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PREFACE

MANAGERIAL ECONOMICS

This book is the result of my teaching experience in the subject Managerial Economics to Sikkim Manipal University,Udupi students for about 8 years.It is designed to meet the requirements of students at Bachelor's, Masters and Ph D levels in Engineering and Management(M E, MCA MBA and Ph D in Project Management,Engg,Computer Applications and Business Administration).

The main highlight of the book is the theoretical and graphical problem approach framed by the author with many theoretical concepts .This book has a large number of Economics concepts applied to Management and Business with explanations.

This book can be best suitable for Bachelors,Masters & Ph D students during their RESEARCH WORK in the three fields mentioned below:

ENGINEERING-ALL FIELDS.(BACHELOR LEVEL,MASTERS LEVEL AND DOCTORS LEVEL)

COMPUTER APPLICATIONS. (BACHELOR LEVEL,MASTERS LEVEL AND DOCTORS LEVEL)

BUSINESS ADMINISTRATION. (BACHELORLEVEL,MASTERS LEVEL AND DOCTORS LEVEL)

SRINIVAS R RAO

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SIKKIM MANIPAL UNIVERSITY,MANIPAL

ABOUT THE BOOK

This book is on MANAGERIAL ECONOMICS

which is a compulsory subject for Commerce students .Even the higher level students and bachelor level students can also read it as it contains a lot of numerical problems framed by me.

CHAPTER – I

General Foundations of Managerial Economics - Economic Approach

- Circular Flow of Activity - Nature of the Firm - Objectives of Firms - Demand Analysis and Estimation - Individual, Market and Firm demand - Determinants of demand - Elasticity measures and Business Decision Making

- Demand Forecasting.

CHAPTER - II

Law of Variable Proportions - Theory of the Firm - Production Functions in the Short and Long Run - Cost Functions – Determinants of Costs – Cost Forecasting - Short Run and Long Run Costs –Type of Costs - Analysis of Risk and Uncertainty.

CHAPTER - III

Product Markets -Determination Under Different Markets - Market Structure – Perfect Competition – Monopoly – Monopolistic Competition – Duopoly - Oligopoly - Pricing and Employment of Inputs Under Different Market Structures – Price Discrimination - Degrees of Price Discrimination.

CHAPTER - IV

Introduction to National Income – National Income Concepts - Models of National Income Determination - Economic Indicators - Technology and Employment - Issues and Challenges – Business Cycles – Phases – Management of Cyclical Fluctuations - Fiscal and Monetary Policies.

CHAPTER – V

Macro Economic Environment - Economic Transition in India - A quick Review - Liberalization, Privatization and Globalization - Business and Government - Public-Private Participation (PPP) - Industrial Finance - Foreign Direct Investment(FDIs).

are the 5 chapters with various sub-topics covered in this book. All theories are given and explained and all formulae and methods are also covered in this book related to Business Economics or Managerial Economics subject.

I feel that this is a unique book as there are theory,formulae & numerical problems solved with all possible steps.

HAPPY READING.

THANKS

REGARDS

AUTHOR

(SRINIVAS R RAO)

ABOUT THE AUTHOR

Author's name is Srinivas R Rao, born and done his school level education in Mangalore,Karnataka in a reputed private school Canara High School and PUC(+2) from Canara PUC in Science stream with PCMB as main subjects.

Later, pursuing LL.B(5 Years) course passed the degree in 1999 and done Diploma in Export Management ,Diploma in Customs and Central Excise , Diploma in Business Administration and some important IT subjects like MS-Office,Internet/Email,Visual Basic 6.0,C,C++,Java,Advanced Java,Oracle with D2K,HTML with Javascript,VBscript and Active Server Pages.

Joined as a FACULTY for students in a small computer Institute in 2002 July and later after 4 months worked in a company by name CRP Technologies(I) .P.Ltd as Branch Manager(Risk Manager) for Mangalore,Udupi and Kasargod areas from January 26 2003 to June 11 2007.In the year 2005 pursued MBA distance education course. Currently working as a FACULTY in Sikkim Manipal University , Udupi centre for BBA & MBA students and teaching numerical subjects like Statistics/Operations Research(Mgt Science/Quant. Techniques for Mgt)/Accounting and several numerical and difficult oriented subjects for distance education students in their weekend contact classes from July 2010 till present day.

Thanks

Regards

Author

(SRINIVAS R RAO)

Book written by Srinivas R Rao on Managerial Economics for Master of Business Administration(MBA)

Managerial Economics

CHAPTER **– I**

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CHAPTER – I

Lesson I The Fundamentals Of Managerial Economics

Why study Economics?
Managerial Economics
Nature of Managerial Economics
Circular flow of economic activity
Objectives of the firm
Review questions

Introduction

People have limited number of **needs** which must be satisfied if they are to survive as human beings. Some are material needs, some are psychological needs and some others are emotional needs. People's needs are limited; however, no one would choose to live at the level of basic human needs if they want to enjoy a better standard of living. This is because human **wants** (desire for the consumption of goods and services) are unlimited. It doesn't matter whether a person belongs to the middle class in India or is the richest individual in the World, he or she wants always something more. For example bigger a house, more friends, more salary etc., Therefore the basic economic problem is that the resources are limited but wants are unlimited which forces us to make choices.

Economics is the study of this allocation of resources, the choices that are made by economic agents. An **economy** is a system which attempts to solve this basic economic problem. There are different types of economies; household economy, local economy, national economy and international economy but all economies face the same problem. The major economic problems are (i) what to produce? (ii) How to produce? (iii) When to produce and (iv) For whom to produce?

Economics is the study of how individuals and societies choose to use the scarce resources that nature and the previous generation have provided. The world's resources are limited and scarce. The resources which are not scarce are called free goods. Resources which are scarce are called economic goods.

Why Study Economics?

A good grasp of economics is vital for managerial decision making, for designing and understanding public policy, and to appreciate how an economy functions. The students need to know how economics can help us to understand what goes on in the world and how it can be used as a practical tool for decision making. Managers and CEO's of large corporate bodies, managers of small companies, nonprofit organizations, service centers etc., cannot succeed in business without a clear understanding of how market forces create both opportunities and constraints for business enterprises.

Reasons For Studying Economics:

- It is a study of **society** and as such is extremely important.
- It trains the mind and enables one to **think systematically** about the problems of business and wealth.
- From a study of the subject it is possible to **predict** economic **trends** with some precision.
- It helps one to **choose** from various economic **alternatives**.

Economics is the science of making decisions in the presence of scarce resources. Resources are simply anything used to produce a good or service to achieve a goal. Economic decisions involve the allocation of scarce resources so as to best meet the managerial goal. The nature of managerial decision varies depending on the goals of the manager.

A **Manager** is a person who directs resources to achieve a stated goal and he/she has the responsibility for his/her own actions as well as for the actions of individuals, machines and other inputs under the manager's control.

Managerial economics is the study of how scarce resources are directed most efficiently to achieve managerial goals. It is a valuable tool for analyzing business situations to take better decisions.

Prof. Evan J Douglas defines Managerial Economics as "Managerial Economics is concerned with the application of economic principles and methodologies to the decision making process within the firm or organization under the conditions of uncertainty"

According to Milton H Spencer and Louis Siegelman "Managerial Economics is the integration of economic theory with business practices for the purpose of facilitating decision making and forward planning by management"

According to Mc Nair and Miriam, 'Managerial Economics consists of the use of economic modes of thoughts to analyze business situations'.

Economics can be divided into two broad categories: micro economics and macro economics. **Macro economics** is the study of the

economic system as a whole. It is related to issues such as determination of national income, savings, investment, employment at aggregate levels, tax collection, government expenditure, foreign trade, money supply etc., **Micro economics** focuses on the behavior of the individuals, firms and their interaction in markets. Managerial economics is an application of the principles of micro and macro economics in managerial decision making.

The economic way of thinking about business decision making provides all managers with a powerful set of tools and insights for furthering the goals of their organization. Successful managers take good decisions, and one of their most useful tools is the methodology of managerial economics.

Nature Of Managerial Economics:

1. Managerial economics is concerned with the analysis of finding optimal solutions to decision making problems of businesses/ firms (micro economic in nature).
2. Managerial economics is a practical subject therefore it is pragmatic.
3. Managerial economics describes, what is the observed economic phenomenon (positive economics) and prescribes what ought to be (normative economics)
4. Managerial economics is based on strong economic concepts. (conceptual in nature)
5. Managerial economics analyses the problems of the firms in the perspective of the economy as a whole (macro in nature)
6. It helps to find optimal solution to the business problems (problem solving)

Managerial Economics And Other Disciplines

Managerial economics has its relationship with other disciplines for propounding its theories and concepts for managerial decision making. Essentially it is a branch of economics. Managerial economics is closely related to certain subjects like statistics, mathematics, accounting and operations research.

Managerial economics helps in estimating the product demand, planning of production schedule, deciding the input combinations, estimation of cost of production, achieving economies of scale and increasing the returns to scale. It also includes determining price of the product, analyzing market structure to determine the price of the product for profit maximization, which helps them to control and plan capital in an effective manner.

Successful mangers make good decisions, and one of their most useful tools is the methodology of managerial economics. Warren E Buffett, the renowned chairman and CEO of Berkshire Hathaway Inc., invested $100 and went on to accumulate a personal net worth of $30 billion. Buffett credits his success to a basic understanding of managerial economics. Buffett's success is a powerful testimony to the practical usefulness of managerial economics.

Managerial economics has a very important role to play by helping managements in successful decision making and forward planning. To discharge his role successfully, a manager must recognize his responsibilities and obligations. There is a growing realization that the managers contribute significantly to the profitable growth of the firms.

We can conclude that managerial economics consists of applying economic principles and concepts towards adjusting with various uncertainties faced by a business firm.

Circular Flow Of Economic Activity

The individuals own or control resources which are necessary inputs for the firms in the production process. These resources (factors of production) are classified into four types.

Land: It includes all natural resources on the earth and below the earth. Non renewable resources such as oil, coal etc once used will never be replaced. It will not be available for our children. Renewable resources can be used and replaced and is not depleted with use.

Labour: is the work force of an economy. The value of the worker is called as human capital.

Capital: It is classified as working capital and fixed capital (not transformed into final products)

Entrepreneurship: It refers to the individuals who organize production and take risks.

All these resources are allocated in an effective manner to achieve the objectives of consumers (to maximize satisfaction), workers (to maximize wages), firms (to maximize the output and profit) and government (to maximize the welfare of the society).

The fundamental economic activities between households and firms are shown in the diagram. The circular flows of economic activities are explained in a clockwise and counterclockwise flow of goods and services. The four sectors namely households, business, government and the rest of the world can also be considered to see the flow of economic activities. The circular flow of activity is a chain in which production creates income, income generates spending and spending in turn induces production.

The major four sectors of the economy are engaged in three economic activities of production, consumption and exchange of goods and services. These sectors are as follows:

Households: Households fulfill their needs and wants through purchase of goods and services from the firms. They are owners and suppliers of factors of production and in turn they receive income in the form of rent, wages and interest.

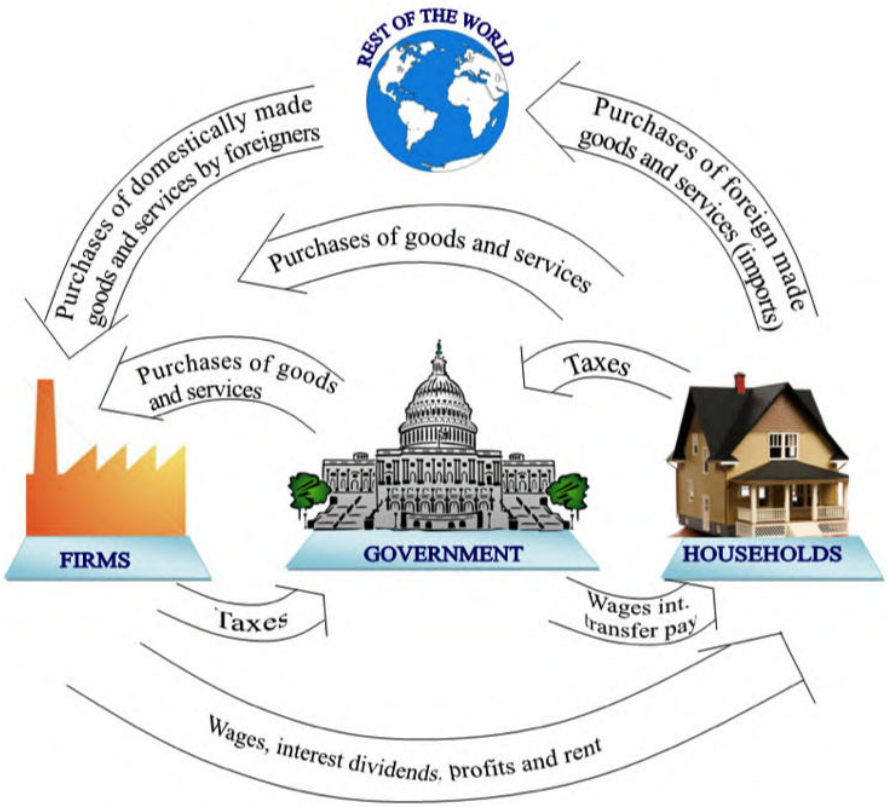
Firms: Firms employ the input factors to produce various goods and services and make payments to the households.

Government: The government purchases goods and services from firms and also factors of production from households by making payments.

Foreign sector: Households, firms and government of India purchase goods and services (import) from abroad and make payments. On the other hand all these sectors sell goods and services to various countries (export) and in turn receive payments from abroad

Chart - 1

Circular Flow Of Economic Activity



The above said four agents take economic decisions to produce goods and services and to exchange them and to consume them for satisfying the wants of the economy as a whole. Understanding the opportunities and constraints in the exchange is essential to take better decision in business. This is discussed in the forthcoming chapters in detail.

The economy comprises of the interaction of households, firms, government and other nations. Households own resources and supply factor services like land, raw material, labour and capital to the firms which helps them to produce goods and services. In turn, firms pay rent for land, wages for their labour and interest against the capital invested by the households. The earnings of the household are used to purchase goods and services from the firms to fulfill their needs and wants, the remaining is saved and it goes to the capital market and is converted as investments in various businesses. The household and business firms have to pay taxes to the government for enjoying the services provided. On the other hand firms and households purchase goods and services (import) from various countries of the world. Firms tend to sell their products to

the foreign customers (export) who earn income for the firm and foreign exchange for the country. Therefore, it is clear that households supply input factors, which flow to firms. Goods and services produced by firms flow to households. Payment flows in the opposite direction (refer chart 1)

Nature Of The Firm

A **firm** is an association of individuals who have organized themselves for the purpose of turning inputs into output. The firm organizes the factors of production to produce goods and services to fulfill the needs of the households. Each firm lays down its own objectives which is fundamental to the existence of a firm.

The major **objectives** of the firm are:

- To achieve the Organizational Goal
- To maximize the Output
- To maximize the Sales
- To maximize the Profit of the Organization
- To maximize the Customer and Stakeholders Satisfaction
- To maximize Shareholder's Return on Investment
- To maximize the Growth of the Organization

Firms are established to earn profit, to keep the shareholders happy. To increase their market share, they try to maximize their sales. In the present business world firms try to produce goods and services without harming the environment. Firms are not always able to operate at a profit. They may be facing the operating loss also. Economists believe that firms maximize their long run rather than their short run profit. So managers have to make enough profit to satisfy the demands of their shareholders and to maximize their wealth through the company.

Review Questions

1. Distinguish between micro economics, macro economics and managerial economics.
2. What is managerial economics? Why does study managerial economics?
3. Describe the circular flow of economic activity of India.
4. Discuss the nature of the firm.
5. List out the major objectives of the firm.
6. How does managerial economics relate with other disciplines for propounding its theories?
7. Identify the areas of decision making where managerial economics prescribes specific solutions to business problems.
8. Discuss the role and responsibilities of a managerial economist.

*****

Lesson II Demand Analysis

Reading Objective:

At the end of reading this chapter the reader will understand that demand analysis is an important part of economic analysis. The manufacturers produce and supply goods to meet demand. When the demand and supply is equal the economic conditions of the country is in equilibrium position. This demand and supply are market forces which gives dynamism to the economic conditions of the country. The demand is not always static. The changes in demand or elasticity of demand gives room for the managerial decision making like what to produce, how much to produce, when to produce, and where to distribute the products.

Lesson Outline:

- Law of demand
- Determinants of demand
- Types of demand
- Exceptional demand curve
- Elasticity of demand
- Price elasticity
- Income elasticity
- Cross elasticity
- Demand forecasting
- Review questions

Introduction:

The concepts of demand and supply are useful for explaining what is happening in the market place. Every market transaction involves an exchange and many exchanges are undertaken in a single day. The circular flow of economic activity explains clearly that every day there are a number of exchanges taking place among the four major sectors mentioned earlier.

A market is a place where we buy and sell goods and services. A buyer demands goods and services from the market and the sellers **supply** the goods in the market. In economics, demand is "the quantity of goods and services that will be bought for a given price over a period of time". For example if 10 Lakhs laptops are purchased in India during a year at an average price of Rs.25000/- then we can say that the annual demand for laptops is 10 Lakhs units at the rate of 25,000/-.

This chapter describes demand and supply which is the driving force behind a market economy. This is one of the most important managerial factors because it assists the managers in predicting changes in production and input prices. The manager can take better decisions regarding the kind of product to be produced, the quantity, the cost of the product and its selling price. Let us understand the concept of demand and its importance in decision making.

Demand: Demand means the ability and willingness to buy a specific quantity of a commodity at the prevailing price in a given period of time. Therefore, demand for a commodity implies the desire to acquire it, willingness and the ability to pay for it.

Law of demand: The quantity of a commodity demanded in a given time period increases as its price falls, ceteris paribus. (I.e. other things remaining constant)

Demand schedule: a table showing the quantities of a good that a consumer is willing and able to buy at the prevailing price in a given time period. (Table – 1)

Table – 1: The Demand Schedule For Coke

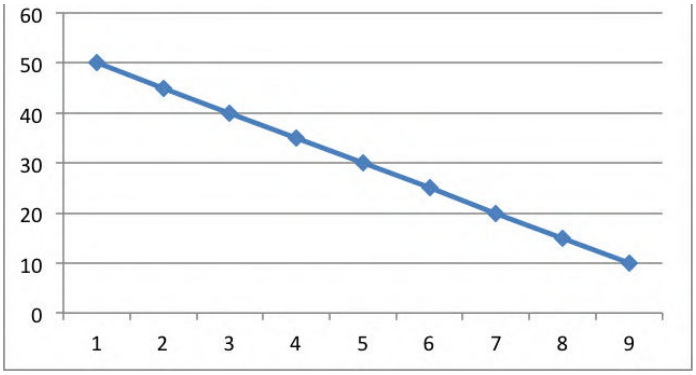
Price of Coke (200 ml) In Rupees	Quantity Demanded
50	1
45	2
40	3
35	5
30	7
25	9
20	12
15	15
10	20

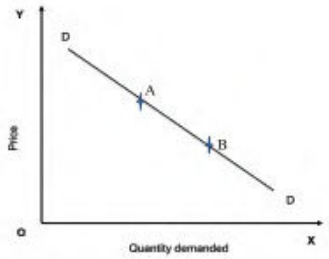
Demand Curve:

A curve indicating the total quantity of a product that all consumers are willing and able to purchase at the prevailing price level, holding the prices of related goods, income and other variables as constant.

A demand curve is a graphical representation of a demand schedule. The price is quoted in the 'Y' axis and the quantity demanded over time at different price levels is quoted in 'X' axis. Each point on the curve refers to a specific quantity that will be demanded at a given price. If for example the price of a 200 ml coke is Rs. 10, this curve tells us that the consumer (the students in a class of 50) would purchase 20 units. When the price rises to Rs. 50 there was only one student would buy it. The demand curve, (DD) is downward sloping curve from left to right showing that as price falls, quantity demanded rises. This inverse relationship between price and quantity is called as the law of demand. When price changes, there is said to be a movement along the curve from point A to B.

Graph – Demand Curve

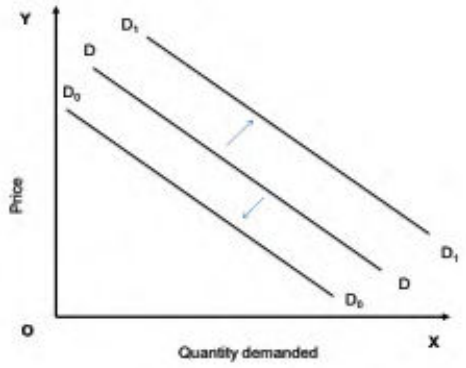




Shifts in Demand:

Shift of the demand curve occurs when the determinants of demand change. When tastes and preferences and incomes are altered, the basic relationship between price and quantity demanded changes (shifts). This shifts the entire demand curve upward (rightward) and is called as increase in demand because more of that commodity is demanded at that price. The downward shift (leftward) is called as decrease in demand. The new demand curves D_1D_1 and D_0D_0 can be seen in the Graph below.

Graph – Shift In Demand Curve

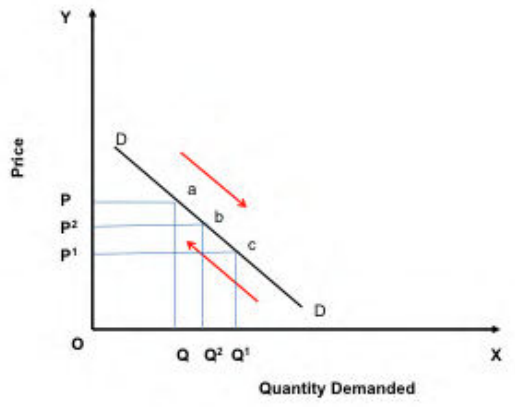


Therefore we understand that a shift in a demand curve may happen due to the changes in the variables other than price. The movement along a demand curve takes place (extension or contraction) due to price rise or fall.

Extension And Contraction Of Demand Curve:

When with a fall in price, more of a commodity is bought , then there is an extension of the demand curve. When lesser quantity is demanded with a rise in price, there is a contraction of demand.

Graph –Extension And Contraction In Demand Curve



From the above graph we can understand that an increase in prices result in the contraction of demand. If the price increases from P^2 to P then the demand for the commodity fall from OQ^2 to OQ. Therefore the demand curve DD contracts from 'b' to 'a' on the other hand when there is a fall in price, it results in the extension of demand. Let us assume that the price falls from P^2 to P^1 then the quantity demanded OQ^2 increases to OQ^1 and the demand curve extends from point 'b' to 'c'

Demand function is a function that describe how much of a commodity will be purchased at the prevailing prices of that commodity and related commodities, alternative income levels, and alternative values of other variables affecting demand.

Price is not the only factor which determines the level of demand for a good. Other important factor is income. The rise in income will lead to an increase in demand for a normal commodity. A few goods are named as inferior goods for which the demand will fall, when income rises. Another important factor which influences the demand for a good is the price of other goods. Other factors which affect the demand for a good apart from the above mentioned factors are:

Changes in Population
Changes in Fashion
Changes in Taste
Changes in Advertising

A change in demand occurs when one or more of the determinants of demand change and it is expressed in the following equation.

$$Q_d X = f (P_x, P_r, Y, T, E_y, E_p, Adv.\ldots)$$

Where,

$Q_d X$ = quantity demanded of good 'X'
P_x = the price of good X
P_r = the price of a related good
Y = income level of the consumer
T = taste and preference of the consumers
E_y = expected income
E_p = expected price
Adv = advertisement cost

The above mentioned demand function expresses the relationship between the demand and other factors. The quantity demanded of commodity X varies according to the price of commodity (P_x), income (Y), the price of a related commodity (P_r), taste and preference of the consumers (T), expected income (E_y) and advertisement cost(Adv) spent by the organization.

Determinants Of Demand:

There are various factors affecting the demand for a commodity.
They are:

1.Price of the good: The price of a commodity is an important determinant of demand. Price and demand are inversely related. Higher the price less is the demand and vice versa.

2.Price of related goods: The price of related goods like substitutes and complementary goods also affect the demand. In the case of substitutes, rise in price of one commodity lead to increase in demand for its substitute.

In the case of complementary goods, fall in the price of one commodity lead to rise in demand for both the goods.

3.Consumer's Income: This is directly related to demand. A change in the income of the consumer significantly influences his demand for most commodities. If the disposable income increases, demand will be more.
4.Taste, preference, fashions and habits: These are very effective factors affecting demand for a commodity. When there is a change in taste, habits or preferences of the consumer, his demand will change. Fashions and customs in society determine many of our demands.

5.Population: If the size of the population is more, demand for goods will be more . The market demand for a commodity substantially changes when there is change in the total population.

6.Money Circulation: More the money in circulation, higher the demand and vice versa.

7.Value of money: The value of money determines the demand for a commodity in the market. When there is a rise or fall in the value of money there may be changes in the relative prices of different goods and their demand.

8.Weather Condition: Weather is also an important factor that determines the demand for certain goods.

9.Advertisement and Salesmanship: If the advertisement is very attractive for a commodity, demand will be more. Similarly if the salesmanship and publicity is effective then the demand for the commodity will be more.

10.Consumer's future price expectation: If the consumers expect that there will be a rise in prices in future, he may buy more at the present price and so his demand increases.

11.Government policy (taxation): High taxes will increase the price and reduce demand, while low taxes will reduce the price and extend the demand.

12.Credit facilities: Depending on the availability of credit facilities the demand for commodities will change. More the facilities higher the demand.

13.Multiplicity of uses of goods: if the commodity has multiple uses then the demand will be more than if the commodity is used for a single purpose.

Demand Distinctions: Types Of Demand

Demand may be defined as the quantity of goods or services desired by an individual, backed by the ability and willingness to pay.

Types Of Demand:

1.Direct and indirect demand: (or) Producers' goods and consumers' goods: demand for goods that are directly used for consumption by the ultimate consumer is known as direct demand (example: Demand for T shirts). On the other hand demand for goods that are used by producers for producing goods and services. (example: Demand for cotton by a textile mill)

2.Derived demand and autonomous demand: when a produce derives its usage from the use of some primary product it is known as derived demand. (example: demand for tyres derived from demand for car) Autonomous demand is the demand for a product that can be independently used. (example: demand for a washing machine)

3.Durable and non durable goods demand: durable goods are those that can be used more than once, over a period of time (example: Microwave oven) Non durable goods can be used only once (example: Band-aid)

4.Firm and industry demand: firm demand is the demand for the product of a particular firm. (example: Dove soap) The demand for the product of a particular industry is industry demand (example: demand for steel in India)

5.Total market and market segment demand: a particular segment of the markets demand is called as segment demand (example: demand for

laptops by engineering students) the sum total of the demand for laptops by various segments in India is the total market demand. (example: demand for laptops in India)

6.Short run and long run demand: short run demand refers to demand with its immediate reaction to price changes and income fluctuations. Long run demand is that which will ultimately exist as a result of the changes in pricing, promotion or product improvement after market adjustment with sufficient time.

7.Joint demand and Composite demand: when two goods are demanded in conjunction with one another at the same time to satisfy a single want, it is called as joint or complementary demand. (example: demand for petrol and two wheelers) A composite demand is one in which a good is wanted for several different uses. (example: demand for iron rods for various purposes)

8.Price demand, income demand and cross demand: demand for commodities by the consumers at alternative prices are called as price demand. Quantity demanded by the consumers at alternative levels of income is income demand. Cross demand refers to the quantity demanded of commodity 'X' at a price of a related commodity 'Y' which may be a substitute or complementary to X.

Price Demand: The ability and willingness to buy specific quantities of a good at the prevailing price in a given time period.

Income Demand: The ability and willingness to buy a commodity at the available income in a given period of time.

Market Demand: The total quantity of a good or service that people are willing and able to buy at prevailing prices in a given time period. It is the sum of individual demands.

Cross Demand: The ability and willingness to buy a commodity or service at the prevailing price of the related commodity i.e. substitutes or complementary products. For example, people buy more of wheat when the price of rice increases.

Exceptional demand curve: The demand curve slopes from left to right upward if despite the increase in price of the commodity, people tend to buy more due to reasons like fear of shortages or it may be an absolutely essential good.

The law of demand does not apply in every case and situation. The circumstances when the law of demand becomes ineffective are known as exceptions of the law. Some of these important exceptions are as under.

1. Giffen Goods:

Some special varieties of inferior goods are termed as Giffen goods. Cheaper varieties millets like bajra, cheaper vegetables like potato etc come under this category. Sir Robert Giffen of Ireland first observed that people used to spend more of their income on inferior goods like potato and less of their income on meat. After purchasing potato the staple food, they did not have staple food potato surplus to buy meat. So the rise in price of potato compelled people to buy more potato and thus raised the demand for potato. This is against the law of demand. This is also known as Giffen paradox.

2. Conspicuous Consumption / Veblen Effect:

This exception to the law of demand is associated with the doctrine propounded by Thorsten Veblen. A few goods like diamonds etc are purchased by the rich and wealthy sections of society. The prices of these goods are so high that they are beyond the reach of the common man. The higher the price of the diamond, the higher its prestige value. So when price of these goods falls, the consumers think that the prestige value of these goods comes down. So quantity demanded of these goods falls with fall in their price. So the law of demand does not hold good here.

3. Conspicuous Necessities:

Certain things become the necessities of modern life. So we have to purchase them despite their high price. The demand for T.V. sets, automobiles and refrigerators etc. has not gone down in spite of the increase in their price. These things have become the symbol of status. So they are purchased despite their rising price.

4. Ignorance:

A consumer's ignorance is another factor that at times induces him to purchase more of the commodity at a higher price. This is especially true, when the consumer believes that a high-priced and branded commodity is better in quality than a low-priced one.

5. Emergencies:

During emergencies like war, famine etc, households behave in an abnormal way. Households accentuate scarcities and induce further price rise by making increased purchases even at higher prices because of the apprehension that they may not be available. . On the other hand during depression, , fall in prices is not a sufficient condition for consumers to demand more if they are needed.

6. Future Changes In Prices:

Households also act as speculators. When the prices are rising households tend to purchase large quantities of the commodity out of the apprehension that prices may still go up. When prices are expected to fall further, they wait to buy goods in future at still lower prices. So quantity demanded falls when prices are falling.

7. Change In Fashion:

A change in fashion and tastes affects the market for a commodity. When a digital camera replaces a normal manual camera, no amount of reduction in the price of the latter is sufficient to clear the stocks. Digital cameras on the other hand, will have more customers even though its price may be going up. The law of demand becomes ineffective.

8. Demonstration Effect:

It refers to a tendency of low income groups to imitate the consumption pattern of high income groups. They will buy a commodity to imitate the consumption of their neighbors even if they do not have the purchasing power.

9. Snob Effect:

Some buyers have a desire to own unusual or unique products to show that they are different from others. In this situation even when the price rises the demand for the commodity will be more.

10. Speculative Goods/ Outdated Goods/ Seasonal Goods:

Speculative goods such as shares do not follow the law of demand. Whenever the prices rise, the traders expect the prices to rise further so they buy more.

Goods that go out of use due to advancement in the underlying technology are called outdated goods. The demand for such goods does not rise even with fall in prices

11. Seasonal Goods:

Goods which are not used during the off-season (seasonal goods) will also be subject to similar demand behaviour.

12. Goods In Short Supply:

Goods that are available in limited quantity or whose future availability is uncertain also violate the law of demand.

Elasticity Of Demand

In economics, the term elasticity means a proportionate (percentage) change in one variable relative to a proportionate (percentage) change in another variable. The quantity demanded of a good is affected by changes in the price of the good, changes in price of other goods, changes in income and changes in other factors. Elasticity is a measure of just how much of the quantity demanded will be affected due to a change in price or income.

Elasticity of Demand is a technical term used by economists to describe the degree of responsiveness of the demand for a commodity due to a fall in its price. A fall in price leads to an increase in quantity demanded and vice versa.

The elasticity of demand may be as follows:

- Price Elasticity
- Income Elasticity and
- Cross Elasticity

Price Elasticity

The response of the consumers to a change in the price of a commodity is measured by the price elasticity of the commodity demand. The responsiveness of changes in quantity demanded due to changes in price is referred to as price elasticity of demand. The price elasticity of demand is measured by dividing the percentage change in quantity demanded by the percentage change in price.

