pollutants that a firm can emit.

128. **Environmental standards**: Rules established by a government to protect the environment by specifying possible and prohibited actions.

129. **Escalated tariff structure**: The system wherein the nominal tariff rates on imports of manufactured goods are higher than the nominal tariff rates on intermediate inputs and raw materials, i.e the tariff on a product increases as that product moves through the value-added chain.

130. **European currency quotation:** A direct quote which shows the number of units of a local currency exchangeable for one unit of a foreign currency. Eg. $ 1 = Rs.66.12

131. **Exchange rate**: The rate at which the currency of one country exchanges for the currency of another country.

132. **Expansionary fiscal policy:** Policy designed to stimulate the economy during the contractionary phase of a business cycle; accomplished by increasing aggregate

© The Institute of Chartered Accountants of India

expenditures and aggregate demand through an increase in all types of government spending and / or a decrease in taxes.

133. **Expansionary monetary policy:** Monetary policy that raises aggregate demand, real income and employment.

134. **Expenditure Method:** Also called 'Expenditure Approach', or 'Income Disposal Approach' a method of estimating national income, measures the aggregate final expenditure in an economy during an accounting year composed of final consumption expenditure, gross domestic capital formation and net exports.

135. **Export Subsidies:** The granting of tax relief and subsidized inputs to exporters

136. **Export tariff :** A tax or duty on exports.

137. **External balance**: The state of equilibrium in a nation's balance of payments.

138. **Externality**: A by-product of consuming or producing a good that affects someone other than the buyer or seller. These can be external benefits and external costs.

139. **Factor Income Method:** Also called 'Factor Payment Method' or 'Distributed Share Method', under which national income is calculated by summation of factor incomes paid out by all production units within the domestic territory of a country as wages and salaries, rent, interest, and profit.

140. **Factor-endowment theory:** *See Heckscher-Ohlin theory.*

141. **Factor-price equalization theorem**: The part of the H-O theory that predicts, under highly restrictive assumptions, that international trade will bring about equalization in relative and absolute returns to homogeneous factors across nations.

142. **Fiat money**: Money which has no intrinsic value, but is used as a medium of exchange because the government has, by law, made it 'legal tender.'

143. **Fiscal multiplier:** The response of gross domestic product to an exogenous change in government expenditures.

144. **Fiscal policy:** The use of government spending, taxation and borrowing to influence both the pattern of economic activity and level of growth of aggregate demand, output and employment.

145. **Fixed exchange rate**: Also referred to as 'pegged exchange rate', is an exchange rate regime under which a country's government announces, or decrees, what its currency will be worth in terms of either another country's currency or a basket of currencies or another measure of value, such as gold.

146. **Floating exchange rate:** The flexible exchange rate system under which the exchange rate is always determined by the forces of demand and supply without any government intervention in foreign exchange markets.

© The Institute of Chartered Accountants of India

147. **Foreign Direct Investment (FDI):** The process whereby the resident of one country (i.e. home country) acquires ownership of an asset in another country (i.e. the host country) and such movement of capital involves ownership, control as well as management of the asset in the host country.

148. **Foreign exchange futures:** A forward contract for standardized currency amounts and selected calendar dates traded on an organized market (exchange).

149. **Foreign exchange market:** The framework for the exchange of one national currency for another.

150. **Foreign exchange options:** A contract specifying the right to buy or sell a standard amount of a traded currency at or before a stated date.

151. **Foreign exchange risk**: Also called an 'open position'. The risk resulting from changes in exchange rates over time and faced by anyone who expects to make or to receive a payment in a foreign currency at a future date.

152. **Foreign portfolio investment:** The flow of 'financial capital' rather than 'real capital' and does not involve manufacture of goods or provision of services or ownership management or control of the asset on the part of the investor.

153. **Forward rate:** The exchange rate quoted in foreign exchange transactions involving delivery of the foreign exchange on a future date as per the contract agreed upon.

154. **Free rider problem:** A problem that results when individuals who have no incentive to pay for their own consumption of a good take a "free ride" on anyone who does pay; a problem with goods that are nonexcludable

155. **Free trade area**: Free-trade area is a group of countries that eliminate all tariff barriers on trade with each other and retains independence in determining their tariffs with nonmembers. Examples EFTA, NAFTA, and MERCOSUR.

