CA Foundation

Paper-4

Business Economics

Text-Book

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Chapter 1
Nature And Scope Of Business Economics

WHAT TO STUDY IN THIS CHAPTER

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WHAT IS ECONOMICS ALL ABOUT

Background

The word 'Economics' is derived from the Greek word 'Oikonomia' which means household management.

Till 19th century, economics was known as 'Political Economy'. In 1776, Adam Smith published his book entitled "An Inquiry into the Nature and Causes of the Wealth of Nations" which is considered as the first modern work of Economics.

Fundamental Economic Problem

Every individual, every society and every country in this world faces the problem of making CHOICE. This is because of two facts—

| Human wants are unlimited and | The means (resources) to satisfy unlimited wants are relatively scarce and these scarce resources have alternative uses. |

As a result, we are confronted with the problem of making choice of wants to be satisfied or the choice among the uses of resources. Thus, we are faced with the problem of allocation of resources to various uses.

Economics is, thus, the study of how we work together to transform the scarce resources into goods and services to satisfy the most pressing of our infinite wants and how we distribute these goods and services among ourselves.

Is this definition complete

The defamation of Economics is however is <u>narrow</u> because it concentrates only at present i.e. how to use relative scarce resources to satisfy unlimited human wants. So it gives the picture of a society with fixed resources, skills and productive capacity, deciding what type of goods and services to be produced and how to distribute among the members of society.

Modern Aspects of Definition of Economics

Two of the most important concerns of modern economies are not fully covered by this concept. These are as under: -

Economic Growth

The productive capacity of modern economies has grown tremendously. Population and labour force have increased, new sources of raw materials have been discovered, and new and better plant and equipment's have been made available on farms and in factories and mines. Not only has the quantity of available productive resources increased, their quality has also improved substantially. Better education and newly acquired skills have raised the productivity of labour force, and has led to the discovery of completely new kinds of natural resources such as shale gas and new alternative sources of energy.

Economic Fluctuations

the resulting growth in production and income has not been smooth. There have been periods in which output not only failed to grow, but also actually declined sharply. During such periods, factories, workers and other productive resources have remained idle due to insufficient demand

MORDERN AND COMPLETE DEFINITION OF ECONOMICS

Economics, therefore, concerns itself not just with the crucial concern of how a nation allocates its scarce productive resources Definition of 'Business Economics' Scope of Business Economics Nature of Business Economics Basic Economic Problems How Economies Solves their Central Problems - Capitalist, Socialist and Mixed Economy to various uses; it also deals with the processes by which the productive capacity of these resources is increased and with the factors which, in the past, have led to sharp fluctuations in the rate of utilisation of these resources.

> Note: It is necessary to remember that most economic problems are of complex nature and are affected by several forces, some of which are rooted in Economics and others in political set up, social norms, etc. The study of Economics cannot ensure that all problems will be appropriately tackled; but, without doubt, it would enable a student to examine a problem in its right perspective and would help him in discovering suitable measures to deal with the same.

MEANING OF BUSSINESS ECONOMICS

Problem of Decision Making faced by every business

The management every company/business is faced with the problem of decision making. Decision making refers to the process of selecting an appropriate alternative that will provide the most efficient means of attaining a desired end, from two or more alternative courses of action. Decision making involves evaluation of feasible alternatives, rational judgment on the basis of information and choice of a particular alternative which the decision maker finds as the most suitable

The management of a business unit generally needs to make strategic, tactical and operational decisions.

A few examples of issues requiring decision making in the context of businesses are illustrated below:

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

How Business Economics helps in Decision making

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

Briefly put, Business Economics integrates economic theory with business practice.

What is Business Economics all about

➔ Business Economics, also referred to as <u>Managerial Economics</u>, generally refers to the integration of economic theory with business practice.

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

➔ <u>Business Economics is multi-displinery</u>
It has close connection with Economic theory (Micro as well as Macro-Economic), Operations Research, Statistics, Mathematics and the Theory of Decision-Making. A professional business economist has to integrate the concept and methods from all these disciplines in order to understand and analyse practical managerial problems.

Remember: - Business Economics is not only valuable to business decision makers, but also useful for managers of 'not-for-profit' organisations.

Definition of business economics

➔ "Business Economics in terms of the use of economic analysis in the formulation of business policies. Business Economics is essentially a component of Applied Economics as it includes application of selected quantitative techniques such as linear programming, regression analysis, capital budgeting, break- even analysis and cost analysis." <u>(Joel Dean)</u>

➔ "Business Economics is concerned with the application of economic laws, principles and methodologies to the managerial decision-making process within a business firm under the conditions of risks and uncertainties." <u>(Evans Douglas).</u>

NATURE OF BUSINESS ECONOMICS

Micro Economics v/s Macro Economics

▶ Micro Economics

Micro Economics is basically the study of the behaviour of different individuals and organizations within an economic system. In other words, Microeconomics examines how the individual units (consumers or firms) make decisions as to how to efficiently allocate their scarce resources.

Here, the focus is on a small number of or group of units rather than all the units combined, and therefore, it does not explain what is happening in the wider economic environment.

We mainly study the following in Micro-Economics:

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

Macro Economics

Macro Economics is the study of the overall economic phenomena or the economy as a whole, rather than its individual parts. Accordingly, in Macro-Economics, we study the behaviour of the large economic aggregates, such as, the overall levels of output, total consumption, total saving and total investment and also, how these aggregates shift over time. It analyses the overall economic environment in which the firms, governments and households make decisions.

However, it should be kept in mind that this economic environment represents the overall effect of the innumerable decisions made by millions of different consumers and producers.

A few areas that come under Macro Economics are:

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

Is Business Economics Macro or Micro?

While Business Economics is basically concerned with Micro Economics, Macro economic analysis also has got an important role to play. Macroeconomics analyses the background of economic conditions in an economy which will immensely influence the individual firm's performance as well as its decisions. Business firms need a thorough understanding of the macroeconomic environment in which they have to function.

Example: knowledge regarding conditions of inflation and interest rates will be useful for the business economist in framing suitable policies. Moreover, the long-run trends in the business world are determined by the prevailing macroeconomic factors.

Features of Business Economics

Business Economics is a Science

Science is a systematized body of knowledge which establishes cause and effect relationships. Business Economics integrates the tools of decision sciences such as Mathematics, Statistics and Econometrics with Economic Theory to arrive at appropriate strategies for achieving the goals of the business enterprises. It follows scientific methods and empirically tests the validity of the results.

Based on Micro Economics

Business Economics is based largely on Micro-Economics. A business manager is usually concerned about achievement of the predetermined objectives of his organisation so as to ensure the long-term survival and profitable functioning of the organization. Since Business Economics is concerned more with the decision-making problems of individual establishments, it relies heavily on the techniques of Microeconomics.

Incorporates elements of Macro Analysis

A business unit does not operate in a vacuum. It is affected by the external environment of the economy in which it operates such as, the general price level, income and employment levels in the economy and government policies with respect to taxation, interest rates, exchange rates, industries, prices, distribution, wages and regulation of monopolies. All these are components of Macroeconomics. A business manager must be acquainted with these and other macroeconomic variables, present as well as future, which may influence his business environment.

Business Economics is an art

As it involves practical application of rules and principles for the attainment of set objectives.

Use of Theory of Markets and Private Enterprises

Business Economics largely uses the theory of markets and private enterprise. It uses the theory of the firm and resource allocation in the backdrop of a private enterprise economy.

Pragmatic in Approach

Micro-Economics is abstract and purely theoretical and analyses economic phenomena under unrealistic assumptions. In contrast, Business Economics is pragmatic in its approach as it tackles practical problems which the firms face in the real world.

Interdisciplinary in nature

Business Economics is interdisciplinary in nature as it incorporates tools from other disciplines such as Mathematics, Operations Research, Management Theory, Accounting, marketing, Finance, Statistics and Econometrics.

Positive Economics v/s Normative Economics

Type	Explanation
Positive Economics	A positive or pure science analyses cause and effect relationship between variables in an objective and scientific manner, but it does not involve any value judgement. In other words, it states 'what is' of the state of affairs and not what *'ought to be'*. It is descriptive in nature in the sense that it describes the economic behaviour of individuals or society without prescriptions about the desirability or otherwise of such behaviour.
Normative Economics	A normative science involves value judgements. It is prescriptive in nature and suggests *'what should be'* a particular course of action under given circumstances. Welfare considerations are embedded in normative science.

Is Business Economics Positive or Normative in nature

Business Economics is generally normative or prescriptive in nature. It suggests the application of economic principles with regard to policy formulation, decision-making and future planning.
However, if the firms are to establish valid decision rules, they must thoroughly understand their environment. This requires the study of positive or descriptive economic theory.
Thus, Business Economics combines the essentials of normative and positive economic theory, the emphasis being more on the former than the latter.

SCOPE OF BUSINESS ECONOMIC

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

Microeconomics applied to operational or internal Issues

Operational issues include all those issues that arise within the organisation and fall within the purview and control of the management. These issues are internal in nature.

Issues related to choice of business and its size, product decisions, technology and factor combinations, pricing and sales promotion, financing and management of investments and inventory are a few examples of operational issues. The following Microeconomic theories deal with most of these issues.

Demand analysis and forecasting

Demand analysis pertains to the behaviour of consumers in the market. It studies the nature of consumer preferences and the effect of changes in the determinants of demand such as, price of the commodity, consumers' income, prices of related commodities, consumer tastes and preferences etc. Demand forecasting is the technique of predicting future demand for goods and services on the basis of the past behaviour of factors which affect demand.

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

Production and Cost Analysis:

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

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

Inventory Management

Inventory management theories pertain to rules that firms can use to minimise the costs associated with maintaining inventory in the form of 'work-in-process,' 'raw materials', and 'finished goods'. Inventory policies affect the profitability of the firm.

Business economists use methods such as ABC analysis, simple simulation exercises and mathematical models to help the firm maintain optimum stock of inventories.

▶ Market Structure and Pricing Policies

Analysis of the structure of the market provides information about the nature and extent of competition which the firms have to face. This helps in determining the degree of market power (ability to determine prices) which the firm commands and the strategies to be followed in market management under the given competitive conditions such as, product design and marketing.

Price theory explains how prices are determined under different kinds of market conditions and assists the firm in framing suitable price policies

▶ Resource Allocation

Business Economics, with the help of advanced tools such as linear programming, enables the firm to arrive at the best course of action for optimum utilisation of available resources

▶ Theory of Capital and Investment Decision

For maximizing its profits, the firm has to carefully evaluate its investment decisions and carry out a sensible policy of capital allocation. Theories related to capital and investment provide scientific criteria for choice of investment projects and in assessment of the efficiency of capital.

Business Economics supports decision making on allocation of scarce capital among competing uses of funds.

▶ Profit Analysis:

Profits are, most often, uncertain due to changing prices and market conditions. Profit theory guides the firm in the measurement and management of profits under conditions of uncertainty. Profit analysis is also immensely useful in future profit planning.

▶ Risk and Uncertainty Analysis

Business firms generally operate under conditions of risk and uncertainty. Analysis of risks and uncertainties helps the business firm in arriving at efficient decisions and in formulating plans on the basis of past data, current information and future prediction.

Macroeconomics applied to environmental or external issues

Environmental factors have significant influence upon the functioning and performance of business. The major macro-economic factors relate to:

the type of economic system

stage of business cycle

the general trends in national income, employment, prices, saving and investment.

Government's economic policies like industrial policy, competition policy, monetary and fiscal policy,price policy, foreign trade policy and globalization policies

working of financial sector and capital market

socio-economic organisations like trade unions, producer and consumer unions and cooperatives

social and political environment

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

BASIC PROBLEMS OF AN ECONOMY

➔ We know that human wants are unlimited and resources are scarce.
➔ The problem of scarcity of resources is not only faced by individuals but also by the society at large.
➔ This gives rise to the problem of how to use scare resources so as to serve best the needs of the society.
➔ This economic problem is to be dealt with in all the economic systems whether capitalist or socialist or mixed.
➔ The central problems relating to allocation of resources are:-

| What to produce and how much to produce? | How to produce? | For whom to produce? | What provision should be made for economic growth? |

What to produce and how much to produce?

➔ Since the resources are limited, every society has to decide which goods and services should be produced and how many units of each good (or service) should be produced.
➔ An economy has to decide whether more guns should be produced or more butter should be produced; or whether more capital goods like

machines, equipment's, dams etc., will be produced or more consumer goods such as, cell phones will be produced.

➔ Here, the guiding principle is to allocate the resources in the production of goods in such a way that maximizes aggregate utility.

How to produce?

➔ There are many alternative techniques to produce a commodity.
➔ Choice has to be made between capital intensive technique or labour-intensive technique of production.
➔ The choice of technique will depend upon

| availability of various factors of production, | ➡ | & the prices of factors of production. |

➔ Such techniques of production have to be adopted that makes best use of available resources.

For whom to produce?

➔ Another important decision which a society has to take is 'for whom' it should produce.
➔ A society cannot satisfy each and every want of all the people. Therefore, it has to decide on who should get how much of the total output of goods and services, i.e.
➔ How the goods (and services) should be distributed among the members of the society. In other words, it has to decide about the shares of different people in the national cake of goods and services.

What provision should be made for economic growth?

➔ A society cannot afford to use all its scarce resources for current consumption only.
➔ It has to provide for the future as well so that high economic growth can be achieved. _Therefore, an economy has to take decisions about rate of savings, investment, capital formation, etc._

MEANING OF ECONOMIC SYSTEM

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

There are three types of economic systems:

| Capitalism | → | Socialism | → | Mixed Economy |

Capitalist Economy

▶ Meaning

➜ Capitalism is an economic system in which all means of production are owned and controlled by private individuals for profit.

➜ In short, private property is the mainstay of capitalism and profit motive is its driving force.

➜ Decisions of consumers and businesses determine economic activity. Ideally, the government has a limited role in the management of the economic affairs under this system.

➜ Some examples of a capitalist economy may include U.S., U.K., Germany, Japan, Mexico, Singapore, etc.
   However, many of them are not pure form of capitalism but show some features of being a capitalist economy.

➜ A capitalist economy is also called a free-market economy or laissez-faire economy

▶ Features

Feature	Explanation
Right to private property	The right to private property means that productive factors such as land, factories, machinery, mines etc. can be under private ownership. The owners of these factors are free to use them in any manner in which they like and bequeath it as they desire. The government may, however, put some restrictions for the benefit of society in general.
Freedom of enterprise	Each individual, whether consumer, producer or resource owner, is free to engage in any type of economic activity. For example, a producer is free to set up any type of firm and produce goods and services of his choice.
Freedom of economic choice	All individuals are free to make their economic choices regarding consumption, work, production, exchange, etc.
Profit motive	Profit motive is the driving force in a free enterprise economy and directs all economic activities. Desire for profits induces entrepreneurs to organize production so as to earn maximum profits.

Consumer Sovereignty	Consumer is the king under capitalism. Consumer sovereignty means that buyers ultimately determine which goods and services will be produced and in what quantities. Consumers have unbridled freedom to choose the goods and services which they would consume. Therefore, producers have to produce goods and services which are preferred by the consumers. In other words, based on the purchases they make, consumers decide how the economy's limited resources are allocated.
Competition	Competition is the most important feature of the capitalist economy. Competition brings out the best among buyers and sellers and results in efficient use of resources.
Absence of Government Interference	A purely capitalist economy is not centrally planned, controlled or regulated by the government. In this system, all economic decisions and activities are guided by self-interest and price mechanism which operates automatically without any direction and control by the governmental authorities.

▶ How do Capitalist Economies solve their problems

A capitalist economy has no central planning authority to decide what, how and for whom to produce. Such an economy uses the impersonal forces of market demand and supply or the price mechanism to solve its central problems.

Decision	Explanation
Deciding 'what to produce'	The aim of an entrepreneur is to earn as much profits as possible. This causes businessmen to compete with one another to produce those goods which consumers wish to buy. In a capitalist economy (like the USA, UK, and Germany), the question regarding what to produce is ultimately decided by consumers who show their preferences by spending on the goods which they want.
Deciding 'how to produce'	An entrepreneur will produce goods and services choosing that technique of production which renders his cost of production minimum. If labour is relatively cheap, he will use labour-intensive method and if labour is relatively costlier, he will use capital-intensive method. Thus, the relative prices of factors of production help in deciding how to produce.
Deciding 'for whom to produce'	Goods and services in a capitalist economy will be produced for those who have buying capacity. The buying capacity of an individual depends upon his income. How much income he will be able to make depends not only on the amount of work he does and the prices of the factors he owns, but also on how much property he owns. Higher the income, higher will be his buying capacity and higher will be his demand for goods in general.

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

▶ Merits of Capitalist economy

Capitalism is self-regulating and works <u>automatically through price mechanism.</u> There is no need of incurring costs for collecting and processing of information and for formulating, implementing and monitoring policies.

The existence of private property and the driving force of profit motive result in <u>greater efficiency and incentive to work.</u>

The process of economic <u>growth is likely to be faster</u> under capitalism. This is because the investors try to invest in only those projects which are economically feasible.

Resources are used in activities in which they are most productive. This results in <u>optimum allocation of the available productive resources</u> of the economy.

There is usually <u>high degree of operative efficiency</u> under the capitalist system.

Cost of <u>production is minimized</u> as every producer tries to maximize his profit by employing methods of production which are cost-effective.