Price Elasticity = Proportionate change in the Quantity Demanded / Proportionate change in price

$$= \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in price}}$$

$$= \frac{\Delta Q / Q}{\Delta P / P} = \frac{10}{20} = 0.5$$

ΔQ = change in quantity demanded
ΔP = change in price
P = price
Q = quantity demanded

For example:

Quantity demanded is 20 units at a price of Rs.500. When there is a fall in price to Rs. 400 it results in a rise in demand to 32 units. Therefore the change in quantity demanded is12 units resulting from the change in price of Rs.100.

The Price Elasticity of Demand is = 500 / 20 x 12/100 = 3

The Determinants Of Price Elasticity Of Demand

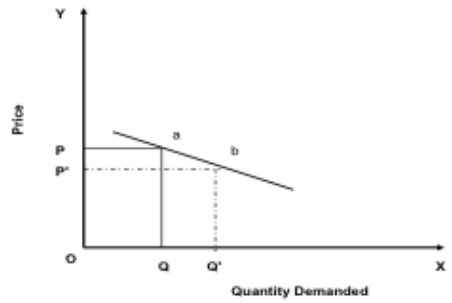
The exact value of price elasticity for a commodity is determined by a wide variety of factors. The two factors considered by economists are the **availability of substitutes** and **time**. The better the substitutes for a product, the higher the price elasticity of demand.. The longer the period of time, the more the price elasticity of demand for that product. The price elasticity of necessary goods will have lower elasticity than luxuries.

The elasticity of demand depends on the following factors:

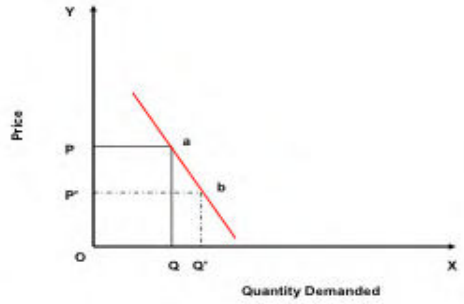
1. Nature of the commodity: The demand for necessities is inelastic because the demand does not change much with a change in price. But the demand for luxuries is elastic in nature.
2. Extent of use: A commodity having a variety of uses has a comparatively elastic demand.
3. Range of substitutes: The commodity which has more number of substitutes has relatively elastic demand. A commodity with fewer substitutes has relatively inelastic demand.
4. Income level: People with high incomes are less affected by price changes than people with low incomes.
5. Proportion of income spent on the commodity: When a small part of income is spent on the commodity, the price change does not affect the demand therefore the demand is inelastic in nature.
6. Urgency of demand / postponement of purchase: The demand for certain commodities are highly inelastic because you cannot postpone its purchase. For example medicines for any sickness should be purchased and consumed immediately.
7. Durability of a commodity: If the commodity is durable then it is used it for a long period. Therefore elasticity of demand is high. Price changes highly influences the demand for durables in the market.
8. Purchase frequency of a product/ recurrence of demand: The demand for frequently purchased goods are highly elastic than rarely purchased goods.
9. Time: In the short run demand will be less elastic but in the long run the demand for commodities are more elastic.

The following are the possible combination of changes in Price and Quantity demanded. The slope of each combination is depicted in the following graphs.

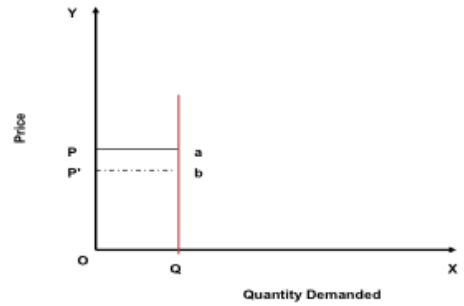
1.Relatively Elastic Demand (E_d >1) a small percentage change in price leading to a larger change in Quantity demanded.



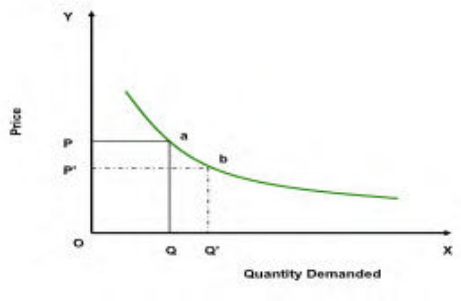
2.Perfectly Elastic Demand ($E_d = \infty$) a small change in price will change the quantity demanded by an infinite amount.



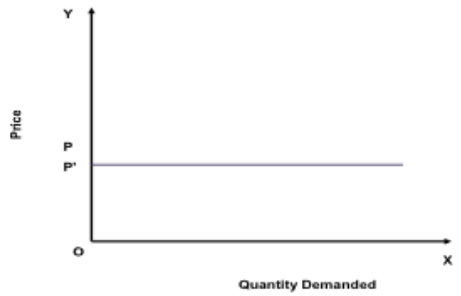
3.Relatively Inelastic Demand (E_d < 1) a change in price leads to a smaller percentage change in quantity demanded.



4.Perfectly Inelastic Demand (E_d = 0) the quantity demanded does not change regardless of the percentage change in price.



5.Unit Elasticity of Demand (E_d =1) the percentage change in quantity demanded is the same as the percentage change in price that caused it.



Income Elasticity

Income elasticity of demand measures the responsiveness of quantity demanded to a change in income. It is measured by dividing the percentage change in quantity demanded by the percentage change in income. If the demand for a commodity increases by 20% when income increases by 10% then the income elasticity of that commodity is said to be positive and relatively high. If the demand for food were unchanged when income increases, the income elasticity would be zero. A fall in demand for a commodity when income rises results in a negative income elasticity of demand.

The following are the various types of income elasticity:

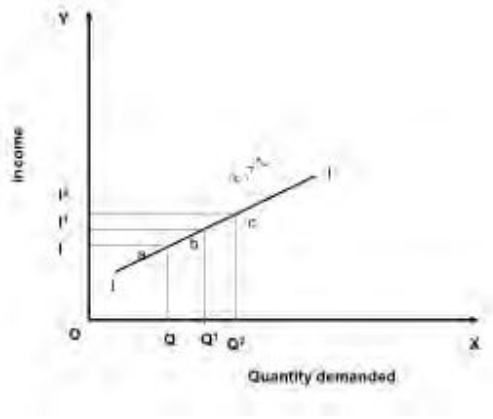
Zero Income Elasticity: The increase in income of the individual does not make any difference in the demand for that commodity. (Ei = 0)

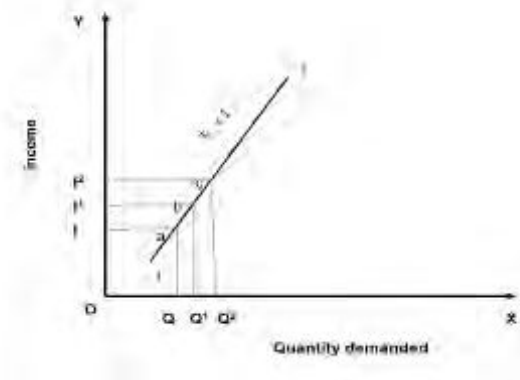
Negative Income Elasticity: The increase in the income of consumers leads to less purchase of those goods. (Ei < 0).

Unitary Income Elasticity: The change in income leads to the same percentage of change in the demand for the good. (Ei = 1).

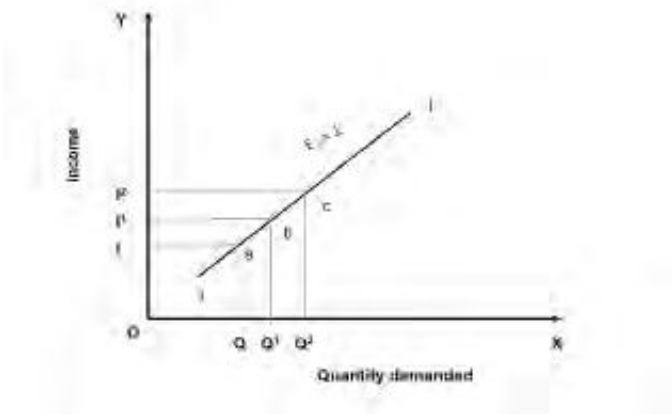
Income Elasticity is Greater than 1: The change in income increases the demand for that commodity more than the change in the income. (Ei > 1).

Income Elasticity is Less than 1: The change in income increases the demand for the commodity but at a lesser percentage than the change in the Income. (Ei < 1).

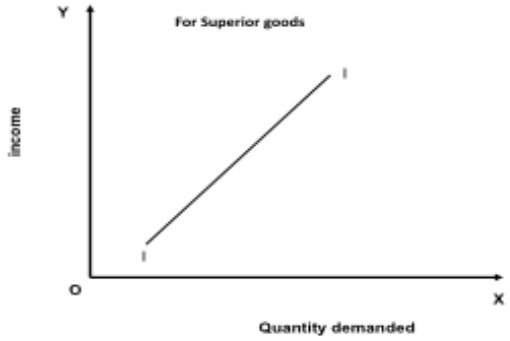




The positive income elasticity of demand can be classified as unity, more than unity and less than unity. We can understand from the above graphs that the product which is highly elastic in nature will grow faster when the economy is expanding. The performance of firms having low income elasticity on the other hand will be less affected by the economic changes of the country.



With a rise in consumer's income, the demand increases for superior goods and decreases for inferior goods and vice versa. The income elasticity of demand is positive for superior goods or normal goods and negative for inferior goods since a person may shift from inferior to superior goods with a rise in income.



Cross Elasticiy

The quantity demanded of a particular commodity varies according to the price of other commodities. Cross elasticity measures the responsiveness of the quantity demanded of a commodity due to changes in the price of another commodity. For example the demand for tea increases when the price of coffee goes up. Here the cross elasticity of demand for tea is high. If two goods are substitutes then they will have a positive cross elasticity of demand. In other words if two goods are complementary to each other then negative income elasticity may arise.

The responsiveness of the quantity of one commodity demanded to a change in the price of another good is calculated with the following formula.

$$Ec = \frac{\text{\% change in demand for commodity A}}{\text{\% change in price of commodity B}}$$

If two commodities are unrelated goods, the increase in the price of one good does not result in any change in the demand for the other goods. For example the price fall in Tata salt does not make any change in the demand for Tata Nano.

Significance Of Elasticity Of Demand:

The concept of elasticity is useful for the managers for the following decision making activities

1. In production i.e. in deciding the quantity of goods to be produced
2. Price fixation i.e. in fixing the prices not only on the cost basis but also on the basis of prices of related goods.
3. In distribution i.e. to decide as to where, when, and how much etc.
4. In international trade i.e. what to export, where to export
5. In foreign exchange
6. For nationalizing an industry
7. In public finance

Demand Forecasting

All organizations operate in an atmosphere of uncertainty but decisions must be made today that affect the future of the organization. There are various ways of making forecasts that rely on logical methods of manipulating the data that have been generated by historical events. A forecast is a prediction or estimation of a future situation, under given conditions. Demand forecast will help the manager to take the following decisions effectively.

The major short run decisions are:	The major long run decisions are:
➢ Purchase of inputs ➢ Maintaining of economic level of inventory ➢ Setting up sales targets ➢ Distribution network ➢ Management of working capital ➢ Price policy ➢ Promotion policy	➢ Expansion of existing capacity ➢ Diversification of the product mix ➢ Growth of acquisition ➢ Change of location of plant ➢ Capital issues ➢ Long run borrowings ➢ Manpower planning

The steps to be followed:

- Identification of objectives
- Nature of product and market
- Determinants of demand
- Analysis of factors
- Choice of technology
- Testing the accuracy

Criteria to choose a method of forecasting are:

- Accuracy
- Plausibility
- Durability
- Flexibility
- Availability

The following are needed for demand forecasting:

- Appropriate production scheduling
- Suitable purchase policy
- Appropriate price policy
- Setting realistic sales targets for salesmen
- Forecasting financial requirements
- Business planning
- Financial planning
- Planning man-power requirements

To select the appropriate forecasting technique, the manager/forecaster must be able to accomplish the following:

1. Define the nature of the forecasting problem
2. Explain the nature of the data under investigation
3. Describe the capabilities and limitations of potentially useful forecasting techniques.
4. Develop some predetermined criteria on which the selection decision can be made.

Demand Forecasting Methods:

1. Survey of buyers' intension
2. Delphi method
3. Expert opinion
4. Collective opinion
5. Naïve model
6. Smoothing techniques
7. Time series / trend projection
8. Controlled experiments
9. Judgmental approach

Time Series / Trend Projection

The linear trend is the most commonly used method of time series analysis. The following are various trend projections used under various circumstances.

linear trend	Y =	$a + b X$
quadratic trend	Y =	$a + bX + cX^2$
cubic trend	Y =	$a + bX + cX^2 + dX^3$
exponential trend	Y =	$a\ e^{b/x}$
double log trend	Y =	$a\ X^b$

Linear Trend Equation:

Y = a + b X
Y = demand
X = time period

a,b constant values representing intercept and slope of the line. To calculate Y for any value of X we have to solve the following equations, (i) and (ii). We can derive the values of 'a' and 'b' through solving these equations and by substituting the same in the above given linear trend equation we can forecast demand for 'X' time period.

$\sum Y$	=	$na + b\sum X$	-----	(i)
$\sum XY$	=	$a\sum X + b\sum X^2$	-----	(ii)

Example:

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Sales	22734	24731	31489	44685	55319	91021	146234	107887	127483	97275

Estimate the sales for 2012, 2015 and fit a linear regression equation and draw a trend line.

Year	X	Sales (Y)	XY	X^2
2002	1	22734	22734	1
2003	2	24731	49462	4
2004	3	31489	94467	9
2005	4	44685	178740	16
2006	5	55319	276595	25
2007	6	91021	546126	36
2008	7	146234	1023638	49
2009	8	107887	863096	64
2010	9	127483	1147347	81
2011	10	97275	972750	100
	$\Sigma X = 55$	$\Sigma Y = 748858$	$\Sigma XY = 5174955$	$\Sigma X^2 = 385$

$\Sigma Y = na + b\Sigma X$ ----- (i)

$\Sigma XY = a\Sigma X + b\Sigma X^2$ ----- (ii)

748858 = 10a + 55b ----- (i)

5174955 = 55a + 385 b ----- (ii)

Equation (i) x 3 5242006 = 70a + 385 b ----- (iii)

Equation (iii) – (ii) 67051 = 15a

4470.07 = a

Substitute value of 'a' in equation (i)

748858 = 44700 + 55 b

55b = 748858 – 44700

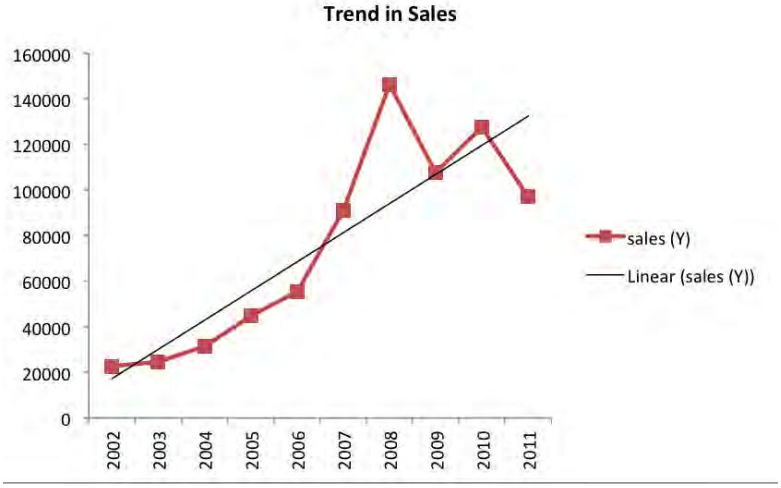
b = 12802.8

$$Y = a + b X$$

$$Y = 4470.07 + 12802.8 X$$

Sales for **2012** = 4470.07 + 12802.8 (11) = **145300.87**

Sales for **2015** = 4470.07 + 12802.8 (14) = **183709.27**



Techniques that should be used when forecasting **stationary series** (the demand patterns influencing the series are relatively stable) include naïve method, simple average method, moving average, and autoregressive moving average (ARMA) and Box-Jenkins method.

When forecasting **trend series** then, moving averages, simple regression, growth curves, exponential models and autoregressive integrated moving average (ARIMA) models and Box-Jenkins methods can be used.

For **seasonal series** census X-12, winter's exponential smoothing, multiple regression and ARIMA models can be used.

When forecasting **cyclical series** econometric models, economic indicators, multiple regression and ARIMA models can be used.

The major forecasting techniques are: naïve, simple average, moving averages, exponential smoothing, linear exponential smoothing, quadratic exponential smoothing, seasonal exponential smoothing, adaptive filtering, simple regression, multiple regression, classical decomposition,

exponential trend models, S-curve fitting, Compertz models, growth curves, census X-12, Box-Jenkins, leading indicators, econometric models and time series multiple regression may be used.

The causal forecasting models (simple, multiple regression analysis) will be useful to decide the production, personnel hiring, and facility planning in the short run. In Time series forecasting models like decomposition is suitable to decide the new plant, equipment planning. Moving average and exponential smoothing is used for operations such as inventory, scheduling and pricing decisions. The autoregressive models, Box-Jenkins techniques are used to forecast price, inventory, production, stock and sales related decisions. Neural network method is for forecasting applications in development phase of the organization.

Apart from the above mentioned statistical methods the **survey methods** are also commonly used. They are:

1. **Complete Enumeration Method:** the survey covers all the potential consumers in the market and an interview is conducted to find out the probable demand. The sum of all gives the total demand for the industry. If the number of customers is too many this method cannot be used.

2. **Sample Survey Method:** the complete enumeration is not possible always. The forecaster can go in for sample survey method. In this method, only few (a sample) customers are selected from the total and interviewed and then the average demand is estimated.

3. **Expert's Opinion:** the experienced people from the same field or from marketing agents can also be taken into consideration for collecting information about the future demand.

The above discussed qualitative and quantitative methods are commonly used to forecast the future demand and based on this information firms will take production decision.

Review Questions:

1. Define demand.
2. State the law of demand.
3. Prepare a demand schedule for an apple i-pad in the Indian market.
4. Distinguish between shift in demand and a movement along a demand curve.
5. List out the factors which determine market demand for a commodity of your choice.
6. Categorize the types of demand with proper examples.
7. What is meant by industry demand and company demand?
8. Explain perfectly elastic demand and perfectly in elastic demand with a suitable example.
9. Explain the concept of cross elasticity of demand with an example.
10. Explain the concept of income elasticity of demand and discuss the importance of income elasticity of demand for a business firm.
11. What are the different types of price elasticity of demand?
12. Explain the slope of income demand curve for a superior and inferior good.
13. Discuss the cross elasticity of demand with an example.
14. List out the significance of elasticity of demand in managerial decision making.
15. What is meant by demand forecasting? Why is it important for the managers of business firm?
16. Why do business entities have to forecast demand?
17. What are the quantitative and qualitative methods of demand forecasting?
18. Discuss the steps to be followed during demand forecast.
19. Mention the major criteria to choose a suitable forecasting method.
20. Explain the consumer survey method and discuss the merits and demerits of complete enumeration method and sample survey method.

Exercises:

(a) The demand for petrol rises from 500 to 600 Barrels when the price of a particular scooter is reduced from Rs. 25000 to Rs.22000. Find out the cross elasticity of demand for the two. What is the nature of their relationship?

(b) A company has the following demand equation

$$Q = 1000 - 3000\,P + 10\,A$$

Q = Quantity demanded

P = Product Price

A = Advertisement expenditure

Assume that P = 3 and A = 2000

- Suppose the firm drops the price to Rs. 2.50 would this be beneficial.
- Suppose the firm raises the price to Rs. 4.00 while increasing its advertisement expenditure by 100 would this be beneficial? Explain

(c) Try to collect 10 to 20 years sales details of a company and forecast their demand for the next year and find out the demand for the same after 5 years from now. Fit the linear equation and draw the trend line. And suggest short term and long term decisions to be taken in the organization to meet the future demand.

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Lesson III Supply Analysis

Reading Objectives:

At the end of this lesson the reader will be able understand that supply is an independent economic activity but it is based on the demand for commodities. The managers' ability to make more profits depends upon his ability to adjust the supply to the demand without creating a surplus while at the same time not t creating a scarcity that will spoil the image of the company in the eyes of the public. Supply is also sometimes inelastic and sometimes elastic. The managers have to take wise decisions to maximize the profits of the firm.

Lesson Outline:

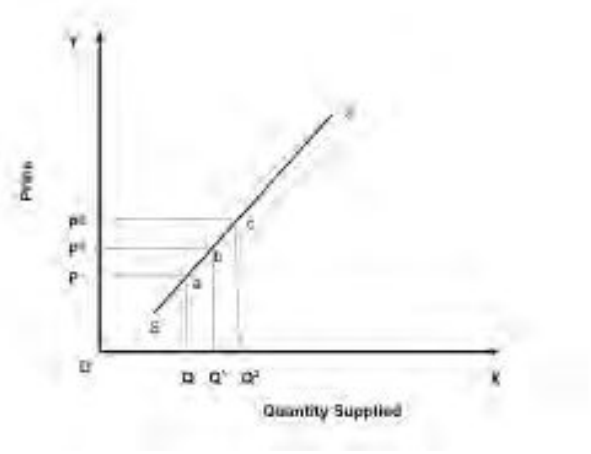
- Law of supply
- Determinants of supply
- Elasticity of supply
- Factors influencing supply
- Review questions

Supply of a commodity refers to the various quantities of the commodity which a seller is willing and able to sell at different prices in a given market at a point of time, other things remaining the same. **Supply** is what the seller is able and willing to offer for sale. The Quantity supplied is the amount of a particular commodity that a firm is willing and able to offer for sale at a particular price during a given time period.

Supply Schedule: is a table showing how much of a commodity, firms can sell at different prices.

Law of Supply: is the relationship between price of the commodity and quantity of that commodity supplied. i.e. an increase in price will lead to an increase in quantity supplied and vice versa.

Supply Curve: A graphical representation of how much of a commodity a firm sells at different prices. The supply curve is upward sloping from left to right. Therefore the price elasticity of supply will be positive.
Graph - Supply curve



Determinants Of Supply:

1. The cost of factors of production: Cost depends on the price of factors. Increase in factor cost increases the cost of production, and reduces supply.
2. The state of technology: Use of advanced technology increases productivity of the organization and increases its supply.
3. External factors: External factors like weather influence the supply. If there is a flood, this reduces supply of various agricultural products.
4. Tax and subsidy: Increase in government subsidies results in

more production and higher supply.

5. Transport: Better transport facilities will increase the supply.
6. Price: If the prices are high, the sellers are willing to supply more goods to increase their profit.
7. Price of other goods: The price of other goods is more than 'X' then the supply of 'X' will be increased.

Elasticity of Supply: Elasticity of supply of a commodity is defined as the responsiveness of a quantity supplied to a unit change in price of that commodity.

$$Es = \frac{\Delta Qs \ / \ Qs}{\Delta P \ / \ P}$$

ΔQs = change in quantity supplied
Qs = quantity supplied
ΔP = change in price
P = price

Kinds Of Supply Elasticity

Price elasticity of supply: Price elasticity of supply measures the responsiveness of changes in quantity supplied to a change in price.

Perfectly inelastic: If there is no response in supply to a change in price. (Es = 0)
Inelastic supply: The proportionate change in supply is less than the change in price (Es =0-1)

Unitary elastic: The percentage change in quantity supplied equals the change in price (Es=1)

Elastic: The change in quantity supplied is more than the change in price (Ex= 1- ∞)

Perfectly elastic: Suppliers are willing to supply any amount at a given price (Es=∞)

The major determinants of elasticity of supply are availability of substitutes in the market and the time period, Shorter the period higher will be the elasticity.

Factors Influencing Elasticity Of Supply

1. Nature of the commodity: If the commodity is perishable in nature then the elasticity of supply will be less. Durable goods have high elasticity of supply.
2. Time period: If the operational time period is short then supply is inelastic. When the the production process period is longer the elasticity of supply will be relatively elastic.
3. Scale of production: Small scale producer's supply is inelastic in nature compared to the large producers.
4. Size of the firm and number of products: If the firm is a large scale industry and has more variety of products then it can easily transfer the resources. Therefore supply of such products is highly elastic.
5. Natural factors: Natural calamities can affect the production of agricultural products so they are relatively inelastic.
6. Nature of production: If the commodities need more workmanship, or for artistic goods the elasticity of supply will be high.

Apart from the above mentioned factors future expectations of the market, natural resources of the country and government controls can also play a role in determining supply of a good. In the long run, supply is affected by cost of production. If costs are rising, some of the existing producers may with draw from the field and new entrepreneurs may be scared of entering the field.

Review Questions:

- Define the concept supply and the law of supply.
- Collect relevant data and derive a supply curve of an organization.
- What do you understand by Price elasticity of supply?
- Mention the types of supply elasticity with example.
- Explain the factors influencing the elasticity of supply in the market with an example.

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UNIT – II

Lesson IV Production Analysis

Reading Objectives:

At the end of reading of this chapter the reader will be able to understand that production is a function of land, labour, capital and organisation. The mangers will have to procure the right level of these factors based on factors like diminishing marginal utility economies of large scale operations, law of return, scales etc., with a view of maximizing the output with minimum cost so as to earn larger profit to the firm/ industry.

Lesson Outline:

- Factors of production
- Production function
- Cobb-Douglas production function
- The law of diminishing returns
- Law of returns to scale
- Iso-quant curve
- Expansion path
- Review questions

Introduction:

Production is an important economic activity which satisfies the wants and needs of the people. Production function brings out the relationship between inputs used and the resulting output. A firm is an entity that combines and processes resources in order to produce output that will satisfy the consumer's needs. The firm has to decide as to how much to produce and how much input factors (labour and capital) to employ to produce efficiently. This chapter helps to understand the set of conditions for efficient production of an organization.

Factors of production include resource inputs used to produce goods and services. Economist categorise input factors into four major categories such as land, labour, capital and organization.

Land: Land is heterogeneous in nature. The supply of land is fixed and it is a permanent factor of production but it is productive only with the application of capital and labour.

Labour: The supply of labour is inelastic in nature but it differs in productivity and efficiency and it can be improved.

Capital: is a man made factor and is mobile but the supply is elastic.

Organization: the organization plans, , supervises, organizes and controls the business activity and also takes risks.

Production Function

Production function indicates the maximum amount of commodity 'X' to be produced from various combinations of input factors. It decides on the maximum output to be produced from a given level of input, and how much minimum input can be used to get the desired level of output. The production function assumes that the state of technology is fixed. If there is a change in technology then there would be change in production function.

Q = f (Land, Labour, Capital, Organization)

Q = f (L, L, C, O)

The production manager's responsibility is that of identifying the right combination of inputs for the decided quantity of output. As a manager ,he has to know the price of the input factors and the budget allocation of the organization. The major objective of any business organization is maximizing the output with minimum cost. To achieve the maximum output the firm has to utilize the input factors efficiently. In the long run, without increasing the fixed factors it is not possible to achieve the goal. Therefore it is necessary to understand the relationship between the input and output in any production process in the short and long run.

Cobb Douglas Production Function:

This is a function that defines the maximum amount of output that can be produced with a given level of inputs. Let us assume that all input factors of production can be grouped into two categories such as labour (L) and capital (K).The general equilibrium for the production function is

$$Q = f(K, L)$$

There are various functional forms available to describe production. In general Cobb-Douglas production function (Quadratic equation) is widely used

$$Q = A\ K^{\alpha}\ L^{\beta}$$

Q = the maximum rate of output for a given rate of capital (K) and labour (L).

Short Run Production Function:

In the short run, some inputs (land, capital) are fixed in quantity. The output depends on how much of other variable inputs are used. For example if we change the variable input namely (labour) the production function shows how much output changes when more labour is used. In the short run producers are faced with the problem that some input factors are fixed. The firms can make the workers work for longer hours and also can buy more raw materials. In that case, labour and raw material are considered as variable input factors. But the number of machines and the size of the building are fixed. Therefore it has its own constraints in producing more goods.

In the long run all input factors are variable. The producer can appoint more workers, purchase more machines and use more raw materials. Initially output per worker will increase up to an extent. This is known as the **Law of Diminishing Returns** or the **Law of Variable Proportion.** To understand the law of diminishing returns it is essential to know the basic concepts of production.

Measures Of Productivity

Total production (TP): the maximum level of output that can be produced with a given amount of input.

Average Production (AP): output produced per unit of input AP = Q/L

Marginal Production (MP): the change in total output produced by the last unit of an input

Marginal production of labour = Δ Q / Δ L (i.e. change in the quantity produced to a given change in the labour)

Marginal production of capital = Δ Q / Δ K (i.e. change in the quantity produced to a given change in the capital)

Production Function:

A production function, like any other function can be expressed and analysed by any one or more of the three tools namely table, graph and equation. The maximum amounts of output attainable from various alternative combinations of input factors are given in the table.

The production function expressed in tabular form is as follows.

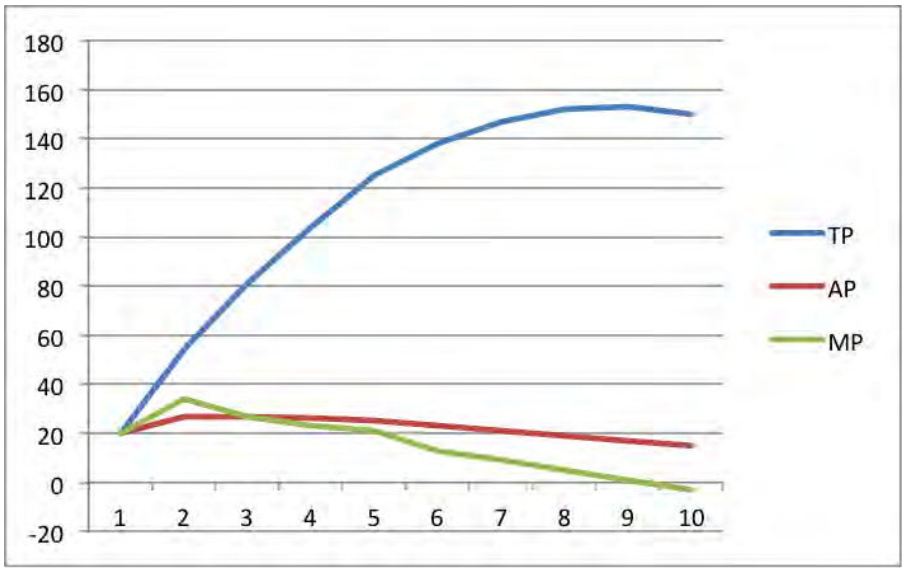
Table - Production Schedule

Labour	TP	AP	MP
1	20	20	0
2	54	27	34
3	81	27	27
4	104	26	23
5	125	25	21
6	138	23	13
7	147	21	9
8	152	19	5
9	153	17	1
10	150	15	-3

The firm has a set of fixed variables. As long with that it increases the labour force from 1 unit to 10 units. The increase in input factor leads to increase in the output up to an extent. After that it start declining. Marginal production increases in the initial period and then it starts declining and it become negative. The firm should stop increasing labour force if the marginal production is zero- that is the maximum output that can be derived with the available fixed factors. The 9^{th} labour does not contribute to any output. In case the firm wants to increase the output beyond 153 units it has to improve its fixed variable. That means purchase of new machinery or building is essential. Therefore the firm understands that the maximum output is 153 units with the given set of input factors.

The graphical representations of the production function are as shown in the following graph.

Graph-Production Curves



The graphical presentations of the values are shown in the graph. The 'X" axis denotes the labour and the 'Y' axis indicates the total production (TP), average production (AP) and marginal production (MP). From the given table and graph we can understand all the three curves in the graph increased in the beginning and the marginal product (MP) first fell, then the average product (AP) finally total production (TP). The marginal production curve MP cuts the AP at its highest point. Total production TP falls when marginal production curve cuts the 'X' axis. The law of diminishing returns states that if increasing quantity of a variable input are combined with fixed, eventually the marginal product and then average product will decline.