156. **General Agreement on Trade in Services (GATS):** A WTO agreement that provides the general obligations regarding trade in services, such as most- favoured-nation treatment and transparency.

157. **Global public goods:** Public goods, with benefits and/or costs that potentially extend to all countries, people, and generations.

158. **Globalization:** The increasing integration of economies around the world, particularly through trade and financial flows and also through the movement of ideas and people, facilitated by the revolution in telecommunication and transportation.

159. **Government Failure:** An outcome that occurs when government's intervention is ineffective causing wastage of resources expended for the intervention and/or when government intervention in the economy to correct a market failure creates inefficiency and leads to misallocation of scarce resources.

© The Institute of Chartered Accountants of India

160. **Gross Domestic Product (GDP):** The total income earned domestically, including the income earned by foreign-owned factors of production. May be expressed at constant prices or at current prices.

161. **Gross National Product (GNP):** The total income of all residents of a nation, including the income from factors of production used abroad; ie the total expenditure on the nation's output of goods and services.

162. **Hard peg:** An exchange rate policy where the central bank sets a fixed and unchanging value for the exchange rate.

163. **Heckscher-Ohlin (H-O) theorem**: The theory that postulates that a nation will export the commodity intensive in its relatively abundant and cheap factor and import the commodity intensive in its relatively scarce and expensive factor.

164. **Hedging:** The avoidance of a foreign exchange risk (or the covering of an open position).

165. **High powered money** see *Reserve Money, Base money*

166. **Home-currency appreciation or foreign-currency depreciation:** Takes place when there is a decrease in the home currency price of foreign currency (or alternatively, an increase in the foreign currency price of home currency). The home currency thus becomes relatively more valuable.

167. **Home-currency depreciation or foreign-currency appreciation:** Takes place when there is an increase in the home currency price of the foreign currency (or, alternatively, a decrease in the foreign currency price of the home currency). The home currency thus becomes relatively less valuable.

168. **Import Quota:** A direct restriction which specifies that only a certain physical amount of the good will be allowed into the country during a given time period, usually one year.

169. **Import tariff**: A tax or duty on imports.

170. **Income Method**: The national income is calculated by summation of factor incomes paid out by all production units within the domestic territory of a country as wages and salaries, rent, interest, and profit. Transfer incomes are excluded.

171. **Inflation targeting:** A monetary policy under which the central bank announces a specific target, or target range, for the inflation rate.

172. **Inflation:** A general increase in prices and fall in the value or purchasing power of money.

173. **Intellectual property rights:** The exclusive rights granted to the creators of intellectual property, and include trademarks, copyright, patents, industrial design rights etc.

© The Institute of Chartered Accountants of India

174. **Inter-bank money market:** A very short-term money market, which allows financial institutions such as banks, to borrow and lend money at interbank rates.

175. **Investment function:** The relationship between investment expenditures and income.

176. **Investment multiplier (k):** The ratio of change in national income (ΔY) due to change in investment (ΔI)

177. **Kennedy Round:** The multilateral trade negotiations that were completed in 1967 under which agreement was reached to reduce average tariff duties on industrial products by 35 percent.

178. **Keynesian cross:** A simple model of income determination, based on the ideas in Keynes's 'General Theory', which shows how changes in spending can have a multiplied effect on aggregate income.

179. **Keynesian model**: A model derived from the ideas of Keynes's 'General Theory'; a model based on the assumptions that wages and prices do not adjust to clear markets and that aggregate demand determines the economy's output and employment.

180. **Laissez-faire:** The policy of minimum government interference in or regulation of economic activity, advocated by Adam Smith and other classical economists.

181. **Liquidity Adjustment Facility (LAF):** Facility under which the RBI provides financial accommodation to the commercial banks through repos/reverse repos. Instituted on the basis of the recommendations of Narsimham committee on banking sector reforms.

182. **Local content requirements**: The mandate that a specified fraction of a final good should be produced domestically.

183. **M1 =** Also called 'Narrow Money' is a measure of money supply =Currency and coins with the people + demand deposits of banks (Current and Saving accounts) + other deposits of the RBI.