Consumers are benefitted as competition forces producers to bring in a large variety of good quality products at reasonable prices. This, along with freedom of choice, <u>ensures maximum satisfaction to consumers.</u> This also results in higher standard of living.

Capitalism offers incentives for <u>innovation and technological progress.</u> The country as a whole benefit through growth of business talents, development of research, etc.

Capitalism preserves fundamental rights such as right to freedom and right to private property. Therefore, the participants enjoy maximum amount of autonomy and freedom. Capitalism usually functions in a democratic framework.

Capitalism <u>rewards men of initiative</u> and enterprise and punishes the imprudent and inefficient

The capitalist set up encourages enterprise and risk taking and emergence of an entrepreneurial class willing to take risks.

▶ Demerits of Capitalism

There are vast economic inequality and social injustice under capitalism. Inequalities reduce the aggregate economic welfare of the society as a whole and split the society into two classes namely the 'haves' and the 'have-nots', sowing the seeds of social unrest and class conflict.

Under capitalism, there is precedence of property rights over human rights.

Economic inequalities lead to wide <u>differences in economic opportunities</u> and perpetuate <u>unfairness</u> in the society.

The capitalist system <u>ignores human welfare</u> because, under a capitalist set up, the aim is profit and not the welfare of the people.

<u>Exploitation of labour</u> is common under capitalism. Very often this leads to strikes and lock outs. Moreover, there is no security of employment. This makes workers more vulnerable.

Consumer sovereignty is a myth as consumers often become victims of exploitation. Excessive competition and profit motive work against consumer welfare.

There is <u>misallocation of resources</u> as resources will move into the production of luxury goods. Less wage goods will be produced on account of their lower profitability. Less of merit goods like education and health care will be produced. On the other hand, a number of goods and services which are positively harmful to the society will be produced as they are more profitable.

Due to unplanned production, <u>economic instability</u> in terms of over production, economic depression, unemployment etc., is very common under capitalism. These result in a lot of human misery.

There is enormous waste of productive resources as firms spend <u>huge amounts of money on advertisement and sales promotion</u> activities.

Capitalism leads to the formation of monopolies as large firms may be able to drive out small ones by fair or foul means.

Excessive materialism as well as conspicuous and unethical consumption lead to <u>environmental degradation.</u>

Socialist Economy

Meaning

➜ *The concept of socialist economy was propounded by Karl Marx and* Frederic Engels in their work 'The Communist Manifesto' published *in 1848.*

➜ *In this economy, the material means of production i.e. factories, capital, mines etc. are owned by the whole community represented by the State All members are entitled to get benefit from the fruits of such socialised planned production on the basis of equal rights.*

➜ A socialist economy is also called as "Command Economy" or a "Centrally Planned Economy". *Here, the resources are allocated according to the commands of a central planning authority and therefore, market forces have no role in the allocation of resources.*

➜ *Under a socialist economy, production and distribution of goods are aimed at maximizing the welfare of the community as a whole*

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

Features

Feature	Explanation
Collective Ownership	There is collective ownership of all means of production except small farms, workshops and trading firms which may remain in private hands. As a result of social ownership, profit motive and self-interest are not the driving forces of economic activity as in the case of a market economy. The resources are used to achieve certain socio-economic objectives.
Economic Planning	There is a Central Planning Authority to set and accomplish socio-economic goals; that is why it is called a centrally planned economy. The major economic decisions, such as what to produce, when and how much to produce, etc., are taken by the central planning authority.
Absence of Consumer Choice	Freedom from hunger is guaranteed, but consumers' sovereignty gets restricted by selective production of goods. The range of choice is limited by planned production. However, within that range, an individual is free to choose what he likes most. The right to work is guaranteed, but the choice of occupation gets restricted because these are determined by the central planning authority on the basis of certain socio-economic goals before the nation.
Relatively Equal Income Distribution	A relative equality of income is an important feature of Socialism. Among other things, differences in income and wealth are narrowed down by lack of opportunities to accumulate private capital. Educational and other facilities are enjoyed more or less equally; thus, the basic causes of inequalities are removed.
Minimum role of Price Mechanism or Market Forces	Price mechanism exists in a socialist economy, but it has only a secondary role, e.g., to secure the disposal of accumulated stocks. Since allocation of productive resources is done according to a predetermined plan, the price mechanism as such does not influence these decisions. In the absence of the profit motive, price mechanism loses its predominant role in economic decisions. The prices prevailing under socialism are 'administered prices' which are set by the central planning authority on the basis of socio-economic objectives.
Absence of Competition	Since the state is the sole entrepreneur, there is absence of competition under socialism.

Merits of Socialist economy

Equitable distribution of wealth and income and provision of equal opportunities for all help to maintain economic and social justice.

Rapid and balanced economic development is possible in a socialist economy as the central planning authority coordinates all resources in an efficient manner according to set priorities.

Socialist economy is a planned economy. In a socialistic economy, there will be better utilization of resources and it ensures maximum production. Wastes of all kinds are avoided through strict economic planning. Since competition is absent, there is no wastage of resources on advertisement and sales promotion.

In a planned economy, unemployment is minimised, business fluctuations are eliminated and stability is brought about and maintained.

The absence of profit motive helps the community to develop a co-operative mentality and avoids class war. This, along with equality, ensures welfare of the society.

Socialism ensures right to work and minimum standard of living to all people.

Under socialism, the labourers and consumers are protected from exploitation by the employers and monopolies respectively.

There is provision of comprehensive social security under socialism and this makes citizens feel secure.

Demerits of Socialism

Socialism involves the predominance of bureaucracy and the resulting inefficiency and delays. Moreover, there may also be corruption, red tapes, favouritism, etc.

It restricts the freedom of individuals as there is state ownership of the material means of production and state direction and control of nearly all economic activity.

Socialism takes away the basic rights such as the right of private property.

It will not provide necessary incentives to hard work in the form of profit.

Administered prices are not determined by the forces of the market on the basis of negotiations between the buyers and the sellers. There is no proper basis for cost calculation. In the absence of such practice, the most economic and scientific allocation of resources and the efficient functioning of the economic system are impossible.

State monopolies created by socialism will sometimes become uncontrollable. This will be more dangerous than the private monopolies under capitalism.

Under socialism, the consumers have no freedom of choice. Therefore, what the state produces has to be accepted by the consumers.

No importance is given to personal efficiency and productivity. Labourers are not rewarded according to their efficiency. This acts as a disincentive to work.

The extreme form of socialism is not at all practicable

Mixed Economy

Meaning

➔ The mixed economic system depends on both markets and governments for allocation of resources. In fact, every economy in the real world makes use of both markets and governments and therefore is mixed economy in its nature.

➔ In a mixed economy, the aim is to develop a system which tries to include the best features of both the controlled economy and the market economy while excluding the demerits of both.
It appreciates the advantages of private enterprise and private property with their emphasis on self-interest and profit motive.

➔ Vast economic development of England, the USA etc. is due to private enterprise. At the same time, it is noticed that private property, profit motive and self-interest of the market economy may not promote the interests of the community as a whole and as such, the Government should remove these defects of private enterprise.

➔ For this purpose, the Government itself must run important and selected industries and eliminate the free play of profit motive and self-interest.

➔ Private enterprise which has its own significance is also allowed to play a positive role in a mixed economy. However, the state imposes necessary measures to control and to regulate the private sector to ensure that they function in accordance with the welfare objectives of the nation.

Different Sectors in Mixed Economy

The first important feature of a mixed economy is the co-existence of both private and public enterprise. In fact, in a mixed economy, there are three sectors of industries:

Sector	Explanation
Private sector	Production and distribution in this sector are managed and controlled by private individuals and groups. Industries in this sector are based on self-interest and profit motive. The system of private property exists and personal initiative is given full scope. However, private enterprise may be regulated by the government directly and/or indirectly by a number of policy instruments.
Public sector	Industries in this sector are not primarily profit-oriented, but are set up by the State for the welfare of the community.
Combined sector	A sector in which both the government and the private enterprises have equal access, and join hands to produce commodities and services, leading to the establishment of joint sectors.

Merits of Mixed economy

Economic freedom and existence of private property which ensures incentive to work and capital formation.

Price mechanism and competition forces operating in the private sector promoting efficient decisions and better resource allocation.

Consumers are benefitted through consumers' sovereignty and freedom of choice.

Appropriate incentives for innovation and technological progress.

Encourages enterprise and risk taking.

Advantages of economic planning and rapid economic development on the basis of plan priorities.

Comparatively greater economic and social equality and freedom from exploitation due to greater state participation and direction of economic activities.

Disadvantages of cut-throat competition averted through government's legislative measures such as environment and labour regulations.

Demerits of Mixed Economy

However, mixed economy is not always a 'golden path' between capitalism and socialism.

1) It suffers from substantial uncertainties.

2) Mixed economy is characterised by excessive controls by the state resulting in: -

| reduced incentives and constrained growth of the private sector | poor implementation of planning | higher rates of taxation | lack of efficiency |

| corruption | wastage of resources | undue delays in economic decisions | poor performance of the public sector. |

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

CONCEPT OF "WANTS" IN ECONOMICS

Meaning

➔ *All desires, tastes and motives of human beings are called wants in Economics.*

➔ *Wants may arise due to elementary and psychological causes.*

➔ *Since the resources are limited, we have to choose between the urgent wants and the not so urgent wants.*

Features of 'Wants'

All wants of human beings exhibit some characteristic features:-

Wants are unlimited in number. They are never completely satisfied.
Wants differ in intensity. Some are urgent, others are felt less intensely.
Each want is satiable.
Wants are competitive. They compete each other for satisfaction because resources are scarce to satisfy all wants.
Wants are complementary. Some wants can be satisfied only by using more than one good or group of goods.
Wants are alternative.
Wants are subjective and relative.
Wants vary with time, place, and person.
Some wants recur again whereas others do not occur again and again.
Wants may become habits and customs.
Wants are affected by income, taste, fashion, advertisements and social customs.
Wants arise from multiple causes such as natural instincts, social obligation and individual's economic and social status.

Classification of 'Wants'

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

▶ Necessaries

Necessaries are those which are _essential for living_. Necessaries are further sub- divided into:-necessaries for life or existence, necessaries for efficiency and conventional necessaries.

Necessaries for life
Are things necessary to meet the minimum physiological needs for the maintenance of life such as minimum amount of food, clothing and shelter.
Necessaries for Efficiency
Man requires something more than the necessities of life to maintain longevity, energy and efficiency of work, such as nourishing food, adequate clothing, clean water, comfortable dwelling, education, recreation etc. These are necessaries for efficiency.
Conventional necessaries
arise either due to pressure of habit or due to compelling social customs and conventions. They are not necessary either for existence or for efficiency.

▶ Comforts

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

▶ Luxuries

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

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

CONCEPT OF UTILITY

Meaning

Utility is the want satisfying power of a commodity. It is the expected satisfaction to a consumer when he is willing to spend money on a stock of commodity which has the capacity to satisfy his want.

> *Note:* Utility is the anticipated satisfaction by the consumer, and satisfaction is the actual satisfaction derived. A commodity has utility for a consumer even when it is not consumed.

Features of Utility

It is a subjective entity and varies from person to person.

A commodity has different utility for the same person at different places or at different points of time.

> *Utility v/s Usefulness:* It should be noted that utility is not the same thing as usefulness. From the economic standpoint, even harmful things like liquor, may be said to have utility because people want them. Thus, in Economics, the concept of utility is ethically neutral.

Various Approaches to Utility

From time to time, different theories have been advanced to explain consumer behaviour and thus to explain his demand for the product. Two important theories are

Marginal Utility Analysis propounded by Marshall, and

Indifference Curve Analysis propounded by Hicks and Allen

CARDINAL APPROACH OF UTILITY ANALYSIS

This theory which is formulated by Alfred Marshall, a British economist, seeks to explain how a consumer spends his income on different goods and services so as to attain maximum satisfaction.

Concept of Total Utility and Marginal Utility

Total Utility

Assuming that utility is measurable and additive, total utility may be defined as the sum of utility derived from different units of a commodity consumed by a consumer.

Total utility is the sum of marginal utilities derived from the consumption of different units i.e.

$$TU = MU1 + MU2 + . + Mun$$

Where;

MU_1, MU_2,. ,MU_n etc are marginal utilities of the successive units of a commodity

Marginal Utility

It is the addition made to total utility by the consumption of an additional unit of a commodity. In other words, it is the utility derived from the marginal or one additional unit consumed or possessed by the individual.

Marginal utility = the addition made to the total utility by the addition of consumption of one more unit of a commodity.

Symbolically,

$$MUn\_ = TUn\_ - TUn - 1$$

Where,

- $MU_n\_$ is the marginal utility of the nth unit
- $TU_n\_$ is the total utility of the nth unit, and
- TU_{n-1} is the total utility of the (n-1)th unit.

Assumption of Cardinal Approach

Rationality

A consumer is rational and attempts to attain maximum satisfaction from his limited money income.

Cardinal Measurability of Utility

According to neoclassical economists, utility is a cardinal concept i.e., <u>utility is a measurable and quantifiable entity</u>. It implies that utility can be measured in cardinal numbers and assigned a cardinal number like 1, 2, 3 etc.

Marshall and some other economists used a psychological unit of measurement of utility called <u>utils</u>. Thus, a person can say that he derives utility equal to 10 utils from the consumption of 1 unit of commodity A and 5 from the consumption of 1 unit of commodity B.

▶ *Use of Money for measuring Utility*

Since a consumer can quantitatively express his utility, he can easily compare different commodities and express which commodity gives him greater utility and by how much. Utilities from different units of the commodity can be added as well.

According to this theory, money is the measuring rod of utility. <u>The amount of money which a person is prepared to pay for a unit of</u> <u>a good, rather than go without it, is a measure of the utility which he derives from the good.</u>

▶ *Constancy of the Marginal Utility of Money*

The marginal utility of money remains constant throughout when the individual is spending money on a good. This assumption, although not realistic, has been made in order to facilitate the measurement of utility of commodities in terms of money.

If the marginal utility of money changes as income changes, the measuring-rod of utility becomes unstable and therefore would be inappropriate for measurement.

▶ *The Hypothesis of Independent Utility*

The total utility which a person gets from the whole collection of goods purchased by him is simply the sum total of the separate utilities of the goods. The <u>theory ignores complementarity between goods</u>.

⬡ *Law of Diminishing Marginal Utility*

▶ *What is the law*

Marshall who was the exponent of the marginal utility analysis, stated the law as follows:
<u>"The additional benefit which a person derives from a given increase in the stock of a thing diminishes with every increase in the stock that he already has."</u>

In other words, as a consumer increases the consumption of any one commodity keeping constant the consumption of all other commodities, the marginal utility of the variable commodity must eventually decline.

> *Remember: It is the marginal utility and not the total utility which declines with the increase in the consumption of a good.*

► Explanation of law

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

Since each want is satiable, as a consumer consumes more and more units of a good, the intensity of his want for the good goes on decreasing and a point is reached where the consumer no longer wants it.
Thus, the greater the amount of a good a consumer has, the less an additional unit is worth to him or her.

► Numerical Illustration

Table: Utility Schedule

| Units of Rossgulla's consumed	Total Utility TU = U1 + U2 + Un	Marginal Utility MU = TUn – TUn-1
1	10	10
2	15	5
3	15	0
4	13	-2

Observations from above Table

The above table shows that as the consumer goes on consuming rossgullas, the additional or marginal utility goes on diminishing.

The consumption of 3rd unit of rossgulla gives no additional utility and the 4th unit is giving negative utility.

The 4th unit instead of giving satisfaction causes dissatisfaction

Graphical Representation
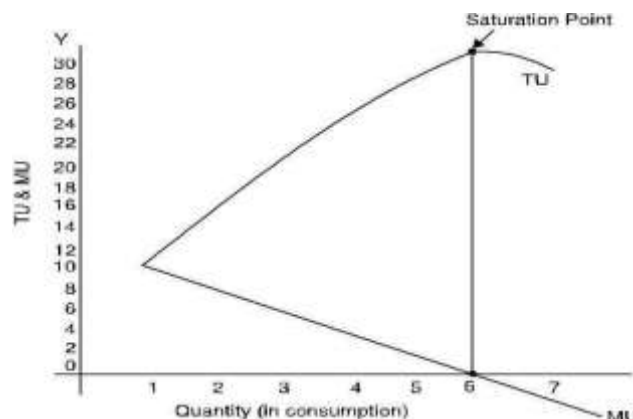
▶ Conclusions about Relationship between TU and MU

Total utility rises as long as MU is positive, but at a diminishing rate because MU is diminishing.
Marginal utility diminishes throughout.
When marginal utility is zero, total utility is maximum. <u>It is a saturation point</u>.
When marginal utility is negative, total utility is diminishing.
MU is the rate of change of TU or the slope of TU.
MU can be positive, zero or negative.

▶ Are there any exceptions to this Law

In some cases a consumer gets increasing marginal utility with the increase in consumption. Such cases are called as exception which are as follows-

Hobbies and Rare Collections:

The law does not hold good in case of hobbies and rare collections like reading, collection of stamps, coins, etc. Every additional unit gives moresatisfaction i.e. the marginal utility tends to increase.

Abnormal Persons:

The law does not apply to abnormal persons like misers, drunkards, musicians, drug addicts, etc. who want more and more of the commodity they are in love with.

Indivisible Goods:

The law cannot be applied in case of indivisible bulky goods like T. V. set, house, scooter, etc. No one purchases more than one unit of such goods at a time.