When the production function is expressed as an equation it shall be as follows:

$$Q = f (Ld, L, K, M, T)$$

It can be expressed as $Q = f1, f2, f3, f4, f5 > 0$

Where,

Q = Output in physical units of good X
Ld = Land units employed in the production of Q
L = Labour units employed in the production of Q
K = Capital units employed in the production of Q
M = Managerial Units employed in the production of Q
T = Technology employed in the production of Q
f = Unspecified function
fi = Partial derivative of Q with respect to ith input.

This equation assumes that output is an increasing function of all inputs.

The Law Of Diminishing Returns

In the combination of input factors when one particular factor is increased continuously without changing other factors the output will increase in a diminishing manner. Let us assume that a person preparing for an examination continuously prepares without any break. The output or the understanding and the coverage of the syllabus will be more in the beginning rather than in the later stages. There is a limit to the extent to which one factor of production can be substituted for another. The total production increases up to an extent and it gets saturated or there won't be any change in the output due to the addition of the input factor and further it leads to negative impact on the output. That means the marginal production declines up to an extent and it reaches zero and becomes negative. The point at which the MP becomes zero is the maximum output of the firm with the given set of input factors. This law is applicable in all human activities and business activities.

For example with two sewing machines and two tailors, a firm can produce a maximum of 14 pairs of curtains per day. The machines are used only from 9 AM to 5 PM and the machines lie idle from 5 pm onwards. Therefore the firm appoints 2 more tailors for the second shift and the production goes up to 28 units. Then adding two more labour to assist these people will increase the output to 30 units. When the firm appoints two more people, then there won't be any change in their production because their Marginal productivity is zero. There is no addition in the total production. That means there is no use of appointing two more

tailors. Therefore, there is a limit for output from a fixed input factors but in the long run purchase of one more sewing machine alone will help the firm to increase the production more than 30 units.

The Law Of Returns To Scale

In the long run the fixed inputs like machinery, building and other factors will change along with the variable factors like labour, raw material etc. With the equal percentage of increase in input factors various combinations of returns occur in an organization.

Returns to scale: the change in percentage output resulting from a percentage change in all the factors of production. They are increasing, constant and diminishing returns to scale.

Increasing returns to scale may arise: if the output of a firm increases more than in proportionate to an increase in all inputs. For example the input factors are increased by 50% but the output has doubled (100%).

Constant returns to scale: when all inputs are increased by a certain percentage the output increases by the same percentage. For example input factors are increased by 50% then the output has also increased by 50 percentages. Let us assume that a laptop consists of 50 components we call it as a set. In case the firm purchases 100 sets they can assemble 100 laptops but it is not possible to produce more than 100 units.

Diminishing returns to scale: when output increases in a smaller proportion than the increase in inputs it is known as diminishing return to scale. For example 50% increment in input factors lead to only 20% increment in the output.

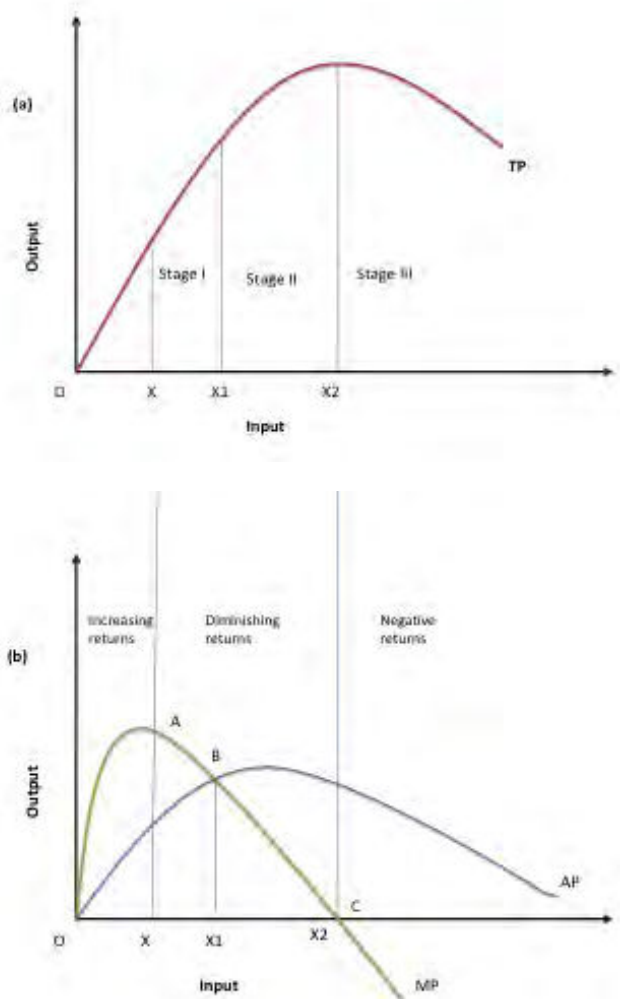
From the graph given below we can see the total production (TP) curve and the marginal production curve (MP) and average production curve (AP). It is classified into three stages; let us understand the stages in terms of returns to scale.

Stage I: The total production increased at an increasing rate. We refer to this as increasing stage where the total product, marginal product and average production are increasing.

Stage II: The total production continues to increase but at a diminishing rate until it reaches the next stage. Marginal product, average product are declining but are positive. The total production is at the maximum level at the end of the second stage with a zero marginal product.

Stage III: In this third stage total production declines and marginal product becomes negative. And the average production also started decline. Which implies that the change in input factors there is a decline in the over all production along with the average and marginal.

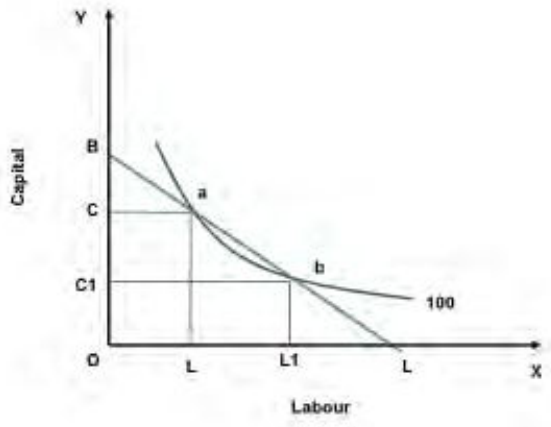
In economics, the production function with one variable input is illustrated with the well known law of variable proportions. (below graph) it shows the input-output relationship or production function with one factor variable while other factors of production are kept constant. To understand a production function with two variable inputs, it is necessary know the concept **iso-quant or iso-product curve.**



ISO-Quants

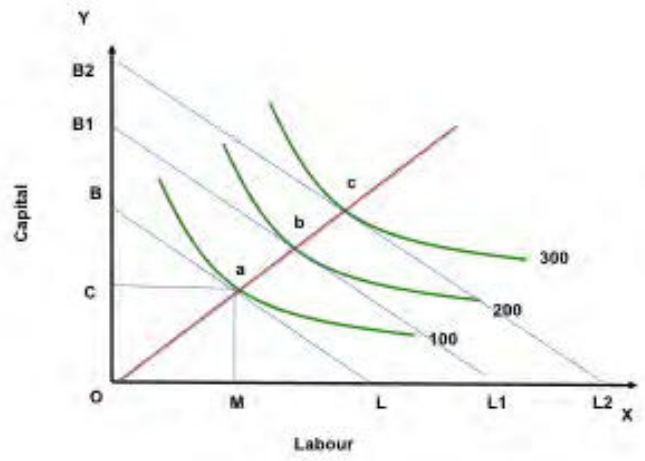
To understand the production function with two variable inputs, iso-quant curve is used. These curves show the various combinations of two variable inputs resulting in the same level of output. The shape of an Iso-quant reflects the ease with which a producer can substitute among inputs while maintaining the same level of output. From the graph we can understand that the iso-quant curve indicates various combinations of capital and labour usage to produce 100 units of motor pumps. The points a, b or any point in the curve indicates the same quantum of production. If the production increases to 200 or 300 units definitely the input usage will also increase therefore the new iso-quant curve for 200 units (Q1) is shifted upwards. Various iso-quant curves presented in a graph is called as iso- quant map.

Iso-cost: different combination of inputs that can be purchased at a given expenditure level.



The above graph explains clearly that the iso quant curve for 100 units of motor consists of 'n' number of input combinations to produce the same quantity. For example at 'a' to produce 100 units of motors the firm uses OC amount of capital and OL amount of labour ie., more capital and less labour force. At 'b' OC1 amount of capital and OL1 labour force is used to produce the same that means more labour and less capital.

Optimal input combination: The points of tangency between iso quant and iso cost curves depict optimal input combination at different activity levels.



Expansion path: Optimal input combinations as the scale of production expand. From the graph it is clear that the optimum combination is selected based on the tangency point of iso cost (budget line) and iso- quant ie., a, b respectively. The point 'a' indicates that to produce 100 units of motor the best combination of capital and labour are OC and OM which is within the budget. Over a period of time a firm will face various optimum levels if we connect all points we derive expansion path of a firm.

Managerial Uses Of Production Function:

Production functions are logical and useful. Production analysis can be used as aids in decision making because they can give guidance to obtain the maximum output from a given set of inputs and how to obtain a given output from the minimum aggregation of inputs. The complex production functions with large numbers of inputs and outputs are analyzed with the help of computer based programmes.

Review Questions

1. List out the major factors of production (input factors used) in a cement factory.
2. Define production function and Cobb-Douglas production function.
3. Write short notes on Marginal Product and Average product.
4. Briefly discuss the concept Returns to scale, increasing and decreasing returns to scale.
5. Explain the Law of variable proportions.
6. What is Iso-quant?
7. What do you mean by an expansion path?
8. Discuss the managerial uses of production function.

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Lesson V Cost Analysis

Reading Objectives:

At the end of reading this chapter the reader will be able to understand the concepts like fixed cost, variable cost, average cost, and marginal cost. The concept of the marginal costing is the contribution of the 20th century. The concept like break even analysis, cost volume profit analysis are the important tools used to take various managerial decisions. The concept like average revenue decides the level of output to earn profit. At the same time the concept like marginal cost is the tool available in the hands of the producers to decide that level of output where MC = AR i.e., the equilibrium position of the suppliers and consumers.

Lesson Outline:

- Cost of determinants
- Types of cost
- Short run cost output relationship
- Cost output relationship in the long run
- Economies of scale / diseconomies of scale
- Factors causing economies of scale
- Break-Even Analysis
- Review questions

Introduction:

A production function tells us how much output a firm can produce with its existing plant and equipment. The level of output depends on prices and costs. The most desirable rate of output is the one that maximizes total profit that is the difference between total revenue and total cost.

Entrepreneurs pay for the input factors- Wages for labour, price for raw material, rent for building hired, interest for borrowed money. All these costs are included in the cost of production. The economist's concept of cost of production is different from accounting.

This chapter helps us to understand the basic cost concepts and the cost output relationship in the short and long runs. Having looked at input factors in the previous chapter it is now possible to see how the law of diminishing returns affect short run costs.

Cost Determinants

The cost of production of goods and services depends on various input factors used by the organization and it differs from firm to firm. The major cost determinants are:

1.Level of output: The cost of production varies according to the quantum of output. If the size of production is large then the cost of production will also be more.

2.Price of input factors: A rise in the cost of input factors will increase the total cost of production.

3.Productivities of factors of production: When the productivity of the input factors is high then the cost of production will fall.

4.Size of plant: The cost of production will be low in large plants due to mass production with mechanization.

5.Output stability: The overall cost of production is low when the output is stable over a period of time.

6.Lot size: Larger the size of production per batch then the cost of production will come down because the organizations enjoy economies of scale.

7.Laws of returns: The cost of production will increase if the law of diminishing returns appliesin the firm.

8.Levels of capacity utilization: Higher the capacity utilization, lower the cost of production

9.Time period: In the long run cost of production will be stable.

10.Technology: When the organization follows advanced technology in their process then the cost of production will be low.

11.Experience: over a period of time the experience in production process will help the firm to reduce cost of production.

12.Process of range of products: Higher the range of products produced, lower the cost of production.

13.Supply chain and logistics: Better the logistics and supply chain, lower the cost of production.

14.Government incentives: If the government provides incentives on input factors then the cost of production will be low.

Types Of Costs

There are various classifications of costs based on the nature and the purpose of calculation. But in economics and for accounting purpose the following are the important cost concepts.

Actual cost/ Outlay cost/ Absolute cost / Accounting cost: The cost or expenditure which a firm incurs for producing or acquiring a good or service. (Eg. Raw material cost)

Opportunity cost: The revenue which could have been earned by employing that good or service in some other alternative uses. (Eg. A land owned by the firm does not pay rent. Thus a rent is an income forgone by not letting it out)

Sunk cost: Are retrospective (past) costs that have already been incurred and cannot be recovered.

Historical cost: The price paid for a plant originally at the time of purchase.

Replacement cost: The price that would have to be paid currently for acquiring the same plant.

Incremental cost: Is the addition to costs resulting from a change in the nature of level of business activity. Change in cost caused by a given managerial decision.

Explicit cost: Cost actually paid by the firm. If the factors of production are hired or rented then it is an explicit cost.

Implicit cost: If the factors of production are owned by a firm then its cost is implicit cost.

Book cost: Costs which do not involve any cash payments but a provision is made in the books of accounts in order to include them in the profit and loss account to take tax advantages.

Social cost: Total cost incurred by the society on account of production of a good or service.

Transaction cost: The cost associated with the exchange of goods and services.

Controllable cost: Costs which can be controllable by the executives are called as controllable cost.

Shut down cost: Cost incurred if the firm temporarily stops its operation. These can be saved by continuing business.

Economic costs are related to future. They play a vital role in business decisions as the costs considered in decision - making are usually future costs. They are similar in nature to that of incremental, imputed explicit and opportunity costs.

Determinants Of Short –Run Cost

Fixed cost: Some inputs are used over a period of time for producing more than one batch of goods. The costs incurred in these are called fixed cost. For example amount spent on purchase of equipment, machinery, land and building.

Variable cost: When output has increased the firm spends more on these items. For example the money spent on labour wages, raw material and electricity usage. Variable costs vary according to the output. In the long run all costs become variable.

Total cost: The market value of all resources used to produce a good or service.

Total Fixed cost: Cost of production remains constant whatever the level of output.

Total Variable cost: Cost of production varies with output.

Average cost: Total cost divided by the level of output.

Average variable cost: Variable cost divided by the level of output.

Average fixed cost: Total fixed cost divided by the level of output.

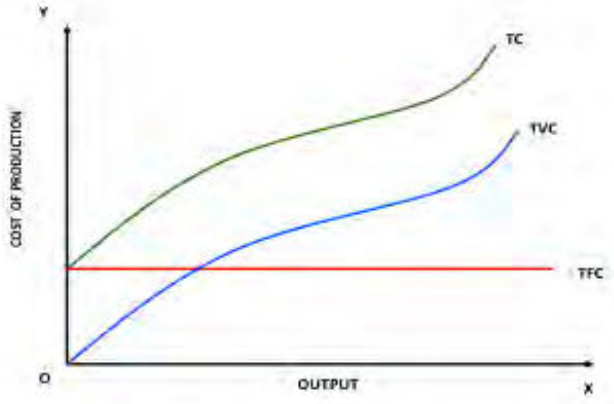
Marginal cost: Cost of producing an extra unit of output.

Short Run Cost Output Relationship

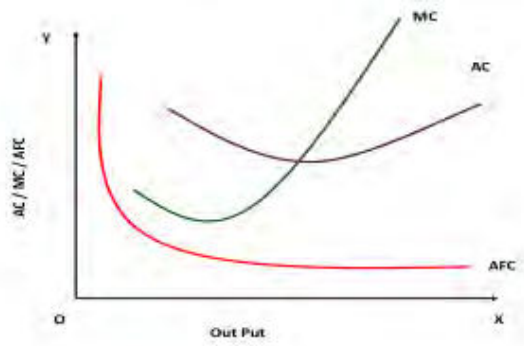
Fixed cost curve is a horizontal line which is parallel to the 'X' axis. This cost is constant with respect to output in the short run. Fixed cost does not change with output. It must be paid even if '0' units of output are produced. For example: if you have purchased a building for the business you have invested capital on building even if there is no production.

Total fixed cost (TFC) consists of various costs incurred on the building, machinery, land, etc.. For example if you have spent Rs. 2 Lakhs and bought machinery and building which is used to produce more than one batch of commodity, then the same cost of Rs. 2 Lakhs is fixed cost for all batches. The total variable costs vary according to the output. Whenever the output increases the firm has to buy more raw materials, use more electricity, labour and other sources therefore the TVC curve is upward sloping. The total cost consists of fixed (TFC) and variable costs (TVC). The TFC of Rs. 2 Lakhs is included with the variable cost throughout the production schedule so the total cost (TC) is above the TVC line.

Graph – Total Cost Curves



Graph – Average Cost Curves



The above set of graphs indicates clearly that the average variable cost curve looks like a boat. Average fixed cost curve declines as output increases and it is a hyperbola to the origin. The Marginal cost curve slopes like a tick mark which declines up to an extent then it starts increasing

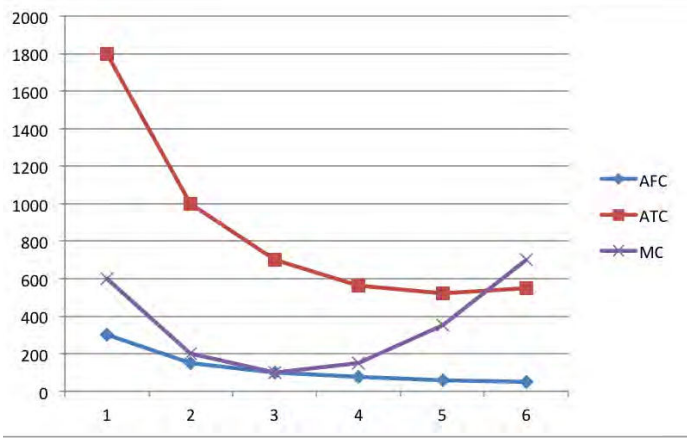
along with the output. Let us see and understand the nature of each and every curve with an example. The table and graphs shown below indicates the total costs curves and average cost curves at various output level.

Table - Cost Schedule

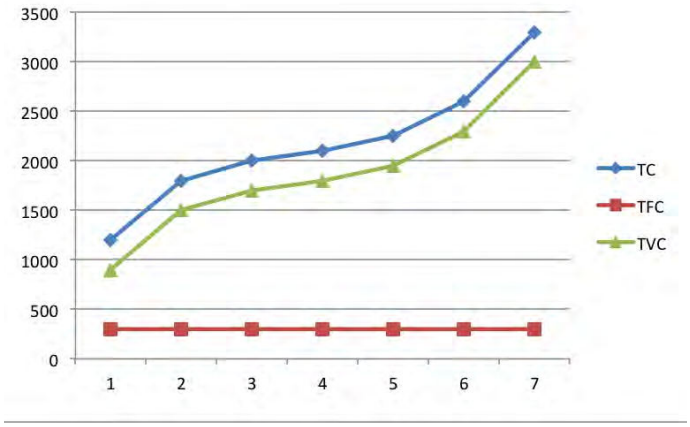
(Rupees in thousands '000)

Output	TC	TFC	TVC	AFC	ATC	AVC	MC
0	v1200	300	-	-	-	-	-
1	1800	300	1500	300	1800	1500	600
2	2000	300	1700	150	1000	850	200
3	2100	300	1800	100	700	600	100
4	2250	300	1950	75	562.5	487.5	150
5	2600	300	2300	60	520	460	350
6	3300	300	3000	50	550	500	700

Graph – Average Cost Curves



Graph – Total Cost Curves



From the above table and set of graphs we can understand that capital is the fixed factor of production and the total fixed cost will be the same Rs. 300,000. The total variable cost will increase as more and more goods are produced. So the total variable cost TVC of producing 1 unit is Rs.1500 000, for 2 units 1700 000 and so on.

Total cost = TFC + TVC for 1 unit TC = 300 + 1500 = 1800.

The marginal cost of producing an extra unit is calculated based on the difference in total cost.

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

MC2 = TC2 – TC 2-1 = 2000 – 1800 = 200

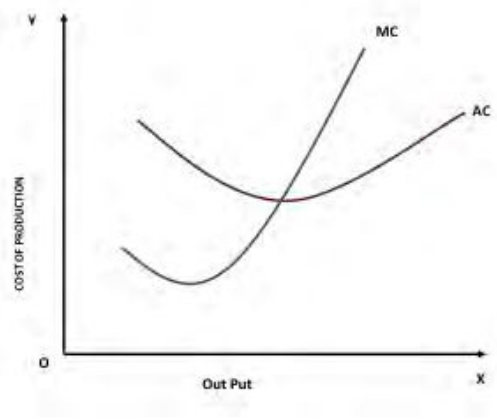
MC for 5th unit = TC of 5th unit minus TC of 4th unit,
in our example 2600 – 2250 = 350.

AVC also is calculated in the same manner TVC / output = 2600 / 5 = 460
AFC = TFC / output = 300 / 5 = 60.

Relationship Between Marginal Cost And Average Cost Curve:

The marginal cost and average cost curves are U shaped because of law of diminishing returns. The marginal cost curve cuts the average cost curve and average variable cost curves at their lowest point. Marginal cost curve cuts the average variable cost from below. The AC curve is above the MC curve when AC is falling. The AC curve is below the MC when AC is increasing. The intersecting point indicates that AC=MC and that is the minimum average cost with an optimum output. (No more output can be produced at this average cost without increasing the fixed cost of production)

Graph – Relationship Between Average Cost And Marginal Cost

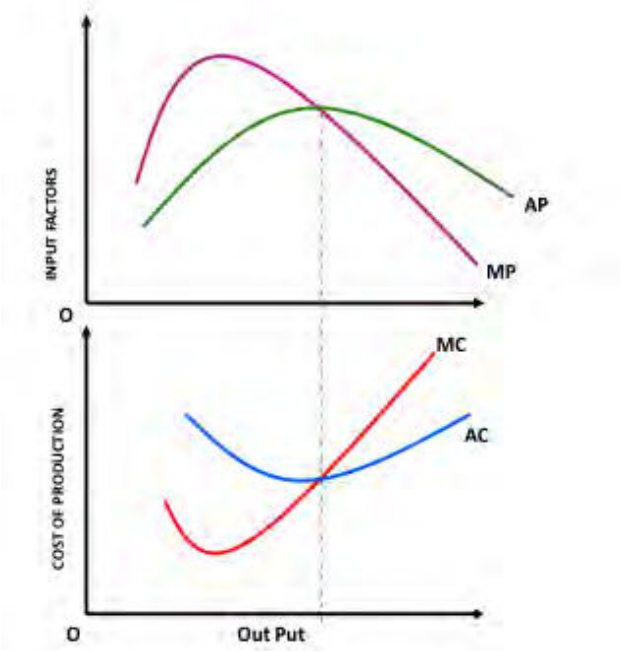


Optimum Output And Minimum Cost

The MC and AC curves are mirror image of the MP and AP curves. It is presented in the graph below.

All organizations aim for maximum output with minimum cost. To achieve this goal they like to derive the point where optimum output can be produced with the given amount of input factors and with a minimum average cost. In the graph the MP=AP at maximum average production. On the other hand MC = AC at minimum average variable cost. Therefore this is the optimum output to be produced to achieve their managerial goals.

Graph – Optimum Cost And Output

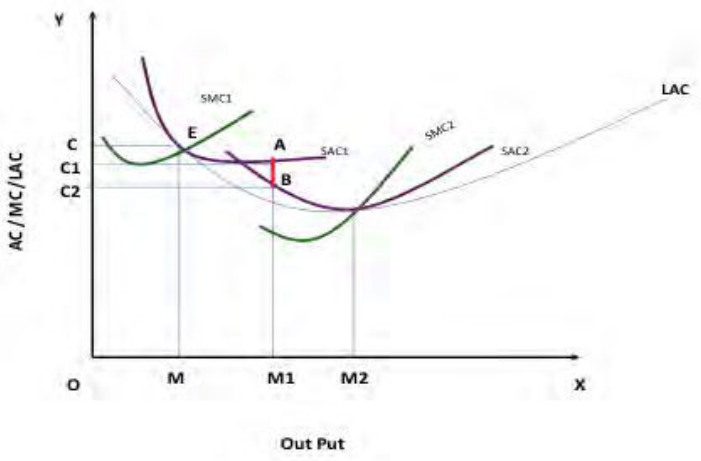


The above set of cost curves explain the cost output relationship in the short period but in the long run there is no fixed cost because all costs vary over a period of time. Therefore in the long run the firm will have only average cost curve that is called as long run average cost curve (LAC). Let us see how the average cost curve is derived in the long run. This LAC also slopes like the short period average cost curve (U shaped) provided the law of diminishing returns prevails. In case the returns to scale are increasing or constant then the LAC curve will have a different slope. It will be a horizontal line, which is parallel to the 'X' axis.

Cost Output Relationship In The Long Run

In the long run costs fall as output increases due to economies of scale, consequently the average cost AC of production falls. Some firms experience diseconomies of scale if the average cost begins to increase. This fall and rise derives a U shaped or boat shaped average cost curve in the long run which is denoted as LAC. The minimum point of the curve is said to be the optimum output in the long run. It is explained graphically in the chart given below.

Graph – Long Run Average Cost Curve



In the long run all factors are variable and the average cost may fall or increase to A, B respectively but all these costs are above the long run cost average cost. LAC is the lower envelope of all the short run average cost curves because it contains them all. At point 'E' the SAC1 and SMC1 intersects each other, in case the organization increases its output from OM to OM1 they have to spend OC1 amount. In case the organization purchases one more machine (increase in fixed cost) then they will get a new set of cost curves SAC2, and SMC2. But the new average cost curve reduces the cost of production from OC1 to OC2.That means they can save the difference of C1C2 which is nothing but AB. Therefore in the long run due to business expansion a firm can reduce their cost of production. During their business life they will meet many combinations of optimum production and minimum cost in different short periods. In the long run due to law of diminishing returns the long run average cost curve LAC also slopes like boat shape.

Economies Of Scale

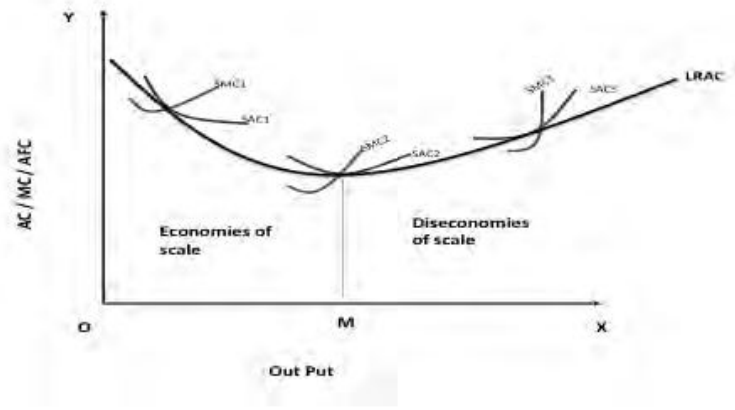
Economies of scale exist when long run average costs decline as output is increased. Diseconomies of scale exist when long run average cost rises as output is increased. It is graphically presented in the following graph. The economies of scale occur because of (i) technical economies: the change in production process due to technology adoption. (ii) Managerial economies (iii) purchasing economies, (iv) marketing economies and (v) financial economies.

Economies of scale means a fall in average cost of production due to growth in the size of the industry within which a firm operates.

Diseconomies Of Scale:

Arises due to managerial problems. If the size of the business becomes too large, then it becomes difficult for management to control the organizational activities therefore diseconomies of scale arise.

Graph – Economies of Scale and Diseconomies of scale



Factors Causing Economies Of Scale:

There are various factors influencing the economies of scale of an organization. They are generally classified in to two categories as Internal factors and External factors.

Internal Factors:

1. Labour economies: if the labour force of a firm is specialized in a specific skill then the organization can achieve economies of scale due to higher labour productivity.
2. Technical economies: with the use of advanced technology they can produce large quantities with quality which reduces their cost of production.
3. Managerial economies: the managerial skills of an organization will be advantageous to achieve economies of scale in various business activities.

4. Marketing economies: use of various marketing strategies will help in achieving economies of scale.

5. Vertical integration: if there is vertical integration then there will be efficient use of raw material due to internal factor flow.

6. Financial economies: the firm's financial soundness and past record of financial transactions will help them to get financial facilities easily.

7. Economies of risk spreading: having variety of products and diversification will help them to spread their risk and reduce losses.

8. Economies of scale in purchase: when the organization purchases raw material in bulk reduces the transportation cost and maintains uniform quality.

External Factors:

1. Better repair and maintenance facilities: When the machinery and equipments are repaired and maintained, then the production process never gets affected.

2. Research and Development: research facilities will provide opportunities to introduce new products and process methods.

3. Training and Development: continuous training and development of skills in the managerial, production level will achieve economies of scale.

4. Economies of location: the plant location plays a major role in cutting down the cost of materials, transport and other expenses.

5. Economies of Information Technology: advanced Information technology provides timely accurate information for better decision making and for better services.

6. Economies of by-products: Organizations can increase the economies of scale by minimizing waste and can be environmental responsible by using the by- products of the organization.

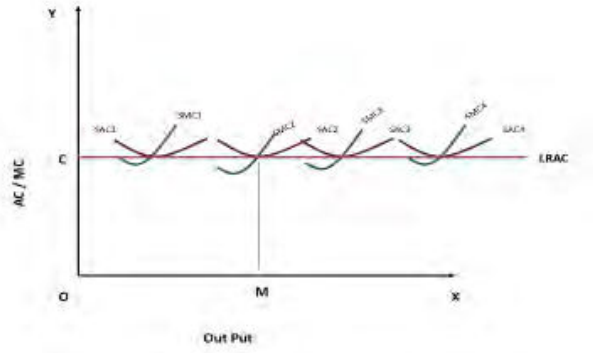
Factors Causing Diseconomies Of Scale:

1. Labour union: continuous labour problem and dissatisfaction can lead to diseconomies of scale.
2. Poor team work: Poor performance of the team leads to diseconomies of scale.
3. Lack of co-ordination: lack of coordination among the work force has a major role to play in causing diseconomies of scale.
4. Difficulty in fund raising: difficulties in fund raising reduce the scale of operation.
5. Difficulty in decision making: the managerial inability, delay in decision making is also a factor that determines the economies of scale.
6. Scarcity of Resources: raw material availability determines the purchase and price. Therefore there is a possibility of facing diseconomies in firms.
7. Increased risk: growing risk factors can cause diseconomies of scale in an organization. It is essential to reduce the same.

Constant Returns To Scale:

In the long run if the returns to scale are constant then the average cost of production will be the same. For example : Ananda Vikatan magazine, started 100 years ago and it was sold in the market for 25 paise but now it is still sold at a nominal cost of Rs.15. The price increased because raw material cost and printing and labour costs have also increased but in the long run the price of the commodity has not increased much.

The constant returns to scale curve is graphically presented below which indicates that the LRAC is not a boat shaped curve.



From the above graph it is clear that in the long run it is possible to derive a LRAC as a straight line with constant returns to scale.

Economies of scope: producing variety to get cost advantage. In retail business it is commonly used. Product diversification within the same scale of plant will help them to achieve success.

Lessons For Managers:

- To achieve reasonable return the firm should go for larger plants or expandtheir plant for optimum utilization of available resources.
- Build market share to achieve the scale which in turn reduces the cost of production.
- All business activities of the organization leads to economies of scale directly or indirectly.