184. **M2 =** M1 + savings deposits with post office savings banks.

185. **M3 =** Also called 'Broad Money' = M1 + net time deposits with the banking system.

186. **M4** = M3 + total deposits with the Post Office Savings Organization (excluding National Savings Certificates).

187. **Managed floating exchange rate system**: The policy of intervention in foreign exchange markets by monetary authorities to smooth out short-run fluctuations without attempting to affect the long-run trend in exchange rates.

188. **Marginal propensity to consume (MPC):** The ratio of change in consumption expenditures to change in income, or ΔC /ΔY.

© The Institute of Chartered Accountants of India

189. **Marginal propensity to save (MPS):** The ratio of change in saving to change in income, or ΔS/ΔY.

190. **Marginal social benefit:** The full benefit provided by another unit of a good, including the benefit to the consumer and any benefits enjoyed by third parties i.e the sum of marginal private benefit plus marginal external benefit.

191. **Marginal social cost:** The full cost of producing another unit of a good, including the marginal cost to the producer and any harm caused to third parties, i.e the sum of marginal cost of production and marginal external cost.

192. **Marginal Standing Facility (MSF):** The facility under which the scheduled commercial banks in India can borrow additional amount of overnight money from the central bank over and above what is available to them through the LAF window by dipping into their Statutory Liquidity Ratio (SLR) portfolio up to a limit (a fixed per cent of their net demand and time liabilities deposits (NDTL) liable to change) at a penal rate of interest.

193. **Market failure:** A market that operates inefficiently and fails to achieve efficient allocation of resources.

194. **Market Stabilisation Scheme (MSS)**: Under this scheme, the Government of India borrows from the RBI (such borrowing being additional to its normal borrowing requirements) and issues treasury-bills/dated securities for absorbing excess liquidity from the market arising from large capital inflows.

195. **Mercantilism:** The body of thought that postulated that the way for a nation to become richer was to restrict imports and stimulate exports. Thus, one nation could gain only at the expense of other nations.

196. **MERCOSUR**: The South American Common Market that was formed by Argentina, Brazil, Paraguay, and Uruguay in 1991

197. **Merit goods:** Goods which are socially desirable and have substantial positive externalities. They are rival, excludable, limited in supply, rejectable by those unwilling to pay, and involve positive marginal cost for supplying to extra users Eg. Education, health care etc.

198. **Minimum Support Price (MSP):** Guaranteed minimum price as well as procurement by government agencies at the set support prices to ensure steady and assured incomes to producers.

199. **Mixed tariff:** A combination of an ad valorem and a specific tariff.

200. **Monetary base:** The sum of currency and bank reserves; also called High- powered money.

© The Institute of Chartered Accountants of India

201. **Monetary Policy Committee (MPC):** An empowered six-member panel of experts in India to determine through debate and majority vote, the benchmark policy interest rate (repo rate) required to achieve the inflation target.

202. **Monetary Policy Department (MPD):** Assists the MPC in formulating the monetary policy.

203. **Monetary Policy Framework Agreement:** An agreement reached between the Government of India and the Reserve Bank of India (RBI) on the maximum tolerable inflation rate that the RBI should target to achieve price stability.

204. **Monetary policy instruments:** The various direct and indirect instruments that a central bank can use to influence money market and credit conditions and pursue its monetary policy objectives.

205. **Monetary policy**: The use of monetary policy instruments which are at the disposal of the central bank to regulate the availability, cost and use of money and credit so as to promote goals of government's economic policy.

206. **Monetary transmission mechanism:** The process or channels through which the evolution of monetary aggregates affects real variables such as aggregate output and employment.

207. **Monetary union:** A group of economies that have decided to share a common currency and thus a common monetary policy.

208. **Money demand function**: A function showing the determinants of demand for real money balance.

209. **Money multiplier:** The ratio that relates the change in money supply to a given change in the monetary base i.e what multiple of the monetary base is transformed into money supply.

210. **Money supply:** The amount of money in an economy available to the Public at any particular point of time; usually determined by the Central bank and the banking system

211. **Money:** Assets which are commonly used and accepted as a means of payment or as a medium of exchange or of transferring purchasing power.