> *Note: While this may be true in initial stages, beyond a certain limit these will also be subjected to diminishing utility.*

⬡ Concept of Consumer Equilibrium – Single product

A consumer tries to equalize marginal utility of a commodity with its price in order to maximize the satisfaction. A consumer thus compares the price with the marginal utility of a commodity.

He keeps on purchasing a commodity till MU > R In other words, so long as price is less, he buys more which is also the basis of the law of demand.

The consumer is at equilibrium where:

Marginal Utility of the commodity = Price of the commodity

$$MUX = PX \cdot MU \text{ money}$$

$$\frac{MUx}{Px} = MU \text{ money}$$

▶ ### Impact of Change in Price of good on Consumer Equilibrium

The equality between marginal utility and price is disturbed when the price of the good falls.

What will happen in case price decreases
The consumer will consume more of the good so as to restore the equality between the marginal utility and price. The marginal utility from the good will fall when he consumes more of the good. He will continue consuming more till the marginal utility becomes equal to the new lower price.
What will happen in case price increases
When price of the good increases, he will buy less so as to equate the marginal utility to the higher price.

Note: We can say that the downward sloping demand curve is directly derived from the marginal utility curve

Concept of Consumer Equilibrium – Two products

In reality, a consumer spends his money income to buy different commodities. In case of many commodities, consumer equilibrium is explained with the Law of Equi-Marginal Utility.
The law states that a consumer will allocate his expenditure in a way that the utility gained from the last rupee spent on each commodity is equal or the marginal utility each commodity is proportional to its price.

The consumer is said to be equilibrium when the following condition is met-

$$\frac{MUx}{Px} = \frac{MUy}{Py} = MUmoney$$

OR

$$\frac{MUx}{MUy} = \frac{Px}{Py}$$

▶ ### Assumptions/Limitations of this Law of Diminishing Marginal Utility

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

Homogenous units
The different units consumed should be identical in all respects. The habit, taste, temperament and income of the consumer also should remain unchanged.

Standard units of Consumption
The different units consumed should consist of standard units. If a thirsty man is given water by successive spoonfuls, the utility of the second spoonful of water may conceivably be greater than the utility of the first.
Continuous Consumption:
There should be no time gap or interval between the consumption of one unit and another unit i.e. there should be continuous consumption.
The Law fails in the case of prestigious goods:
The law may not apply to articles like gold, cash, diamonds etc. where a greater quantity may increase the utility rather than diminish it. It also fails to apply in the case of hobbies, alcohol, cigarettes, rare collections etc.
Case of related goods:
Utility is not in fact independent. The shape of the utility curve may be affected by the presence or absence of articles which are substitutes or complements. The utility obtained from tea may be seriously affected if no sugar is available and the utility of bottled soft drinks will be affected by the availability of fresh juice.
Based on unrealistic assumptions:
The assumptions of cardinal measurability of utility, constancy of marginal utility of money, continuous consumption and consumer rationality are unrealistic.

Gross Domestic Product (GDP)

In our daily expenditure, we often find that the price we pay for a commodity is less than the satisfaction derived from its consumption.

Therefore, we are ready to pay much higher price for a commodity than we actually have to pay.

Example:

Commodities like salt, newspaper, match box, etc. are very useful, but they are also very cheap.

From the purchase of such commodities, we derive a good deal of extra satisfaction or surplus over and above the price that we pay for them. This is consumer's surplus.

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

Thus consumer's surplus $=$ what a consumer is ready to pay $-$ what he actually pays
$=$ Sum of Marginal Utilities $-$ (Price $\times$ Units Purchased)
$=$ Total Utility $-$ Total amount spent

Measurement of Consumer's Surplus

No. of units	Marginal Utility (Rs.)	Price (Rs.)	Consumers Surplus
1	25	10	15
2	20	10	10
3	15	10	05
4	10	10	00
Total Units purchased	Total Utility = 70	Total Amt. Spent = 40	30

When the consumer buy first unit of commodity he is ready to pay Rs. 25 for it as he expects satisfaction worth Rs. 25 from it and thus gets a surplus worth Rs. 15. For second unit he is ready to pay only Rs. 20 for it as he expects lesser satisfaction from it and thus gets surplus worth Rs. 10 only. The consumer will go on buying the commodity till Marginal Utility = Price & consumer surplus is Zero i.e. upto 4th unit.

Here, Consumer Surplus = Total Utility - Total Amt. Spent = Rs. 70 - Rs. 40 = Rs. 30. We can represent consumers surplus with the following diagram.
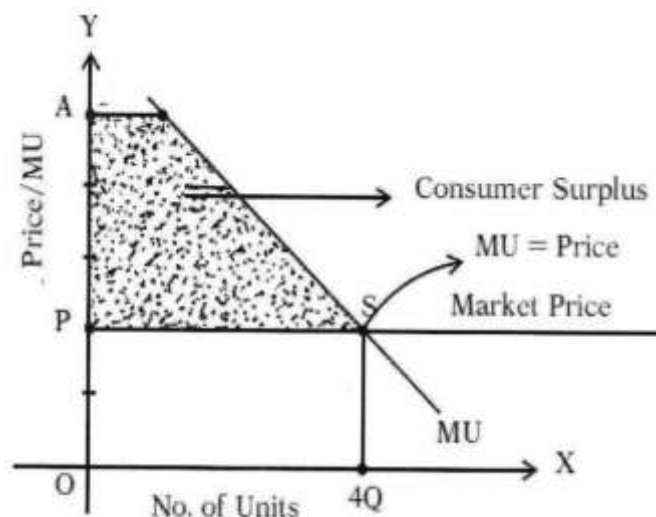
In the diagram MU is the marginal utility curve. OP (Rs. 10) is the market price. In equilibrium, consumer would buy OQ (4) units (at this MU = P). For OQ (4) units he is required to pay OQ (4 units) × OP (Rs. 10) = OQSP(Rs. 40). The consumer was ready to pay (by MU curve) OQ SA(Rs. 70). Thus, he derives surplus of satisfaction. OQSA(Rs. 70) - OQSP(Rs. 40) = PSA(Rs. 30).

Uses/Importance of the consumer surplus concept are as follows

Study of Consumer behaviour to ensure repeated purchases:

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

Helpful in Price Discrimination

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

Useful in Investment decisions

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

Useful in Pricing Decisions

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

Useful in deciding Taxation Policy

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

CRITICISMS of the consumer surplus concept are as follows:

Imaginary:

The concept of consumer's surplus is quite imaginary idea. One has to imagine what you are prepared to pay and you proceed to deduct from that what you actually pay. It is all hypothetical and unreal.

Cardinal measurement is not possible:

Consumer's surplus cannot be measured precisely because it is difficult to measure the total utilities and marginal utilities of the commodities consumed in quantitative terms.

Ignores the interdependence between goods:

The concept of consumer's surplus does not consider the effect of availability and non-availability of substitutes and complementary goods on the consumption of a particular commodity. Actually consumer surplus derived from a commodity is affected by substitutes and complementary goods.

Cannot be measured in terms of money:
This is because the marginal utility of money changes as purchases are made and the consumer's stock of money diminishes. But, Marshall assumed that the marginal utility of money to be constant.
Not applicable to Necessaries:
It does not apply to the necessaries of life. In such cases the surplus is immeasurable e.g. - Food and Water. Consumer surplus is infinite because a consumer will stake whole of his income rather than go without them.
Not applicable to prestige:
e.g. - Diamonds jewellery, etc. fall in their prices lead to a fall in consumer's surplus.

INDIFFERENCE CURVE ANALYSIS – BY HICKS AND ALLEN

Basic Rationale behind this approach

This approach to consumer behaviour is based on underlying consumer preferences.
It believes that human satisfaction, being a psychological phenomenon, cannot be measured quantitatively in monetary terms as was attempted in Marshall's utility analysis. In this approach, it is felt that it is much easier and scientifically more sound to order preferences than to measure them in terms of money.

The consumer preference approach is, therefore, an ordinal concept based on ordering of preferences compared with Marshall's approach of cardinality.

Assumptions of this Approach

Rationality

The consumer is rational and possesses full information about all the relevant aspects of economic environment in which he lives.

Capacity of Consumer to give preferences

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

▶ *Transitive*

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

▶ *Law of monotonic Consumer Preference*

If combination A has more commodities than combination B, then A must be preferred to B.

⬡ *Concept of Indifference Curve*

An indifference curve is a curve which represents all those combinations of two goods which give same satisfaction to the consumer.

Since all the combinations on an indifference curve give equal satisfaction to the consumer, the consumer is indifferent among them. In other words, since all the combinations provide the same level of satisfaction the consumer prefers them equally and does not mind which combination he gets.

An Indifference curve is also called iso- utility curve or equal utility curve.

Table: Indifference Schedule

Schedule I			Schedule II		
Combinations	BURGER	SANDWICHES	Combinations	BURGER	SANDWICHES
A	1	10	E	2	12
B	2	6	F	3	8
C	3	3	G	4	5
D	4	2	H	5	4

In the schedule I above, the consumer is indifferent whether he gets combination A, B, C or D. This is because all combinations give him same amount of satisfaction and therefore equally preferable to him. He gets as much satisfaction from 1 burger and 10 sandwiches as from 3 burgers and 3 sandwiches.

By plotting the above combinations on a graph, we can derive an indifference curve as shown in the following figure:
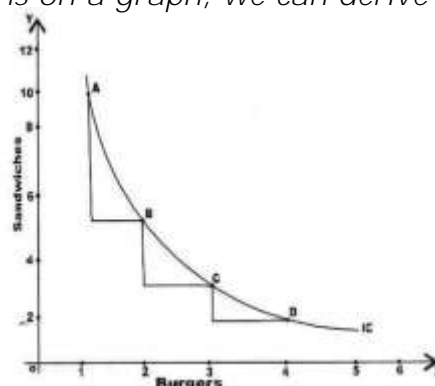
In the diagram, quantity of burger is measured on X-axis and quantity of sandwiches on Y-axis. The various combinations A, B, C, D are plotted and on joining them, we get a curve known as indifference curve. All combinations lying on the indifference curve give the same level of satisfaction to the consumer. Hence, the consumer is indifferent among them

Concept of Marginal Rate of Substitution

Marginal Rate of Substitution (MRS) is the rate at which a consumer is prepared to exchange goods X and Y. We can define MRS of X for Y as the amount of Y whose loss can just be compensated by a unit gain of X in such a manner that the level of satisfaction remains the same.
The marginal rate of substitution of X for Y *(MRSxy) is equal to MUx/ MUy*

We notice that MRS is falling i.e., as the consumer has more and more units of Burger, he is prepared to give up less and less units of Sandwiches. There are two reasons for this.

The want for a particular good is <u>satiable</u> so that when a consumer has more of it, his intensity of want for it decreases. Thus, in our example, when the consumer has more units of food, his intensity of desire for additional units of food decreases.

Most goods are <u>imperfect substitutes</u> of one another. MRS would remain constant if they could substitute one another perfectly.

Properties of Indifference Curve

▶ Indifference curves slope downward to the right-Reason

Law of Monotonic Consumer Preference *This property implies that the two commodities can be substituted for each other and when the amount of one good in the combination is increased, the amount of the other good is reduced.*
This is essential if the level of satisfaction is to remain the same on an indifference curve.

▶ Indifference curves are always convex to the origin

Diminishing MRS *It has been observed that as more and more of one commodity (X) is substituted for another (Y), the consumer is willing to part with less and less of the commodity being substituted (i.e. Y).*

This is called <u>diminishing marginal rate of substitution</u>. *Thus, in our example of burger and sandwich, as a consumer has more and more units of burger, he is prepared to forego less and less units of sandwich. This happens mainly because the want for a particular good is satiable and as a person has more and more of a good, his intensity of want for those good goes on diminishing.*

In other words, the subjective value attached to the additional quantity of a commodity decreases fast in relation to the other commodity whose total quantity is decreasing. This diminishing marginal rate of substitution gives convex shape to the indifference curves.

▶ *Two Extreme Situations*

| Shape of IC in case of Perfect Substitutes |
|---|
| When two goods are perfect substitutes of each other, the indifference curve is a <u>straight line</u> on which MRS is constant. Example: |
| Shape of IC in case of Perfect Complementary Goods |
| When two goods are perfect complementary goods the indifference curve will consist of two straight lines with a right angle bent which is convex to the origin, or in other words, it will be L shaped. |

▶ *Indifference curves can never intersect each other: Reason:*

No two indifference curves will intersect each other although it is not necessary that they are parallel to each other. In case of intersection the relationship becomes logically absurd because it would show that higher and lower levels are equal, which is not possible.
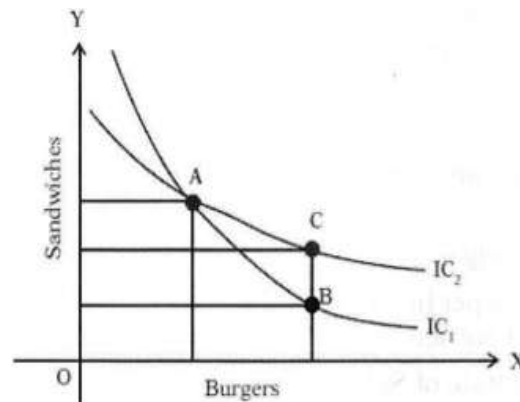

In the diagram two IC intersect each other at point A. On IC1, combinations A = B and on IC2, Combinations A =C. Therefore, by assumption of transitivity if, A= B and A = C B = C. But C > B as it lie on higher IC giving higher satisfaction due to more quantity of sandwiches. So two IC cannot intersect.

▶ *Higher Indifference Curves Represents Higher Level of Satisfaction*

In an indifference map, combinations lying on a higher IC gives higher level of satisfaction than the combinations lying on a lower IC. But how much higher cannot be indicated.

REASON: This is because combinations on higher IC contains more quantity of either sandwiches or burger without having less of other as shown in the following diagram.
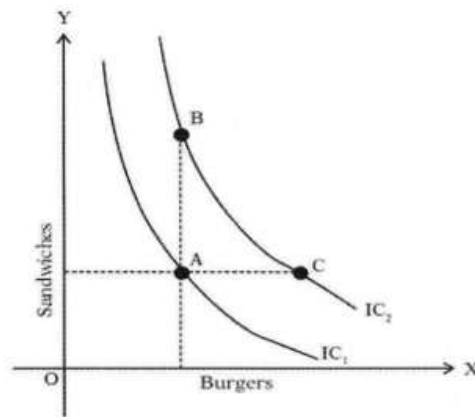
Combinations B and C on IC2 will be preferred by the consumer than the combination A on IC1. Combination B on IC2 contains more quantity of sandwiches without having less of burgers compared to combination A on IC1

Hence, all combinations on IC2 gives more satisfaction to consumer. Thus, higher IC represents higher satisfaction.

Indifference curve will not touch either X-axis or Y-axis

This is because we have assumed that consumer is considering the different combinations of TWO commodities.
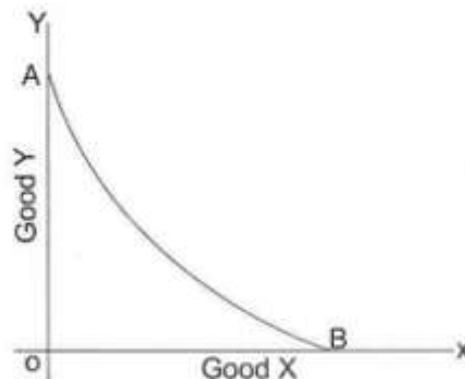
If IC touches either of the axis, it would mean that consumer is interested in one commodity only. In the diagram IC touches X-axis at point B and Y-axis at point A.

At point B the consumer is satisfied with OB quantity of X-commodity and zero quantity of A. This is against the definition of IC. _Therefore, IC curve will not touch either axis_.

Gross Domestic Product (GDP)

A higher indifference curve shows a higher level of satisfaction than lower one. Therefore, to maximize satisfaction consumer will try to reach the highest possible indifference curve.

He will try to buy more and more goods to get more and more satisfaction. But, what and how much a consumer can actually buy depends on —

The money income of consumer, &	Prices of goods he wants to buy

They are the two objective factors which form the budgetary constraint of the consumer.

▶ What does Budget Line show

The budgetary position of the consumer can be graphically shown by <u>BUDGET LINE</u>. A budget line or price line shows maximum quantity of the different combinations of <u>TWO GOODS</u> that the consumer can purchase with his given money income and given market prices of goods.

Example:
The consumer's money income is Rs. 100 to spend on X and Y.
Price of X is Rs. 5 per unit Price of Y is Rs. 2 per unit
Therefore, the consumer can get either 20 units of X and no Y.

OR

50 units of Y and no X.