Review Questions:

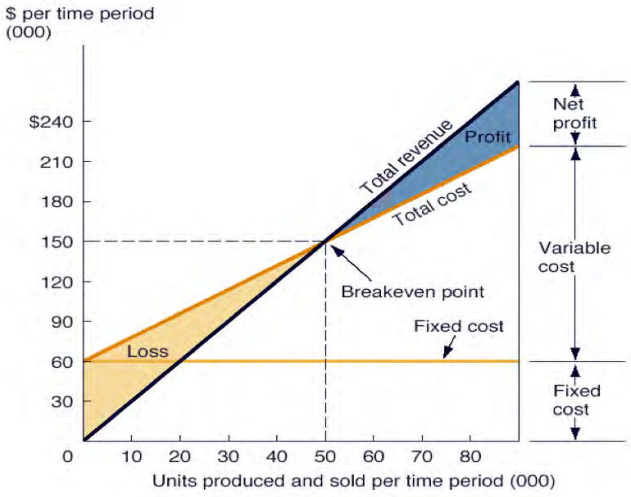
- What is Marginal cost? State its significance in cost analysis.
- Define opportunity cost and give an example.
- Explain the concepts: AFC, AVC, ATC and MC.
- Explain briefly the various types of costs with suitable examples.
- Discuss the short run cost output relationship with the graph.
- Derive long run total cost curve.
- What is the relationship between AC and MC?
- Give reasons for the U shape of long run AC curve.
- Distinguish between economies of scale and diseconomies of scale with a graph.
- List out the factors that cause economies and diseconomies of scale.

Break Even Analysis

Break even analysis helps to identify the level of output and sales volume at which the firm 'breaks even'. It means the revenues are sufficient to cover all costs of production. Various managerial decisions of firms are taken by the managers based on the break- even point.

It is a study of cost, revenues and sales of a firm and finding out the volume of sales where the firm's costs and revenues will be equal. There is no profit and no loss. The total revenue is equal to the total cost of production. The amount of money which the firm receives by the sale of its output in the market is known as revenue.

Graph – Break Even Point



The above graph shows the break- even point of an organization. The total revenue curve (TR) and total cost curve (TC) is given. When they produce 50 units the total cost and total revenue are equal that is $ 150'000 which is at the intersecting point of the curves. Break even point always denotes the quantity produced or sold to equalize the revenue and cost.

When the firm produces less than 50 units the revenue earned is less than the cost of production (TR<TC) therefore in the initial period the firm incurs loss which is shown in the graph. Through selling more than 50 units the revenue increases more than the cost of production therefore the difference increases and provides profit to the organization (TR>TC). It can be calculated with the help of the following formula.

$$\text{Break even quantity} = \frac{\text{TFC}}{\text{Selling Price - AVC}}$$

$$\text{To decide a quantity to achieve a targeted profit} = \frac{\text{TFC + targeted profit}}{\text{Selling price – AVC}}$$

$$\text{Safety margin} = \frac{\text{Sales - BEP}}{\text{Sales}} \times 100$$

Managerial Uses Of Break-Even Analysis:

1. Product planning: it helps the firm in planning its new product development. Decisions regarding removal or addition of new products in their product line.
2. Activity planning: the firm decides the expansion of production capacity.
3. Profit planning: this helps the firm to plan about their profit well in advance and at the same time it helps to identify the quantity to be sold to achieve the targeted profit.
4. Target capacity: the targeted sales quantity helps to decide the purchase, inventory and management.
5. Price and cost decision: Decision regarding how much the price of the commodity should be reduced or increased to cover their cost of production.
6. Safety margin: it helps to understand the extent to which the firm can withstand their fall in sales.
7. Price decision: the selling price can be fixed based on its expected revenue or profit.
8. Promotional decision: the firm can decide the kind of promotion required and how much amount could be spent.

9. Distribution decision: Break even analysis helps to improve the distribution system and for business expansion.
10. Dividend decision: firm can decide the dividend to be fixed for their shareholders.
11. Make or buy decision: break even analysis helps to decide on whether to make or buy the product. It means outsourcing or in house production.

We can conclude that the break – even analysis is a useful tool for decision making at various levels of a business firm in the short and long run. Therefore it is an essential tool to be used by the Managers.

Review Questions:

1. What is Break- even point?
2. Explain the important managerial uses of break even analysis.

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Lesson VI Analysis Of Risk And Uncertainty

Reading Objective:

After reading this chapter reader will be able to understand that an entrepreneur is always working under uncertainty and has to bear risks. In economic parlance profit is considered as a reward for risk taking. From the reading of this chapter the reader will understand what are the risks which are prevalent in the business. Only when an entrepreneur understands the nature of risks he can secure himself from the risks and uncertainty.

Certainty is what is prevalent today and we can see or realize it., But uncertainty is a situation where one is unsure of what will happen tomorrow. For instance even the meteorological department may not be a able to say with any amount of certainty when the south west monsoon, will set in and how much rain fall it may bring. Therefore the managers will have to safeguard institutions by making sufficient precautions the measures.

Lesson Outline:

- Types of risks
- Managers attitude towards risk
- Decisions under uncertainty
- Review questions

Introduction:

Various managerial decision making theories were discussed in the previous chapters under certainty but many of the choices that business people make involve considerable uncertainty. A manager investing in new product development, adoption of new technology or new market entry faces various risks. Therefore this chapter focuses on the factors to be considered by the managers to take better decisions with risk under uncertain situations.

Types Of Risks:

Economic risk: Choice of loss due the fact that all possible outcomes and their probability of occurrence are unknown.

Uncertainty: When the outcomes of managerial decisions cannot be predicted with absolute accuracy but all possibilities and their associated probabilities of occurrence are known.

Business risk: Chance of loss associated with a given managerial decision.

Market risk: Chance that a portfolio of investments can lose money due to volatility in the financial market.

Inflation risk: A general increase in the price level will undermine the real economic value of any legal agreement that involves a fixed promise to pay over an extended period.

Interest rate risk: The changing interest rates affect the value of any agreement that involves a fixed promise to pay over a specified period.

Credit risk: May arise when the other party fails to abide by the contractual obligations.

Liquidity risk: Difficulty of selling corporate assets and investments.

Derivative risk: Chance that volatile financial derivatives could create losses on investments by increasing price volatility.

Cultural risk: Risk may arise due to loss of markets differences due to distinctive social customs.

Currency risk: Is the probable loss due to changes in the domestic currency value in terms of expected foreign currency.

Government policy risk: Chance of loss because of domestic and foreign government policies.

The above listed various types of risks are involved in business. Therefore it is essential for the manager to understand the type of risk and strategies to overcome the same. The manager must know the possible outcomes of a particular event, action or decision.The manager must be aware of the probability of risks in business. (Probability means likelihood that a given outcome will occur)

For example; a purchase of share may lead to three probable results i.e. either the price will increase, decrease or it can be the same. Objective interpretation relies on the frequency with which certain events tend to occur. Out of 100 shares, if 25 have increased and 75 have remained in the same level in the market then the probability of incurring profit is ¼. If there is no past experience then we go for subjective probability and based on our perception of occurrence we may measure the probability. But manager's perceptions differ therefore they make different choices. In general probabilities are measured in two ways they are expected value and variability.

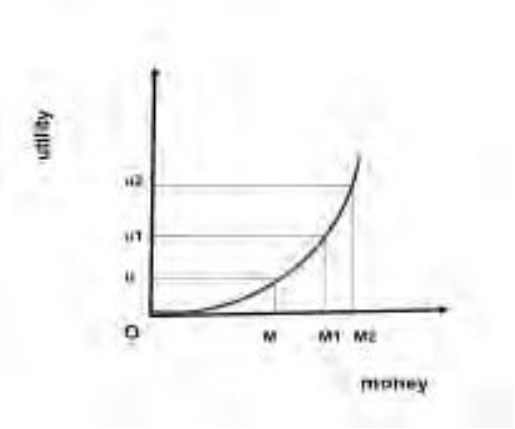
Expected value: The probable payoffs associated with all possible outcomes are called as expected value.

Expected value = P(s) (40/share) + P (f) (20/share)
= ¼(40) + ¾ (20) = 25.

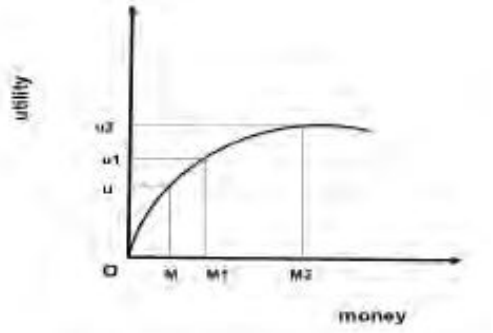
Variability: The extent to which the possible outcomes of an uncertain situation differ. This difference is called as deviation; it means difference between expected outcome and the actual outcome.

Manager's attitudes toward risk affect the decision making. The preference towards risk is classified as, risk loving, risk aversion and risk neutral.

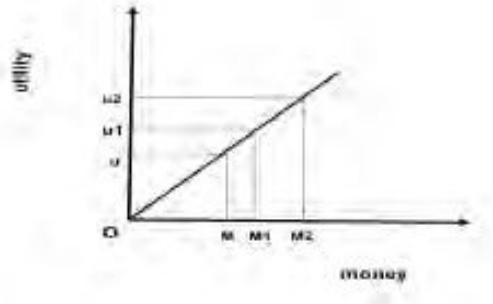
Risk loving: Arises when the payoff is greater than the expected value.



Risk Aversion: Is the behavior of the mangers when the pay off is less than the expected value.



Risk neutral: Behavior takes place when the expected value is equal to the payoff.



There are four ways to manage the risk and uncertainty:

1. Insurance (Business risks are transferred through Insurance Policies)
2. Hedging is a mechanism whereby the expected loss is to be offset by an expected profit from another contract.
3. Diversification is a method of managing the risk where the risk is spread to various investments and thus the risk is minimized to each investment.
4. Adjusting risk is the mechanism whereby the provision is made to offset the expected loss.

Decision Under Uncertainty:

1. **The maximax rule:** Deals with selecting the best possible outcome for each decision and choosing the decision with the maximum payoff for all the best outcomes.
2. **The Maximin rule:** Deals with selecting a worst outcome for each investment decision and choosing the decision with the maximum worst payoff.
3. **The Minimax rule:** Deals with determining the worst potential regret associated with each, decision, then choosing the decision with the minimum worst potential regret.

The above mentioned criteria may help to measure the minimum expected opportunity loss. The game theory may help the manager to overcome various problems and at the same time to take a better decision in the uncertain business world with minimum risk. Computer based simulation methods are also available to solve this problem. Sensitivity analysis which is less expensive and commonly used can also be used.

Review Questions:

1. Discuss the types of risks faced by a business firm.
2. Explain the manager's attitude towards risk.
3. Critically examine the Maximin criteria for decision making under uncertainty.

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CHAPTER III

Lesson VII Market Structure

Reading Objectives:

After reading this lesson the reader will understand that the economist meaning of market is something different from the common understanding of the market. In economics, the market is the study about the demand for and supply of a particular commodity and its consequent fixing of prices for instance the market may be a bullion market, stock market, or even food grains market. The market is broadly divided into two categories like perfect market and imperfect market. The perfect market is further divided into pure market (which is a myth) and perfect market. The imperfect market is divided into monopoly market, monopolistic market, oligopoly market and duopoly market. Based on the nature of competition and on the number of buyers and sellers operating in the market, the price for the commodity may be settled at the point where the demand forces and supply forces agree upon.

Lesson Outline:

- Types of market
- Perfect market
- Pricing under perfect market
- Shutdown point
- Monopoly market
- Profit maximization under monopoly market
- Monopolistic competition
- Oligopoly market
- Kinked demand curve
- Price discrimination
- Review questions

Introduction

Market is a place where people can buy and sell commodities. It may be vegetables market, fish market, financial markets or foreign exchange markets. In economic language market is a study about the demand for and supply of a particular item and its consequent fixing of prices, example bullion on market and foreign exchange market or a commodity market like food grains market etc. Market is classified into various types based on the characteristic features. They are classified on the basis of:

Area: family market, local, regional, national and international

Time: very short period, short period, long period, very long period

Commodity: produce exchange, bullion market, capital market, stock market

Nature of Transaction: spot market, forward market and futures market

Volume of business: whole sale market, retail market

Importance: primary market, secondary market, territory market

Regulation: regulated market, unregulated market

Economics: Perfect market and imperfect market

Market In Economic Sense Implies:

1. Presence of buyers and sellers of the commodity
2. Establishment of contact between the buyer and seller
3. Similarity of the product
4. Exchange of commodity for a price

Classification Of Market Structure Based On The Nature Of Competitor:

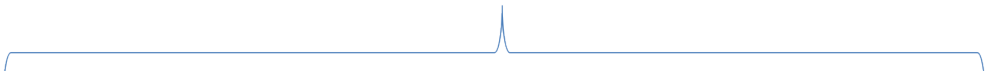
1. Perfect market
2. Imperfect market

The imperfect market in turn can be classified as

a. Monopoly market
b. Duopoly market
c. Oligopoly market
d. Monopolistic market/ competition

The number and relative size of firms producing a good vary across industries. Market structures range from perfect competition to monopoly. Most real-world firms are along the continuum of imperfect competition. Market structure affects market outcomes, ie., the price and quantity of goods supplied.

Imperfect Competition



Perfect Competition Monopolistic Competition Oligopoly Duopoly Monopoly

The above chart tells us that there are four types of imperfect competition existing in the present market environment. It is classified based on the number of buyers, sellers and competitors in the market. This chapter explains the price determination and profit maximization methods followed in these markets. Let us understand the meaning of each competition.

Monopoly market: a market with only one seller and a large number of buyers.

Monopolistic competition: a market in which firms can enter freely, each producing its own brand or version of a differentiated product.

Oligopoly market: market in which only a few firms compete with one another and entry by new firms is impeded/restricted.

Duopoly: market in which two firms compete with each other.

Monopsony: is a market with only one buyer, and a few/large sellers.

Perfect Market

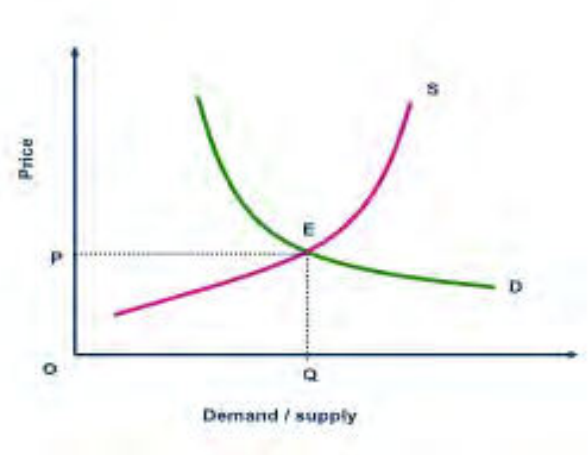
Perfect competition is a market structure characterized by a complete absence of rivalry among the individual firms. A perfectly competitive firm is one whose output is so small in relation to market volume that its output decisions have no perceptible impact on price. No single producer or consumer can have control over the price or quantity of the product.

Characteristic features of perfect market:

1. Large number of buyers and sellers
2. Homogeneous product
3. Perfect knowledge about the market
4. Ruling prices
5. Absence of transport cost
6. Perfect mobility of factors
7. Profit maximization
8. Freedom in decision making

In perfect market, the price of the commodity is determined based on the demand for and supply of the product in the market. The equilibrium price and output determination is as shown in the graph.

Graph - Price And Output Determination In The Perfect Market



The demand curve (D) and the supply curve (S) intersect each other at a particular point which is called the equilibrium point. At the equilibrium point 'E' the quantity demanded and the quantity supplied are equal (that is OQ quantity of commodity is demanded and the same level is supplied etc). Based on the equilibrium the price of the commodity is fixed as OP. This is the fundamental pricing strategy followed in the perfect market.

Pricing Under Perfect Competition

Demand and supply curves can be used to analyze the equilibrium market price and the optimum output.

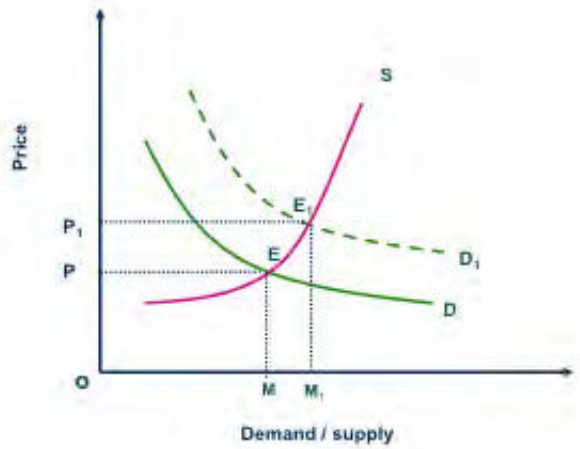
1. If quantity demanded is equal to quantity supplied at a particular price then the market is in equilibrium
2. If quantity demanded is more than the quantity supplied then market price may not be stable. i.e., it will rise.
3. If quantity demanded is less than quantity supplied then market price is fixed not in a equilibrium position.

When the price at which quantity demanded is equal to quantity supplied, buyers as well as sellers are satisfied. If price is greater than the equilibrium price, some sellers would not be able to sell the commodity. So they would try to dispose the unsold stock at a lower price. Thus the price will go on declining till they get equalized (Qd = Qs). The various possible changes in Demand and supply are expressed in the following graphs to understand the price fluctuations in the market.

When the firm is producing its goods at the maximum level, the unit cost of production or managerial cost of the last item produced is the lowest. If the firm produces more than this, the managerial cost will rise. If that firm produces less than that level of output, it is not taking advantage of the economics of the large scale operation.When the firm produces largest level of output and sell at the managerial cost, it is said to be in equilibrium position.There is no temptation to produce more or produce less level of output. Likewise, when all the firms put together or the industry produces the largest amount of output at the lowest marginal cost, the industry is also said to be in the equilibrium

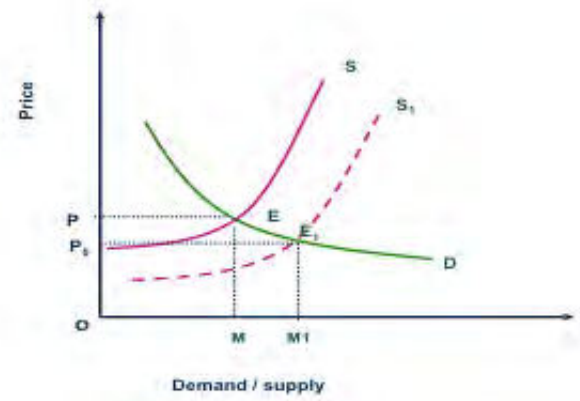
Let us assume that the demand equal to supply $Q_d = Q_s$ and the equilibrium point 'E' determines the price as OP. In the short run the demand for the commodity increases but the supply remains the same. Then the demand curve shifts to the right and the new demand curve D_1D_1 is derived. The demand has increased from OM quantity to OM_1. The new demand curve intersects the supply curve at the new equilibrium point 'E_1' and the price of the commodity is increased from OP to OP_1. Therefore it is clear that when demand increases without any change in supply this leads to price rise in the market.

Graph – Price And Quantity Variability When Increase In Demand



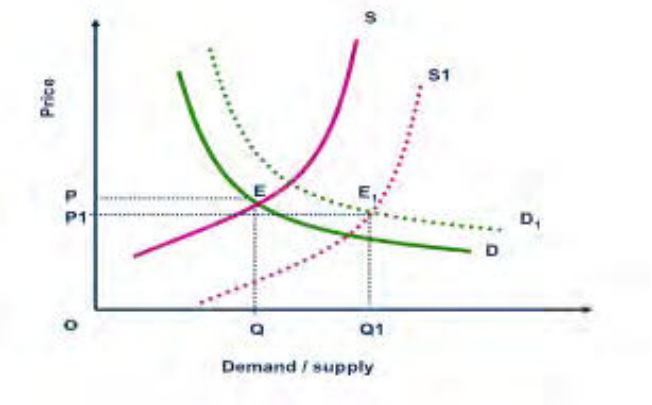
I ›ly more of the commodity, then the supply curve shifts from SS to S_1S_1 (Graph - below). Earlier the equilibrium point was 'E' and the price of the commodity was OP. Due to change in supply the equilibrium point has changed into 'E_1' which in turn reduced the price form OP to OP_0. Therefore if the firm supplies more than the demand this leads to price fall in the market.

Graph – Price And Quantity Variability When Increase In Price



If the firm changes its supply due to increase in demand then the possible fluctuations in the price is explained below. Let us assume that the firm increased its supply 10% , the demand has also increased but not in the same proportion – it increased only 2% ($\Delta Qd < \Delta Qs$). From the graph we can understand that the equilibrium point 'E' has changed into 'E_1' which reduced the price of the commodity from OP to OP_1.

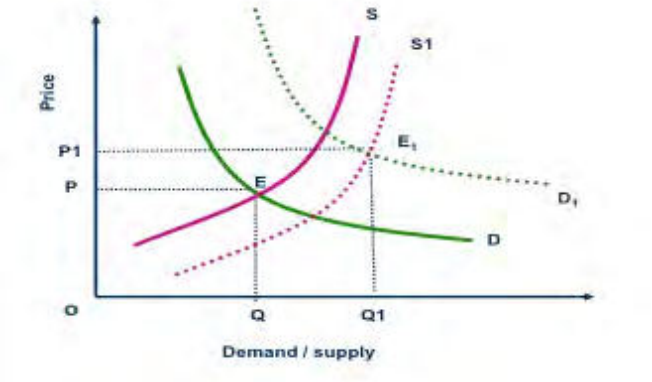
Graph – Price And Variability When Change In Demand Is Less Than Change In Supply



On the other hand when there is 10% increase in the demand and the supply has increased only to 2%, the new demand curve D_1D_1 and the new supply curve S_1S_1 intersect each other at the new equilibrium point 'E_1'.

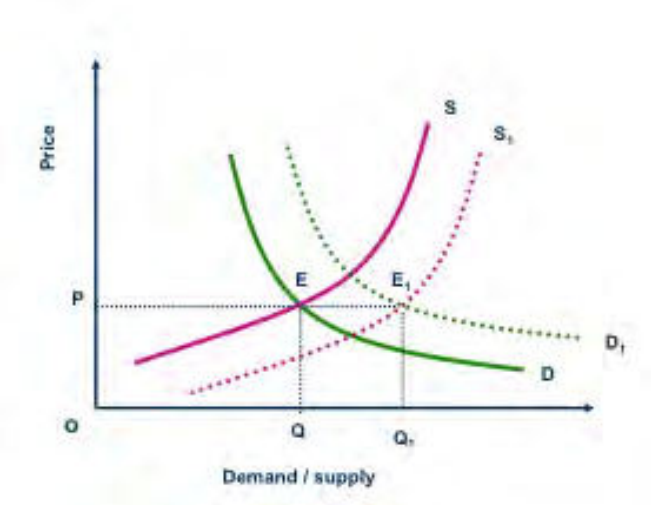
The price of the commodity is OP at 'E' and it increases from P to P_1 and becomes OP_1.i.e. When the demand increases more than the supply ($\Delta Qd > \Delta Qs$) the price of the commodity will increase.

Graph – Price And Quantity Variability When Change In Demand Is More Than The Change In Supply



The following graph explains clearly that both the demand for the commodity and the supply increases in the same proportion (i.e. $\Delta QD = \Delta QS$).The shift in supply curve and the shift in demand curve are in the same level and the new equilibrium point 'E_1' determines the same price OP level. There is no change in the price when the demand and supply are equal.

Graph – Price And Quantity Variabilty When Change In Demand And Supply Equally



Profit Maximization Under Perfect Competition

The primary objective of any business is to maximize the profit. Profit can be increased either by increasing total revenue (TR) or by reducing the total cost (TC). The profit is nothing but the difference between the revenue and the cost.

The total profit = TR – TC

Let us assume that whatever produced is sold in the market.

TR = Quantity sold x price

To increase the revenue, it is better to either increase the quantity sold or increase the price. Therefore while increasing the revenue or minimizing the total cost of production over a period of time with attendant economies of scale will widen the difference to gain more profit.

In perfect market, the firm's Marginal cost, Average cost, Average revenue, Marginal revenue are equal to the price of the commodity. The cost is measured as average cost and marginal cost .When the firm is in equilibrium, producing the maximum output i.e. cost of the last item produced is known as marginal cost.The total cost divided by the number of goods produced will give the average cost. When the firm is operating in perfect market MC = AC.

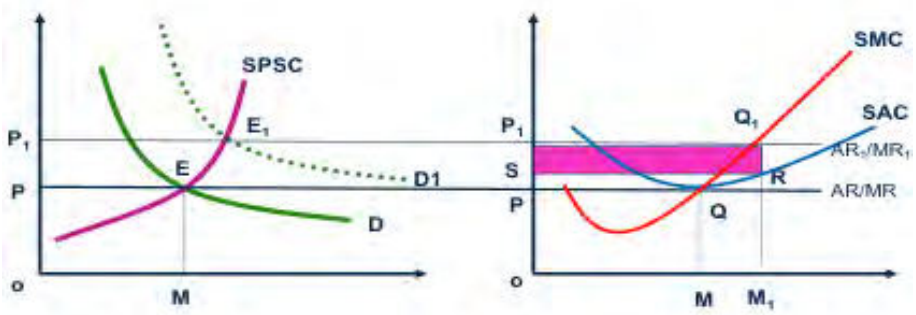
In the same way the revenue available to the firm through selling goods is called as total revenue.The last item sold is the marginal revenue. The total revenue divided by the number of items sold is the average revenue and when the firm is working in the perfect market the MR shall be equal to AR. Therefore the MC = MR = AR = AC = P in the short run. The size of the plant is fixed only with the variable factors and the price is fixed by the demand and supply.

Perfect Market Price Determination

Graph (a) **Graph (b)**

The demand for the commodity is expressed in the demand curve (D) and the supply (S) curve is known as S curve. The point of intersection of the D curve and S Curve is the equilibrium point (E) where the price is determined as OP. (Rs.10) The average revenue per unit is also Rs.10 expressed in graph (b) along with the marginal cost (MC) and average cost (AC) curves. The MC and AC intersect at point 'K' which is equal to the price OP / AR / MR. Therefore we can say that P=AR=AC=MR=MC at this level. At this equilibrium point buyers and sellers are satisfied with their price. The price of the commodity includes the normal profit through the average cost. The average cost consists of implicit and explicit costs. That means the organizers knowledge, time, idea and effort is also considered in the cost of production. Let us assume that in the short run the demand for the commodity increases, then the change in price and profit are explained in the graph below.

Graph - Short Run Profit Maximization Under Perfect Competition



From the above graph we can understand that in the short run demand curve DD and the short period supply curve SPSC intersects at 'E' and the price of the commodity is determined as OP. The right side graph indicates the cost and revenue curves. The average revenue (AR) and marginal revenue (MR) are equal to the price of the commodity OP. The short period marginal cost (SMC) and short period average cost (SAC) are also depicted in the graph. The minimum average cost is selected based on the equilibrium point Q which produces optimum quantity of OM. The marginal cost curve and average cost curve intersects at the point Q that means QM amount (rupees) is spent as marginal as well as average cost. The SAC is tangential to AR/MR at this point therefore we can conclude that the price of the commodity is equal to the average cost, average revenue, marginal cost and marginal revenue (P = AR = MR = AC = MC)

If the demand increases in the market then the new demand curve D_1D_1 intersects the SPSC at the new equilibrium point 'E_1' and the price increases from OP to OP1. Therefore the average revenue also increases from AR to AR_1. At this situation $P_1 = AR_1 = MR_1$ but the SMC curve intersects at Q_1 ie., new equilibrium point and the OM quantity has increased from OM to OM1 in the 'X' axis. The average cost has increased as M_1R.

The profit = Total Revenue (TR) – Total Cost (TC)

TR = quantity sold x price

TC = average cost x quantity produced

TR = OM_1 x OP_1 = $OM_1Q_1P_1$

TC = M_1R x OM_1 = OM_1RS

Profit = $OM_1Q_1P_1$ - OM_1RS = P_1Q1RS

In the above graph, the shaded portion of P_1Q_1RS is the total profit earned by the firm in the short run but in the long run the organization will increase the production and will supply more of the commodity. Ultimately both the demand and the supply gets equalized and the short run abnormal profit becomes normal. Therefore we can conclude that even in the perfect market it is possible to earn profit in the short period.

It indicates clearly that in the short run, in any perfect market, the increase in demand will increase the profit to the businessmen. The normal profit will be there until it gets equalized with the demand i.e. new D_1D_1 with the increased supply of S_1S_1.

This economic profit attracts new firms into the industry and the entry of these new firms increases the industry supply. This increased supply pushes down the price. As price falls, all firms in the industry adjust their output levels in order to remain in profit maximizing equilibrium. New firms continue to enter the industry and price continues to fall, and existing firms continue to adjust their outputs until all economic profits are eliminated. There is no longer an incentive for the new firms to enter and the owners of all firms in the industry will earn only what they could make through their best alternatives.

Economic losses motivate some to exit (shut down) from the industry. The exit of these firms decreases industry supply. The reduction in supply pushes up market price and all the firms shall adjust their output in order to maximize their profit.

Shut Down Point:

If the market price for the product is below minimum average variable cost, the firm will cease to produce, if this appears to be not just a temporary phenomenon. When the price is less than average variable cost it will neither cover fixed cost nor a part of the variable costs. Then the firm can minimize losses up to total fixed costs only by not producing. It is therefore regarded as the shut down point.

In the short run, a firm can be in equilibrium at various levels depending upon different cost and market price conditions. But these are temporary equilibrium points. Thus at this unstable equilibrium point the

firm gets excess profits or normal profit and sometimes incur loss also.

Consequences Of Pure Competition

Perfect competition ensures maximum welfare of the people as a whole. Each firm tends to attain the most efficient size to expand output and to reduce the average cost of production.

Lessons For Managers

1. Important to enter a growing market as far ahead of the competitors as possible. When there is fall in supply and increase in prices, take advantage before the new entrants.
2. Due to profit new entrants are willing to offer ,low priced therefore a firm should be among the lowest cost producer to ensure its survival.
3. Differentiation offers temporary relief for competition pressure.
4. Due to globalization firms enjoy advantage of cheap labour and disadvantage of technology up gradation.

Review Questions:

1. Define the market and market structure.
2. Explain various types of markets with suitable examples.
3. Distinguish between perfect and imperfect market.
4. List out the major characteristic features of a perfect market.
5. Show graphically how an individual firm attains equilibrium under perfect competition.
6. Explain how the price and output is determined in perfect competition.
7. Is it possible to earn profit in the perfect competition? Justify.
8. What do you mean by shut down point? Explain why a firm suffering from losses.

Exercise:

How will each of the following changes in demand and supply affect equilibrium price and equilibrium price and equilibrium quantity in a competitive market; that is, do price and quantity rise, fall or remain unchanged or are the answers indeterminate because they depend on the magnitude of the shift. Use supply and demand diagrams to verify your answers.

a. Supply increases and Demand is constant
b. Demand increases and Supply is constant
c. Supply increases and Demand is constant
d. Demand increases and Supply increases
e. Demand increases and Supply is constant
f. Supply increases and Demand increases
g. Demand increase and Supply decreases
h. Demand decreases and Supply decreases

Monopoly Market

Mono means single, poly means seller and hence monopoly is a market structure where only one sells the goods and many buyers buy the same. Monopoly lies at the opposite extreme from perfect competition on the market structure continuum. A firm produces the entire supply of a particular good or service that has no close substitute.

Characteristic Features:

1. A single seller in the market
2. There are no close substitutes
3. There is a restriction for the entry and exit for the firms in the market
4. Imperfect dissemination of information

This does not mean that the monopoly firms are large in size. For example a doctor who has a clinic in a village has no other competitor in the village but in the town there may be more doctors. Therefore the barrier to the entry is due to economies of scale, economies of scope, cost complementarities, patents and other legal barriers.