212. **Moral hazard:** The situation that can exist when someone is protected from paying the full costs of their harmful actions and acts irresponsibly, making the harmful consequences more likely.

213. **Most Favoured Nation**: The extension to all trade partners of any reciprocal tariff reduction negotiated by a WTO member with any other nation.

214. **Multilateral trade negotiations:** Trade negotiations among many nations.

215. **Multiplier:** The ratio of the change in income to change in investment in a closed economy.

© The Institute of Chartered Accountants of India

216. **Narrow money** : The sum of currency held by the public, demand deposits of the banks and other deposits of RBI.

217. **National Income Equilibrium:** The level of income at which the desired or planned expenditures equal the value of output, and desired saving equals desired investment.

218. **Net exports:** The difference between a country's total value of exports and total value of imports.

219. **Net Factor Income from Abroad (NFIA):** The difference between the total factor income received from abroad and the total factor income paid to abroad.

220. **Net Indirect Taxes**: Indirect taxes - Subsidies.

221. **Nominal exchange rate** : The rate at which one country's currency trades for another country's currency

222. **Nominal GDP:** Gross Domestic Product (GDP) evaluated at current market prices and is not inflation adjusted. Therefore nominal values of GDP for different time periods can differ due to changes in quantities of goods and services and/or changes in general price levels.

223. **Nominal tariff:** (such as an ad valorem one) calculated on the price of a final commodity.

224. **Non tariff Measures:** Policy measures for restricting trade, other than ordinary customs tariffs, that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both.

225. **Non-excludable goods:** Goods in the case of which the supplier cannot prevent those who do not pay from consuming the good.

226. **Non-Profit Institutions Serving Households**: Non-profit institutions which provide goods or services to households for free or at prices that are not economically significant. Examples include churches and religious societies, sports and other clubs, trade unions and political parties.

227. **Nonrival goods:** The same unit of good can be consumed by more than one person at the same time.

228. **North American Free Trade Agreement (NAFTA):** The agreement to establish a free trade area among the United States, Canada, and Mexico that came into existence on January 1, 1994.

229. **Open-market operations:** A general term used for market operations conducted by the Reserve Bank of India by way of sale/ purchase of Government securities to/ from the market with an objective to adjust the rupee liquidity conditions in the market on a durable basis.

230. **Opportunity cost:** the value of the next-highest-valued alternative use of that resource that is given up when a decision is made**.**

© The Institute of Chartered Accountants of India

231. **Over-the-counter market:** A decentralized market, without a central physical location, where market participants trade with one another through various communication modes.

232. **Own account production:** Production performed by a business or government for its own use.

233. **Per Capita Income**: Income per head; ie total national income divided by total population.

234. **Personal Income** : A measure of the actual current income receipt of persons from all sources.

235. **Pigouvian taxes:** Named after A.C. Pigou , is a tax on pollution. These taxes, by 'making the polluter pay', seek to internalize external costs into the price of a product or activity.

236. **Plurilateral Trade Agreements:** Four agreements, originally negotiated in the Tokyo Round, which have a narrower group of signatories.

237. **Policy rate:** In India, the fixed repo rate quoted for sovereign securities in the overnight segment of Liquidity Adjustment Facility (LAF) is considered as the 'policy rate'.

238. **Precautionary motive:** A desire to hold cash in order to be able to deal effectively with unforeseen, unexpected contingencies that require cash outlay.

239. **Preferential tariff:** A tariff system under which the parties levy lower rates of duty on imports from one another than they do on imports from third countries.

240. **Price Ceiling**: When prices of certain essential commodities rise excessively, government may resort to controls in the form of price ceilings (also called maximum price) for making a resource or commodity available to all at reasonable prices.

241. **Price intervention:** Intervention by governments to influence the outcomes of a market; generally takes the form of price controls which may be either a price floor (a minimum price buyers are required to pay) or a price ceiling (a maximum price sellers are allowed to charge for a good or service).

242. **Private cost**: A producer's or supplier's cost of providing goods or services. These do not always equate with the total cost to the society.

243. **Private goods:** A good that is both excludable and rival in consumption.