OR

Combination of X and Y

Hence, 20 X and 50 Y form the two extreme limits of his expenditure. But the consumer can buy any ONE of the many combinations of X and Y' within these limits. Graphically it can be shown as follows:
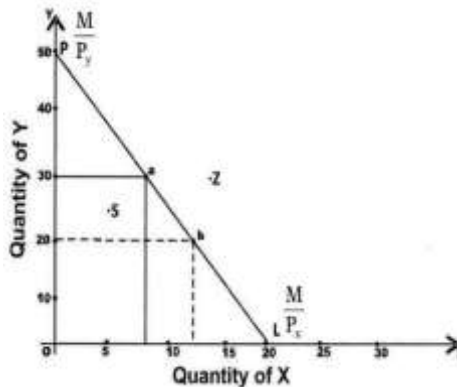
This budget line corresponds to the following equation, called Budget Line Equation

$$Px.X + Py.Y = M$$

Where-
M = Total Money Income
Px = Price of commodity 'X'
X = Quantity of X commodity
Py = Price of commodity
Y = Quantity of 'Y' commodity

Observations from Diagrammatic Representation of Budget Line

Attainable Combinations:

All points on the budget line represent those combinations of goods that can be purchased with the given amount of budget and at which complete budget is spent. On the other hand, points inside budget line represents those combinations at which entire budget is not spent i.e. some part of it remains unspent.

Unattainable Combinations:

Any point outside Budget line represents unattainable combination i.e. these goods cannot be purchased with the given budget and price levels.

These can become attainable only in following scenarios:

> When prices of goods decrease
> When budget of the customer increases

Slope of Budget Line:

The slope of budget line is equal to the ratio of the prices of two goods i.e. ratio of the prices of X to the price of Y.

Thus, the slope of the budget line PL is $\frac{Px}{Py}$

CONSUMER EQUILIBRIUM UNDER ORDINAL APPROACH

Meaning

The consumer is said to be in equilibrium when he maximizes his satisfaction {i.e. utility), given the constraint of his limited budget.

Meaning

The consumer has a fixed amount of money income to spend.
The consumer intends to buy TWO GOODS.
The Consumer is RATIONAL and tries to maximise his satisfaction.
The prices of two goods are GIVEN and are CONSTANT. Therefore, budget line has constant slope.
Goods are HOMOGENEOUS and DIVISIBLE.
The scale of preference of consumer i.e. his taste & preferences remains unchanged. Scale of preference is expressed through indifference map.

▶ How do we achieve Consumer Equilibrium

To explain the consumer's equilibrium under ordinal approach, we have to make use of TWO TOOLS of indifference curve analysis namely-

The consumer's INDIFFERENCE MAP, and   *His PRICE/BUDGET LINE*

The CONSUMER'S INDIFFERENCE MAP shows all indifference curves which rank the consumer's preferences between various possible combinations of TWO commodities.

To maximises his satisfaction consumer would like to reach highest possible indifference curve.

The slope of IC at any one point shows the MARGINAL RATE OF SUBSTITUTION (which diminishes).

$$\text{Thus, } \mathbf{MRSxy} = \frac{\mathbf{MUX}}{\mathbf{MUy}}$$

To maximise satisfaction consumer will try to reach the highest possible IC and so will try to buy more and more of the two commodities.

But there are limits to which he can go on and on.

These limits are imposed **(i)** his money income, & **(ii)** prices of the commodities. These limits are described by PRICE/BUDGET LINE which shows the various combinations of two commodities the consumer can afford to buy.

All the combinations lying on the budget line are affordable by the consumer. Any, combination lying beyond budget line is unaffordable.

The slope of budget/price line shows the ratio of the prices of two commodities i.e.$\frac{\mathbf{Px}}{\mathbf{Py}}$

Now we can show how a consumer reaches equilibrium i.e., how he allocates his money expenditure between commodities X and Y and gets maximum satisfaction.

For showing this, we will have to superimpose the price line on the indifference map as follows-
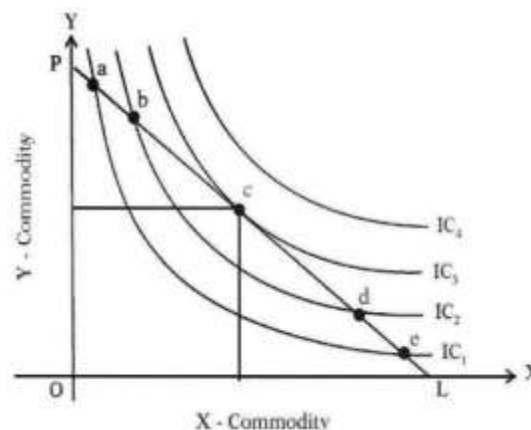
➜ *In order to maximise his satisfaction, the consumer will try to reach highest IC i.e. IC4.*
➜ *But the budget constraint forces him to remain ON THE BUDGET LINE.*
➜ *In the diagram, budget line PL shows all the combinations of X & Y that the consumer can buy. In diagram, we find combinations a, b, c, d, e lie on budget line PL and hence are affordable.*

Law of Demand and Determinants of Demand	Expansion and Contraction of Demand	Increase and Decrease in Demand	Elasticity of Demand	Demand Forecasting

The market system is governed by market mechanism. In a market system, the price of a commodity or service is determined by the forces of demand and supply. While buyers constitute the demand side of the market, sellers make the supply side of that market.

MEANING OF DEMAND

Initial Concept

The concept 'demand' refers to the quantity of a good or service that consumers are willing and able to purchase at various prices during a given period of time.

Demand v/s Desire

It is to be noted that demand, in Economics, is something more than the desire to purchase, though desire is one element of it. A beggar, for instance, may desire food, but due to lack of means to purchase it, his demand is not effective.

Thus, effective demand for a thing depends on desire means to purchase and willingness to use those means for that purchase.

Unless desire is backed by purchasing power or ability to pay, and willingness to pay, it does not constitute demand.

> Remember: It is only the Effective demand alone which would figure in economic analysis and business decisions.

Points to be noted about quantity demanded

Two things are to be noted about the quantity demanded: -

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

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

Final Definition of Demand

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

DETERMINANTS OF DEMAND

Price of the commodity

Ceteris paribus i.e. other things being equal, the demand for a commodity is *inversely related* to its price. It implies that a rise in the price of a commodity brings about *a fall in the quantity purchased and vice-versa.* This happens because of income and substitution effects – discussed in detail later on in the Chapter.

Price of the related commodity:

Related commodities are of *two types:*

(i) complementary goods and

(ii) competing goods or substitutes.

Complementary goods

These are those goods which are consumed *together or simultaneously.*

Example: Tea and sugar, automobile and petrol and pen and ink. When two commodities are complements, a fall in the price of one (other things being equal) will cause the demand for the other to rise.

Example: A fall in the price of petrol-driven cars would lead to a rise in the demand for petrol. Similarly, a fall in the price of fountain pens will cause a rise in the demand for ink. The reverse will be the case when the *price of a complement rises.*

Conclusion: Thus, there is an inverse relation between the demand for a good and the price of its complement.

▶ Substitute goods

Two commodities are called competing goods or substitutes when they satisfy the same want and can be used with ease in place of one another.

Example: Tea and coffee, ink pen and ball pen, are substitutes for each other and can be used in place of one another easily. When goods are substitutes, a fall in the price of one (ceteris paribus) leads to a fall in the quantity demanded of its substitutes.

Example: If the price of tea falls, people will try to substitute it for coffee and demand more of it and less of coffee i.e. the demand for tea will rise and that of coffee will fall.

> Conclusion: There is direct or positive relation between the demand for a product and the price of its substitutes.

⬡ Income of the consumer

Other things being equal, the demand for a commodity depends upon the money income of the consumer. The purchasing power of the consumer is determined by the level of his income.

▶ Normal goods

In most cases, the larger the average money income of the consumer, the larger is the quantity demanded of a particular good. The nature of relationship between income and quantity demanded depends upon the nature of consumer goods.

Most of the consumption goods fall under the category of normal goods. <u>These are demanded in increasing quantities as consumers' income increases</u>. Household furniture, clothing, automobiles, consumer durables and semi durables etc. fall in this category.

Essential consumer goods such as food grains, fuel, cooking oil, necessary clothing etc., satisfy the basic necessities of life and are consumed by all individuals in a society. A change in consumers' income, although will cause an increase in demand for these necessities, but this increase will be less than proportionate to the increase in income.

This is because as people become richer, there is a relative decline in the importance of food and other non-durable goods in the overall consumption basket and a rise in the importance of durable goods such as a TV, car, house etc.

► *Inferior goods*

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

How to differentiate between normal goods and inferior goods:
A same good may be normal for one condition and may be inferior in another. **Example:** Bajra may become an inferior good for a person when his income increases above a certain level and he can now afford better substitutes such as wheat. Demand for luxury goods and prestige goods arise beyond a certain level of consumers' income and keep rising as income increases.
How is this factor relevant for decision making:
Business managers should be fully aware of the nature of goods which they produce (or the nature of need which their products satisfy) and the nature of relationship of quantities demanded with changes in consumer incomes. For assessing the current as well as future demand for their products, they should also recognize the movements in the macro-economic variables that act the incomes of the consumers.

Tastes and preferences of consumers

The demand for a commodity also depends upon the tastes and preferences of consumers and changes in them over a period of time. Goods which are modern or more in fashion command higher demand than goods which are of old design and out of fashion. Consumers may perceive a product as obsolete and discard it before it is fully utilised and prefer another good which is currently in fashion.

Example: There is greater demand for LCD/LED televisions and more and more people are discarding their ordinary television sets even though they could have used it for some more years.

Demonstration effect' or 'bandwagon effect'
It plays an important role in determining the demand for a product. An individual's demand for LCD/LED television may be affected by his seeing one in his neighbour's or friend's house, either because he likes what he sees or because he figures out that if his neighbour or friend can afford it, he too can. A person may develop a taste or preference for wine after tasting some, but he may also develop it after discovering that serving it enhances his prestige.

Snob Effect or Veblen Effect

On the contrary, when a product becomes common among all, some people decrease or altogether stop its consumption. This is called 'snob effect'. Highly priced goods are consumed by status seeking rich people to satisfy their need for conspicuous consumption.

This is called 'Veblen effect' (named after the American economist Thorstein Veblen). In any case, people have tastes and preferences and these change, sometimes, due to external and sometimes, due to internal causes and influence demand.

Consumers' Expectations

Consumers' expectations regarding future prices, income, supply conditions etc. *influence current demand*. *If the consumers expect increase in future prices, increase in income and shortages in supply, more quantities will be demanded.*

If they expect a fall in price, they will postpone their purchases of nonessential commodities and therefore, the current demand for them will fall.

Other Factors

Size of population

Generally, larger the size of population of a country or a region, greater is the demand for commodities in general.

Composition of population

If there are more old people in a region, the demand for spectacles, walking sticks, etc. will be high. Similarly, if the population consists of more of children, demand for toys, baby foods, toffees, etc. will be more.

The level of National Income and its Distribution

The level of national income is a crucial determinant of market demand. Higher the national income, higher will be the demand for all normal goods and services.

The wealth of a country may be unevenly distributed so that there are a few very rich people while the majority are very poor. Under such conditions, the propensity to consume of the country will be relatively less, because the propensity to consume of the rich people is less than that of the poor people.

Consequently, the demand for consumer goods will be comparatively less. If the distribution of income is more equal, then the propensity to consume of the country as a whole will be relatively high indicating higher demand for goods.

> **Consumer- credit facility and interest rates**
>
> Availability of credit facilities induces people to purchase more than what their current incomes permit them. Credit facilities mostly determine the demand for durable goods which are expensive and require bulk payments at the time of purchase. Low rates of interest encourage people to borrow and therefore demand will be more.
>
> Apart from above, factors such as government policy in respect of taxes and subsidies, business conditions, wealth, socioeconomic class, group, level of education, marital status, weather conditions, salesmanship and advertisements, habits, customs and conventions also play an important role in influencing demand.

DEMAND FUNCTION

The demand function states the relationship between the demand for a product (the dependent variable) and its determinants (the independent or explanatory variables).
A demand function may be expressed as follows:

$$Dx = f(PX, M, PY, PC, T, A)$$

Where;
- ➔ Dx is the quantity demanded of product X
- ➔ PX is the price of the commodity
- ➔ M is the money income of the consumer
- ➔ PY is the price of its substitutes
- ➔ PC is the price of its complementary goods
- ➔ T is consumer tastes, and preferences
- ➔ A is advertisement expenditure

Law of Demand

According to the law of demand, other things being equal, if the price of a commodity falls, the quantity demanded of it will rise and if the price of a commodity rises, its quantity demanded will decline. Thus, there is an inverse relationship between price and quantity demanded, ceteris paribus.

Definition of the Law of Demand

Prof. Alfred Marshall defined the Law thus: "The greater the amount to be sold, the smaller must be the price at which it is offered in order that it may find purchasers or in other words the amount demanded increases with a fall in price and diminishes with a rise in price".

▶ Demand Schedule

A demand schedule is a table which presents the different prices of a good and the corresponding quantity demanded per unit of time.

A demand schedule is drawn upon the assumption that all the other influences remain unchanged. It thus attempts to isolate the influence exerted by the price of the good upon the amount sold.

Demand schedule and curve may be two types:

(A)*Individual demand schedule.:*

It shows the quantity of the commodities that one consumer will buy at selected prices.

Price of sugar Rs. per kg.	Quantity Demanded kgs. per month
1	5
2	4
3	3
4	2
5	1

(B)*Market demand schedule:*

It is a table showing different quantities of a commodity that ALL THE CONSUMERS are willing to buy at different prices, during a given period of time When we add the individual demands for various schedules we get market demand schedule.

Price of sugar Rs. per kg.	Quantity Demanded p.m. kgs.		Market Demand A + B
	Consumer A	Consumer B	
1	5	6	5 + 6=11
2	4	5	4 + 5 = 9
3	3	4	3 + 4 = 7
4	2	3	2 + 3 = 5
5	1	2	1+2 = 3

It indicates that both individual demand and market demand have inverse relationship between price and quantity demanded.

▶ Demand Curve

A demand curve is a graphical representation of a demand schedule or demand function.

A demand curve for any commodity can be drawn by plotting each combination of price and demand on a graph. **Price** (independent variable) is taken on the **Y-axis** and **quantity demanded** (dependent variable) on the **X-axis.**
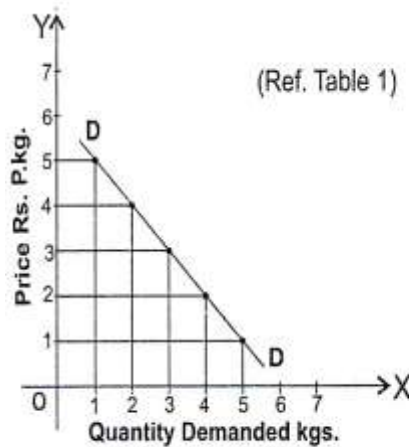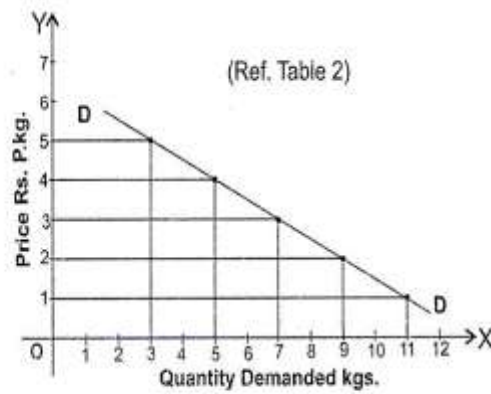
Figure: Individual Demand Curve

Figure: Market Demand Curve

Remember: Market Demand Curve is flatter than individual Demand Curve.

Rationale of Law of Demand

Different economists have given different explanations for the operation the of law of demand. These are given below:

Law of diminishing marginal utility

A consumer is in equilibrium (i.e. maximises his satisfaction) when the marginal utility of the commodity and its price equalize. According to Marshall, the consumer has diminishing utility for each additional unit of a commodity and therefore, he will be willing to pay only less for each additional unit.

A rational consumer will not pay more for lesser satisfaction. He is induced to buy additional units only when the prices are lower. The operation of diminishing marginal utility and the act of the consumer to equalize the utility of the commodity with its price result in a downward sloping demand curve.

Price effect

The total fall in quantity demanded due to an increase in price is *termed as Price effect*. The law of demand can be dubbed as "*Negative Price Effect*" with some exceptions. The price effect manifests itself in the form of income effect and substitution effect.

Substitution effect:

Hicks and Allen have explained the law in terms of substitution effect and income effect. When the price of a commodity falls, it becomes relatively cheaper than other commodities.

Assuming that the prices of all other commodities remain constant, it induces consumers to substitute the commodity whose price has fallen for other commodities which have now become relatively expensive.

The result is that the total demand for the commodity whose price has fallen increases. This is called substitution effect.

Income effect:

When the price of a commodity falls, the consumer can buy the same quantity of the commodity with lesser money or he can buy more of the same commodity with the same amount of money. In other words, as a result of fall in the price of the commodity, consumer's real income or purchasing power increases.

This increase in the real income induces him to buy more of that commodity. Thus, the demand for that commodity (whose price has fallen) increases. This is called income effect.

▶ *Arrival of new consumers*

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

▶ *Different uses*

Certain commodities have multiple uses. If their prices fall, they will be used for varied purposes and therefore their demand for such commodities will increase. When the price of such commodities is high (or rises) they will be put to limited uses only.

Thus, different uses of a commodity make the demand curve slope downwards reacting to changes in price.

Example: Olive oil can be used for cooking as well as for cosmetic purposes. So, if the price of olive oil rises, we can limit our usage and thus the demand will fall.

Exceptions to the Law of Demand

The law of demand is valid in most cases; however, there are certain cases where this law does not hold good. The following are the important exceptions to the law of demand.

▶ *Conspicuous goods*

Articles of prestige value or snob appeal or articles of conspicuous consumption are demanded only by the rich people and these articles become more attractive if their prices go up.