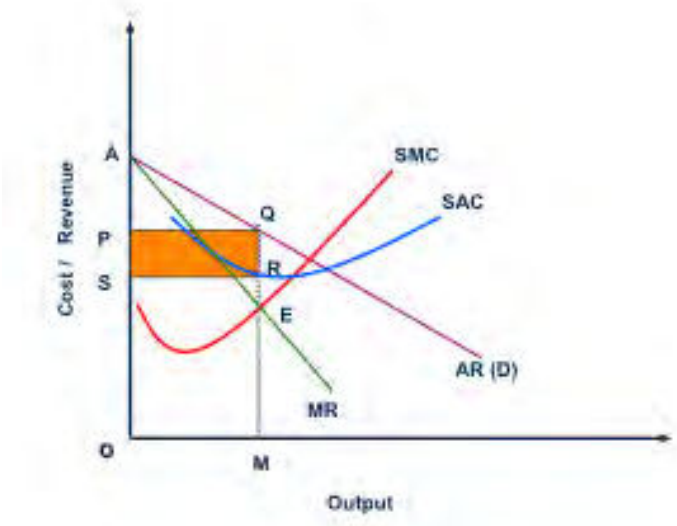
Profit maximization under Monopoly Competition

For monopolist there are two options for maximizing the profit i.e. maximize the output and the limit the price or limit the production of the goods and services and fix a higher price (market driven price). In monopoly competition, the demand curve of the firm is identical to the market demand curve of that product. In monopoly the MR is always less than the price of the commodity.

Profit Maximization Rule:

Produce at that rate of output where MR = MC. From the graph we can understand the profit maximization under monopoly. 'X' axis indicates the output and 'Y' the price/cost and revenue. The marginal revenue curve is denoted as MR. The average revenue curve is AR which is also the demand curve. MC is the marginal cost curve, It looks like a tick mark and average cost curve AC is boat shape.

Graph- Profit Maximization Under Monopoly Market



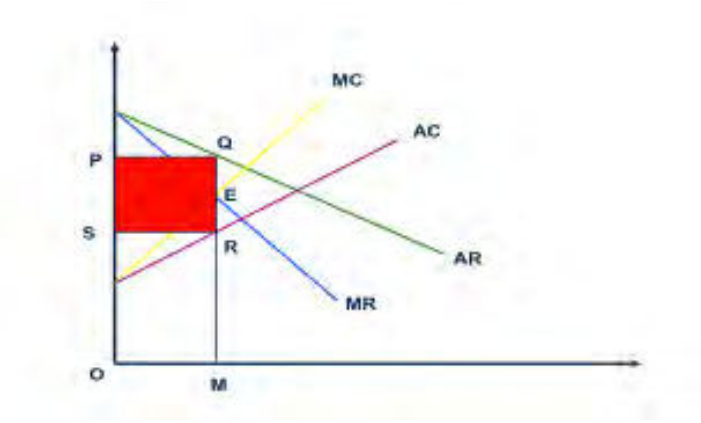
From the above graph it is seen that the demand curve D and average revenue curve AR are depicted as a single curve. The marginal revenue curve MR also slopes the same but the MR curve is below the AR curve. The short run marginal cost curve SMC looks like a tick mark and the boat shaped average cost curve SAC is also seen in the graph. The profit maximization criteria of MR=MC is followed in the monopoly market and the equilibrium point 'E' is derived from the intersection of

MR and SMC curves in the short run. i.e. MC curve or SMC here intersects the MR curve from below. Based on the equilibrium point, the output is the optimum level of production i.e., at OM quantity. The price of the commodity is determined as OP. On an average the firm receives MQ amount as revenue. The total revenue of selling OM quantity gives OMQP amount of total revenue (OM quantity x OP price). The firm has spent MR as an average cost to produce OM quantity and the total cost of production is OMRS (OM quantity x MR cost per unit)

Profit	=	TR - TC
	=	OMQP - OMRS
	=	PQRS (the shaded portion in the graph)

In the short run the monopoly firm will earn profit continuously even with various returns.

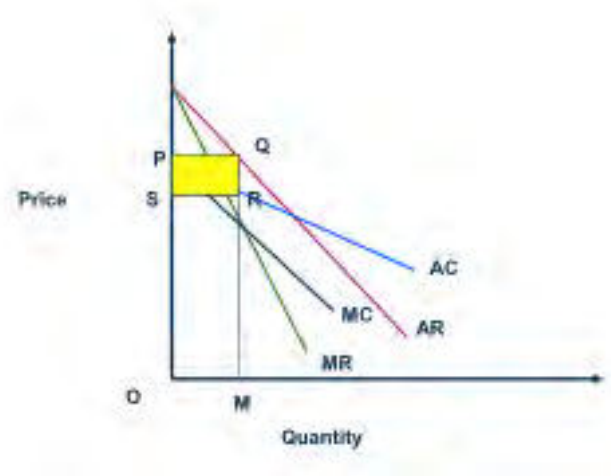
Graph- Monopoly Profit With Increasing Cost



From the above graph it can be understood that the cost of production (MC, AC) is increasing along with the output but even with the increasing scale the firm earns PQRS as profit which is the shaded portion in the graph.

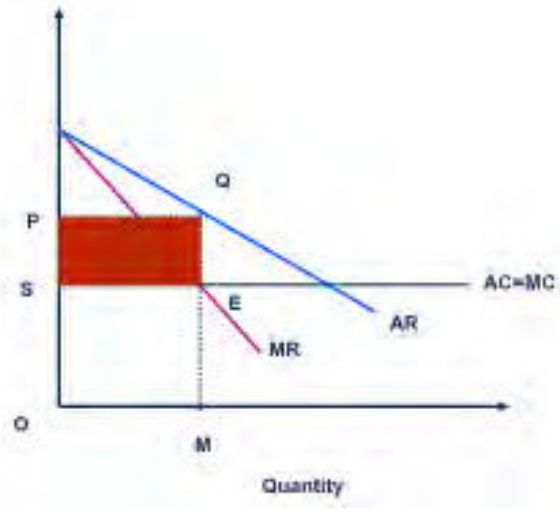
The graph given below explains clearly that the firms cost curves of Marginal cost (MC) and Average cost (AC) are declining with this slope. The organization earns PQRS profit but the profit is comparatively lesser than the previous situation.

Graph – Monopoly Profit Under Decreasing Cost



The third situation explains that the organizations' marginal cost and average cost curves are horizontal and parallel to the X axis. Even with the constant scale, the firms earns profit as PQRS.

Graph – Monopoly Profit Under Constant Cost



Therefore we can conclude by saying that under monopoly market structure the firm will earn profit even under different cost conditions and profit maximization takes place. They follow the price determination condition as MC=MR and never incur loss.

Difference Between Perfect And Monopoly Market:

1. Perfect market is unrealistic in practical life. But slowly certain commodities are moving towards it. Monopoly market exists in real time.

2. Under perfect market only homogenous products are sold but on the other hand monopoly market deals with different products.
3. Under perfect competition, price is determined by demand and supply of the market. But in monopoly the seller determines the price of the good.
4. Monopolist can control the market price but in perfect competition the sellers have no control over the market price.
5. There is no advertisement cost in perfect market. In other markets it is essential and it is included in the cost of production and is reflected in the price.
6. Monopolist sell their products higher than the perfect competitors except when there is government regulation or adverse public opinion.

Lessons For Managers:

1. The seller has to fix the price based on the marginal revenue and marginal cost instead of focusing on their profit.
2. It is essential to understand the substitutes and their market competition.
3. Under monopoly for certain products buyer has more market power.
4. Government policies can also change at any time.
5. Monopolist in domestic market may face tough competition from imported products.

Review Questions:

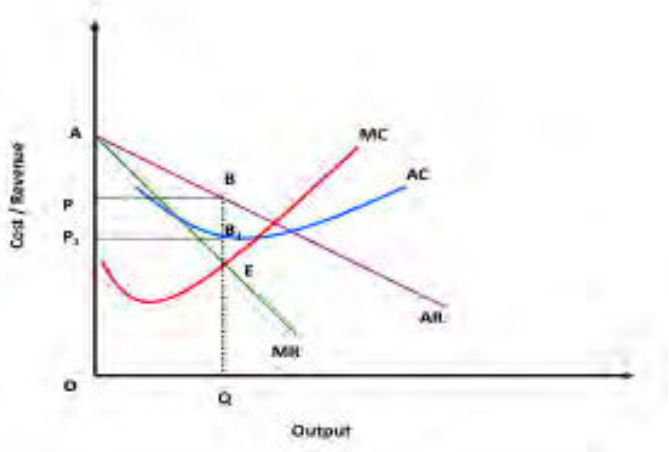
1. Mention the characteristic features of Monopoly market.
2. Distinguish between monopoly and perfect market.
3. Describe graphically the pricing and profit determination under monopoly market.
4. A monopolist aims at maximizing price rather than profits, do you agree with this statement?

Monopolistic Competition

The perfect competition and monopoly are the two extreme forms. To bridge the gap the concept of monopolistic competition was developed by Edward Chamberlin. It has both the elements like many small sellers and many small buyers. There is product differentiation. Therefore close substitutes are available and at the same time it is easy to enter and easy to exit from the market. Therefore it is possible to incur loss in this market. The profit maximization for each firm, for each product depends upon the differentiation and advertising expenditure. As every firm is acting as a monopoly the same logic of monopoly is followed. Each and every firm will have their own set of cost and revenue curves and the price determination is based on the rule of MR=MC and they incur varied profits according to their market structure. But in the monopolistic competition number of monopoly competitors will be there in different levels. They monopolize in a small geographical area or a segment or a model.

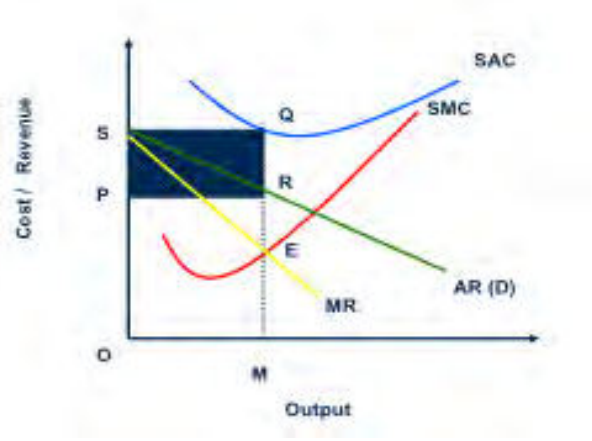
The demand curve of a monopolistically competitive firm would be more elastic than that of a purely monopolistic firm. The cost function of a firm would be that there will not be any significant difference across different types of structures in the product market. Given the function, and the corresponding AR and MR curves, and the cost function, and the corresponding SAC and SMC curves, the price and output determination of a profit – maximizing monopolistically competitive firm could be as follows.

Graph – Pricing Under Monopolistic Competition With Profit



From the above graph we can understand that under monopolistic competition firms incur profit which is PP_1BB_1 the pricing and profit determination are similar to the monopoly market. MR is marginal revenue curve AR is average revenue and demand curve. At point 'E' both MR and marginal cost curve MC intersects. Based on this equilibrium the product is sold at OP price in the market. The Average cost curve indicates that the firm has spent QB_1 amount per unit but it receives QB through its sale. Therefore the difference between the two BB_1 is the profit margin which should be multiplied with the total quantity sold OQ which gives PP_1BB_1 amount of profit.

Graph – Pricing under Monopolistic competition with loss



The marginal revenue curve MR and the average revenue curve AR that is the demand curve is also represented in the graph. The condition for product decision is MR=MC. The MR and MC intersect at point 'E' based on the equilibrium. It is decided to produce OM quantity and the price of the commodity is fixed at OP in the market. Therefore the total revenue by selling OM quantity in the market for OP price is equal to OM x OP = OPRM. But to produce OM quantity the firm has spent MQ as average cost. Therefore the total cost of production = OM x MQ = OMQS.

Therefore the profit = TR – TC
= ORPM – OMQS
= - PQRS. (Negative)

That means the cost of production per unit is more than the average revenue earned per unit. Average revenue = MR and the Average cost = MQ which is more than the revenue. Therefore the difference QR is the loss per unit multiplied with OM quantity. PQRS is the total loss to the organization.

Lessons For Managers:

1. A firm must concentrate on differentiation and building brand value.
2. The managers must never be complacent with their profit because of new entrants.
3. The market is competing with differentiated products at lowest price.
4. Need not offer at low price always. Through supplying best products he can retain his price and profit.

Oligopoly Market

This is a market consisting of a few firms relatively large firms, each with a substantial share of the market and all recognizing their interdependence. It is a common form of market structure. The products may be identical or differentiated. The price determination and profit maximization is based on how the competitors will respond to price or output changes.

There Are Different **Types Of Oligopoly:**

1.Pure and perfect oligopoly: if the firm produced homogeneous products it is perfect oligopoly. If there is product differentiation then it is called as imperfect or differentiated oligopoly.

2.Open and closed oligopoly: entry is not possible. When it is closed to the new entrants then it is closed oligopoly. On the other hand entry is accepted in open oligopoly.

3.Partial and full oligopoly: under partial oligopoly industry is dominated by one large firm who is a price leader and others follow. In full oligopoly no price leadership.

4.Syndicated and organized oligopoly: where the firms sell their products through a centralized syndicate. On the other hand firms organize themselves into a central association for fixing prices, output and quotas.

Characteristic Features Of An Oligopoly Market:

1. Few sellers
2. Lack of uniformity in the product
3. Advertisement cost is included
4. No monopoly competition
5. Firms struggle constantly
6. There is interdependency
7. Experience of Group behavior
8. Price rigidity
9. Price leadership
10. Barriers to entry

Price rigidity: the price will be kept unchanged due to fear of retaliation and prices tend to be strict and inflexible. No firm would indulge in price cutting as it would eventually lead to a price war with no benefit to anyone.

Reasons for rigidity are: firms know ultimate outcome of price cutting; large firms incur more expenditure than others; keeping the price low to reduce the new entrants; increased price rise leads to reduction in number of customers.

The oligopoly prices are indeterminate. The demand function is then an important ingredient in the price determination mechanism. Several theories of oligopoly prices have been developed and each one of them is based on a particular assumption about the reactions of the rival firms and the firms' actions. The popular models and appropriate classifications are discussed below.

Oligopoly Models:

1.**Cournot oligopoly:** There are few firms producing differentiated or homogeneous products and each firm believes that competitors will hold their output constant if it changes its output.

2.**Stackelberg oligopoly:** Few firms and differentiated or homogeneous product. The leader chooses an output and others follow.

3.**Bertrand oligopoly:** Few firms produce identical product. Firms compete in price and react optimally to competitor's prices.

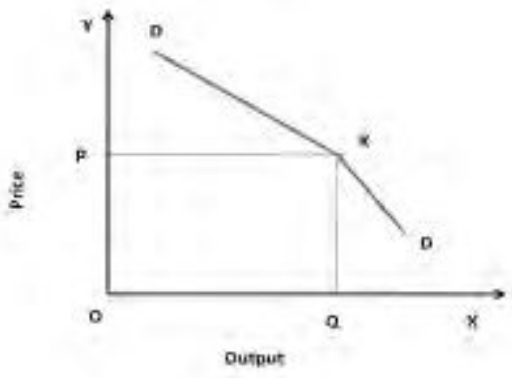
4.**Sweezy oligopoly:** An industry in which there are few firms serving many consumers. Firms produce differentiated products and each firm believes competitors will respond to a price reduction but they will not follow a price increase.

Kinked Demand Curve

When a firm increases its price, the rival firms do not follow it by increasing their prices in turn this increases its market share. When a firm reduces its price rival firms immediately follows it by decreasing their prices. If they do not do so, customers go to the firm which is offering at lower price. This is the fundamental behaviour of the firms in an oligopoly market. Let us understand the unique characteristic feature of kinked demand curve.

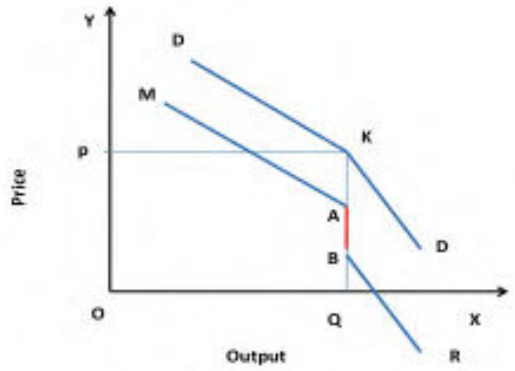
The demand curve in oligopoly has two parts. (i) relatively elastic demand curve (ii) relatively inelastic demand curve as shown in the graph below. In oligopoly market firms are reluctant to change prices even if the cost of production (or) demand changes. Price rigidity is the basis for the kinked demand curve. Each firm faces demand curve kinked at the currently prevailing price. At higher prices demand is highly elastic, whereas at lower prices it is inelastic.

Graph – Kinked Demand Curve



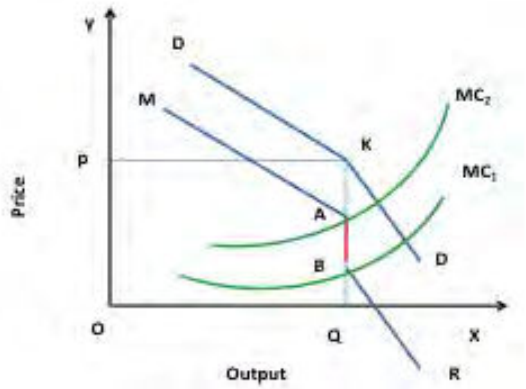
From the graph we can understand that OP is the given price. There is a kink at point K on demand curve (DD). Therefore DK is the elasticity segment and KD is the inelastic segment. There is a change in the slope of the demand curve at K. At this situation the firm follows the prevailing price and does not make any change in it because rising of price would contract sales as demand tends to be more elastic at this stage. I would also fear losing buyers due to competitor's price who have not raised their prices. On the other hand lowering of price would imply an immediate retaliation from the rivals on account of close interdependence of price, output movement in the oligopoly market. Therefore the firm will not expect much rise in sale with price reduction.

Graph – Marginal Revenue Curve In Oligopoly Market



The average revenue curve and the demand curve (DD) of an oligopoly firm has a kink. The kinked average revenue curve implies a discontinuation in the marginal revenues curve. It explains the phenomenon of price rigidity in oligopoly market.

Graph – Price Rigidity Under Oligopoly Market



The price output level that maximizes the profits for a firm is derived from the equilibrium point, which lies at the intersection of the MC and the MR curves. The price output combination can remain optimal at the kink even though the MC fluctuates because of the associated gap in the MR curve. This is shown in the graph. The profit maximizing price OP and output combination of OQ remains unchanged as long as MC fluctuates between MC1 and MC2 that is between A and B. Hence there is price rigidity- it means OP does not change. It is concluded that once a general price level is reached it remains unchanged over a period of time in oligopoly market.

Lessons For Managers:

1. Managers should concentrate on their research and development to bring new products and quality of service to raise their economies of scale.
2. Due to kinked demand curve, increase in cost of production will not affect their price.
3. Product differentiation and advertisement play a major role in increasing market share.

Price Discrimination

Price discrimination means that the producer charges different prices for different consumers for the same goods and service. Price discrimination occurs when prices differ even though costs are same. For example, Doctors charge different fees for different customers. In case they charge different prices in different markets, people go to the market where price is low. Then it gets equalized in the long run. There are various **types** of price discrimination:

They are:

1. Personal Discrimination
2. Place Discrimination
3. Trade Discrimination
4. Time Discrimination
5. Age Discrimination

6. Sex Discrimination
7. Location Discrimination
8. Size Discrimination
9. Quality Discrimination
10. Special Service
11. Use of services
12. Product Discrimination

Objectives Of Price Discrimination:

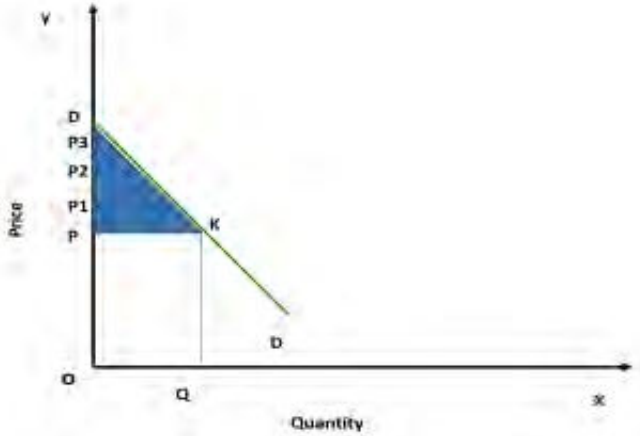
1. To dispose the surpluses
2. To develop new market
3. To Maximize use of unutilized capacity
4. To Earn monopoly profit
5. To Retain export market
6. To Increase the sales

Degrees Of Price Discrimination:

First Degree Price Discrimination:

Firm charges a different price to each of its customers. The maximum willingness to pay is fixed as price which is called as reservation price. In perfect market the difference between demand and marginal revenue is the profit (for additional unit producing and selling). Firms do not know the customers willingness, therefore different prices. In imperfect market it is not possible to price for each and every customer.

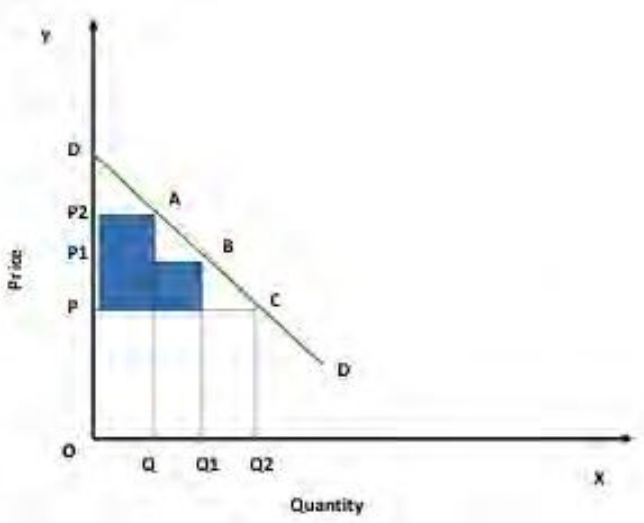
Graph – First Degree Price Discrimination



Second Degree Discrimination:

Firm charges different prices per unit for different quantities of the same goods or service. They follow block pricing method. The units in a particular block will be uniformly priced. The possible maximum price is charged for some given minimum block of output purchased by the buyers and then the additional blocks are sold at lower prices.

Graph – Second Degree Price Discrimination

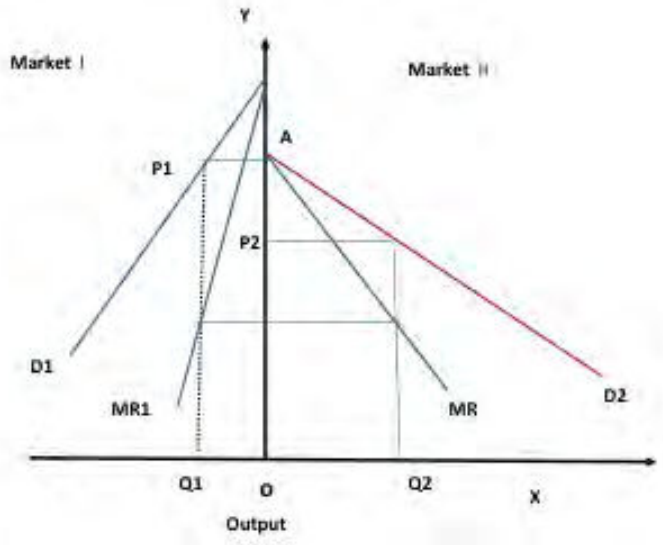


Third Degree Discrimination:

Firm segments the customers into groups with separate demand curves and charges different prices from each group.

In first degree price discrimination, in case of unit wise differing prices, the second degree price discrimination is a case of block wise differing prices. In second degree discrimination a part of consumer's surplus is captured. But the third degree is commonly used. The firm divides its total output into many submarkets and sets different prices for its product in each market in relation to the demand elasticity.

Graph – Third Degree Price Discrimination



There are two markets I and II their demand curves D1 and D2 is given. D1 is less elastic and D2 is more elastic demand curve. The firm distributes OQ1 to market - I at OP1 price and OQ2 to the market II at OP2 price. Market- I has less elastic demand therefore higher price is charged.

The pricing mechanisms in different market structures provide a sound theoretical base to understand how price and output decisions are made. There are several other methods commonly followed in practice. However, price discrimination does not receive social and moral justification in the society.

Comparison Of Various Market Structure

	Perfect Market	Monopoly	Monopolistic	Oligopoly
Number of competitors	Many small buyers and sellers	Single seller	Many sellers	
Product differentiation	Homogeneous	High differentiation, no close substitutes	Differentiation among competitors	
Information	Complete and free information	Less information	Less information	Restricted access to price and product information
Conditions of entry and exit	Easy to enter and exit	High barriers due to economies of scale	Easy to enter and exit	High barriers to entry
Profit potential	Normal profit in long run, economic profit in short run	Economic profit in long run and short run	Economic profit in short run and normal in long run	Economic profit in both short and long run
Example	Agricultural products	Railways	Clothing	Automobiles

Review Questions:

1. Define monopolistic competition.
2. What is the difference between monopoly and monopolistic competition?
3. How does the monopolistic competitor incur loss in the business? Explain with a suitable graph.
4. What do you mean by oligopoly market? What are its characteristic features? Give a suitable example for the same.
5. Distinguish between oligopoly and duopoly market.
6. Describe the kinked demand curve with a graph.
7. What is price discrimination? What are its objectives?
8. Discuss briefly the major types of price discriminations with suitable examples.
9. Explain the major degrees of price discrimination.
10. What are the managerial uses of understanding the market structure?

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CHAPTER **–IV**

Lesson VIII Macro Economics

Outline:

- Objectives of Economic policies
- National income concepts
- Approaches to calculate national income
- Factors determining national income
- Difficulties in measuring national income
- Economic indicators
- Key economic indicators of India
- Review questions

Introduction:

Macro economics is the study of aggregate economic behaviour of the economy as a whole. Macro economics deals with the output, (total volume of goods and services produced) levels of employment and unemployment, average prices of goods and services. It also deals with the economic growth of the country, trade relationship with other countries and the exchange values of the currency in the international market.

The major factors influencing these outcomes are international market forces like population growth, consumption behaviour of the country, external forces like, natural calamities, political instability and policy related changes such as tax policy, government expenditure (budget) money supply and various other economic policies of the country. Therefore it is essential to know the aggregate demand and aggregate supply of the country.

Aggregate demand: The total quantity of output demanded at prevailing price levels in a given time period, ceteris paribus.

Aggregate supply: The total quantity of the output the producers are willing and able to supply at prevailing price levels in a given time period.

These two summarizes the market activity of the economy. But the economy is disturbed by unemployment, inflation and business cycles. Various economic policies like Fiscal policy and monetary policy are followed by the government to achieve the equilibrium between aggregate demand and aggregate supply.

The following chapters will help us to understand the Macro Economic concepts, their behaviour and its impact on the economy. Thus, an understanding of macro economics and policies is of utmost importance to managers. Managers have to cope with the economic environment at two levels - firm level and macro level.

Objectives Of Economic Policies:

The major macro level economic policies framed by the government of India to achieve the objectives are:

1. To achieve national level full employment
2. To stabilize the price fluctuations in the market
3. To achieve overall economic growth
4. To develop regions economically
5. To improve the standard of living of the people
6. To reduce income inequalities
7. To control monopoly market structure
8. To avoid cyclical fluctuations in various economic activities of the country
9. To improve the Balance of Payment of the country and
10. To bring social justice in various aspects.
11. Now let us understand the various macroeconomic concepts.

National Income

The purpose of national income accounting is to obtain some measure of the performance of the aggregate economy. The major concepts used in the national income calculation are Gross Domestic Product (GDP), Gross National Product (GNP), Net National Product (NNP), personal income and Disposable income.

Gross Domestic Product is the total market value of all final goods and services currently produced within the domestic territory of a country in a year. It measures the market value of annual output of goods and services currently produced and counted only once to avoid double counting. It includes only final goods and services. It includes the value of goods and services produced within the domestic territory of a country by nationals and non nationals.

Gross National Product is the market value of all final goods and services produced in a year. GNP includes net factor income from abroad.

GNP = GDP + Net factor income from abroad (income received by Indian's abroad – income paid to foreign nationals working in India)

Net National Product at market price is the market value of all final goods and services after providing for depreciation.

NNP = GNP – Depreciation

Depreciation means fall in the value of fixed capital due to wear and tear.

NNP at factor cost is called as National Income:

National income is the sum of the wages, rent, interest and profits paid to factors for their contribution to the production of goods and services in a year.

Nnp = Nnp (Market Price) – Indirect Tax + Subsidies

Personal income (PI) is the sum of all incomes earned by all individuals / households during a given year. Certain incomes are received but not earned such as old age pension etc.,

Pi = Ni – Social Security Contribution – Corporate Income Tax – Undistributed Corporate Profits + Transfer Payments.

Disposable income is calculated by deducting the personal taxes like income tax, personal property tax from the personal income (PI).

Disposable Income = Personal Income – Personal Taxes = Consumption + Saving

Supernumerary income: the expenditure to meet necessary living costs deducted from disposable consumer income is called as supernumerary income.

The economy is divided into different sectors such as agriculture, fisheries, mining, construction, manufacturing, trade, transport, communication and other services. The gross production is found out by adding up the net values of all the production that has taken place in

these sectors during a given year. This method helps to understand the importance of various sectors of the economy.

Approaches To Calculate National Income:

The Income Approach:

The income of individuals from employment and business, the profits of the firms and public sector earnings are taken into consideration.

National Income is the income of individuals + self employment + profits of firms and public corporate bodies + rent + interest (transfer payments, scholarships, pensions are not included) this includes the sum of the income earned by individuals from various input factors such as rent of land, wages and salaries of employees, interest on capital, profits of entrepreneurs and income of self employed people. This method indicates the income distribution among various income groups of people.

The Expenditure Approach:

In this approach national income is calculated by using the expenditure of individuals, private, government and foreign sectors. i.e. the sum of all the expenditure made on goods and services during a year. i.e.

National Income = Expenditure Of Individuals + Govt. + Private Firms + Foreigners

$$GDP = C + I + G + (X-M)$$

Where,

C = expenditure on consumer goods and services by individuals and households

I = expenditure by private business enterprises on capital goods

G = government expenditure on goods and services (government purchase)

X-M = exports - imports

The Output Approach:

In this approach we measure the value of output produced by firms and other organization in a particular time period. i.e. the National Income = income from agriculture + fishery + forestry + construction + transportation + manufacturing + tourism + water + energy …

Gdp At Market Price + Subsidies –Taxes

Gnp At Factor Cost + Net Income From Abroad

Factors Determining National Income:

1. Quantity of goods and services produced by the country. Higher the quantity of production, higher shall be the national income.
2. Quality of products and services produced in the country will also determine the national income of a country.
3. Innovation of more technical skills will improve the productivity which will reflect on national income of the country.
4. Political stability strengthens the national income of an economy.

Difficulties In The Calculation Of National Income:

1. Any income earned abroad have to be included
2. To avoid double counting, value added method should be considered
3. Services rendered free of charges are not to be included
4. Capital gains, transfer payments are not to be included
5. Changes in price level will also affect the calculation
6. Value of military services will not be taken into consideration.

Problems In Measuring National Income In India:

1. **Non monetized sector:** there are number of sectors in which the wages and salaries are provided in kind, not in monetary measures.
2. **Illiteracy:** due to higher illiteracy rate the results may be biased.

3. **Lack of occupational specification:** we have difficulty in classifying the nature of the job existing in India.
4. **Unorganized productive activities:** people involved in unorganized productive activities are not fully covered in the calculation of national income.
5. **Lack of adequate statistical data:** Inadequate data leads to approximation of the calculation.
6. **Self consumption:** Farm products kept for self consumption are not considered for the national income calculation.
7. **Unpaid Services:** services of house wives are not reckoned as national income.

Uses Of National Income Estimates:

1. National income is a measure of economic growth
2. National income is an indicator of success or failure of planning
3. Useful in estimating per capita income
4. Useful in assessing the performance of different production sectors
5. Useful in measuring inequalities in the distribution of income
6. Useful in measuring standard of living
7. Useful in revealing the consumption behaviour of the society
8. Useful in measuring the level and pattern of investment
9. Makes international comparisons possible

Difficulties Of Comparing National Income:

It is difficult to compare the national income of a country with others due to the difference in population size, working hours of labour force, currency values in the market, consumption pattern of general public, cultural difference and inflationary pressure of the country. Even with all the above mentioned difficulties the GDP is the major economic indicator of an economy.