244. **Product Method**: Also known as 'Value Added Method' or 'Industrial Origin Method' or 'Net Output Method'. A method of measuring national income that entails the aggregation of production of each industry less intermediate purchases from all other industries.

© The Institute of Chartered Accountants of India

245. **Progressive tax**: A tax in which the tax rate increases as the taxable amount increases.

246. **Prohibitive tariff**: A tariff sufficiently high to stop all international trade

237. **Public borrowing**: Borrowing by governments.

248. **Public goods:** Nonexclusive and nonrival good; the marginal cost of provision to an additional consumer is zero and people cannot be excluded from consuming it.

249. **Pump priming:** When private spending becomes deficient, certain volumes of public spending will help revive the economy

250. **Pure private good:** A good that is both rivalrous and excludable.

256. **Pure public good:** A good that is both nonrival and non excludable.

257. **Quantitative Restrictions (QRs):** A trade restriction (also called trade quota) which places limits on the volume or value of a good or service that can be improved into a country; frequently resorted to for protecting the price of domestically produced goods or to decrease or eliminate a trade deficit.

258. **Quantity theory of money:** A theory which postulates that the nation's money supply times the velocity of circulation of money is equal to the nation's general price index times physical output at full employment.

259. **Quasi public goods:** Also called 'near public good' possess nearly all of the qualities of private goods and some of the benefits of public good. It is easy to keep people away from them by charging a price or fee. (for e.g. education, health services).

260. **Real effective exchange rate (REER):** The nominal effective exchange rate (a measure of the value of a currency against a weighted average of several foreign currencies) divided by a price deflator or index of costs.

261. **Real exchange rate** = Nominal exchange rate X $\frac{\text{Domestic price Index}}{\text{Foreign price Index}}$

262. **Real GDP:** An inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year, expressed in base- year prices, and is often referred to as GDP at constant-price, or inflation- corrected GDP.

263. **Recession:** Stage of contraction in a business cycle which results in a general slowdown in economic activity.

264. **Recessionary gap**: Also known as 'contractionary gap', is said to exist if the existing levels of aggregate production is less than what would be produced with full employment of resources.

265. **Redistribution function:** The state's function to ensure equity and fairness to promote the wellbeing of all sections of people and achieved through taxation, public expenditure, regulation and preferential treatment of target populations.

© The Institute of Chartered Accountants of India

266. Regional Trade Agreements (RTAs): Groupings of countries (not necessarily belonging to the same geographical region) which are formed with the objective of reducing barriers to trade among member countries.

267. Repos: Repurchase Options or 'Repo', is an instrument for borrowing funds by selling securities with an agreement to repurchase the securities on a mutually agreed future date at an agreed price which includes interest for the funds borrowed. It is a money market instrument, which enables collateralised short term borrowing and lending through sale/purchase operations in debt instruments.

268. Reserve money: Reserve money is comprised of currency held by the public, cash reserves of banks and other deposits of RBI.

269. Reverse Repo: An instrument for lending funds by purchasing securities with an agreement to resell the securities on a mutually agreed future date at an agreed price which includes interest for the funds lent.

270. Rivalrous: Referring to a good, describes the case in which one unit cannot be consumed by more than one person at the same time.

271. Rules of origin: Criteria used by governments of importing countries to determine the national source of a product. Their importance is derived from the fact that duties and restrictions in several cases depend upon the country of origin of imports.

272. Safeguard Measures: Measures initiated by countries to restrict imports of a product temporarily if its domestic industry is injured or threatened with serious injury caused by a surge in imports.

273. Sanitary and Phytosanitary Measures (SPS): Measures provided for in WTO agreements which can be applied to protect human, animal or plant life from risks arising from additives, pests, contaminants, toxins or disease- causing organisms and to protect biodiversity.

274. Saving function: The relationship between saving and income. In general, saving is negative when income is zero and rises as income rises, in such a way that the increase in consumption plus the increase in saving equals the increase in income.

275. Social costs: The total costs to the society on account of a production or consumption activity. Social costs are private costs borne by individuals directly involved in a transaction together with the external costs borne by third parties not directly involved in the transaction. Social Cost = Private Cost + External Cost.

276. Soft peg: An exchange rate policy under which the exchange rate is generally determined by the market, but in case the exchange rate tend to be move speedily in one direction, the central bank will intervene in the market.