Such articles will not conform to the usual law of demand. This was found out by Veblen in his doctrine of **"Conspicuous Consumption" and hence this effect is called Veblen effect or prestige** *goods effect*. Veblen effect takes place as some consumers measure the utility of a commodity by its price i.e., if the commodity is expensive, *they think that it has got more utility*.

As such, they buy less of this commodity at low price and more of it at high price. Diamonds are often given as an example of this case. Higher the price of diamonds, higher is the prestige value attached to them and hence higher is the demand for them.

▶ Giffen goods

Sir Robert Giffen, a Scottish economist and statistician, was surprised to find out that as the price of bread increased, the British workers purchased more bread and not less of it. This was something against the law of demand.

Why did this happen? The reason given for this is that when the price of bread went up, it caused such a large decline in the purchasing power of the poor people that they were forced to cut down the consumption of meat and other more expensive foods. Since bread, even when its price was higher than before, was still the cheapest food article, people consumed more of it and not less when its price went up.

Such goods which exhibit direct price-**demand relationship are called 'Giffen** goods. Generally, those goods which are inferior, *with no close substitutes easily available and which occupy a* **substantial place in consumer's budget are called 'Giffen** *goods.*

All Giffen goods are inferior goods; but all inferior goods are not Giffen goods. Inferior goods ought to have a close substitute. Moreover, the concept of inferior goods is related to the income of the consumer i.e. the quantity demanded of an inferior good fall as income rises, price remaining constant as against the concept of giffen goods which is related to the price of the product itself. Examples of Giffen goods are coarse grains like bajra, low quality rice and wheat etc.

▶ Conspicuous necessities

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

▶ Future expectations about prices

It has been observed that when the prices are rising, households *expecting that the prices in the future will be still higher, tend to buy larger quantities* of such commodities.

Example: when there is wide-spread drought, people expect that prices of food grains would rise in future. They demand greater quantities of food grains as their price rise.

However, it is to be noted that here it is *not the law of demand which is invalidated but there is a change in one of the factors which was held constant* while deriving the law of demand, namely change in the price expectations of the people.

▶ Irrational behaviour of Consumers

The law has been derived assuming consumers to be *rational and knowledgeable about market-conditions.*

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

▶ Demand for necessaries

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

Similarly, in practice, a household may demand larger quantity of a commodity even at a higher price because it may be ignorant of the ruling price of the commodity. Under such circumstances, the law will *not remain valid.*
Example: Food, power, water, gas.

▶ Speculative goods

In the speculative market, particularly in the market for stocks and shares, *more will be demanded when the prices are rising and less will be demanded when prices decline.*

Expansion and Contraction of Demand

(Changes in quantity demanded. Or movement along a demand curve)
Expansion and contraction of demand mean changes in quantity demanded due to change in the price of the commodity other determinants like income, tastes, etc. remaining constant or unchanged.

| When price of a commodity falls, its quantity demanded rises. This is called expansion of demand. | When price of a commodity rises, its quantity demanded falls. This is called contraction of demand. |

As other determinants of price like income, tastes, price of related goods etc. are constant, the position of the demand curve remains the same. The consumer will move upwards or downwards on the same demand curve.
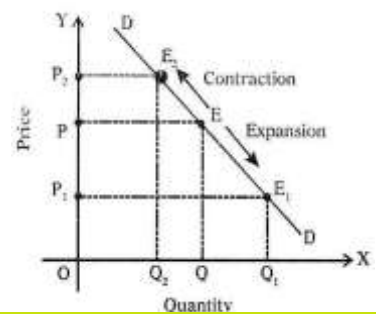
Expansion and Contraction of Demand

In the figure
At price OP quantity demanded is OQ.
With a fall in price to OP1, the quantity demanded rises from OQ to OQ1. The coordinate point moves down from E to E1. This is called 'expansion of demand' or 'a rise in quantity demanded' or 'downward movement on the same demand curve'.
At price OP quantity demanded is OQ.
With a rise in price to P2, the quantity demanded falls from OQ to OQ2. The coordinate point moves up from E to E2. This is called 'contraction of demand' or 'a fall in quantity demanded' or 'upward movement on the same demand curve'.
Thus, the downward movement on demand curve is known as expansion in demand and an upward movement on demand curve is known as contraction of demand.

Increase and decrease in demand

(changes in demand OR shift in demand curve)

When there is change in demand due to change in factors other than price of the commodity, it is called increase or decrease in demand.
It is the result of change in consumer's income, tastes and preferences, changes in population, changes in the distribution of income, etc.

➔ *Thus, price remaining the same when demand rises due to change in factors other than price, it is called increase in demand. Here, more quantity is purchased at same price or same quantity is purchased at higher price.*

➔ Likewise price remaining the same when demand falls due to change in factors other than price, it is called <u>decrease in demand. Here, less quantity is purchased at same price or same quantity is purchased at lower price.</u>

➔ In above cases demand curve shifts from its original position <u>to rightward when demand increases and to leftward when demand decreases</u>. Thus, change in demand curve as a result of increase or decrease in demand, is technically called <u>shift in demand curve.</u>
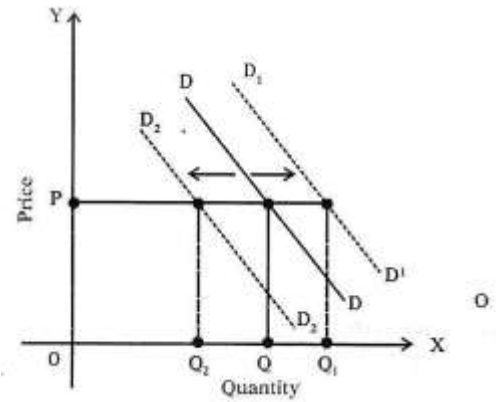

Figure: Increase and decrease in demand

In the figure
Original demand curve is DD. At OP price OQ quantity is being demanded.
As the demand changes, the demand curve shifts either to the right (D1D1) or to the left (D2D2)
At D1D1, OQ1 quantity is being demanded at the price OP. <u>This shows increase in demand (rightward shifts in demand curve)</u> due to factor other than price.
At D2D2, QO2 quantity is being demanded at the price OP. <u>This shows decrease in demand (leftward shift in demand curve)</u> due to a factor other than price.
When demand of a commodity INCREASES due to factors other than price, firms can sell a larger quantity at the prevailing price and earn higher revenue.
The aim of advertisement and sales promotion activities is to shift the demand curve to the right and to reduce the elasticity of demand.

Elasticity of Demand

▶ Definition:

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

These variables are price of the commodity, prices of the related commodities, income of the consumers and other factors on which demand depends.
Thus, we have price elasticity, cross elasticity, income elasticity, advertisement elasticity and elasticity of substitution,
It is to be noted that when we talk of elasticity of demand, unless and until otherwise mentioned, we talk of price elasticity of demand. In other words, it is price elasticity of demand which is usually referred to as elasticity of demand

Price Elasticity

Price elasticity measures the degree of responsiveness of quantity demanded of a commodity to a change in its price, given the consumer's income, his tastes and prices of all other goods. It reflects how sensitive buyers are to change in price.

Price elasticity of demand can be defined '(as a ratio of the percentage change in the quantity demanded of a commodity to the percentage change in its own price".

It may be expressed as follows:

$$Ep = \frac{\text{Percentage change in quantity demanded}}{\text{Percentage change in price}} = \frac{\frac{\text{Change in Price}}{\text{Original Price}} \times 100}{\frac{\text{Change in Quantity}}{\text{Original Quantity}} \times 100}$$

$$\frac{\text{Change in Quantity Demanded}}{\text{Quantity Demanded}} \div \frac{\text{Change in Price}}{\text{Price}}$$

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

Rearranging the above expression we get:

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

Where—

q = Original quantity demanded

p = Original price

Δ = indicates change

Ep = price elasticity

> *Remember: Since price and quantity demanded are inversely related, the value of price elasticity coefficient will always be negative. But for the value of elasticity coefficients, we ignore the negative sign and consider the numerical value only.*

Example: The price of a commodity decreases from Rs. 6 to Rs. 4 and quantity demanded of the good increases from 10 units to 15 units. Find the coefficient of price elasticity.
Solution: Price elasticity = (-) Δ q / Δ p × p/q = 5/2 × 6/10 = (-) 1.5

Example: A 5% fall in the price of a good leads to a 15% rise in its demand. Determine the elasticity and comment on its value.
Solution: - Price elasticity = Percentage change in quantity demanded Percentage change in price = 15% / 5% = 3 Comment: The good in question has elastic demand.

Example: The price of a good decrease from Rs. 100 to Rs. 60 per unit. If the price elasticity of demand for it is 1.5 and the original quantity demanded is 30 units.

Calculate the new quantity demanded.

*Solution: - Ep = _q/_p * p/q, here △ q 40 100 30 x = 1.5 1.5 x 1200 100 = = 18 △ q Therefore new quantity demanded = 30+18 = 48 units.*

▶ *The degrees (types) of price elasticity of demand*

Price elasticity measures the degree of responsiveness of quantity demanded of a commodity to a change in its price. Depending upon the degree of responsiveness of the quantity demanded to the price changes, we can have the following kinds of price elasticity of demand.

1. Perfectly Inelastic Demand: (Ep = 0):

When change in price has no effect on quantity demanded, then demand is perfectly inelastic.

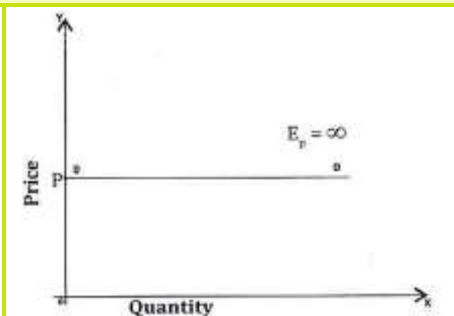Example: If price falls by 20% and the quantity demanded remains unchanged then,
EP = 0/20 = 0. In this case, the demand curve is a vertical straight-line curve parallel to y-axis as shown in the figure.
The figure shows that, whatever the price, quantity demanded of the commodity remains unchanged at OQ.
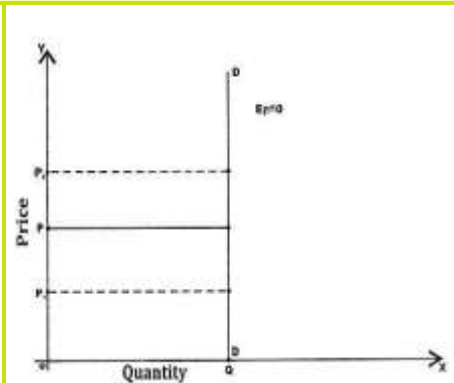
2. Perfectly Elastic Demand: (Ep = ∞):

When with no change in price or with very little change in price, the demand for a commodity expands or contracts to any extent, the demand is said to be perfectly elastic. In this case, the demand curve is a horizontal and parallel to X-axis.

The figure shows that demand curve DD is parallel to X-axis which means that at given price, demand is ever increasing.

3. Unit Elastic Demand: (E = 1):

When the percentage or proportionate change in price is equal to the percentage or proportionate change in quantity demanded, then the demand is said to be unit elastic.
Example: If price falls by 10% and the demand rises by 10% then, Demand Curve DD is a rectangular hyperbola curve suggesting unitary elastic demand. EP = 10/10 = 1.
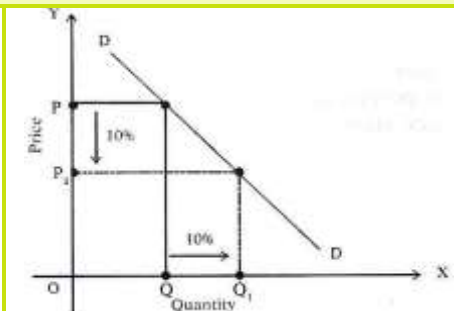
4. Relatively Elastic Demand: (Ep >1):

When a small change in price leads to more than proportionate change in quantity demanded then the demand is said to be relatively elastic

Example: If price falls by 10% and demand rises by 30% then, Ep = 30/10 = 3 > 1. The coefficient of price elasticity would be somewhere between ONE and INFINITY. The elastic demand curve is flatter as shown in figure.

Demand curve DD is flat suggesting that the demand is relatively elastic or highly elastic. Relatively elastic demand occurs in case of less urgent wants or if the expenditure on commodity is large or if close substitutes are available.

5. Relatively Inelastic Demand: (EP < 1):

When a big change in price leads to less than proportionate change in quantity demanded, then the demand is said to be relatively inelastic.
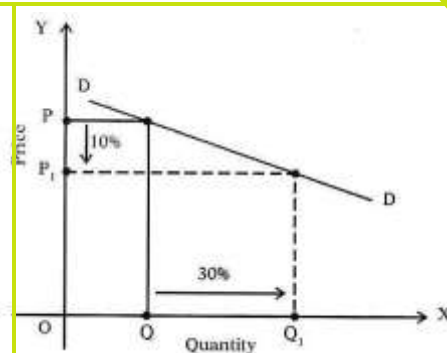
Example: If price falls by 20% and demand rises by 5% then, Ep = 5/20 = 1/4 < 1 The coefficient of price elasticity is somewhere between ZERO and ONE. The demand curve in this case has steep slope.

Demand curve DD is steeper suggesting that demand is less elastic or relatively inelastic. Relatively inelastic demand occurs in case compulsory goods i.e. necessities of life.
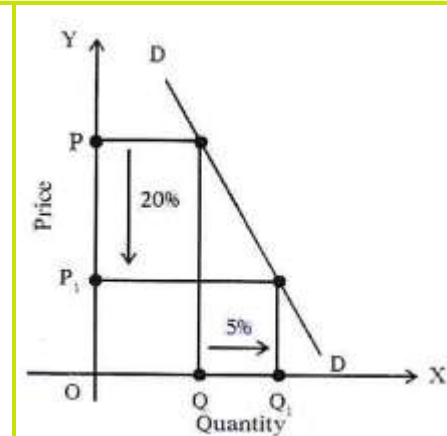
Numerical measure of elasticity	Verbal description	Terminology
Zero	Quantity demanded does not change as price changes	Perfectly (or completely) inelastic
Greater than zero, but less than one	Quantity demanded changes by a smaller percentage than does price	Inelastic
One	Quantity demanded changes by exactly the same percentage as does price	Unit elasticity
Greater than one, but less than infinity	Quantity demanded changes by a larger percentage than does price	Elastic
Infinity	Purchasers are prepared to buy all they can obtain at some price and none at all at an even slightly higher price	Perfectly (or infinitely) elastic

Measurement of price elasticity of demand

The different methods of measuring price elasticity of demand are:

| The Percentage or Ratio or Proportional Method, | The Total Outlay Method, | The Point or Geometrical Method, and | The Arc Method |

1. The Percentage Method:

This method is based on the definition of elasticity of demand. The coefficient of price elasticity of demand is measured by taking ratio of percentage change in demand to the percentage change in price. Thus, we measure the price elasticity by using the following formula—

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

Where—

Δq = Change in quantity demanded

q = Original quantity demanded

Δp = change in price

p = Original price

If the coefficient of above ratio is equal to ONE or UNITY, the demand will be unitary.

If the coefficient of above ratio is MORE THAN ONE, the demand is relatively elastic.

If the coefficient of above ratio is LESS THAN ONE, the demand is relatively inelastic.

2. The Total Outlay or Expenditure Method or Seller's Total Revenue Method:

The total outlay refers to the total expenditure done by a consumer on the purchase of a commodity. It is obtained by multiplying the price with the quantity demanded. Thus,

Total Outlay (TO) = Price (P) × Quantity (Q) TO = P × Q

In this method, we measure price elasticity by examining the change in total outlay due to change in price. Dr. Alfred Marshall laid the following propositions:

a. When with the change in price, the TO remains unchanged, Ep =1.

b. When with a rise in price, the TO falls or with a fall in price, the TO rises, Ep >1

c. When with a rise in price, the TO also rises and with a fall in price, the TO also falls, Ep < 1.

Price per Unit (Rs.)	Quantity Demanded	Total Outlay (P × Q)	Elasticity of Demand
5	20 Units	100	EP =1
4	25 Units	100	Unitary

5	20 Units	100	EP > 1
4	30 Units	120	Elastic
5	20 Units	100	EP <1
4	22 Units	88	Inelastic

➜ However, total outlay method of measuring price elasticity is less exact. This method only classifies elasticity into elastic, inelastic and unit elastic.

➜ The exact and precise coefficient of elasticity cannot be found out with this method.

3. The Point Method or Geometric Method

➜ The point elasticity method, we measure elasticity at a given point on a demand curve.

➜ This method is useful when changes in price and quantity demanded are very small (infinitesimal) so that they can be considered one and the same point only.

Example: If price of X commodity was Rs. 5,000 per unit and now it changes to Rs. 5002 per unit which is very small change. In such a situation we measure elasticity at a point on demand curve by using formula

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

Diagrammatically also we can find elasticity at a point by using the formula—

$$Ep = \frac{\text{Lower Segment of the Demand Curve}}{\text{Upper Segment of the Demand Curve}}$$
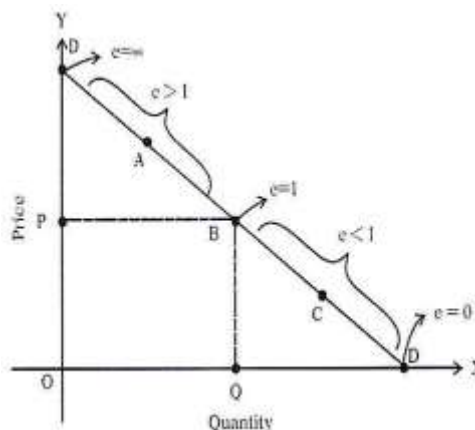
The figure shows that even though the shape of the demand curve is constant, the elasticity is different at different points on the curve.