National Income And Managers:

The managers of various organizations in different sectors follow the national income statistics to take managerial decisions at the firm level. Particularly national income data is useful for the marketing managers, financial managers, production managers, and advertising agents of any firm. The macro level policy makers will also use the data for their decision making. The following chapter provides the details regarding the major economic indicators of India.

Economic Indicators

The Indian economy is estimated to grow at 6.9 per cent in 2011-12, after having grown at the rate of 8.4 per cent in each of the two preceding years. This indicates a slowdown when compared to the previous two years but even during the period 2003 to 2011. Inflation as measured by the wholesale price index (WPI) was higher during most of the current fiscal year, though by the year end there was a clear slowdown. Food inflation, in particular, has come down to around zero, with most of the remaining WPI inflation being driven by non-food manufacturing products. Monetary policy was tightened by the Reserve Bank of India (RBI) during the year to control inflation and curb inflationary pressures. The slowing inflation reflects the lagged impact of actions taken by the RBI and the government. Reflecting the weak manufacturing activity and rising costs, revenues of the centre have remained less than anticipated; and, with higher than-budgeted expenditure, a slippage is expected on the fiscal side.

The global economic environment, which has been tenuous at best throughout the year, turned adversely in September 2011 owing to the turmoil in the Euro zone, and questions about the outlook on the US economy provoked by rating agencies. However, for the Indian economy, the outlook for growth and price stability at this juncture looks more promising. There are signs from some high frequency indicators that the weakness in economic activity has slowed down and a gradual upswing is imminent. The key economic indicators of India for the year 2011-12 are given in the table below.

Table – Key Economic Indicators Of India 2011-2012

0.1 KEY INDICATORS

	Data categories and components	Units	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
1	**GDP and Related Indicators**							
	GDP (current market prices)	₹ crore	4294706	4987090	5630063	6457352[PE]	7674148[QE]	8912178[AE]
	Growth Rate	%	16.3	16.1	12.9	14.7	18.8	16.1
	GDP (factor cost 2004-05 prices)	₹ crore	3564364	3896636	4158676	4507637[PE]	4885954[QE]	5222027[AE]
	Growth Rate	%	9.6	9.3	6.7	8.4	8.4	6.9
	Savings Rate	% of GDP	34.6	36.8	32.0	33.8	32.3	na
	Capital Formation (rate)	% of GDP	35.7	38.1	34.3	36.6	35.1	na
	Per Capita Net National Income (factor cost at current prices)	₹	31206	35825	40775	46117	53331	60972
2	**Production**							
	Foodgrains	Mn tonnes	217.3	230.8	234.5	218.1	244.8	250.4[a]
	Index of Industrial Production[b] (growth)	Per cent	12.9	15.5	2.5	5.3	8.2	3.6[c]
	Electricity Generation (growth)	Per cent	7.3	6.3	2.7	6.1	5.5	9.4[c]
3	**Prices**							
	Inflation (WPI) (52 week average)	%change	6.6	4.7	8.1	3.8	9.6	9.1[d]
	Inflation CPI (IW) (average)	%change	6.7	6.2	9.1	12.4	10.4	8.4[d]
4	**External Sector**							
	Export Growth (US$)	%change	22.6	29.0	13.6	-3.5	40.5	23.5[d]
	Import Growth (US$)	%change	24.5	35.5	20.7	-5.0	28.2	29.4[d]
	Current Account Balance (CAB)/GDP	Per cent	-1.0	-1.3	-2.3	-2.8	-2.7	-3.6[e]
	Foreign Exchange Reserves	US$ Bn.	199.2	309.7	252.0	279.1	304.8	292.8[f]
	Average Exchange Rate	₹/US$	45.25	40.26	45.99	47.44	45.56	47.70[g]
5	**Money and Credit**							
	Broad Money (M3) (annual)	%change	21.3	21.4	19.3	16.8	16.0	14.4[h]
	Scheduled Commercial Bank Credit (growth)	%change	28.1	22.3	17.5	16.9	21.5	16.4[h]
6	**Fiscal Indicators (Centre)**							
	Gross Fiscal Deficit	% of GDP	3.3	2.5	6.0	6.5	4.8[i]	4.6[j]
	Revenue Deficit	% of GDP	1.9	1.1	4.5	5.2	3.2[i]	3.4[j]
	Primary Deficit	% of GDP	-0.2	-0.9	2.6	3.2	1.8[i]	1.6[j]
7	**Population**	Million	1122	1138	1154	1170	1210[k]	na

[AE] GDP figures for 2011-12 are advance estimates; [QE] Quick estimates; [PE] Provisional estimates.
na not available

[a] Second advance estimates.
[b] The Index of Industrial Production has been revised since 2005-06 on base (2004-05=100).
[c] April-December 2011.
[d] April 2011 to January 2012.
[e] CAB to GDP ratio for 2011-12 is for the period April-September 2011.
[f] At end January, 2012.
[g] Average exchange rate for 2011-12 (April 2011-February 2012).
[h] Provisional (upto January 27, 2012).
[i] fiscal indicators for 2010-11 are based on the provisional actuals.
[j] Budget estimates.
[k] Census 2011.

Table – Ratio's Of Savings And Investment To Gdp (At Current Market Price %)

	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10PE	2010-11QE
Gross domestic saving	**32.4**	**33.4**	**34.6**	**36.8**	**32.0**	**33.8**	**32.3**
Public sector	2.3	2.4	3.6	5.0	1.0	0.2	1.7
Private sector	30.1	31.0	31.0	31.8	31.1	33.6	30.6
Household sector	23.6	23.5	23.2	22.4	23.6	25.4	22.8
Financial saving	10.1	11.9	11.3	11.6	10.1	12.9	10.0
Saving in physical assets	13.4	11.7	11.9	10.8	13.5	12.4	12.8
Private corporate sector	6.6	7.5	7.9	9.4	7.4	8.2	7.9
Gross capital formation (investment)	**32.8**	**34.7**	**35.7**	**38.1**	**34.3**	**36.6**	**35.1**
Public sector	7.4	7.9	8.3	8.9	9.4	9.2	8.8
Private sector	23.8	25.2	26.4	28.1	24.8	25.2	24.9
Corporate sector	10.3	13.6	14.5	17.3	11.3	12.7	12.1
Household sector	13.4	11.7	11.9	10.8	13.5	12.4	12.8
Gross fixed capital formation	**28.7**	**30.3**	**31.3**	**32.9**	**32.3**	**31.6**	**30.4**
Stocks	2.5	2.8	3.4	4.0	1.9	2.7	3.3
Valuables	1.3	1.1	1.2	1.1	1.3	1.8	2.1
Saving-investment gap	-0.4	-1.3	-1.1	-1.3	-2.3	-2.8	-2.8
Public sector	-5.1	-5.5	-4.7	-3.9	-8.5	-9.0	-7.1
Private sector	6.3	5.8	4.6	3.7	6.3	8.5	5.8

Source : **CSO.**
Note : **Totals may not tally due to adjustment for errors and omissions.**

The major national savings and investments are shown in the above table. In the past five years public sector savings reduced and on other hand its investment has grown. Household's saving and investment has come down.

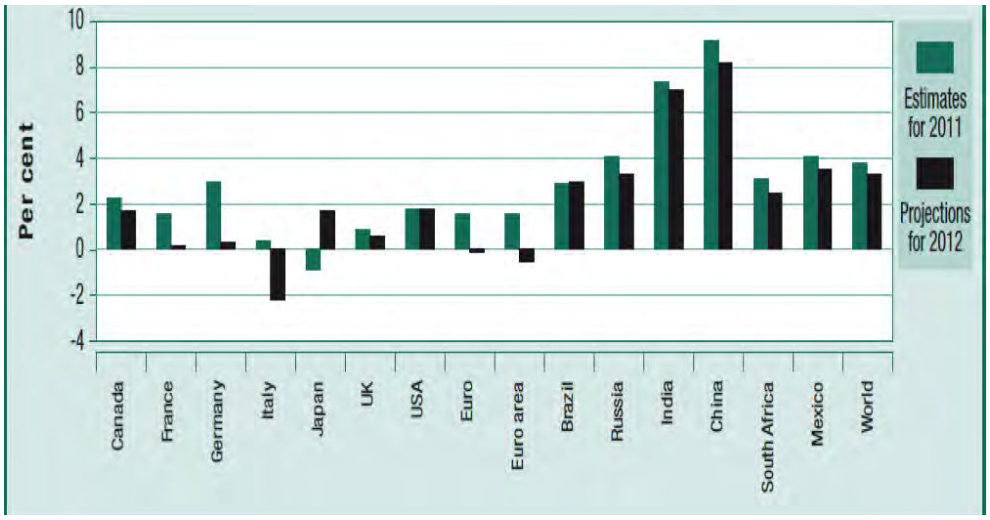
Trend in Sectoral Composition of GDP

Year	Agriculture	Industry	Services
1950-51	53.1	16.6	30.3
1960-61	48.7	20.5	30.8
1970-71	42.3	24.0	33.8
1980-81	36.1	25.9	38.0
1990-91	29.6	27.7	42.7
2000-01	22.3	27.3	50.4
2010-11QE	14.5	27.8	57.7
2011-12AE	13.9	27.0	59.0

***Source*: Calculated from CSO data.**

The sectoral contribution of GDP shows that in the 1950s agricultural sector's contribution was around 53% but now it has come down to 14% . After opening up our economy the service sectors contribution has grown tremendously and it has reached 60%. Industrial growth of our country is very slow with an increase from 16% in 1950 to 27% in 2012.

Graph - Gdp Growth Estimates And Projection



The GDP growth estimates of various countries are given in the above graph. It is found that China's growth rate is nearly 10% followed by India with 7%. Italy and Euro areas have negative growth. It indicates that Asian countries are growing at a faster rate than the Western countries.

Share Of World Gdp

	Advanced economies	US	EU	Euro-zone	UK	Germany	Japan	B	R	I	C	S
						(current prices)						
1980	76.2	26.0	34.1	na	5.1	7.7	10.0	1.5	na	1.7	1.9	0.8
1990	79.7	26.1	31.7	na	4.6	7.0	13.8	2.3	na	1.5	1.8	0.5
2000	79.7	30.9	26.4	19.4	4.6	5.9	14.5	2.0	0.8	1.5	3.7	0.4
2005	76.1	27.7	30.2	22.3	5.0	6.1	10.0	2.0	1.7	1.8	5.0	0.5
2010	65.8	23.1	25.8	19.3	3.6	5.2	8.7	3.3	2.4	2.6	9.3	0.6
						(PPP basis)						
1980	69.0	24.6	31.4	na	4.3	6.7	8.6	3.9	na	2.5	2.2	1.0
1990	69.2	24.7	28.7	na	4.1	6.2	9.9	3.3	na	3.2	3.9	0.9
2000	62.8	23.5	25.0	18.3	3.6	5.1	7.6	2.9	2.7	3.7	7.1	0.7
2005	58.6	22.3	23.0	16.5	3.4	4.4	6.8	2.8	3.0	4.3	9.5	0.7
2010	52.1	19.5	20.4	14.6	2.9	4.0	5.8	2.9	3.0	5.5	13.6	0.7

Source : IMF, WEO database.
Note: PPP is purchasing power parity.

From the above table we can understand that the share of advanced economies in the world GDP is declining. It has reduced from 76% to 66%. whereas in the case of India, it has increased from 1.7% to 2.6%. From this we can conclude that Indian economy is growing and it is expressed in the various economic activities of our country. The major economic indicators are growing at a faster rate. The service sector's contribution towards the economic development of our country is very high, due to this change the

employment opportunities created by this sector has also grown at a faster rate. This is discussed in the following chapters.

Review Questions:

1. Define macro economics.
2. What do you mean by aggregate demand and aggregate supply?
3. What are the major objectives of macroeconomic policies of our country?
4. Discuss the major National Income concepts.
5. Explain the three national income calculation methods.
6. List out the major difficulties and problems in the national income calculation of our country.
7. Mention the uses of national income calculation in the manager's point of view.
8. Give an account of major economic indicators of India.
9. Is there any relationship between GDP and saving and investment of a country?
10. Explain briefly the trend in GDP of India.
11. Explain the managerial uses of knowing macroeconomic indicators of a country.

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Lesson IX Employment And Unemployment In India

Reading Objective:

After reading this lesson the candidate may be able to understand that employment denotes that all able and willing people get a job with suitable remunerations. Whereas, the concept unemployment includes, under employment and disguised unemployment. i.e. the people are not able to get a job commensurate with their qualifications or appear to be employed but the output available because of their employment is either nil or marginal. India is a country which not able to achieve full employment in spite of the efforts made by the Government in different ways. It is experiencing a situation where one side the willing and able people are not able to get a job on the other hand, there are many a positions for which the people are not available.

Lesson Outline:

- Employment and unemployment concepts
- Types of unemployment
- Projection of employment and unemployment of India and the World
- Technology and employment
- Indian technology sector
- Review questions

Introduction:

The principal objective of development planning is human development and the attainment of higher standard of living for the people. This requires a more equitable distribution of benefits of development and opportunities, better living environment and empowerment of the poor and marginalized. There is special need to empower women who can act as catalysts for change. In making the development process inclusive, the challenge is to formulate policies and programmes to bridge regional, social and economic disparities in as effective and sustainable a manner as possible.

The projected increase in total labour force during 11th Plan was 45 million. As against this, 58 million employment opportunities are targeted to be created during the Eleventh Plan. This is expected to reduce unemployment rate to below 5 per cent. The Eleventh Plan emphasizes that the growth in various sectors of the economy can be achieved only if supported by appropriate skill development programmes at various levels. The Eleventh Plan document has spelt out certain deficiencies in the skill development scenario in the country as it exists presently. The thrust of the plan therefore will be on creating a pool of skilled manpower in appropriate number with adequate skills, in line with the requirements of the ultimate users of manpower such as the industry, trade and service sector. Such an effort is necessary to support the employment expansion through inclusive growth including in particular a shift of surplus labour from agriculture to non-agriculture.

The basic weakness in our employment performance is the failure of the Indian economy to create a sufficient volume of additional high quality employment to absorb the new entrants into the labour force while also facilitating the absorption of surplus labour that currently exists in the agricultural sector, into higher wage, non-agricultural employment. A successful transition to inclusive growth requires migration of such surplus workers to other areas for productive and gainful employment in the organized or unorganized sector. Women agricultural workers in families where the male head has migrated, also require special attention ,given the need for credit and other inputs if they are self-employed in agriculture or for wage employment if they do not have land.

As a manager it is essential to understand the concepts related to employment and unemployment. Let us see the basic definitions.

Employment:

When persons are holding a job and they perform for any paid work. Also if workers hold jobs because of illness, strike or vacation, they are considered as employed.

Full Employment:

When 94-95% of them are employed or highest sustainable level of employment over the long run is called as full employment.

Under Employment:

Less than full employment is called as under employment.

Unemployment:

When people are not working and are actively looking for work or waiting to return to work, such a situation may be called as unemployment.

Types Of Unemployment

1. Frictional unemployment: unemployment that occurs naturally during the normal working of an economy. Temporarily caused by inefficient movement of people between regions and jobs, as it takes time for new workers to search and decide for a job. voluntary switching of jobs, fired or seeking re employment
2. Structural unemployment: The change in industrial structure of a country, change in Demand and technology ,change in requirement of skills. Mismatch between demand and supply.
3. Cyclical unemployment: unemployment is more at a particular time that is due to economic recession, depression and others.
4. Technological unemployment: due to change in technology, new production and process leads to reduction in work requirement.

5. Seasonal unemployment: in some industries the work cannot be there through out the years as it is seasonal in nature.
6. Disguised unemployment: lack of work of the type which would fully utilize the degree of skill possessed by the workers.

Various categories like, 'workers', 'unemployed', 'labour force', 'out of labour force' are as explained below:

(a) Workers (or employed): Persons who are engaged in any economic activity or who, despite their attachment to economic activity, have abstained from work for reasons of illness, injury or other physical disability, bad weather, festivals, social or religious functions or other contingencies necessitating temporary absence from work constitute workers. Unpaid helpers who assist in the operation of an economic activity in the household, farm or non-farm activities are also considered as workers. All the workers are assigned one of the detailed activity status under the broad activity category 'working or being engaged in economic activity'.

(b) Seeking or available for work (or unemployed): Persons, who, owing to lack of work, had not worked but either sought work through employment exchanges, intermediaries, friends or relatives or by making applications to prospective employers or expressed their willingness or availability for work under the prevailing condition of work and remuneration are considered as those who are 'seeking or available for work' (or unemployed).

(c) Labour force: Persons who are either 'working' (or employed) or 'seeking or available for work' (or unemployed) during the reference period together constitute the labour force.

(d) Out of labour force: Persons who are neither 'working' and at the same time nor 'seeking or available for work' for various reasons during the reference period are considered to be 'out of labour force'. The persons under this category are students, those engaged in domestic duties, renters, pensioners, recipients of remittances, those living on alms, infirm or disabled persons, too young or too old persons, prostitutes, etc.

Workers have been further categorized as self-employed, regular salaried/wage employee and casual wage labourers. These categories are defined in the following paragraphs.

Self-Employed:

Persons who operate their own farm or non-farm enterprises or are engaged independently in a profession or trade on own-account or with one or a few partners are self-employed in household enterprises. The essential feature of the self-employed is that they have autonomy (i.e., regarding how, where and when to produce) and economic independence (i.e., regarding market, scale of operation and money) for carrying out operation. The fee or remuneration received by them consists of two parts - the share of their labour and profit of the enterprise. In other words, their remuneration is determined wholly or mainly by sales or profits of the goods or services which are produced by themselves. The Indian scenario is given below.

Distribution Of Urban Household Type Per Thousand

Household Type	Estimated Number of Households (in millions)	Per thousand distribution of households
Self-employed	22	331
Regular Wage	21	315
Casual Labour	13	205
Other households	10	149
Total Households	**66**	**1000**

The distribution of employed persons under various broad Industry group is given in the following table. Around 50% of the population are engaged in the primary sectors like agriculture, forestry and fisheries followed by manufacturing and wholesale, retail business. Construction industry and retail business are booming in our country and also provides more employment opportunities in the urban areas. High risk jobs like mining, financing etc.,do not create much employment.

Distribution Of Employed Person By Broad Industry Group Per Thousand

Industrial Classification	Rural	Urban	Rural + Urban
Agriculture, forestry & fishing	576	99	455
Mining & Quarrying	22	15	21
Manufacturing	67	154	89
Electricity etc.	13	33	18
Construction	72	86	75
Wholesale, retail etc.	59	173	88
Transport, storage etc.	28	78	41
Financing, insurance etc	14	61	26
Community services etc.	63	146	84
others	86	155	103
All	1000	1000	1000

From the following table on population, labour force, employment projections in India for the year 2016- 2017 it is observed that the population in the age group of 15-59 is growing along with the total population. The forecast says the employment opportunities to be created in 2016-17 will more. On the other hand the unemployment rate is going to be reduced to 1.12% from 6.06 %. The global trend for the same year is also discussed below.

Population, Labour Force, Employment Projections

('000)

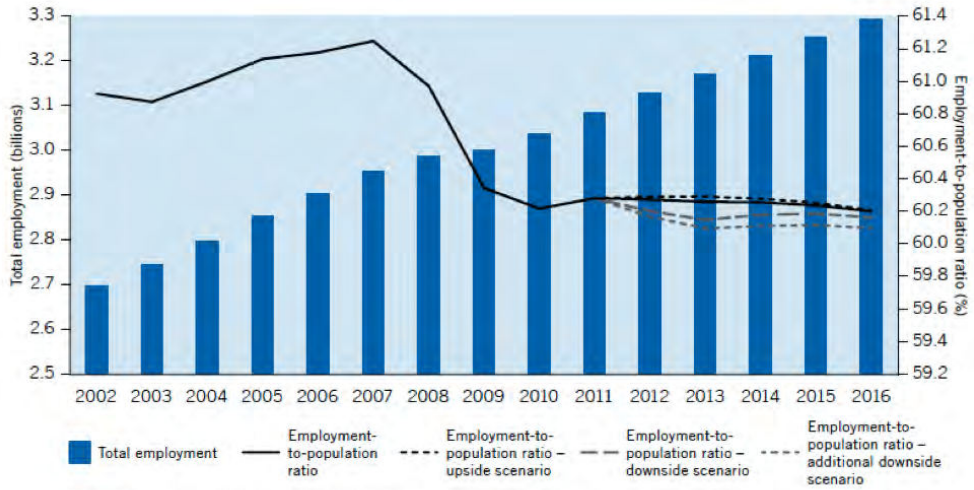
	Basis	1993–94*	2004–05*	2006–07	2011–12	2016–17
Population (age 0+)		893676	1092830	1128313	1207971	1283242
Population (age 15–59)		501760	652940	687120	760110	820570
Labour Force	UPSS	378650	471250	492660	541840	586440
Labour Force	CDS	334197	419647	438948	483659	524057
Employment Opportunities	CDS	313931	384909	402238	460310	51820
Unemployed ('000)	CDS	20266	34738	36710	23348	5853
Unemployment Rate (%)	CDS	6.06	8.28	8.36	4.83	1.12

Note: * Actual estimates derived from NSS.

The following two graphs on employment and unemployment projections for 2016 explains clearly that the total employment opportunities created by the world is going to grow from 3 % in 2002 to 61% in 2016. But on the other hand the employment to population ratio is declining. Due to this decline unemployment rate is growing. Understanding the world trend and the Indian scenario will help managers take various decisions

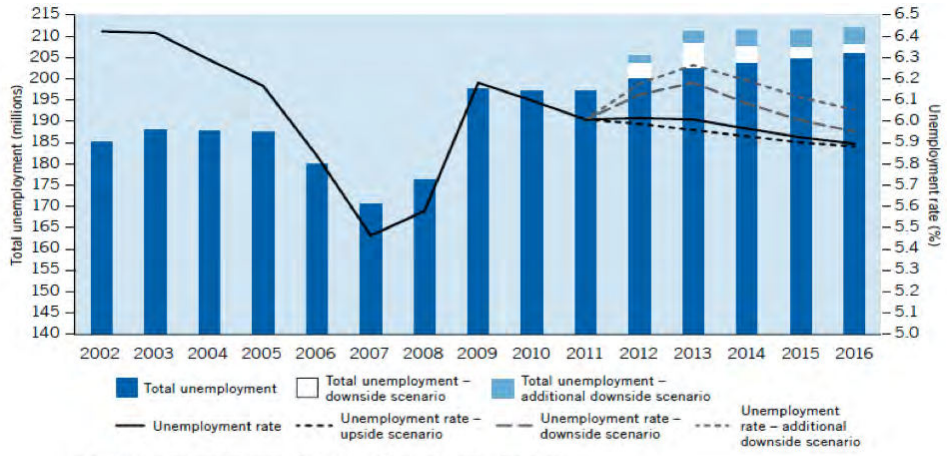
regarding the human resource allocation and availability. But the world employment creation is more towards services sector which consists of more technology oriented jobs. We will understand this in detail in the following chapter.

Global Employment Trends And Projections 2002-2016



Note: 2011 are preliminary estimates; 2012–2016 are preliminary projections.
Source: ILO, *Trends econometric models*, October 2011 (see Annex 4).

Global Unemployment Trends And Projections 2002-2016



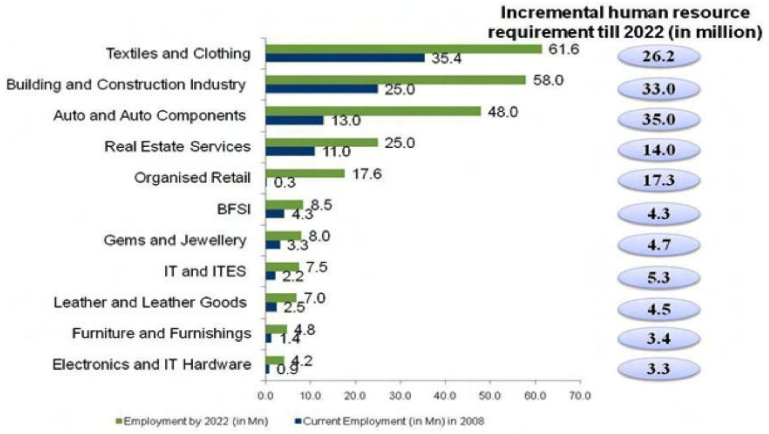
Note: 2011 are preliminary estimates; 2012–2016 are preliminary projections.
Source: ILO *Trends econometric models*, October 2011 (see Annex 4); IMF, *World Economic Outlook*, September 2011.

Technology And Employment

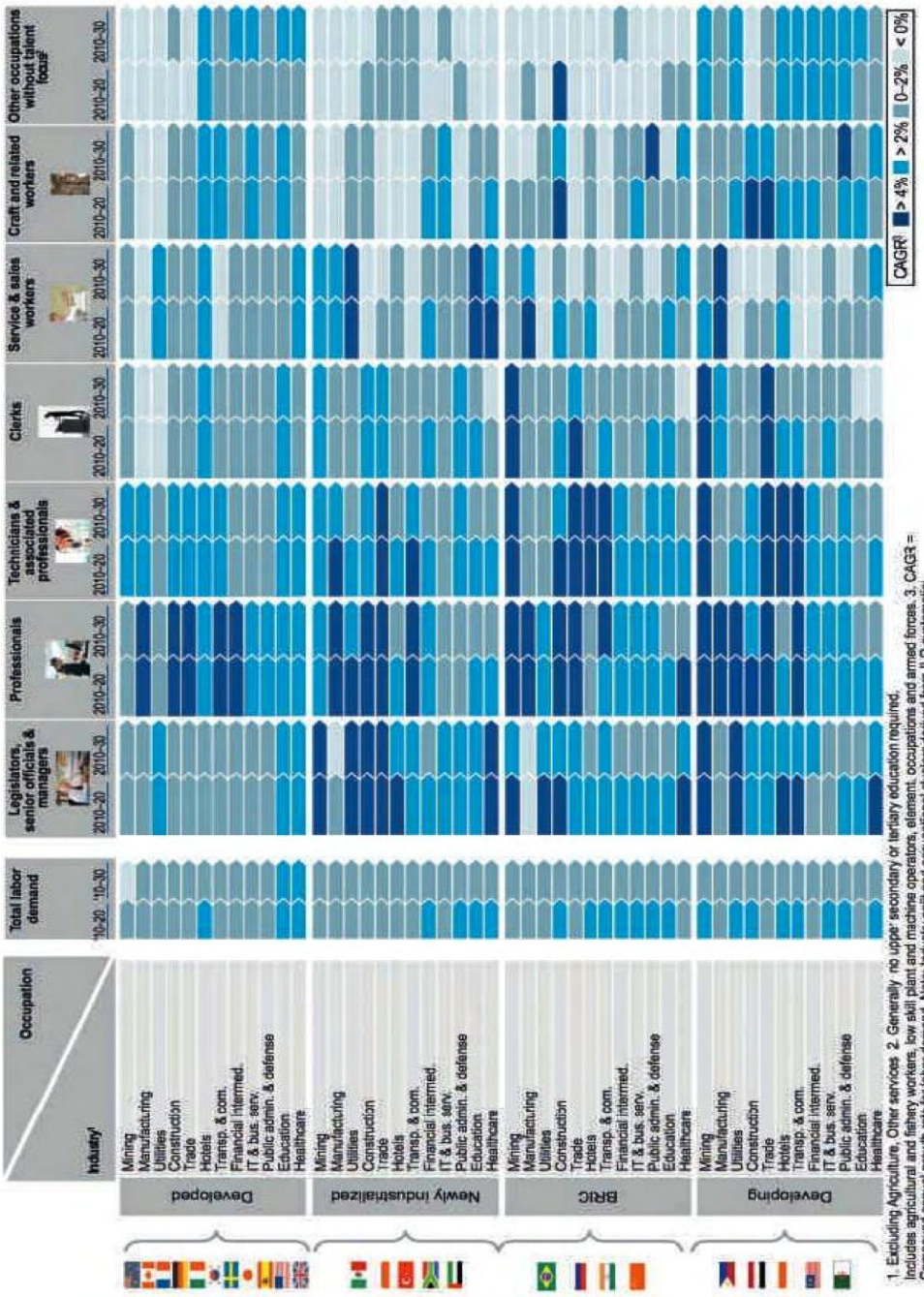
The forecasted demand for IT and IT enabled services are going to grow to the extent of 5.3 million in 2022 which indicates that the technology is going to play a major role in creating employment opportunities in the future. The technology based human requirement of the world is also growing at a faster way. The developing countries like India and other Asian countries have more population particularly, India has the highest young population. India produces more engineers every year therefore the opportunities can be optimally utilized by our country. In the recent past, the BPO organizations mushroomed in India but due to political and economic crisis of USA it has changed now. Therefore the change in economic activities of the world has an impact in determining the employment generation of a country.

The next chapter discusses the economic changes of a country with the help of business cycle model.

Human Resource Requirement In 2022



Source: National Skill Development Corporation (NSDC)



The above table provides detailed information on the human resource requirement in the world. Industry wise regional requirement is forecasted for the year 2030. In developed countries due to aging population for human resource they depend on developing countries like India. Therefore we have potential to cater to their requirement in the future.

The Indian Technology **Sector – A Profile**

- The key contributor to the Services Sector accounting for 5.8% of India's overall GDP
- Among the largest employment generators in the organized sector employing 7.5 million people, estimated to cross the 10 million mark by 2010
- Revenues estimated at USD 71 billion in 2008-09, consistent rise in growth with 5 year compound annual growth (CAGR) at 27%
- Exports constitute two-thirds of overall revenues with a marginally higher 5 year CAGR of 28.7%.The US and UK remain the largest export geographies – 79%, steady expansion of other export destinations notably Continental Europe – CAGR more than 50% over FY 2004-08.
- Domestic IT revenues estimated at USD 24.3 billion, with a 5 year CAGR of 24%.
- Industry's vertical market exposure well diversified across several mature and emerging sectors.
- **BFSI,** Telecom and Manufacturing: Among the top 4 verticals for both export and domest ic market.
- ITeS-BPO sector the fastest growing segment of the IT industry in both the export and domestic market.
- Export earnings in 2008-09 estimated at USD 12.8 billion (a 5 year CAGR of 32.9%)
- Domestic revenues at USD 1.9 billion – a growth of 45.3%

Source: CRISIL, Nasscom

We can conclude that according to NSDC, Nasscom reports the opportunities specifically technology based is growing in a faster rate and in other hand the ageing population of these countries are growing. Therefore India has huge potential of young engineers to cater the needs of developed countries.

Review Questions

1. Define the concepts employment, full employment, under employment and unemployment.
2. Explain briefly the major types of unemployment existing in India.
3. What do you mean by labour force?
4. Who is called as self employed?
5. Give an account on Indian employment scenario.
6. Discuss the global trend and projection on employment and unemployment.
7. What do you understand by observing the distribution of employed by different industry?
8. Discuss the unemployment situation of our country.
9. Is growth in technology creates employment opportunities?
10. As a manager what are the managerial decisions would you like to take in your organization.

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Lesson X Business Cycle

Reading Objective:

After reading this chapter the candidate may be able to understand that the economic conditions are changing cyclically. That is because of the changes in the total demand for certain goods and supply of the same may be due to the change in the technology or taste etc. this may be normally analysed in the form of Depression, Recovery, Boom and Recession. The depression is an economic condition where there is no demand for certain goods and services may be due to the lack of buying power in the hands of the public. The Recovery is a stage where the Governments try to halt the depressionery conditions by injecting buying power in the hands of the public. So that the increased demand will lead to production, employment, income and thus growth in the economy. The Boom period is said to be a prosperous period where economy is at equilibrium at higher level. Recession is the again the sliding stage. The recessionary conditions in America in the recent past and the president Barack Obama's fight with it is a classic example of recession.

Lesson Outline:

- Business cycle
- Characteristic features of business cycle
- Various phases of a business cycle
- Theories on business cycle
- Review questions

Introduction

A study of fluctuations in business activity is called business cycle. Business cycle can be defined as a periodically recurring wave like movements in aggregate economic activity (like national income, employment, investment, profits, prices) reflected in simultaneous, fluctuations in major macro economic variables.