277. Special Drawing Rights (SDRs): International reserves created by the IMF to supplement other international reserves and distributed to member nations according to their quotas in the Fund.

© The Institute of Chartered Accountants of India

278. **Specific tariff:** An import duty that assigns a fixed sum per physical unit of the good imported.

279. **Speculative motive:** People's desire to hold cash in order to be equipped to exploit any attractive investment opportunity requiring cash expenditure.

280. **Spot exchange rates:** The exchange rate in foreign exchange transactions which are carried out in the spot market and the exchange involves immediate delivery.

281. **Stabilization function:** One of the key functions of fiscal policy which aims to eliminate macroeconomic fluctuations arising from suboptimal allocation.

282. **Stabilization policy:** Public policy aimed at reducing the severity of short- run economic fluctuations.

283. **Stagflation:** The combination of recession or stagnation and increasing prices or inflation.

284. **Statutory Liquidity Ratio (SLR):** A stipulated percentage of the total demand and time liabilities (DTL) / Net DTL (NDTL) of a scheduled commercial bank in India which it is are required to maintain with RBI in cash, gold or approved investments in securities.

285. **Supply of money:** The nation's total money supply which is equal to the nation's monetary base times the money multiplier.

286. **Tariff rate quotas (TRQs)**: Combine two policy instruments namely, quotas and tariffs. Imports entering under the specified quota portion are usually subject to a lower (sometimes zero), tariff rate. Imports above the quantitative threshold of the quota face a much higher tariff.

287. **Tariffs:** Also known as customs duties, are taxes or duties imposed on goods and services which are imported or exported.

288. **Theory of liquidity preference:** A simple model of the interest rate, based on the ideas in Keynes's General Theory, which says that the interest rate adjusts to equilibrate the supply and demand for real money balances.

289. **Tradable emissions permits:** The system of marketable permits allocated among firms, to emit limited quantities of pollutants which can be bought and sold by polluters. The high polluters have to buy more permits and the low polluters receive extra revenue from selling their surplus permits.

290. **Trade policy:** The regulations governing a nation's commerce or international trade and encompass all instruments that governments may use to promote or restrict imports and exports.

291. **Trade-Related Aspects of Intellectual Property Rights (TRIPS):** A WTO agreement that stipulates most-favored-nation treatment and national treatment for intellectual

© The Institute of Chartered Accountants of India

properties, such as copyright, trademarks, geographical indications, industrial designs, patents etc.

292. **Trading bloc:** A group of countries that have a free trade agreement among themselves and may apply a common external tariff to other countries.

293. **Tragedy of the commons:** The problem of overuse when a good is rivalrous but non excludable.

294. **Transaction demand for money**: The demand for active money balances to carry on business transactions; it varies directly with the level of national income and the volume of business transactions.

295. **Transfer payment:** Any Payment from the government to individuals that are not in exchange for goods and services. Eg. Social Security payments.

296. **Trigger price mechanisms:** The quick responses of affected importing countries upon confirmation of trade distortion to offset the distortion.

297. **Unilateral transfers**: One-way economic transactions between the residents of two nations over a stipulated period of time. These include gifts, donations, personal remittances and other 'one-way' transactions.

298. **Uruguay round:** The multilateral trade negotiations 1986-94, the last and most consequential of all rounds culminated in the birth of WTO and a new set of agreements replacing the General Agreement on Tariffs and Trade (GATT).

299. **Value Added:** The value of a firm's output minus the value of the intermediate goods the firm purchased.

300. **Value-added approach:** Measuring GDP by summing up the values added by all firms in the economy.

301. **Vehicle currency:** A currency, such as the U.S. dollar used to denominate international contracts and for international transactions.

302. **Voluntary Export Restraints (VER):** A type of informal quota administered by an exporting country voluntarily restraining the quantity of goods that can be exported out of a country during a specified period of time.

303. **World trade organization (WTO):** The organization set up at the Uruguay Round with the objective of facilitating the flow of international trade smoothly, freely, fairly and predictably. It has authority over trade in industrial goods, agricultural commodities, and services, and to settle trade disputes.

© The Institute of Chartered Accountants of India