If the demand curve is not a straight line curve, then in order to measure elasticity at a point on demand curve we have to draw tangent at the given point and then measure elasticity using the above formula.

We can also find out numerical elasticities on different points.

4. The Arc Elasticity Method

When there is large change in the price or we have to measure elasticity over an arc of the demand curve, we use the "arc method" to measure price elasticity of demand.

The arc elasticity is a measure of the "average elasticity" i.e. elasticity at MID-POINT that connects the two points on the demand curve.

Thus, an arc is a portion of a curved line, hence a portion of a demand curve. Here instead of using original or new data as the basis of measurement, we use average of the two.
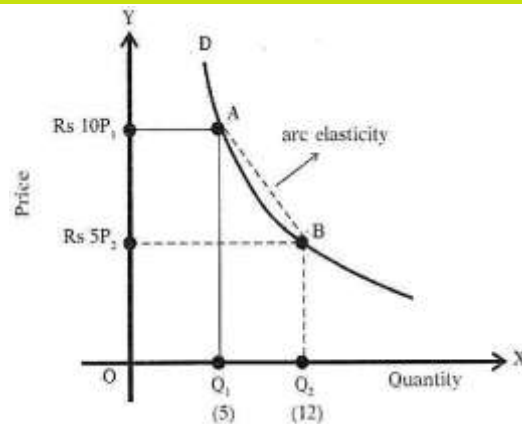
The formula used is—

$$Ep = \frac{q1 - q2}{q1 + q2} \times \frac{p1 + p2}{p1 - p2}$$

Where – P1 & q1 = Original price and quantity p2 & q2 = new price and quantity

$$Ep = \frac{5 - 12}{5 + 12} \times \frac{10 + 5}{10 - 5}$$

$$Ep = \frac{-7}{17} \times \frac{15}{5} = \frac{21}{17} = 1.23$$

$$Ep = 1.23$$

Determinants of Price Elasticity of Demand

Availability of substitutes

One of the most important determinants of elasticity is the *degree of availability of close substitutes.*

In case of commodities like butter, cabbage, Maruti Car, Coca Cola, etc. having close substitutes, a change in the price of these commodities, the prices of the substitutes remaining constant, can be expected to cause quite substantial substitution – a fall in price leading consumers to buy more of the commodity in question and a rise in price leading consumers to buy more of the substitutes.

Commodities such as salt, housing, and all vegetables taken together, have few, if any, satisfactory substitutes and a rise in their prices may cause a smaller fall in their quantity demanded.

Thus, we can say that goods which typically have close or perfect substitutes have highly elastic demand curves. Moreover, wider the range of substitutes available, the greater will be the elasticity.

Point to be noted: It should be noted that while as a group, a good or service may have inelastic demand, but when we consider its various brands, we say that a particular brand has elastic demand. Thus, while the demand for a generic good like petrol is inelastic, the demand for Indian Oil's petrol is elastic. Similarly, while there are no general substitutes for health care, there are substitutes for one doctor or hospital.

▶ Position of a commodity in a consumer's budget

The greater the proportion of income spent on a commodity; generally the greater will be its elasticity of demand and vice- versa.

The demand for goods like common salt, matches, buttons, etc. tend to be highly inelastic because a household spends only a fraction of their income on each of them.

On the other hand, demand for goods like clothing, tends to be elastic since households generally spend a good part of their income on clothing.

▶ Nature of the need that a commodity satisfies

In general, luxury goods are price elastic while necessities are price inelastic. Thus, while the demand for television is relatively elastic, the demand for food and housing, in general, is inelastic. If it is possible to postpone the consumption of a particular good, such good will have elastic demand. Consumption of necessary goods cannot be postponed and therefore,their demand is inelastic.

▶ Nature of uses to which a commodity can be put:

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

▶ Time period:

The longer the time-period one has, the more completely one can adjust.

Example: In response to a higher petrol price, one can, in the short run, make fewer trips by car. In the longer run, not only can one make fewer trips, but he can purchase a car with a smaller engine capacity when the time comes for replacing the existing one. Hence one's demand for petrol falls by more when one has made long term adjustment to higher prices.

Consumer habits

If a consumer is a habitual consumer of a commodity, no matter how much its price change, the demand for the commodity will be inelastic.

Tied demand

The demand for those goods which are tied to others is normally inelastic as against those whose demand is of autonomous nature.
Example: printers and ink cartridges.

Price range

Goods which are in very high price range or in very low-price range have inelastic demand, but those in the middle range have elastic demand.

How is concept of Price Elasticity relevant in Business Economics

Relevance for Business Managers

Knowledge of the price elasticity of demand and the factors that may change it is of key importance to business managers because it helps them recognise the effect of a price change on their total sales and revenues.
Price elasticity of demand for the goods they sell helps them in arriving at an optimal pricing strategy.
If the demand for a firm's product is relatively elastic, the managers need to recognize that lowering the price would expand the volume of sales, and result in an increase in total revenue.

On the other hand, if demand were relatively inelastic, the firm may safely increase the price and thereby increase its total revenue as they know that the fall in sales would be less than proportionate.

▶ ## *Relevance for Governments*

Knowledge of price elasticity of demand is important for governments while determining the prices of goods and services provided by them, such as, transport and telecommunication.

Further, it also helps the governments to understand the nature of responsiveness of demand to the increase in prices on account of additional taxes and the implications of such responses on the tax revenues.

Elasticity of demand explains why Governments are inclined to raise the indirect taxes on those goods that have a relatively inelastic demand, like alcohol and tobacco products.

Income Elasticity of Demand

The income elasticity of demand measures the degree of responsiveness of quantity demanded to changes in income of the consumers.

The income elasticity is defined as a ratio of percentage change in the quantity demanded to the percentage change in income.

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

$$\text{Symbolically} - \frac{\Delta Q}{\Delta Y} \times \frac{Y}{Q}$$

Where - ΔQ & ΔY denote new quantity & income.
Q & Y denote original quantity & income.

The income elasticity of demand is **POSITIVE for all normal or luxury goods** and the income elasticity of demand is **NEGATIVE for inferior goods**. Income elasticity can be classified under five heads:

▶ ## *Zero Income Elasticity*

It means that a given increase in income does not at all lead to any increase in quantity demanded of the commodity.

*In other words, demand for the commodity is **completely income inelastic or E = 0.***

*Commodities having zero income elasticity are **called NEUTRAL GOODS.***

Example: Demand in case of SALT, MATCH BOX, KEROSENE OIL, POST CARDS, etc.

Negative Income Elasticity

It means that an increase in income results in fall in the quantity demanded of the **commodity or Ey <0.**

Commodities having negative income elasticity are **called INFERIOR GOODS.**

Example: Jawar, Bajra, etc.

Unitary Income Elasticity:

It means that the proportion of consumer's income spent on the commodity remains unchanged before and after the **increase in income or Es = 1**. This represents a useful dividing line.

Income Elasticity Greater Than Unity:

It refers to a situation where the consumers spends GREATER proportion of his income on a commodity when he becomes richer. **Ey > 1,**

Example: In the case of LUXURIES like cars, TV. sets, music system, etc.

Income Elasticity Less Than Unity:

It refers to a situation where the consumer spends a SMALLER proportion of his income on a commodity when he becomes richer. **Ey < 1**

Example: In the case of NECESSITIES like rice, wheat, etc
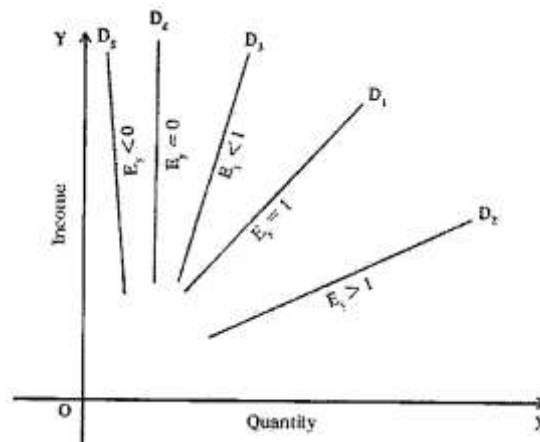
Point to remember: It is to be noted that the words 'luxury', 'necessity', 'inferior good' do not signify the strict dictionary meanings here. In economic theory, we distinguish them in the manner shown above (i.e. based on their income elasticity)

How is Income Elasticity relevant in Business Economics

Knowledge of income elasticity of demand is very useful for a business firm in estimating future demand for its products. <u>Knowledge of income elasticity of demand helps firms predict the outcome of a business cycle on its market demand</u>. This enables the firm to carry out appropriate production planning and management.

> ## Cross Elasticity of Demand

Many times, demand for two goods are related to each other. Therefore, when the price of a particular commodity changes, the demand for other commodities changes, even though their own prices have not changed. We measure this change under cross elasticity.

The cross elasticity of demand can be defined "as the degree of *responsiveness of demand for a commodity to a given change in* the price of some RELATED commodity" OR "as the ratio of *percentage change in quantity demanded of commodity X to a given percentage change in the* price of the related commodity Y". Symbolically:

$$Ec = \frac{\% \text{ change in demanded of X}}{\% \text{ change in price of Y}}$$

$$Ep = \frac{\Delta qX}{\Delta py} \times \frac{py}{pX}$$

Where, Ec = cross elasticity
qx = Original quantity of X which is demanded
py = Original price of Y
Δ = denotes change

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

Example: The price of 1 kg of sugar is Rs. 50. At this price 10 kg is demanded. If the price of tea falls from Rs. 30 to Rs. 25 per kg, the consumption of sugar rises from 10 kg to 12 kg. Find out the cross-price elasticity and comment on its value.
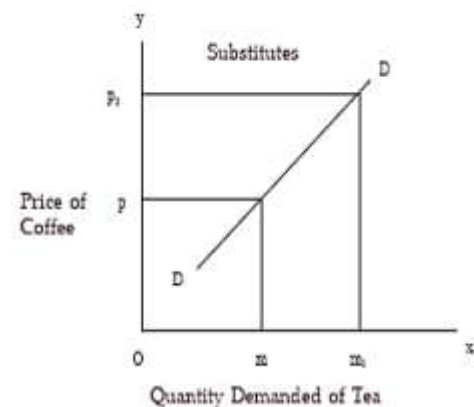
Cross elasticity of demand can be used to classify goods as follows:

Substitute Goods:

Example: Tea and Coffee. The cross elasticity between two substitutes is always POSITIVE. In the case of substitute commodities, the cross-demand curve slopes upwards (i.e. positively) showing that more quantities of a commodity, will be demanded whenever there is a rise in the price of a substitute commodity. <u>If cross elasticity is infinite, the two goods are perfect substitute</u> and if it is greater than zero but less than infinity, the goods are substitutes.

Independent Goods:

Example: Pastry and Scooter. The two commodities are not related. The cross elasticity in such cases is ZERO.

Complementary Goods:

Example: Petrol and Car. If the price of petrol rise, its demand falls and along with it demand for cars also falls. The cross elasticity in such cases is NEGATIVE. In the case of complementary goods, as shown in the figure below, a change in the price of a good will have an opposite reaction on the demand for the other commodity which is closely related or complementary. <u>Higher the negative cross elasticity, higher will be the extent of complementarity</u>.
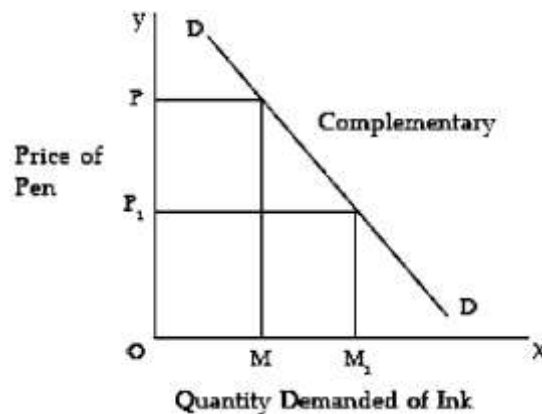
Relevance of Cross Elasticity in Business Economics

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

<u>*With proper knowledge of cross elasticity, the firm can plan policies to safeguard against fluctuating prices of substitutes and complements.*</u>

Advertisement Elasticity

Demand of many goods is also influenced by advertisement or promotional efforts.

It means that the demand for a good is responsive to the advertisement expenditure incurred by a firm.

The measurement of the degree of responsiveness of demand of a good to a given change in advertisement expenditure is called advertisement or promotional elasticity of demand.

It measures the percentage change in demand to a give ONE PERCENTAGE change in advertising expenditure. It helps a firm to know the effectiveness of its advertisement campaign.

Advertisement elasticity of demand is POSITIVE. Higher the value, higher is change in demand to change in advertisement expenditure.

$$Ea = \frac{\% \text{ change in demanded}}{\% \text{ change in advertisement expenditure}}$$

$$Ep = \frac{\Delta Q}{\Delta A} \times \frac{A}{Q}$$

Where -
A = advertisement expenditure
Q = quantity demanded
△ = change

The value of advertisement elasticity varies between zero and infinity. If-
1. Ea = 0, no change in demand to increase in advertisement expenditure
2. Ea > 0 but < 1, less than proportionate change in demand to a change in advertisement expenditure
3. Ea = 1, change in demand is equal to change in advertisement expenditure
4. Ea > 1, higher rate of change in demand than change in advertisement expenditure

Relevance of Advertisement Elasticity for Business Managers

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

DEMAND FORECASTING

Meaning

Forecasting of demand is the art and science of predicting the probable demand for a product or a service at some future date on the basis of certain past behaviour patterns of some related events and the prevailing trends in the present.

It should be kept in mind that demand forecasting is no <u>simple guessing</u>, but it refers to estimating demand <u>scientifically and objectively</u> on the basis of certain facts and events relevant to forecasting.

Why is it useful

Demand forecasting is an important function of managers as it reduces uncertainty of environment in which DECISIONS are made. <u>Further, it helps in PLANNING for future level of production. Its significance can be stated as follows:</u>

Production Planning:
Demand forecasting is a pre-requisite for planning of production in a firm. Expansion of production capacity depends upon likely demand for its output. Otherwise, there may be overproduction or underproduction leading to losses
Sales Forecasting
Sales forecasting depends upon demand forecasting. Promotional efforts of the firm like advertisements, suitable pricing etc. should be based on demand forecasting
Control of Business
Demand forecast provides information for budgetary planning and cost control in functional area of finance and accounting
Inventory Control
Demand forecasting helps in exercising satisfactory control of business inventories like raw-materials, intermediate goods, semi-finished goods, spare parts, etc. Estimates of future requirement of inventories is to be done regularly and it can be known from demand forecasts
Capital Investments
Capital investments yield returns over many years in future. Decision about investment is to be taken by comparing <u>rate of return on capital investment and current rate of interest</u>. Demand forecasting helps in taking investment decisions

Scope of Forecasting

Demand forecasting can be at the <u>international level</u> depending upon the area of operation of the given economic institution.

It can also be <u>confined to a given product or service</u> supplied by a small firm in a local area.

How to decide the scope

The scope of the forecasting task will depend upon <u>the area of operation of the firm</u> in the present as well as what is proposed in future.

Much would depend upon the cost and time involved in relation to the benefit of the information acquired through the study of demand. The necessary trade-off has to be struck between the cost of forecasting and the benefits flowing from such forecasting.

Types of Forecasts

Based on Scope of Study

Macro-level forecasting
It deals with the general economic environment prevailing in the economy as measured by the Index of Industrial Production (IIP), national income and general level of employment etc.
Industry-level forecasting
It is concerned with the demand for the industry's products as a whole. For example, demand for cement in India.
Firm-level Forecasting
It refers to forecasting the demand for a particular firm's product, say, the demand for ACC cement.

Based on time period

Short-term demand forecasting
It covers a short span of time, depending of the nature of industry. It is doneusually for six months or less than one year and is generally useful in tactical decisions.
Long-term forecasts
These are for longer periods of time, say two to five years and more. It provides information for major strategic decisions of the firm such as expansion of plant capacity.

Demand Distinction

A) Producer's goods v/s Consumer's Goods

Producer's Goods
Producer's goods are those which are used for the production of other goods - either consumer goods or producer goods themselves. Examples of such goods are machines, plant and equipment.
Consumer's Goods
Consumer's goods are those which are used for final consumption. Examples of consumer's goods are readymade clothes, prepared food, residential houses, etc.

B) Durable Goods v/s non-durable goods

Durable Goods
Durable goods do not quickly wear out, can be consumed more than once and yield utility over a period of time. Examples of durable consumer goods are: cars, refrigerators and mobile phones. Building, plant and machinery, office furniture etc are durable producer goods. The demand for durable goods is likely to be derived demand.
Non-durable goods
Non-durable goods are those which cannot be consumed more than once. Raw materials, fuel and power, packing items etc are examples of non-durable producer goods. Beverages, bread, milk etc. are examples of non-durable consumer goods. These will meet only the current demand.
Semi-durable goods
Goods like clothes and umbrella are semi-durable in nature since they possess the characteristics of both types of goods.