R A Gordon defined business cycle as consisting of "recurring alteration of expansion and contraction in aggregate economic activity, the alternating movements in each direction being self-reinforcing and prevailing virtually all parts of the economy".

Characteristic Features Of Business Cycle:

1. **It occurs periodically:** the fluctuations in economic activities occur periodically but not at a fixed period of interval.
2. **It is international in character:** the changes in any economic activity of a country have impact on economies of the world (for example financial crisis in US had impact on various other countries economic activities).
3. **It is wave like:** the fluctuations indicate ups and downs in various economic indicators of a country.
4. **The process is cumulative:** the process is cumulative in nature, that means change in income level, savings or any other activity will be in aggregates.
5. **The cycles will be similar but not identical:** the cycle has ups and downs but not identical spacing that means the time period of occurrence will differ.

Phases Of A Business Cycle:

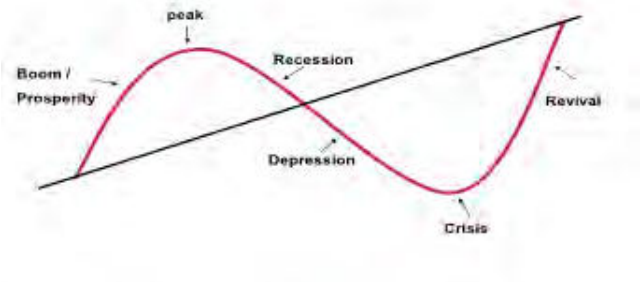
The business cycle has four phases, Boom, Recession, Slump and Recovery. In economics it has been observed that income and employment tend to fluctuate regularly overtime. These fluctuations are known as business cycle or trade cycle.

Peak / Boom: when the economy is booming national income of the country is high and there is full employment, the consumption and investment is high. Tax revenue is high. Wages and profits will also increase. There will be inflationary pressure in the economy.

Recession: when the economy moves into recession, output and income fall leading to a reduction in consumption and investment. Tax revenue begins to fall and government expenditure begins to benefit the society. Wage demands moderate as unemployment rises, import and inflationary pressure declines.

Trough: economic activities of the country are low, mass unemployment exists, so consumption investment and imports will be low. Pricing may be falling (there will be deflation)

Recovery: as the economy moves into recovery, national income and output begin to increase. Unemployment falls, consumption, investment and import begins to rise. Workers demand more wages and inflationary pressure begins to mount.



The fluctuation in the activities is measured with respect to a horizontal line indicating a given steady level of economic activity. However, if the time series reveals a significant long term trend, the vertical deviations of the reported or actual points from the estimated trend line are measured and plotted separately to obtain a clear picture

of the underlying business cycle. Most economic variables go through ups and downs over time and the economy as a whole experience periods of prosperity and periods of recession. The measure of prosperity is the amount of goods/services produced (GDP) during a year. Actual business cycle are measured by changes in real GDP, that is the market value of all the goods and services produced within a nation's borders, with market values measured in constant prices (prices of a specific base year).

Expansion or boom: is the period in the business cycle from a trough up to a peak, during which output and employment rise.
Contractions, recession, or slump: is the period in the business cycle from a peak down to a trough, during which output and employment fall.

Recession: a decline in total output (real GDP) for 2 or more consecutive quarters. Reduction in investment, employment and production, reduction in income, expenditure, prices and profits reduction in bank loans. The business expansion stops that leads to depression.

Depression: the level of economic activity is extremely low. The income, production, employment, prices, profits of the country is very low. Organizations fix low price which leads to low profit, low wages, people suffer, closing down of business.

Recovery: slow increase in output, employment, income and price. Increase in demand, investment, bank loan, advances. This leads to recovery, revival of prosperity.

Theories On Business Cycle:

1. **Sunspot theory / climate theory:** depending on climatic changes agricultural products are produced. Based on the production other ancillary units will function therefore the base for any change in economic activity of the country is climate.
2. **Psychological theory:** during depression or crisis of any business organization it is completely based on the psychology of the entrepreneur as to whether the organization can be revived or shut down.

3. **Monetary theory:** means the demand and supply of money is the primary reason for economic fluctuations of a country.
4. **Over investment theory:** if the organizations and individuals save more and invest a huge amount then their expectations on increase in their returns.
5. **Over savings/ under consumption theory:** As per this theory the increase in savings and investment will bring down the consumption which will reduce the demand for goods in the market.
6. **Innovation theory:** According to this theory more innovations lead to new technology and new business that leads to prosperity in the economy.

There are two types of business cycle models, they are **(i) Exogenous model;** due to economic shocks like war. **(ii) Endogenous model;** trade cycle because of factors which lie within the economic system.

A **monetarist explanation:** business cycles are essentially monetary phenomena caused by changes in the money supply. Change in money supply leads to change in employment and national income which increases the price. The path to an increased price level is cyclical. The link between changes in money supply and changes in income is known as the **transmission mechanism.**

Review Questions:

1. Define Business cycle, list out its characteristic features.
2. Explain various phases of a business cycle.
3. Discuss the theories on business cycle.
4. Explain the managerial uses of business cycle.
5. Are cyclical fluctuations necessary for economic growth?

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Lesson XI Inflation

Reading Objective:

The purpose of studying this chapter is to acquaint with economic phenomenon of rising prices of goods and services. The law of demand states the supply remaining constant whenever the demand increases the prices will grow up. If this happens for a substantially continuous period it is called as inflation. Depending upon the nature of the rise in prices the inflation will be called as a creping inflation, walking inflation, running inflation, galloping inflation and hyper inflation. The tendency of the rise in prices is not always unwanted. In fact the moderate rise in prices may lead to additional investment, production, employment and income. But however the alarming rate of rise in prices may lead to distortions in the economy. It may Rob Paul and Pay Peter. ie It will affect the fixed income group of people and benefit the business community .This rise in the prices will decrease the demand for goods and services and this in turn will lead to fall in demand for production, investments, output, employment, income and the GDP .Therefore there is a need for regulating it.

Lesson Outline:

- Inflation
- Types of inflation
- Effects of inflation
- Methods of controlling inflation
- Review questions

Introduction

Inflation is an economic condition in which the aggregate prices are always increasing in a country. The value of money is falling. Inflation is nothing but too much of money chasing too few goods. For example in Zimbabwe the inflationary rate is too high as more than 1000 % and in turn they require bag full of money for a meal. And the value of their currency is very low in the market. Inflation means not only sustainable rise in the **price of the goods and services,** but the **value of the currency** falls in the market and the **supply of money** in circulation is more.

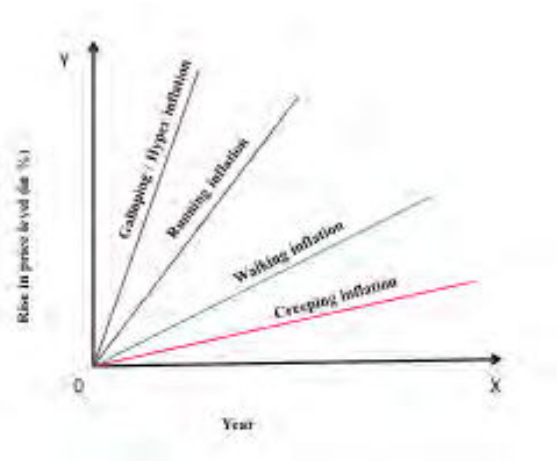
Deflation is the opposite of inflation. It is a state of disequilibrium in which a contraction of purchasing power tends to cause or is the effect of a decline of the price level.

Types Of Inflation On The Basis Of Speed:

1. **Creeping inflation:** the inflationary rate is less than 2% that means prices are increasing gradually.
2. **Walking inflation:** the inflationary rate of a country is around 5% little more than creeping.
3. **Running inflation:** the rate of growth in prices are more i.e. the inflation is growing at the rate of 10%.
4. **Galloping inflation:** higher growth rate compared to the earlier stages i.e. the change is around 25%.

The major four types of inflation is depicted graphically in the following graph. 'X' axis denotes the year and 'Y' axis for rise in price level. Based on the elasticity and slope we can understand over a period of time sustainable inflationary situation leads to higher level of inflation in the economy.

Graph – Types Of Inflation



On The Basis Of Inducement:

1. **Deficit induced:** the deficit in the balance of payments of the country or fiscal deficit is the reasons for inflation. The value of the currency is falling due to the above mentioned reasons.
2. **Wage induced:** due to higher wages and salaries the money supply in the country increases leading to inflation.
3. **Profit induced:** higher the profit the organizations earn, they tend to share with their stakeholders which induces the money supply and reduces the value of money.
4. **Scarcity induced:** the raw material and other input factor scarcity (for example petrol) may induce the price hike in the market.
5. **Currency induced:** the value of currency fluctuates due to various internal and external forces.
6. **Sectoral inflation:** a particular sector of a country may be the reason for economic growth or money supply. (for example in India the growth in service sector particularly IT)
7. **Foreign trade induced:** if the country has unfavorable balance of payments, that means the country's exports are less than the imports, then we need more of foreign currency to make payments to the exporters ultimately this increases the demand for other currencies in the market.
8. **War time, Post war, Peace time:** During war period the government expenditure on various amenities will induce the inflation and the production, availability of the commodities will be low which leads to price hike. To settle down the economy after war or natural calamities the government spending will be more.

On the basis of extent of coverage:

Based on the coverage, economists classify the inflation as open and repressed; Comprehensive and sporadic.

Effects Of Inflation On Various Economic Activities Of The Country:

On Producers: Producers will earn more profit due to higher prices.

On debtors and creditors: Creditors will be happy to receive more returns on their lending.

On wage and salary earners: Wage holders will struggle to purchase the goods and services.

On fixed income group: Income is fixed but the value of the currency is falling and prices are increasing therefore it is difficult to manage the normal life. i.e. they are affected.

On investors: Investors will receive more returns on their investments.

On farmers: Farmers will suffer.

On social, moral and political effects: Due to money supply and higher the cash in hand the social, moral values are declining in the society with political disturbances.

Demand Pull Inflation:

Inflation will result if there is too much spending when compared to output. Aggregate demand is greater than aggregate supply which leads to price hike and inflation. An increase in aggregate demand when the economy is at less than full employment level will result in an increase in both price and output. If the economy is at full employment then the demand will increase which leads to inflation.

Cost Push Inflation:

Inflation is caused by change in the supply side of the economy, it increases cost of production, prices and inflation. Initially increase in costs leads to a chain of wage increases which leads to increase in demand and cost.

Methods Of Controlling Inflation

Control Of Inflation:

It is clear that the inflationary situation in the long run is not going to help the economy to grow. Therefore the Government has to take many steps to overcome this problem. The given list of measures was taken through monetary and fiscal policy of our country and is explained in detail in the following chapters.

1.**Monetary measures :** to control inflation are:

Bank rate
Open market operations
Higher reserve ratio
Consumer credit control
Higher margin requirements

2.**Fiscal measures:**

Regulating to Government expenditure
Taxation
Public borrowing
Debt management
Over valuation of home currency

3.**Others:**

Wage policy
Price control measures and rationing the essential supplies
Moral suasion

Anti Inflationary Measures:

The two important tools of macro level economic policy are monetary policy and fiscal policy. The monetary policy regulates the supply of money and availability of credit in the economy. It deals with both the lending and borrowing rates of interest for commercial banks. These two tools are used to control inflation and mitigate its severity.

Monetary measures: Since too much money is the fundamental problem in the economy, the central banking authorities use various instruments to reduce the money supply and credit.

Fiscal measures: By adopting suitable measures in taxation, public expenditure and borrowing, the government can curb inflation. The following chapter discusses these two measures in detail.

Review Questions

1. What is inflation? What are the types of inflation?
2. Write short note on demand pull inflation and cost push inflation.
3. List out the major factors influencing inflation in India.
4. Explain the effects of inflation on various groups of people in the society.
5. Discuss the causes and control measures of the inflation.

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Lesson XII Monetary Policy

Reading Objective:

After reading this chapter the reader may be able to understand that the monetary policy is the policy of the monetary authority namely central bank of the country to achieve certain goals like controlling the inflation, deflation, obtaining full employment and economic development of the country. The objectives of the monetary policy may change from time to time. In recent past, the people of India were appreciating the Honorable finance minister Mr.P.Chidambaram, Dr.Y.V.Reddy the former Governor, Reserve Bank of India and the Dr.D.Subba Rao the present Governor, Reserve Bank of India for their deft handling of the economic condition of India from without being affected by the global financial meltdown. The Monetary authority of the country has certain tools in its hands and uses it depending upon its understanding of the economic conditions of the country.

Lesson Outline:

- Monetary policy
- Objectives of monetary policy of India
- Instruments of monetary policy
- Limitations of monetary policy
- Review questions

Introduction

Monetary policy is an important economic tool which is used to attain many macroeconomic goals. Monetary policy regulates the supply of money and availability of credit in the economy. It deals with both the lending and borrowing rates of interest of commercial banks. It aims to maintain price stability, full employment and economic growth. Reserve Bank of India (RBI) is responsible for formulating and implementing monetary policy of India. It was announced twice a year (slack season and busy season) but now once in a year. It refers to the credit control measures adopted by the central bank of a country.

The efforts of monetary authorities to increase the benefits of existing monetary system and to reduce the disabilities in the process of economic development and growth can be called the monetary policy of the country.

Objectives Of Monetary Policy Of India:

1. To achieve Price stability
2. To attain Exchange rate stability
3. To avoid the negative impacts of business cycle
4. To experience full employment position

Instruments: The major instruments used to achieve the above said objectives are

Bank rate: The rate of interest charged by the RBI against the commercial bank borrowings. If RBI increases the bank rate from 2% to 3% then the commercial banks rate of interests will go up from for example 7% to 10% which in turn reduce the public borrowings due to higher interests and minimize the money circulation in the country.

Reserve ratio: CRR (Cash Reserve Ratio), SLR (statutory Liquidity Ratio) the RBI insist on commercial banks to keep a certain percentage as reserve in their hands for ensuring liquidity and regulating credit. The RBI can increase the CRR from 3% to 15%. In case when the RBI increases CRR

from 10% to 12% then the availability of money in the hands of banks will come down. Thus the credit creating capacity of the commercial banks will be reduced and money supply in the market also will be regulated.

Open market operation: RBI selling the government securities to the public. In that case instead of having money in the hands the public will receive certificates for a fixed time period and they will receive interest against the same. But the money circulation among the public will be reduced.

Margin requirements: Margin requirement for mortgaging against the loans will be increased to reduce to credit and it will be reduced to increase the credit flow.

Credit rationing: The loans and advances are provided only for production purpose and for essential activities to cut down the money in circulation.

Moral suasion: RBI controls the commercial banks for creating loans and advances by persuasion through issue of circular.

Direct actions: Sometimes RBI takes direct action against the credit created by the banks in contravention of the RBI guide line to overcome the inflationary situation.

Limitations Of Monetary Policy:

1. Monetary policy operates in a broad front
2. Success and failure depends on the banking system of the country
3. It has Institutional restrictions
4. Unorganized money market does not support the monetary policy
5. Existence of non monetized sector also defies RBI's regulation
6. It is not very effective in overcoming depression.

Monetary Policy And Economic Development:

1. Economic development needs the support of credit planning
2. Improving the efficiency of banking system
3. Decide interest rates
4. Public debt management

Monetary policy refers to various decisions and measures of the monetary authorities, state and central bank, influencing money supply and credit situation in the monetary system as a whole with a view to full fill certain macro economic goals. It deals with the cost of credit and the availability of credit. Monetary policy is the attempt by the government or its agent, the central bank, to manipulate monetary variables such as the rate of interest or the money supply to achieve policy goals.

Review Questions:

1. What do you understand by monetary policy?
2. What are the objectives of monetary policy of India?
3. Explain the major instruments of monetary policy of our country.
4. List out the limitations of monetary policy of India.
5. Highlight the current monetary policy of India.

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Lesson XIII Fiscal Policy

Reading Objectives:

The purpose of introducing this part in the managerial economics is to familiarize the candidate about the role played by the Government of the country in fulfilling certain objectives like, economic stability, price stability, achieving full employment, promoting exports and achieving balanced regional growth through the tools like taxation, public barrowing and deficit financing. These tools are mostly used only in its budget proposals it may make clear the minds of the reader that the objectives of the monetary policy and the fiscal policy are more or less the same. Therefore to achieve the goals most often these two are used in combination. The managerial economist while taking their managerial decisions will have to keep in their mind these policies to take wise decisions.

Lesson Outline:

- Fiscal policy
- Objectives of fiscal policy of India
- Key features of Budget 2012-13
- Tax proposals
- Receipts and expenditure of the government of India
- Review questions

Introduction:

Fiscal policy is defined as the conscious attempt of the government to achieve certain macro economic goals of policy by altering the volume and pattern of its revenue and expenditures and the balance between them. The major economic goals of fiscal policy are to maintain a high average level of employment and business activity, to minimize fluctuations in employment activity, prevent inflation and to produce and promote economic growth.

The fiscal policy is used to control inflation through making deliberate changes in government revenue and expenditure to influence the level of output and prices. It is a budgetary policy. Fiscal policy is the use of government taxes and spending to alter macroeconomic outcomes of the country. During the great depression of the 1930s people were out of work, they were unable to buy goods and services therefore government had to increase, to regulate macroeconomic values and money supply.

The use of government spending and taxes to adjust aggregate demand is the essence of fiscal policy. The simplest solution to the demand shortfall would be to increase government spending. The government increases it's spending through construction of tanks, schools, highways. This increased spending is a fiscal stimulus. Economic stability is a macro goal of the fiscal policy of a country whether developed or developing. By economic stabilization it means; controlling recession or depression and price stability.

Objectives Of Fiscal Policy:

1. To maintain economic stability in the country
2. To bring Price stability
3. To achieve full employment
4. To provide social justice
5. To promote export and introduce import substitution
6. To mobilize more public revenue
7. To reallocate available resources
8. To achieve balanced regional growth.

Instruments:

The major instruments to be used to control inflation and to achieve the above said objectives are (i) Taxation (ii) Public borrowings (iii) Deficit financing.

Fiscal policy deals with the government expenditure and its composition. Government expenditures are classified into two categories as capital expenditure and consumption expenditure. The spending on construction of road, dams and others are called as capital expenditure. Government expenditure on consumption of goods and services are called as consumption expenditure. The interest paid by the government against the borrowings or national debt is called as interest payment. Governments' transfer of money from one sector to other is called Transfer of payments.

Key Features Of Budget 2012-2013

For Indian economy, recovery was interrupted this year due to intensification of debt crises in Euro zone, political turmoil in Middle East, rise in crude oil price and earthquake in Japan. GDP is estimated to grow by 6.9 per cent in 2011-12, after having grown at 8.4 per cent in preceding two years. Growth moderated and fiscal balance deteriorated due to tight monetary policy and expanded outlays. Manufacturing sectors are under recovery period. The 12th five year plan is to be launched with the aim of "faster, sustainable and more inclusive growth".

Budget Estimates 2012-13

The major estimates are:

1. Gross Tax Receipts estimated at `10,77,612 crore.
2. Net Tax to Centre estimated at `7,71,071 crore.
3. Non-tax Revenue Receipts estimated at `1,64,614 crore.
4. Non-debt Capital Receipts estimated at `41,650 crore.

Temporary arrangement to use disinvestment proceeds for capital expenditure in social sector schemes extended for one more year. Total expenditure for 2012-13 budgeted at 14,90,925 crores. Plan expenditure

for 2012-13 at 5,21,025 crore is 18 per cent higher than Budget Expenditure of 2011-12. This is higher than 15 per cent projected in Approach to the Twelfth Plan. Non-plan expenditure estimated at 9,69,900 crore. 3,65,216 crore estimated to be transferred to States including direct transfers to States and district level implementing agencies. Entire amount of subsidy is given in cash and not as bonds in lieu of subsidies. Fiscal deficit has reduced from 5.9 to 5.1 per cent of GDP in 2012-13. Net market borrowing required to finance the deficit to be 4.79 lakh crore in 2012-13. Central Government debt is 45.5 per cent of GDP in 2012-13 as compared to Thirteenth Finance Commission target of 50.5 per cent. Effective Revenue Deficit to be 1.8 per cent of GDP in 2012-13.

Tax Proposals On Direct Taxes:

1. Exemption limit for the general category of individual taxpayers proposed to be enhanced from 1,80,000 to 2,00,000 giving tax relief of 2,000.
2. The upper limit of 20 per cent tax slab proposed to be raised from `8 lakh to `10 lakh.
3. Proposal to allow individual tax payers, a deduction of upto `10,000 for interest from Savings bank accounts and upto 5,000 for preventive health check up.
4. Senior citizens not having income from business, proposed to be exempted from payment of advance tax.
5. Restriction on Venture Capital Funds to invest only in 9 specified sectors proposed to be removed.
6. Proposal to continue to allow repatriation of dividends from foreign subsidiaries of Indian companies at a lower tax rate of 15 per cent upto 31.3.2013.
7. Investment link deduction of capital expenditure for certain businesses proposed to be provided at the enhanced rate of 150 per cent.
8. New sectors to be added for the purposes of investment linked deduction.
9. Proposal to extend weighted deduction of 200 per cent for R&D

expenditure in an in house facility for a further period of 5 years beyond March 31, 2012.

10. Proposal to provide weighted deduction of 150 per cent on expenditure incurred for Agri-extension services.
11. Proposal to extend the sunset date for setting up power sector undertakings by one year for claiming 100 per cent deduction of profits for 10 years.
12. Turnover limit for compulsory tax audit of account and presumptive taxation of SMEs to be raised from `60 lakhs to `1 crore.
13. Exemption from Capital Gains tax on sale of residential property, if sale consideration is used for subscription in equity of a manufacturing SME for purchase of new plant and machinery.
14. Proposal to provide weighted deduction at 150 per cent of expenditure incurred on skill development in manufacturing sector.
15. Reduction in securities transaction tax by 20 per cent on cash delivery transactions.
16. Proposal to extend the levy of Alternate Minimum Tax to all persons, other than Companies, claiming profit linked deductions.
17. Proposal to introduce General Anti Avoidance Rule to counter aggressive tax avoidance scheme.
18. Measures proposed to deter the generation and use of unaccounted money.
19. A net revenue loss of `4,500 crore estimated as a result of Direct Tax proposals.

Indirect Taxes

Service Tax

Service tax confronts challenges of its share being below its potential, complexity in tax law, and need to bring it closer to Central Excise Law for eventual transition to GST. Overwhelming response to the new concept of taxing services based on negative list.

1. Proposal to tax all services except those in the negative list comprising of 17 heads.
2. Exemption from service tax is proposed for some sectors.
3. Service tax law to be shorter by nearly 40 per cent.
4. Number of alignment made to harmonize Central Excise and Service Tax. A common simplified registration form and a common return comprising of one page are steps in this direction.
5. Revision Application Authority and Settlement Commission being introduced in

Service Tax for dispute resolution.

6. Utilization of input tax credit permitted in number of services to reduce cascading of taxes.
7. Place of Supply Rules for determining the location of service to be put in public domain for stakeholders' comments.
8. Study team to examine the possibility of common tax code for Central Excise and Service Tax.
9. New scheme announced for simplification of refunds.
10. Rules pertaining to point of taxation are being rationalized.
11. To maintain a healthy fiscal situation proposal to raise service tax rate from 10 per cent to 12 per cent, with corresponding changes in rates for individual services.
12. Proposals from service tax expected to yield additional revenue of `18,660 crore.

Other Proposals For Indirect Taxes

13. Excise duty on large cars also proposed to be enhanced. No change proposed in the peak rate of customs duty of 10 per cent on nonagricultural goods.
14. To stimulate investment relief proposals for specific sectors - especially those under stress.

Agriculture and Related Sectors: Basic customs duty reduced for certain agricultural equipment and their parts; Full exemption from basic customs duty for import of equipment for expansion or setting up of fertilizer projects up to March 31, 2015.

Infrastructure: Proposal for full exemption from basic customs duty and a concessional CVD of 1 per cent to steam coal till 31st March, 2014. Full exemption from basic duty provided to certain fuels for power generation.

Mining: Full exemption from basic customs duty to coal mining project imports. Basic custom duty proposed to be reduced for machinery and instruments needed for surveying and prospecting for minerals.

Railways: Basic custom duty proposed to be reduced for equipments required for installation of train protection and warning system and upgradation of track structure for high speed trains.

Roads: Full exemption from import duty on certain categories of specified equipment needed for road construction, tunnel boring machines and parts of their assembly.

Civil Aviation: Tax concessions proposed for parts of aircraft and testing equipment for third party maintenance, repair and overhaul of civilian aircraft.

Manufacturing: Relief proposed to be extended to sectors such as steel, textiles, branded readymade garments, low-cost medical devices, labour-intensive sectors producing items of mass consumption and matches produced by semi-mechanized units.

Health and Nutrition: Proposal to extend concessional basic customs duty of 5 per cent with full exemption from excise duty/CVD to 6 specified life saving drugs/vaccines. Basic customs duty and excise duty reduced on Soya products to address protein deficiency among women and children. Basic customs duty and excise duty reduced on Iodine. Basic customs duty reduced on Probiotics.

Environment: Concessions and exemptions proposed for encouraging the consumption of energy-saving devices, plant and equipment needed for

solar thermal projects. Concession from basic customs duty and special CVD being extended to certain items imported for manufacture for hybrid or electric vehicle and battery packs for such vehicles. There is a proposal to increase basic customs duty on imports of gold and other precious metals.

Additional Resource Mobilization

Proposals to increase excise duty on 'demerit' goods such as certain cigarettes, hand-rolled bidis, Pan Masala, Gutkha, chewing tobacco, unmanufactured tobacco and zarda scented tobacco. Cess on crude petroleum oil produced in India revised to `4,500 per metric tonne. Basic customs duty proposed to be enhanced for certain categories of completely built units of large cars/MUVs/SUVs.

Central Outlay By Sectors (In Crores)

Sectors	Budget outlay
Agriculture	14855
Rural development	48128
Irrigation	489
Energy	155495
Industry and minerals	40581
Transport	109205
Communication	11994
Science & technology and environment	12713
General economic services	1942
Social services	148060
General services	5536
Total	**558172**

The above table indicates that the central outlay for year 2012-13. It is clear that the highest amount spent on energy which is the need of the hour followed by social services and transportation. But in other hand the amount spent on irrigation is very low.

Receipts And Expenditure Of The Government Of India

The Receipts And Expenditure Of The Central Government

	2006-07	2007-08	2008-09	2009-10*	2010-11 (BE)	2010-11 (P)	2011-12 (BE)
				(₹ crore)			
1. Revenue receipts (a+b)	434387	541864	540259	572811	682212	794277	789892
(a) Tax revenue (net of States' share)	351182	439547	443319	456536	534094	572790	664457
(b) Non-tax revenue	83205	102317	96940	116275	148118	221487	125435
2. Revenue expenditure	514609	594433	793798	911809	958724	1039130	1097162
of which:							
(a) Interest payments	150272	171030	192204	213093	248664	234738	267986
(b) Major subsidies	53495	67498	123581	135508	109092	131212	134411
(c)Defence expenditure	51682	54219	73305	90669	87344	92386	95216
3. Revenue deficit (2-1)	80222	52569	253539	338998	276512	244853	307270
4. Capital receipts	149000	170807	343697	451676	426537	404642	467837
of which:							
(a) Recovery of loans	5893	5100	6139	8613	5129	12752	15020
(b) Other receipt (mainly PSU disinvestment)	534	38795	566	24581	40000	22847	40000
(c) Borrowings and other liabilities $	142573	126912	336992	418482	381408	369043	412817
5. Capital expenditure	68778	118238	90158	112678	150025	159789	160567
6. Total expenditure [2+5=6(a)+6(b)]	583387	712671	883956	1024487	1108749	1198919	1257729
of which:							
(a) Plan expenditure	169860	205082	275235	303391	373092	377350	441547
(b) Non-plan expenditure	413527	507589	608721	721096	735657	821569	816182
7. Fiscal deficit [6-1-4(a)-4(b)]	142573	126912	336992	418482	381408	369043	412817
8. Primary deficit [7-2(a)]	-7699	-44118	144788	205389	132744	134305	144831
				(As per cent of GDP)			
1. Revenue receipts (a+b)	10.1	10.9	9.6	8.9	9.8	10.4	8.9
(a) Tax revenue (net of States' share)	8.2	8.8	7.9	7.1	7.7	7.5	7.5
(b) Non-tax revenue	1.9	2.1	1.7	1.8	2.1	2.9	1.4
2. Revenue expenditure	12.0	11.9	14.1	14.1	13.8	13.5	12.3
of which:							
(a) Interest payments	3.5	3.4	3.4	3.3	3.6	3.1	3.0
(b) Major subsidies	1.2	1.4	2.2	2.1	1.6	1.7	1.5
(c) Defence expenditure	1.2	1.1	1.3	1.4	1.3	1.2	1.1
3. Revenue deficit (2-1)	1.9	1.1	4.5	5.2	4.0	3.2	3.4
4. Capital receipts	3.5	3.4	6.1	7.0	6.2	5.3	5.2
of which:							
(a) Recovery of loans	0.1	0.1	0.1	0.1	0.1	0.2	0.2
(b) Other receipt (mainly PSU disinvestment)	0.0	0.8	0.0	0.4	0.6	0.3	0.4
(c) Borrowings and other liabilities $	3.3	2.5	6.0	6.5	5.5	4.8	4.6
5. Capital expenditure	1.6	2.4	1.6	1.7	2.2	2.1	1.8
6. Total expenditure [2+5=6(a)+6(b)]	13.6	14.3	15.7	15.9	16.0	15.6	14.1
of which:							
(a) Plan expenditure	4.0	4.1	4.9	4.7	5.4	4.9	5.0
(b) Non-plan expenditure	9.6	10.2	10.8	11.2	10.6	10.7	9.2
7. Fiscal deficit [6-1-4(a)-4(b)]	3.3	2.5	6.0	6.5	5.5	4.8	4.6
8. Primary deficit [7-2(a)]	-0.2	-0.9	2.6	3.2	1.9	1.8	1.6
Memorandum items				(₹ crore)			
(a) Interest receipts	22524	21060	20717	21756	19253	22064	19578
(b) Non-plan revenue expenditure	372191	420861	559024	657925	643599	726767	733558

Sources : Union Budget documents and Controller General of Accounts.
BE-Budget estimates P: Provisional actuals (unaudited)
* Based on provisional actuals for 2009-10.
$ Does not include receipts in respect of the Market Stabilization Scheme, which will remain in the cash balance of the Central Government and will not be used for expenditure.
Notes : 1. The ratios to GDP at current market prices are based on the CSO's National Accounts 2004-05 series.
2. The figures may not add up to the total due to rounding/approximations.

The table shows the various receipts and expenditure of the government which implies that the revenue earned through tax or non tax

sources are growing year after year. It is estimated to have more revenue deficit. The revenue deficits are lesser than the fiscal deficit of the country. The detailed schedule with the percentage change is discussed in the table.

It is concluded that both monetary and fiscal policies are complementary. The monetary policy influences the money supply, currency and deposits in banks and the cost of borrowing it. Fiscal policy is concerned with money which flows in and out of the treasury by means of taxation, public borrowings, government expenditures and management of public debt. There fore without coordination of both the policies, in developing economy the desired objectives cannot be realized.

Review Questions

1. What do you mean by fiscal policy?
2. Briefly explain the instruments of fiscal policy.
3. Give the highlights of the current budget 2012-13.
4. Discuss the central outlay by major sectors.
5. Describe the current receipts and expenditure of central government of India.

Exercises:

(a) Suppose that you are a member of the Board of Governors of the RBI. The economy is experiencing a sharp and prolonged inflationary trend. What changes in

(i) Reserve Ratio

(ii) The discount rate and

(iii) Open market operations

Would you recommend? Explain in each case as to how the changes you advocate would affect commercial bank reserves, the money supply, interest rates and aggregate demand.

(b) Suppose that you are a member of the Board of Governors of the RBI. The economy is experiencing a sharp and prolonged inflationary trend. What changes in a) reserve ratio b) the discount rate and c) open market operation would you recommend? Explain in each

case how the change you advocate would affect commercial bank reserves, the money supply, interest rates and aggregate demand.

(c) Given the following data about the economy:

Consumption	7000
Investment	5000
Proprietor's income	2500
Corporate income taxes	2150
Government expenses	3000
Profits	2500
Wages	7000
Net exports	2750
Rents	250
Depreciation	250
Indirect business taxes	1000
Undistributed corporate profits	600
Net foreign factor income	30
Interest	1500
Social security contribution	0
Transfer payments	0
Personal taxes	1650

i. Calculate GDP and GNP with both the expenditure and income approach
ii. Calculate NDP, NNP,NI and Domestic income
iii. Calculate Personal income.
iv. Calculate Disposable Personal income.

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CHAPTER V

Lesson XIV Economic Environment And Transition In Indian Economy

- Economic growth and development
- Sources of economic growth and development
- Pre and post transition
- Liberalization
- Privatization
- Globalization
- Review questions

Introduction

Economic growth is the foremost objective of macroeconomic policies. Higher the economic growth higher the national income which will help solve problems of poverty, unemployment, inflation, and international trade of a country.

$$\text{Growth rate} = \frac{Y}{P}$$

Y = real income (NNP at factor cost)
P = population

Economic growth implies more output and economic development implies both increase in output and changes in the technology and institutional arrangement by which it is produced. Input efficiency leads to growth, allocation of input by sector leads to development. Economic development is the outcome of conscious and deliberate efforts involved in planning. Economic growth signifies the progress of an economy under the stimulus of certain favorable circumstances.

Sources Of Economic Growth And Development:

Economic Factors:

1. Natural resources: Without natural resources it is difficult to achieve economic development. It highly depends on factor endowment.
2. Human Resource and population growth: Labour is the most active factor of production. Therefore sufficient number of quality labour force is essential.
3. Capital formation and accumulation: Economic growth is a function of capital formation of a country. Without capital mobilization it is impossible to develop the economy.
4. Technological progress: Advancement of technology is a key factor for development and it helps to utilize resources in an effective manner.
5. Entrepreneurship: Without strong risk taking entrepreneurs an

industry cannot innovate and introduce new products to the society.

6. Investment criteria: The investment policy and regulation of a country improves the investment and in turn helps the economy to grow at a faster rate.
7. Removal of market imperfection: To develop a countries economy removal of imperfect market and reducing monopoly market are essential.
8. Capital output ratio: High capital output ratio indicates the increase in productivity of capital invested.

Non Economic Factors:

1. Desire for development: Desire to grow in the right direction is important for the economic development of a country.
2. Widespread education: The growth in the educational sector will help the society to grow at a faster rate.
3. Social and industrial reforms: Liberal social system, and reduced disparity helps the economy to grow.
4. Good government: Establishment of consistent law and order is essential to grow internationally.

Pre Requisites Of Economic Growth:

1. Population growth
2. Removal of monopoly
3. Optimum utilization of resources
4. Development planning and
5. Financial stability

Meier and Baldwin have listed the following areas as important for government action

1. Government may establish markets
2. Government may establish enterprises at high risk and low profit .
3. Government direction is needed to promote external economies for balanced growth.

The Government of India set up the Central Statistical Organization

(CSO) to monitor the economic growth and expenditure of various goods and services. The available data from CSO provides the valuable information on the ongoing economic transition in India.

Table – Government Outlay (1950 – 2011)

	Year	GNP	NNP	PCNNP
I plan	1951-56	1.8	1.5	-0.3
II plan	1956-61	9.5	9.4	7.3
III plan	1961-66	9.6	9.5	3.1
Three annual plans	1966-69	12.2	12.2	9.8
IV plan	1969-74	11.1	11	8.5
V plan	1974-79	10.7	10.4	7.9
Annual plan	1979-80	9.4	8.3	5.7
VI plan	1980-85	15.2	15.1	12.7
VII plan	1985-90	14.4	14.2	11.8
Two annual plans	1990-92	15.7	15.5	13.2
VIII plan	1992-97	16.3	16.3	14
IX plan	1997-2002	10.7	10.8	8.8
X plan	2002-2007	12.6	12.4	10.7

Pre Transition:

The economic scenario provided before the adoption of the New Economic Policy were,

1. **Highly autarkic economy:** India was experiencing autarky and closed economic system.
2. **Centralized planning:** All economic plans were centralized and controlled at the centre.
3. **Protectionist trade policies:** Trade policy was closed and not opened to the world. I.e. it was following a protectionist trade policy.
4. **High tariffs and non tariff barriers:** India had high level of tariff and non tariff trade barriers
5. **Capital controls:** The capital market was controlled by the government of India.

6. **Import substitution:** Our country had been adopting import restrictions with large import substitutions.
7. **State owned public sector industries:** Most of the industries were owned by the central or state government before economic reforms.
8. **State controlled financial sector:** The financial sector was controlled and monitored by the government.
9. **Import Restrictions:** Reservation policies like quota system were followed for imports.
10. **Regulated markets:** Market for all commodities was regulated by the government.
11. **Administrative prices:** Market price was regulated with the help of price ceiling and by adopting dual pricing policy.

Post Transition:

The economic scenario prevailing as on date i.e. after the adoption of the New Economic Policy in India after 1991 are:

1. Deregulation and liberalization of the Industries
2. Lowering of the tariffs and easing of import licensing requirements.
3. Export incentives were provided to the exporters to promote exports.
4. Special Economic Zones were established to promote exports and encourage exports.
5. Single window licensing policy.
6. Declining incidence of poverty.
7. Divestment of public sector units.
8. Liberalization of the banking and financial sectors.
9. Promotion of Foreign Direct Investments.
10. Tax incentives for capital investment in domestic and foreign markets
11. Managed exchange rate in the place of controlled exchange rate.
12. Portfolio investment strengthened.

Barriers To The Faster Economic Growth:

1. **Low productivity levels:** The economy was opened up but the productivity level was low to compete in the market.
2. **Infrastructure deficiencies:** Infrastructure facilities of our country have not fully improved to meet the targeted economic growth.
3. **Rising public sector debts:** The government borrowings and accumulated debt were high.
4. **High subsidies fostering inefficiency:** Government provided more subsidies which in turn increased the inefficiency of the organizations.
5. **Low literacy levels:** The literacy rates have not increased at a faster rate to compete in the open economy.
6. **Demographic deficiencies:** The demographic deficiencies, did not support the transitional policies of our country.
7. **Rigid labour laws:** The labour laws were not favorable to bring in more Human Resource
8. **Functioning of judicial system:** Our legal environment also has not been supportive towards the liberalization of the country.
9. **Campaigns against cultural consumerism:** Due to transition the consumer behaviour of the society has changed and hence we are able to see the cultural commonality, and also campaigns against the cultural consumerism.
10. **Corruption:** Along with economic changes corruption has been pervasive at all levels and has increased.

Growth Potentials Of The Indian Economy Especially After Transition:

1. **Large potential markets:** Both urban and rural markets of India are growing at a faster rate.
2. **Booming IT and Biotech sectors:** India occupies a leading position in the world in these sectors.
3. **Highly professional and scientific manpower:** India is having the third largest technically qualified man Power.
4. **Trend towards political decentralization:** Now the trend has started towards decentralization.

5. **Dominant player in south Asian region in certain areas of economic activity.**
6. **Competitive Environment has already set in almost all spheres of life.**

Inspite of all the above stated barriers India has great potential to grow in the future. The major reasons for the growth of the economy are liberalization of our economy followed by privatization and globalization.

Liberalisation, Privatisation And Globalisation (LPG)

Need For Liberalization:

India has vast natural resources and abundant manpower but our contribution in the world trade is less than 1%. India has low Per capita income and Net National product. To improve the same, liberalization has been recommended. Under the direction of the former Prime Minister P.V. Narashima Rao the economic reform process was resorted to improve the position of the Indian economy in the world and to solve the problems of trade deficit.

Path To Liberalization:

The Government has to release the economy from the restrictive rules and regulations followed earlier. It was appropriate on the part of the government of India to implement globalization strategy to pave the way for economic liberalization.

The Liberalization, Privatization and Globalization (LPG) model was developed in 1991 by the then finance minister Dr. Manmohan singh under the direction of the Prime Minister Shri.P.V.Naraimha Rao . Structural changes in the Indian economy were :

1. End of the private sector: The government decided to transfer the loss making public sector units to the private, but there were no takers, therefore the government went for disinvestment of the public enterprises including profit making units.
2. Government permitted private sector to set up individual units without license.

3. The investment ceiling was lifted and hence the private investment could go up to any level.
4. The Government approved up to 51% FDI. No permission was required for hiring foreign technicians and technology.
5. Rehabilitation schemes to reconstruct the sick public sector enterprises. (board for industrial and financial reconstruction) BIFR was established.
6. Greater autonomy was given to manage Public sector units.
7. Economy was opened to other countries to encourage exports. Therefore it encouraged private participation and expected the rise in exports from India.

Reasons For Implementing The Policy Of Liberalization, Privatization And Globalization:

1. Excess consumption and expenditure over revenue have been experienced resulting in heavy government borrowings.
2. Growing in-efficiency in the use of resources.
3. Mismanagement of firms and the economy.
4. Losses of public sector enterprises.
5. Various distortions like poor technological development, shortage of foreign exchange, borrowing, mismanagement of foreign exchange reserves etc., have distorted the Economic growth.
6. Low foreign exchange reserves.
7. Burden of national debt and
8. Inflationary pressure on the economy.

Weakness Of LPG Model:

The major weaknesses of India's LPG model were:

1. Narrow focus
2. Free entry of MNCs
3. Agricultural sector was bypassed
4. Facilitated more imports
5. Capital intensive development

Liberalization:

Relaxation of government restriction in social and economic policies was called as liberalization. **Trade liberalization** means removing the tariff restriction on the flow of goods and services between countries. Liberalization is a pre requisite for privatization. Capital market should be developed to absorb the changes. In India the people were allowed to start their business without getting license except in limited fields. Due to this, a number of firms have been started domestically which increased the production and expanded the market.

Privatization:

Privatization means transfer of assets or service functions from public to private ownership through franchising, leasing, contracting and divesture. Disinvestment means disposal of public sector units, equity to the private sectors. Privatization helps the public sector to modernize, diversify and make their business more competitive. It increases managerial efficiency of the organization and revives sick units. But it may result in income inequality, causing difficulty in maintaining social justice and public welfare.

Privatization means sale of nationalized industrial units to the private sector and transferring the revenue available from the public sector to the private sector by adopting any one of the following methods.

1. Sale of part of nationalized industries to the private
2. Sale of individual assets of Government bodies to the private
3. Creation of competitive spirit of the private sector to the state enterprises.

Arguments In Favor Of Privatization:

1. **Cost:** Private sector has productive efficiency therefore their cost of production have been less than the cost of the goods produced in the public enterprises.
2. **Choice and quality:** Private sector spends more on R&D and they can produce more variety with better quality and offer more

choice to the customers, due to their allocative efficiency.

3. **Innovation:** Private sectors have efficiency in innovating new models.
4. **The Invisible hand of the market:** Free market forces will ensure the optimal allocation of resources.
5. **Wider share of ownership:** The ownership of the business is well spread throughout the country and not held in one or in a few hands.
6. **Reduction in public borrowing and state spending:** Privatization reduces the government borrowings and spending.

Problems Of Privatization

Privatization created more monopoly in the market and inequality in pricing which had led to negative externalities. Only through creation of competition and with regulatory measures we can control and minimize the problems of privatization in the economy.

Why should government own and run firms?

Lower cost: Public sector organizations were productively efficient and have economies of scale.
Better management: Government organizations have better management system than private.
Control of monopolies: Public sector enterprises will reduce and control the monopoly market.
Maximum benefit: Government provides maximum of net social benefits and not profit.
Greater control of the economy: Public sector can control the economy to a greater extent.
Fair distribution of resources: The available resources are allocated in an effective manner.

Apart from the above mentioned reasons Public sector is more efficient than private organizations. Private enterprises exploit workers and consumers more than the public sector enterprises. Profit is not the sole motive for public sector enterprises.

Globalization

Globalization means integrating the domestic economy with the world economy, moving towards a new world economic order which leads to integrated financial markets and trade. Globalization improves the effective allocation of resources and expenditure of a country along with economic growth. Globalization has helped developed countries more than the developing countries. Globalization has completely transformed the way Indian business used to operate.

Globalization is a process of integration of the world into one market by removal of all the political, geographical trade and business barriers among nations. Indian businesses should formulate the following strategies to overcome the challenges posed by globalization.

1.Behavioral strategy: continuous up gradation of skills, knowledge and technology of Human Resource is important for empowerment. Efforts should be made to develop a comprehensive version of managerial strategy which helps to improve the decision making skills and problem solving skills of the managers.

2.Operational strategy: producing quality products and maintaining the international quality is essential in the globalised market. Organizations must use various methods like TQM, JIT, Kaizen and others to improve the operational efficiency. Therefore organizations should plan a gradual transition in technological up gradation.

3.Marketing strategy: to maximize customer satisfaction, to render better services, and to introduce e-marketing, net marketing etc., Various marketing strategies should be followed to improve retail environment.

4.Investment for growing FDI: Due consideration should be given to the exchange rate, other risks like political risk and economic risk.

5.Governance: the business situation changed dramatically over the last few years. Quality is important for sustainable development in this competitive environment. Business opportunities are more with tough competition. Therefore good governance will maximize the value of shareholders wealth.

6.Risk management strategy: international business is complex in nature and it leads to various types of risks. Which can be managed by insurance, letter of credit, joint ventures, but the top management should consider broader business strategies to define and overcome these risks.

Effects Of Globalization On Indian Economy

1. India's share in the world export have increased from .53% (1950) to 1 % (2005)
2. Foreign exchange reserves had increased to $180billion (2007)
3. Export growth has increased to a maximum of 20 percent per annum.
4. Current account deficit of 3% has reduced to 1.1%.
5. Reduction in external debt crisis from 8 billion in 1990 to $3billion in 2006

Benefits to consumers: Consumers were able to get large variety of goods with improved quality at a reasonable price.

Globalizing - World Evidence:

1. Expanding Trade
2. Increasing capital flow
3. Rising tourism and migration
4. Linking of farthest corners of the world by new technology.

Forces Of Globalization:

1. Revolutionary changes have taken place in the field of Information technology.
2. Advancement in travel and transportation
3. Liberalization of trade regimes
4. Emergence of trading blocs

Upshot Of Globalization:

1. Unprecedented economic growth
2. Multi-locational manufacturing
3. Surge in international trade
4. Explosive growth in capital movements
5. Increase in labour movement
6. Emergence of cultural commonalities

The Way Forward:

1. Build on your strength
2. Develop a global force
3. Achieve excellence in areas of one's comparative advantage
4. Build up an effective regulatory system
5. Develop a good social security network

Thus we can conclude by saying that globalization is progressing well world over, whether we like it or not it is bringing together different nations as one. We can see the evidence in the Indian economy. Government of India has also taken many steps towards globalization which has its own merits and demerits. It is evident that India has potential to face the situation. This is the macroeconomic environment prevailing in India as well as in other parts of the world.

Review Questions:

1. Distinguish between economic growth and economic development.
2. List out the sources of economic growth and development of India.
3. Describe the pre and post economic scenario of India.
4. What are the major barriers to our economic transition?
5. Discuss the growth potential of the Indian economy after transition.
6. Justify the need for Liberalization, Privatization and Globalization of our country.

7. What are the major weaknesses of LPG?
8. Why government should own and run firms?
9. Define privatization. What are the advantages and disadvantages of privatization of public enterprise in India?
10. Discuss the effects of globalization on consumers, business and economy.

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Lesson XV Business And Government

Reading Objectives:

In the initial stages of planning, the Government was given a prime of place in the industrial development of our country. That's why the public enterprises were in commanding heights in the Indian economy. The approach of the Government towards economic development is changing and therefore the reader will also have to understand these changes . Now a days the concept of public private participation has been gaining importance world over and also in India. India has adopted this concept especially in the tertiary sector through projects that strengthen road ways, railways, bus terminal projects and urban infra structure projects like solid waste management.

Lesson Outline:

- Role of government in India
- Public Private Participation
- Reasons for Failure of PPP
- Review questions

Introduction

Government of India directly or indirectly plays a major role in assisting, encouraging and directing private sector, providing infrastructure facilities, controlling private economic activity, promoting public and joint sectors and planning, formulating framework for sustainable economic development of the country. Overall economy is regulated through fiscal, monetary policy and trade policies to participate in the globalization.

Role Of Government In India:

1. Individual freedom: Consumers enjoy freedom of consumption, production and process,
2. Coexistence of public and private sector: Basic industries requiring heavy investment, and social welfare activities belong to the public sector and the rest to the private sector.
3. Planning: Detailed planning is for public sector, broader targets are for the private.
4. Social welfare: Policies are framed to develop backward regions, increasing employment and infrastructure facilities.

There are various ways in which the government may influence business operations in a country.

1. **Public Enterprises:** Sometimes government may involve in the production of goods and services. If the commodity is a necessary one and the supply of the commodity is optimized by the government, It may maximizes the social welfare of the society.
2. **Price fixation:** The government insists on maximum retail price to stabilize the price level in the market. Depending upon the political and economic conditions the government may raise the prices.
3. **Subsidies:** States and the Central Government of India provides various kinds of subsidies to the domestic producers and for the exporters through various schemes.
4. **Direct and Indirect Intervention:** Through taxation, Government

intervenes in the business directly and indirectly through the quota system .

5. **Control of Monopoly:** Monopoly enterprise is harmful to the welfare of consumers. The government of India passed Monopoly and Restrictive Trade Practice Act (MRTP) to control them.

Thus the government may participate in the production activities along with the private enterprise in an economy beside controlling, regulating and governing the activities of the latter in the general interest of maximizing the welfare of the people of the country.

Economic Environment Trough Public Private Participation (PPP)

Public Private Participation (PPP) is defined as cooperative institutional arrangements between public and private enterprise which has gained wide interest around the world. PPP model is a new way to handle infrastructure projects. It can benefit both the public and private sector enterprise. Both the sectors have certain special merits and if we combine them the result will be better for all with new products and service. These projects involve many forms of contractual arrangements which are long term in nature. This reduces pressure on government budgets and increases value for money in infrastructure.1

According to Van Ham and Koppenjan "PPP are co-operation of some sort of durable activity between public and private actors in which they jointly develop products and services and share risks, costs and resources which are connected with these products"

The major arrangements between the public and private participation are:

1. Institutional cooperation.
2. Long term infrastructure contracts. Like construction of Roads for the public use which reduces the pressure on the exchequer, but benefits the private through way toll fee.
3. Community development
4. Urbanization and
5. Economic development

Both the central government and states are increasingly using the PPP mode to meet the gaps in the provision of basic services. For the past 10 years India has attracted more private investments which are complex in nature. Comprehensive cross cutting PPP legislations have been used more extensively in countries that operate under the civil code. It often covers aspects such as, specifying which sectors PPP operate in, how to set tariffs for PPPs, the role of different institution in PPP program, procurement of PPPs and dispute resolution procedures.

According To The World Bank Report

In Australia, the national government has virtually no role in state level PPPs. In Canada, the federal government's PPP office acts as a resource center and promoter of the benefits of rationale for using PPPs, rather than acting as an advisory body. In South Africa the treasury's PPP unit plays a role in both guidance and approval. Brazil intends to establish capacities at the national level to offer detailed guidance to the states in the development of PPPs.

PPPs in India

Infrastructure shortages are proving as key constraints in sustaining and expanding Indian economic growth. To overcome this problem India has decided to double the investment in the next 5 years and one third of the investment is funded by the private sector. The Government of India is promoting the expansion of PPP in improving infrastructure facilities including highways, ports, power and telecom. India follows public contracting, joint ventures, long term contractual agreements like BOT, BOOT, BOLT etc.,. In India more than Rs.1000 billion worth PPP projects are under progress.

Government Of India's Definition:

According to the government of India , PPP project means "a project based on a contract or concession agreement, between a government or statutory entity on the one side and a private sector company on the other side, for delivering an infrastructure service on payment of user charges". Private Sector Company means a company other than the public and cooperative enterprise.

PPP broadly refers to long term contractual partnerships between the public and private sector agencies, specifically targeted towards financing, designing, implementing and operating infrastructure facilities and services that were traditionally provided by the public sector.

Characteristic Features Of PPPs:

1. Cooperative and contractual relationship: To establish complementary relationship between the public and private enterprises. Normally PPPs are for more than 10 years therefore cooperation is essential to build and strengthen the relationship in a contractual agreement.
2. Shared responsibilities: The responsibilities are shared based on the nature of the project and are not always equal.
3. A method of procurement: Through PPPs government procures the capital, assets or infrastructure and is allowed to play major roles in planning, finance, design, operation and maintenance.
4. Risk transfer: The government sector transfers the risks to the private sector that has skills and experience to manage the same.
5. Flexible ownership: The ownership of PPP projects may or may not be retained by the government .Sometimes private sector provides only facilities and planning but does not take up the ownership.

PPP appraisal committee (PPPAC) consists of secretary of Planning commission, Department of expenditure, Department of legal affairs and the Department sponsoring the project. Under the chairmanship of the secretary of department of economic affairs the activities are undertaken.

1. Ministry of finance will be the nodal center for examining, scrutinizing and making concession agreements.
2. Planning commission will set up a PPP appraisal unit to prepare a report for improving the concession terms.
3. Department of legal affairs will scrutinize the legal perspective
4. Planning commission and finance ministry will engage experts to undertake due diligence.
5. For final approval the projects are sent to a competent authority.

Benefits Of PPP:

To the public sector: PPP helps the government in raising capital, expertise and infrastructure to render better service in an effective manner to the general public.

To the private sector: Private sector gets long term business opportunities, building relationship with the government and private sector for better understanding and assistance.

But on the other hand the public sector can lose its control and efficiency. This may also become time consuming and expensive instead of cost effective. Some times private sectors may not be flexible in agreements.

Reasons For Failure Of Some PPP Projects

The major reasons for the failure of some PPP projects are insufficient resources, poor drafts, lack of experience and inadequate monitoring.

In India over 70% of the projects were on strengthening road ways and railways and building ports. 11 PPP projects dealt with urban infrastructure of which 8 were on solid waste management, 2 water and sanitation and 1 bus terminal project under progress. The total cost awarded was $339 billion of which 55% was used for ports, 36% for road ways and 5% on airport development. Confederation of Indian Industries (CII) has organized many training programs at central and state level. Many government organizations and civil servants have participated in it. India could consider the policy legislature framework and information dissemination to strengthen funds for preparation of PPP projects.

Review Questions:

1. Explain the role of Government in Indian business.
2. Discuss the major support rendered by the government of India towards business.What is PPP?
3. What are the benefits of PPP? Discuss in the point of view of a business man and as an individual.
4. Explain the advantages and disadvantages of PPP in India.

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Lesson XVI Industrial Finance And Foreign Direct Investments

Outline:

- Industrial finance
- Foreign Direct Investment
- Advantages and disadvantages of FDI
- FDI in India
- Cross border Mergers and Acquisitions
- Review questions

Industrial Finance

Finance is the life blood of business. It is of vital significance for modern business which requires huge capital. Funds required for a business may be classified as long term and short term. It is required for purchasing fixed assets like land, building, machinery etc., the capital required to purchase fixed assets is called as fixed capital.

Purpose Of Industrial Finance:

To finance fixed assets
To finance the permanent part of working capital
To finance the growth and expansion of business.

The nature of business determines the amount of fixed capital. Nature of goods produced determines the level of financial requirement. If a business is engaged in manufacturing small and simple articles then it requires small amount of capital. The financial need depends upon the technology adopted in the organization. The major sources of finance are: shares, debentures, public deposits, retained earnings, term loans from bank, loans from financial institution etc.,.

The financial sources are expanded and a major source of finance comes from foreign direct investment (FDI) due to our economic reforms.

Foreign Direct Investment

Foreign capital plays a vital role in the industrialization and economic development of a country, as it forms one of the essential determinants of economic growth of developing countries. Over the past two decades many countries around the world have experienced substantial growth in their economies with even faster growth in international transactions, especially in the form of Foreign Direct Investment (FDI). The share of FDI in the world GDP has grown fivefold.

FDI refers to the net inflows of investments to acquire a lasting management interest (10% or more of voting stock) in an enterprise operating in an economy other than that of the investor.

FDI = Equity capital + reinvestment of earnings + short term capital + long term capital.

FDI is classified as inward FDI and outward FDI. It can be a loan, collaboration or borrowing. The major investors in FDI are individual, group, private and public entity.

Need For FDI In India

As India is a developing country, capital has been one of the scarce resources that are usually required for economic development. Capital is limited and there are many issues such as Health, poverty, employment, education, research and development, technology obsolesce, global competition. The flow of FDI in India from across the world will help in acquiring the funds at cheaper cost, better technology, employment generation, and upgraded technology transfer, scope for more trade, linkages and spillovers to domestic firms. The following arguments are advanced in favor of foreign capital

Sustaining a high level of investment: As all the under-developed and the developing countries want to industrialize and develop themselves, therefore it becomes necessary to raise the level to investment substantially. Due to poverty and low GDP the saving are low. Therefore there is a need to fill the gap between income and savings through foreign direct investments.

Technological gap: In Indian scenario we need technical assistance from foreign source for provision if expert services, training of Indian personnel and educational, research and training institutions in the industry. It only comes through private foreign investment or foreign collaborations.

Exploitation of natural resources: in India we have abundant natural resources such as coal, iron and steel but to extract the resources we require foreign collaboration.

Understanding the initial risk: In developing countries as capital is a scare resource, the risk of investments in new ventures or projects for industrialization is high. Therefore foreign capital helps in these investments which require high risk.

Development of basic infrastructure: In the recent years foreign financial institutions and government of advanced countries have made substantial capital available to the under developed countries. FDI will help in developing the infrastructure by establishing firm's different parts of the country.

Improvement in the balance of payments position: The inflow FDI will help in improving the balance of payment. Firms which feel that the goods produced in India will have a low cost, will produce the goods and export the same to other country. This helps in increasing the exports.

Foreign firm's helps in increasing the competition: Foreign firms have always come up with better technology, process, and innovations comparing with the domestic firms. They develop a completion in which the domestic firms will perform better it survive in the market.

Determinants Of FDI

The determinant varies from one country to another due their unique characteristics and opportunities for the potential investors. In specific the determinants of FDI in India are:

Stable Policies: India's stable economic and socio policies have attracted investors across border.

Economic factors: Different economic factors encourage inward FDI. These include interest loans, tax breaks, grants, subsidies and the removal of restrictions and limitation.

Cheap and skilled labour: There is abundant labor available in India in terms of skilled and unskilled human resources. Foreign investors will to take advantage of the difference in the cost of labor as we have cheap and skilled labors.

Basic infrastructure: India though is a developing country, it has developed special economic zone where there have focused to build required infrastructure.

Unexplored markets: In India there is large scope for the investors because there is a large section of markets have not explored or unutilized.

Availability of natural resources: India has large volume of natural resources such as coal, iron ore, Natural gas etc. If natural resources are available they can be used in production process or for extraction of mines by the foreign investors.

Advantages Of FDI To The Host Country:

1. Availability of scarce factors of production
2. Improves the balance of payments
3. Building of economic and social infrastructure
4. Fostering the economic linkage
5. Strengthening of the government budget.

Disadvantages To Host Country:

1. Balance of payment depends on improvement of technology
2. Employment of expatriates
3. Unhealthy competition
4. Cultural and political issues

Advantages Of FDI To Home Country:

1. Improves the availability of raw material
2. Improves the Balance of payments of the country
3. It creates more Employment
4. Creates more Revenue
5. Builds Political relations
6. Gets better investment opportunity.

Disadvantages To Home Country:

1. Too much Exploitation of factors of production
2. Conflict with the government of host country.

Now let us analyze the sources (countries) from where the FDI's are coming into India. And a sector wise inflow of FDI's into India.

The Top 5 Countries Directing Their FDI To India

Country	% of total inflows
Mauritius	42
Singapore	9
USA	7
UK	5
Netherlands	4

Sector Wise FDI Inflow

Sectors	Percentage
Services sectors (finance and non finance)	21
Computer software and hardware	8
Telecommunication	8
Housing and real estate	7
Construction	7
Auto	5
Power	5

From the above table it can be understood that around 42% of FDI to India comes from Mauritius followed by Singapore, USA, UK and Netherlands. Mauritius is the number one leading FDI investor in the world as well as for India. The reason is their favourable polices and legal environment of the country in the form of avoidance of double taxation when the FDI comes through Mauritius.

If we look at the sector wise classification - financial sector receives around 20% of the over all FDI of the country followed by computer software and telecommunication sectors. At present the overseas investment on real estate and construction has started growing. The auto industry and power sector receives around 5% each.

The Flow Of FDI And FII In US Million $

Year	Total FDI flow	FIIs (US (US $mn)
2000	4029	1847
2001	6130	1505
2002	5035	377
2003	4322	10918
2004	6051	8686
2005	8961	9926
2006	22826	3225
2007	34835	20328
2008	37838	-15017
2009	37763	29048
2010	27024	29422

The above trend indicates that the FDI and FII of our country have grown seven fold with in these 10 years. FII has grown more than 20 times during this period. But in the first half, it started growing gradually but after 2005 the growth rate has been very high. It is evident that the economy is growing in various dimensions. The financial requirements are met through cross border mergers and acquisitions along with the direct investments. Thus it can be concluded that India is taking advantage of the FDI and FII sources for its development.

Review Questions:

1. Distinguish between FDI and FII.
2. Explain the advantages and disadvantages of FDI to the host and home country.
3. What are the different forms of foreign funds available to India?
4. Give an account on trend in FDI pre and post liberalization.
5. Discuss the sector wise inflow of FDI in India.
6. What is cross border mergers and acquisition?

Case: Future outlook of Indian IT Sector:

IT sector has made significant contributions to India's economic growth in terms of GDP increase in foreign exchange earnings as well as employment generation. Its contribution to GDP has increased tenfold in the last decade from 0.6% to 6% till 2009-10. The sector has helped India transform from a rural and agriculture-based economy to a knowledge-based economy. Besides this, the lives of people have been positively influenced by direct or indirect contribution of IT sector to various parameters such as employment, standard of living, per-capita income etc. In the last ten years the IT sector in India has grown at an average annual rate of 28%. India accounts for almost 51% of the global sourcing market. India has emerged as the preferred destination for IT services owing to the cost advantage and talent pool. Exports contribute around 75% of the total revenue from the IT sector in India. However due to increased export-orientation and lesser domestic consumption the sector suffered a major hit in the recession that shook the globe in 2008-09. In the year 2010, different economies have started recovering but at varying pace. Indian companies have subsequently begun tapping other geographical markets and domestic consumption has also relatively increased.

According to NASSCOM, India can reach $ 130 Billion in IT revenue by 2015, with CAGR of 14%. With this, it would be contributing to 7% of annual GDP and creating 14.3 million employment opportunities. With the government taking active measures to stimulate the growth of IT sector with the emergence of BPO and KPO over last few years, India is expected to climb the global value and knowledge chain. **In long-term we can expect the Indian IT sector to see good growth.** Different segments of the sector are set to experience different growth rates. **BPO industry have experienced high growth but the Software and Information Technology Enabled Services (ITES) segment is expected to see slower growth.**

However, on an individual basis each company has to compete with other domestic as well as global players. They have to **adapt new business models to compete with global players e.g. Cloud, On-demand services, and SaaS. With increased threat from countries like China, the companies will suffer loss unless they change business models.**

It is very important that while investing in a company, an investor selects a sector, where the long-term future prospects are bright. In the above case, we have seen that the IT sector is expected to have good growth in the long run. Also, it is equally important that the company has an **excellent financial track record and its long-term future prospects are Green (Very Good).**

1. What are the growth drivers of the IT sector in India?
2. Why was the Indian IT industry hit more severely during the US recession?
3. Has Globalization helped India to gain employment opportunities?
4. What is the role of Private sector in IT Industry?
5. Explain the role of IT sector in FDI of India.

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