C) Derived Demand v/s Autonomous Demand

Derived Demand
The demand for a commodity that arises because of the demand for some other commodity called 'parent product', 'is called derived demand. **Example:** the demand for cement is derived demand, being directly related to building activity. In general, the demand for producer goods or industrial inputs is derived demand. Also, the demand for complementary goods is derived demand
Autonomous Demand
If the demand for a product is independent of the demand for other goods, then it is called autonomous demand. It arises on its own out of an innate desire of the consumer to consume or to possess the commodity. Remember: This distinction between derived and autonomous demand is purely arbitrary and it is very difficult to find out which product is entirely independent of other products.

D) Demand for Firm v/s Industry Demand

Industry Demand
The term industry demand is used to denote the total demand for the products of a particular industry, **Example:** the total demand for steel in the country

Demand for Firm's products

The demand for firm's product denotes the demand for the products of a particular firm, i.e. the quantity that a firm can dispose off at a given price over a period of time.

Example: demand for steel produced by the Tata Iron and Steel Company. The demand for a firm's product when expressed as a percentage of industry demand signifies the market share of the firm.

▶ *E) Short-run Demand and Long-run Demand*

Short run demand

Short-run demand refers to demand with its immediate reaction to changes in product price and prices of related commodities, income fluctuations, ability of the consumer to adjust their consumption pattern, their susceptibility to advertisement of new products etc.

Long-run demand

Long-run demand refers to demand which exists over a long period. Most generic goods have long-term demand. Long term demand depends on long-term income trends, availability of substitutes, credit facilities etc. In short, long-run demand is that which will ultimately exist as a result of changes in pricing, promotion or product improvement, after enough time is allowed to let the market adjust to the new situation.

For example, if electricity rates are reduced, in the short run, the existing users will make greater use of electric appliances. In the long-run, more and more people will be induced to use electric appliances.

Analysis of Demand Specific Factors

▶ *Factors affecting demand of non-durable consumer goods*

Disposable income:

Other things being equal, the demand for a commodity depends upon the disposable income of the household. Disposable income is found out by deducting personal taxes from personal income.

Price

Other things being equal, the demand for a commodity depends upon its own price and the prices of related goods (its substitutes and complements). While the demand for a good is inversely related to its own price and the price of its complements, it is positively related to the price of its substitutes.

Demography

This involves the characteristics of the population, human as well as non-human, using the product concerned. For example, it may pertain to the number and characteristics of children in a study of demand for toys and characteristics of automobiles in a study of the demand for tyres or petrol.

Remember: Non-durables are purchased for current consumption only. From a business firm's point of view, demand for non- durable goods gets repeated depending on the nature of the non-durable goods. Usually, non-durable goods come in wide varieties and there is competition among the sellers to acquire and retain customer loyalty.

► *Factors affecting demand of durable-consumer goods*

Postponement of demand

A consumer can postpone the replacement of durable goods. Whether a consumer will go on using the good for a long time or will replace it depends upon factors like his social status, prestige, level of money income, rate of obsolescence etc.

Special facilities

These goods require special facilities for their use e.g. roads for automobiles, and electricity for refrigerators and radios. The existence and growth of such factors is an important variable that determines the demand for durable goods.

Impact of Households

As consumer durables are used by more than one person, the decision to purchase may be influenced by family characteristics like income of the family, size, age distribution and sex composition. Likely changes in the number of households should be considered while determining the market size of durable goods.

Replacement demand

Replacement demand is an important component of the total demand for durables. Greater the current holdings of durable goods, greater will be the replacement demand. Therefore, all factors that determine replacement demand should be considered as a determinant of the demand for durable goods.

Prices and Credit availability

Demand for consumer durables is very much influenced by their prices and credit facilities available to buy them like hire purchase, low interest rates, etc. available to buy them. More the easy credit facilities higher is the demand for goods like two wheelers, cars TVs. etc

Factors affecting demand of producer goods

Derived Demand

Since producers' goods or capital goods help in further production, the demand for them is <u>derived demand,</u> derived from the demand of consumer goods they produce.
The demand for them depends upon the <u>rate of profitability of user industry and the size of the market of the user industries</u>.
Hence data required for estimating demand for producer goods (capital goods) are:
  i. growth prospects of the user industries;
  ii. norms of consumption of capital goods per unit of installed capacity.

Change in price of other factor of production
An increase in the price of a substitutable factor of production, say labour, is likely to increase the demand for capital goods. On the contrary, an increase in the price of a factor which is complementary may cause a decrease in the demand for capital
Profit making Prospects
Higher the profit-making prospects, greater will be the inducement to demand capital goods. If firms are optimistic about selling a higher output in future, they will have greater incentive to invest in producer goods
Technological Changes
Advances in technology enabling higher efficiency at reduced cost on account of higher productivity of capital will have a positive impact on investment in capital goods
Interest rates
Investments in producer goods will be greater when lower interest rates prevail as firms will have lower opportunity cost of investments and lower cost of borrowing

MEANING OF DEMAND

The firm has to apply a proper mix of judgment and scientific formulae in order to correctly predict the future demand for a product. The following are the commonly available techniques of demand forecasting:

Survey of Buyers' Intentions:

In this method, customers are asked what they are planning to buy for the forthcoming time period usually a year.

1. This method involve use of conducting direct interviews or mailing questionnaire asking customers about their intentions or plans to buy the product.

2. The survey may be conducted by any of the following methods:

➔ *Complete Enumeration where all potential customers of a product are interviewed about what they are planning or intending to buy in future. It is cumbersome, costly and time-consuming method.*

➔ *Sample Survey where only a few customers are selected and interviewed about their future plans. It is less cumbersome and less costly method.*

➔ *End-use method, especially used in forecasting demand for inputs, involves identification of all final users, fixing suitable technical norms of consumption of the product under study, application of the norms to the desired or targeted levels of output and aggregation.*

Drawbacks of this method

➔ *Thus, under this method the burden of forecasting is put on the customers.*

➔ it would not be wise to depend wholly on the buyers' estimates and they should be used cautiously in the light of the seller's own judgement.

➔ *A number of biases may creep into the surveys.*

➔ *The customers may themselves misjudge their requirements, may mislead the surveyors or their plans may alter due to various factors which are not identified or visualised at the time of the survey.*

Suitability of this Method

➔ *This method is useful for short-term forecasts.*

➔ *This method is useful when bulk of sale is made to industrial producers who generally have definite future plans.*

➔ *In the case of household customers, this method may not prove very helpful for several reasons* viz. irregularity in customers' buying intentions, their inability to foresee their choice when *faced with multiple alternatives, and the possibility that the* buyers' plans may not be real, but *only wishful thinking.*

Collective opinion Method:

The method is also known as <u>sales force opinion method or grass roots approach</u>.

Under this method, salesmen are asked to estimate expectations of sales in their territories. Salesmen are considered to be the nearest persons to the customers retailers and wholesalers and have good knowledge and information about the future demand trend.

These estimates of salesmen are consolidated to find out the total estimated sales.

Adjustments to Salesmen's estimates

These estimates are reviewed to <u>eliminate the bias of optimism</u> *on the part of some salesmen and pessimism on the part of others.*

These revised estimates are further examined in the light of factors like proposed changes in selling prices, product designs and advertisement programmes, expected changes in competition and changes in secular forces like purchasing power, income distribution, employment, population, etc. The final sales forecast would emerge after these factors have been taken into account.

▶ Merits of this method

This method is based on first-hand knowledge of the salesmen who are most directly connected with sales and the customers.
This method may be quite useful when decisions are to be taken in short term and without spending large resources on market research etc.

▶ Demerits of this method

This method is subjective as personal opinions can possibly influence the forecast. Moreover salesmen may be unaware of the broader economic changes which may have profound impact on future demand
This method may not be suitable for long run analysis.

Expert Opinion Method (Delphi Method):

Under this method of demand forecasting views of specialists/experts and consultants are sought to estimate the demand in future. This, coupled with their varied experience, enables them to provide reasonably reliable estimates of probable demand in future.

These experts may be of the firm itself like the executives and sales managers or consultant firms who are professionally trained for forecasting demand.
Information is elicited from them through appropriately structured unbiased tools of data collection such as interviews and questionnaires.

▶ Use of Delphi Method

The Delphi technique, developed by OLAF HEMLER at the Rand Corporation of the U.S.A. provides a useful way to obtain informed judgments from diverse experts by avoiding the disadvantages of conventional panel meetings.
Under this method, instead of depending upon the opinions of buyers and salesmen, firms solicit the opinion of specialists or experts through a series of carefully designed questionnaires.
Experts are asked to provide forecasts and reasons for their forecasts.

Experts are provided with information and opinion feedbacks of others at different rounds without revealing the identity of the opinion provider. These opinions are then exchanged among the various experts and the process goes on until convergence of opinions is arrived at.

Suitability of this method

This method is best suited in circumstances where intractable changes are occurring and the relevant knowledge is distributed among experts.

Delphi technique is widely accepted due to its broader applicability and ability to address complex questions.

It also has the *advantages of speed and cheapness*.

Statistical Method

Statistical method has proved to be very useful in demand forecasting. Statistical methods are superior, more scientific, reliable and free from subjectively. The important statistical methods of demand forecasting are:

Trend Projection Method:

The method is also known as Classical Method. It is considered as a 'naive' approach to demand forecasting.

Under this, data on sales over a period of time is chronologically arranged to get a 'time series'. The time series shows the past sales pattern.

It is assumed that the past sales pattern will continue in the future also.

The techniques of trend projection based on, time series data are Graphical Method and Fitting trend equation or Least Square Method.

Graphical Method:

This is the simplest technique to determine the trend.

Under this method, all values of sales for different years are plotted and free hand curve is drawn passing through as many points as possible. The direction of the free hand curve shows the trend. The main drawback of this method is that it may show trend but not measure it.

▶ *Fitting Trend Equation/Least Square Method:*

This method is based on the assumption that the past rate of change will continue in the future.

It is a mathematical procedure for fitting a time to a set of observed data points in such a way that the sum of the squared deviation between the calculated and observed values is minimized.

This technique is used to find a trend line which best fit the available data.

This trend is then used to project the dependant variable in the future. This method is very popular because it is simple and inexpensive. Moreover, the trend method provides fairly reliable estimates of future demand.

Assumption: The least square method is based on the assumption that the past rate of change of the variable under study will continue in the future. The forecast based on this method may be considered reliable only for the period during which this assumption holds.

Limitation: The major limitation of this method is that it cannot be used where trend is cyclical with sharp turning points of troughs and peaks. Also, this method cannot be used for short term forecasts.

▶ *Regression Analysis:*

This is a very common method of forecasting demand.

Under this method, a quantitative relationship is established between quantity demanded (dependent variable) and the independent variables like income, price of good, price of related goods, etc. Based on this relationship, an estimate is made for future demand.

It can be expressed as follows-

$$Y = a + bX$$

Where,

X, Y are variables a, b are constants

There could also be a curvilinear relationship between the dependent and independent variables. Once the regression equation is derived, the value of Y i.e. quantity demanded can be estimated for any given value of X.

Controlled Experiments

Under this method, future demand is estimated by conducting market studies and experiments on consumer behaviour under actual, though controlled, market conditions. This method is also known as market experiment method.

An effort is made to vary separately certain determinants of demand which can be manipulated, for example, price, advertising, etc., and conduct the experiments assuming that the other factors would remain constant.

Thus, the effect of demand determinants like price, advertisement, packaging, etc., on sales can be assessed by either varying them over different markets or by varying them over different time periods in the same market.

The responses of demand to such changes over a period of time are recorded and are used for assessing the future demand for the product. For example, different prices would be associated with different sales and on that basis the price-quantity relationship is estimated in the form of regression equation and used for forecasting purposes. It should be noted however, that the market divisions here must be homogeneous with regard to income, tastes, etc.

Market experiments can also be replaced by 'controlled laboratory experiments' or 'consumer clinics' under which consumers are given a specified sum of money and asked to spend in a store on goods with varying prices, packages, displays etc. The responses of the consumers are studied and used for demand forecasting.

▶ Suitability:

The method of controlled experiments is used relatively less because this method of demand forecasting is expensive as well as time consuming.

▶ Limitations:

Moreover, controlled experiments are risky too because they may lead to unfavourable reactions from dealers, consumers and competitors.

It is also difficult to determine what conditions should be taken as constant and what factors should be regarded as variable so as to segregate and measure their influence on demand. Besides, it is practically difficult to satisfy the condition of homogeneity of markets.

Barometric Method of forecasting

➔ These methods are based on past experience and try to project the past into the future. Such projection is not effective where there are economic ups and downs.

➔ As mentioned above, the projection of trend cannot indicate the turning point from slump to recovery or from boom to recession. Therefore, in order to find out these turning points, it is necessary to find out the general behaviour of the economy.

➔ Just as meteorologists use the barometer to forecast weather, the economists use economic indicators to forecast trends in business activities. This information is then used to forecast demand prospects of a product, though not the actual quantity demanded.

➔ For this purpose, an index of relevant economic indicators is constructed. Movements in these indicators are used as basis for forecasting the likely economic environment in the near future.

➔ *There are leading indicators, coincidental indicators and lagging indicators.*

    ✓ *The leading indicators move up or down ahead of some other series.*
      Example: the heavy advance orders for capital goods give an advance indication of economic prosperity.

    ✓ *The lagging indicators follow a change after some time lag. The heavy household electrical connections confirm the fact that heavy construction work was undertaken during the past with a lag of some time.*

    ✓ *The coincidental indicators, however, move up and down simultaneously with the level of economic activities. For example, rate of unemployment.*

Chapter 2
Unit 3: Concept of Supply

▶ Meaning

Supply of a commodity refers to the quantity of commodity offered for sale at a particular price during a given period of time. <u>Thus, the supply of a commodity may be defined as the amount of commodity which the sellers or producers are able and willing to offer for sale at a particular price, during a given period of time</u>.

▶ Features

Supply of a commodity is always with reference to a PRICE.
Supply of a commodity is to be referred to IN A GIVEN PERIOD OF TIME.
Supply of a commodity depends on the ABILITY OF SELLER TO SUPPLY A COMMODITY. However, ability of a seller to supply a commodity depends ON THE STOCK available with him.
Supply of a commodity also depends on the WILLINGNESS OF SELLER TO SUPPLY A COMMODITY.

Example: A dairy farm's <u>daily</u> supply of milk at the price of Rs. <u>12 per litre</u> is <u>600 litres</u>.

DETERMINANTS OF SUPPLY

Supply of a commodity depends on many factors like price of the commodity, price of related goods, prices of factors of production, technology, etc. All determinants of supply can be expressed in the form of supply function as follows-

$$Sx \ = \ f(Px, Pr, Pf \ > \ T, O \ ....)$$

Where - Sx = Quantity supplied of commodity x

f = function of (depends on)

Px = Price of commodity x

Pr = Price of related commodities

Pf = Prices of factors of production.

T = Technology

O = Objectives/Goals of the firm

▶ Price of the commodity

| |
|---|
| Other things being equal the supply of a commodity is DIRECTLY related with its price. |
| It means that, larger quantity of a commodity is offered for sale at higher price and vice versa. |
| This is because the profits of the firm increases if the price of its product increases. |

▶ Price of the related commodity

If the prices of other goods rise, they become relatively more pro_table to the _rm to produce and sell than the good in question. It implies that, if the price of Y rises, the quantity supplied of X will fall. For example, if price of wheat rises, the farmers may shift their land to wheat production away from corn and soya beans.
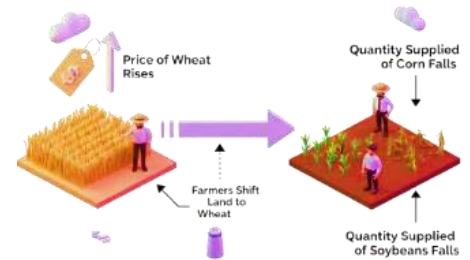
▶ Price of factorsof production

Supply of a commodity depends on the **cost of production.** The cost of production itself depends upon the prices of various factors of production.
So, if the price of any factor of production rises, the production costs would be higher for the same level of output (and vice versa), Hence the supply will tend to decrease.
Conversely, a fall in the cost of production tends to increase the supply.

▶ State of technology

A change in technology affects the supply of commodity.
A technological progress and improvement in the methods of production increases productivity, reduce the cost of production and increases the profits. As a result more is produced and supplied.
Also discoveries and innovations bring new variety of goods

▶ Government Policy

The supply of a commodity is also affected by the economic policies followed by the Government.
The Government may impose taxes on commodities in the form of excise duty, sales tax and import duties **or** may give subsidies.
Any increase in such taxes will raise the cost of production and so the quantity supplied will fall. Under such conditions supply will increase only when its price in the market rises.
Subsidies reduce the cost of production and thus encourage firms to produce and sell more

▶ Nature of competition and size of industry:

Under competitive conditions, supply will be more than that under monopolized conditions. If there are large number of _rms in the market, supply will be more. Besides, entry of new _rms, either domestic or foreign, causes the industry supply curve to shift rightwards.

Other Factors:

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

LAW OF SUPPLY

The Law of Supply express the nature of functional relationship between the price of a commodity and its quantity supplied.

It simply states that supply varies DIRECTLY to the changes in price i.e. supply of a commodity expands when price rises and contracts when price falls.

"The Law of Supply states that the higher the price, the greater the quantity supplied or the lower the price the smaller the quantity supplied, other things remaining the same." (Dooley)

Thus, there is DIRECT RELATIONSHIP between supply and price.

It is assumed that other determinants of supply are constant and ONLY PRICE IS THE VARIABLE AND INFLUENCING FACTOR.

Thus, "the law of supply is based on the following main assumptions:

Cost of production remains unchanged even though the price of the commodity changes.

The technique of production remains unchanged.

Government policies like taxation policy, trade policy, etc. remains unchanged.

The prices of related goods remains unchanged.

The scale of production remains unchanged etc.

The law can be explained with the help of supply schedule and a corresponding supply curve.

Table: Supply Schedule

Price Rs. per unit	Supply per week in units
10	20
20	30
30	40
40	50
50	60

The supply schedule shows that when price rises from Rs.10 per unit to Rs. 20 per unit, the supply also rises from 20 units per week to 30 units per week and so on.

Thus, it shows a direct relationship between price and quantity supplied other things being equal.

A supply curve is the supply schedule depicted on the graph. The supply curve shows the same information as the supply schedule.
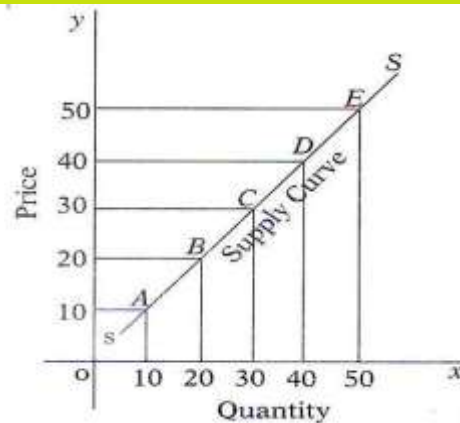

Figure: Supply Curve

In the diagram, the supply curve is sloping upwards from left to right showing a direct relationship between the price and quantity supplied

A single point on supply curve show a single price-supply relationship

E.g. - Point 'C' show that if price is Rs. 30, quantity supplied is 40 units.

The law of supply states that, supply of a commodity varies directly with its price.

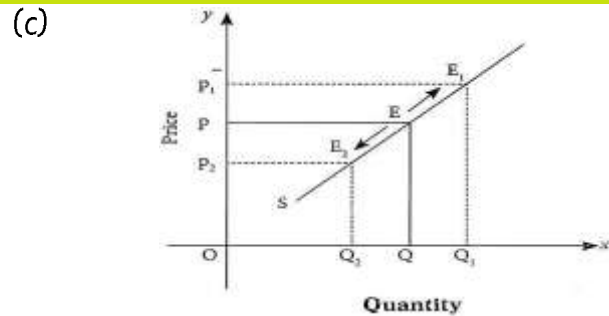| Changes in Quantity Supplied OR Expansion & Contraction of supply OR Movement along a supply curve	Changes in supply OR Increase and decrease in Supply OR Shift in Supply curve
(a) - When supply of a commodity changes only due to change in the price of commodity other determinants remaining unchanged, it is called changes in quantity supplied. - Changes in quantity supplied thus means - expansion of supply & contraction of supply. - When price of a commodity rises, quantity supplied also rises. This is called expansion of supply. - When price of a commodity falls, quantity supplied also falls. This is called contraction of supply.	(a) - When there is change in supply due to change in factors other than price of the commodity, it is called changes in supply. - It is the result of change in technology, govt, policies, prices of related goods etc. - Change in supply means - increase in supply & decrease in supply. - Price remaining the same when supply rises due to change in factors other than price, it is called increase in supply. - Likewise, price remaining the same when supply falls due to change in factors other than price, it is called decrease in supply.

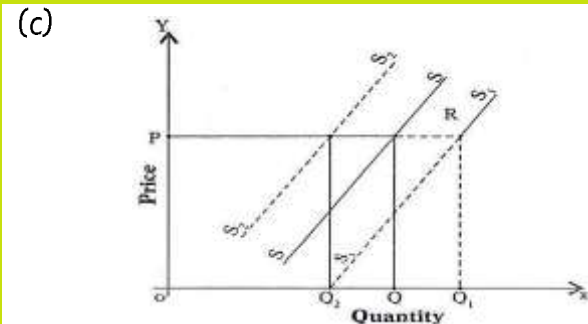|	
(b) - As other determinants of supply like price of related commodities, prices of factors of production, state of technology, etc. are assumed to be constant, the position of the supply curve remains the same. - The seller will move upwards or downwards on the same supply curve.	**(b)** - In this case the supply curve shifts from its original position to rightward when supply increases and to leftward when supply decreases. - Thus, change in supply curve as a result of increase and decrease in supply, is technically called shift in supply curve.
(c)	**(c)**
(d) In the figure above – ♦ At price OP quantity supplied is OQ ♦ With a rise in price to OP1, the quantity supplied rises from OQ to OQ1. The co-ordinate point moves up from E to E1 This is called 'a rise in quantity supplied'. ♦ With a fall in price to OP2, the quantity supplied falls from OQ to OQ2. The co-ordinate point moves down from E to E2. This is called (a fall in quantity supplied'.	**(d) In the figure above-** ♦ Original supply curve is SS. At OP price, OQ quantity is being supplied. ♦ As the supply changes, the supply curve shifts either to the right (S1S1)or to the left (S2S2) ♦ At S1S1, OQ1 quantity is being supplied at the price OP. This shows increase in supply. More quantity is being supplied at same price. It is denoted by rightward shift in supply curve. ♦ At S2S2, OQ2 quantity is being supplied at the price OP. These shows decrease in supply. Less quantity is being supplied at same price. It is denoted by leftward shift in supply curve.

ELASTICITY OF SUPPLY

Price elasticity of supply measures the degree of responsiveness of quantity supplied of a commodity to a change in its own price.

In other words, the elasticity of supply shows the degree of change in the quantity supplied in response to change in the price of the commodity.

Elasticity of supply can be defined '(*as a ratio of the percentage change in the quantity supplied of a commodity to the percentage change in its own price".*

It may be expressed as follows-

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

$$= \frac{\text{change in quantity supplied}}{\text{Quantity supplied}} \div \frac{\text{Change in Price}}{\text{Price}} \quad or \; Es = \; Ep = \frac{\Delta q}{q} \div \frac{p}{\Delta p}$$

Where - Es = Elasticity of supply

Q = Original quantity supplied

P = Original price

Δ = indicates change

Rearranging the above expression we get-

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

Since the law of supply establishes positive relationship between price and quantity supplied, the elasticity of supply would be _positive_.

The value of elasticity co-efficient will vary from zero to infinity.

The elasticity of supply, according to its degree, may be of following types:

▶ Perfectly Inelastic Supply: Es = 0:

When a change in the price of a commodity has no effect on its quantity supplied, then supply is perfectly inelastic.

Example: If price rises by 20%₀and the quantity supplied remains unchanged then Es =0/20 = 0

In this case, the supply curve is a vertical straight-line curve parallel to Y-axis as shown in the Figure.
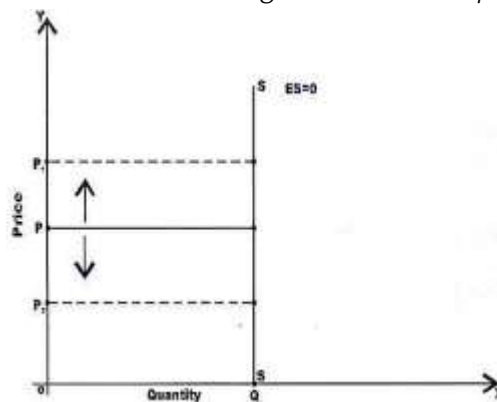
Figure: Perfectly Inelastic Supply

The figure shows that, whatever the price quantity supplied of the commodity remains unchanged at OQ.

▶ Perfectly Elastic Supply: (Es = ∞):

When with no change in price or with very little change in price, the supply of a commodity expands or contracts to any extent, the supply is said to be perfectly elastic. In this case, the supply is a horizontal straight line and parallel to X-axis.

The figure shows (Es = ∞) that, at given price supply is ever increasing.
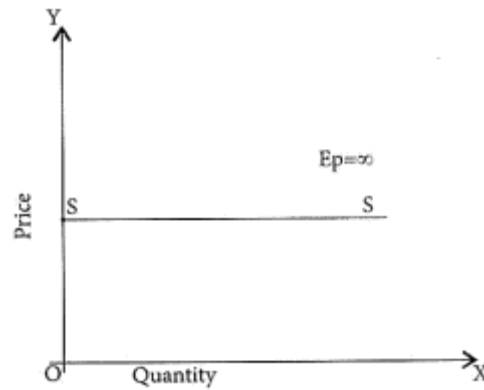
Figure: Perfectly Elastic Supply

Unit Elastic Supply: (Es = 1):

When the percentage change in price is equal to percentage change in quantity supplied, then the supply is said to be unit elastic.

Example: If price rises by 1096 and the supply also rises by 1096 then, Es = 10/10 =1

In this case the straight-line supply curve SS when extended will pass through origin.
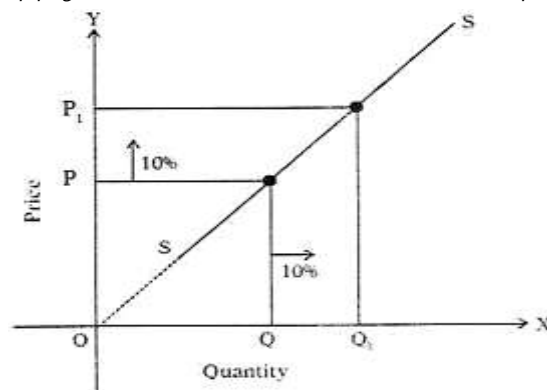
Figure: Unit Elastic Supply

Relatively/More Elastic Supply: (ES>1):

When a small change in price leads to big change in quantity supplied, then the supply is said to be relatively or more elastic.

Example: If price rises by 10% and supply rises by 30% then, Es = 30/10 = 3>1. The coefficient of elasticity would be somewhere between ONE and INFINITY. The elastic supply curve is flatter as shown below-

Supply curve SS is flat suggesting that the supply is more elastic. In this case the supply curve SS when extended will pass through Y-axis.
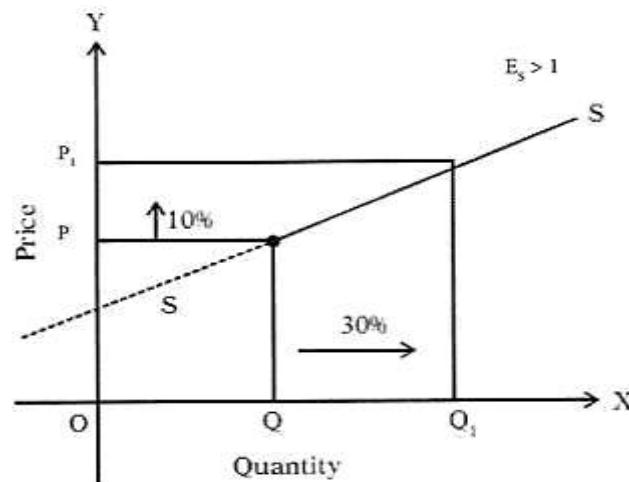
Figure: More Elastic Supply

Relatively Inelastic or Less Elastic Supply: (ES <1)

When a big change in price leads to small change in quantity supplied, then supply is said to relatively inelastic or less elastic.

Example: If price rises by 30% and supply rises by 10% then, Es = 10/30 = 1/3 <1. The coefficient of elasticity would be somewhere between ZERO and ONE. The supply curve in this case has steep slope as shown below –
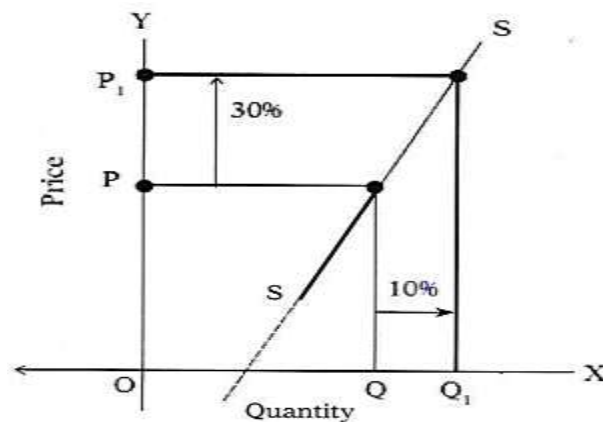
Figure: Less Elastic Supply

Supply curve SS is steeply sloped suggesting that supply is less elastic. In this case the supply curve SS when extended will pass through X-axis.

Measurement of Elasticity of Supply.

The different methods of measuring price elasticity of supply are:

1. The Percentage or Ratio or Proportional Method,

2. The Arc Method

1. The Percentage Method:

Thus method is based on the definition of elasticity of supply. The coefficient of price elasticity of supply is measured by taking ratio of percentage change in supply to the percentage change in price. Thus, we measure the elasticity by using the following formula-

$$Es = \frac{\text{Pecentage Change in Supply}}{\text{Percentage Change in Price}} \text{ or } = \frac{\Delta q}{q} \times \frac{p}{\Delta p}$$

If the coefficient of above ratio is equal to ONE, the supply will be unitary.

If the coefficient of above ratio is MORE THAN ONE, the supply is relatively elastic.

If the coefficient of above ratio is LESS THAN ONE, the supply is relatively inelastic.

2. The Arc Elasticity Method:

Under this method we measure elasticity of supply over an ARC of the supply curve. The arc elasticity is a measured of the "average elasticity" i.e. elasticity at MID-POINT that connects the two points on the supply curve. Thus, an arc is a portion of a curved line, hence a portion of supply curve. The formula used is-

$$Es = \frac{q1 - q2}{q1 + q2} \times \frac{p1 + p2}{p1 - p2}$$

Where – P1 & q1 = Original price and quantity P2 & q2 = New price and quantity.

$$Es = \frac{50 - 100}{50 + 100} \times \frac{10 + 15}{10 - 15}$$

$$\frac{-50}{150} \times \frac{25}{-5}$$

$$= +1.66$$
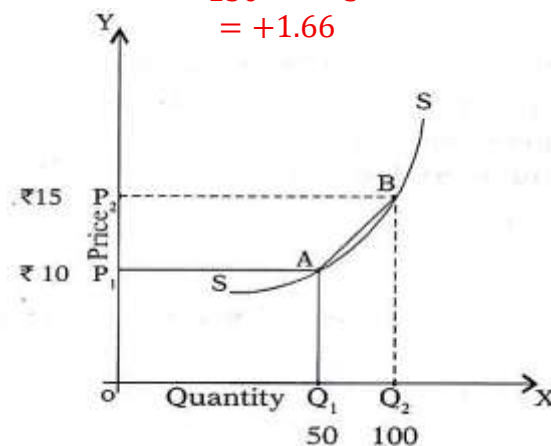
CONCEPT OF EQUILIBRIUM PRICE

Equilibrium means a market situation where the quantity demanded is equal to quantity supplied. Thus, the two factors determining equilibrium price are market demand and market supply.

Equilibrium price is the price at which the sellers of a good are willing to sell the quantity which buyers want to buy. Thus, equilibrium price (also called market clearing price) is the price at which demand and supply are equal.

At equilibrium price both sellers and buyers are satisfied.

At equilibrium price, there is neither SHORTAGE nor SURPLUS. So at equilibrium price, market is said to be CLEARED.

The following table and figure explain the equilibrium price.

Price of Good-X (Rs.)	Quantity Demanded of Good-X (units)	Quantity Supplied of Good-X (units)	Effect on Price
5	100	500	Downward
4	200	400	Downward
3	300	300	Equilibrium
2	400	200	Upward
1	500	100	Upward
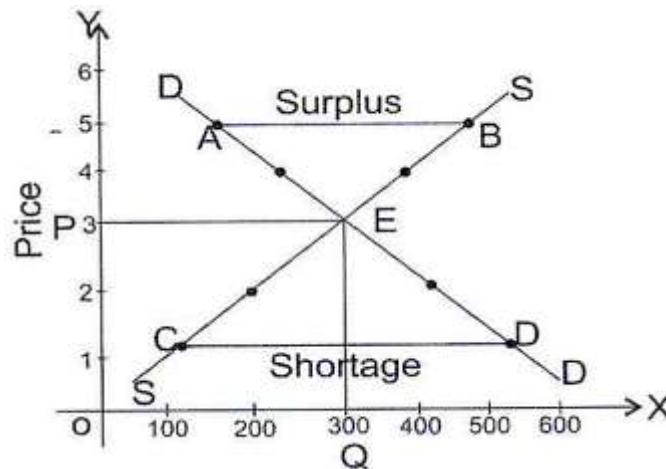
➔ Equilibrium is struck a point E where the demand and supply curve intersect each other.

➔ At E, equilibrium price is OP i.e. Rs. 3 and equilibrium quantity is OQ i.e. 300 units.

➔ When the price is Rs. 5 per unit, the quantity demanded is 100 units and quantity supplies is 500 units. It is situation where market demand < market supply and there is excess supply i.e., surplus supply. At a given price, sellers are willing to sell more than what buyers are ready to buy. As a result of pressure of excess supply the market price falls to Rs. 4.

➔ At a price of Rs. 4, the pressure of excess supply still continues and hence the price falls further to Rs. 3.

➔ At a price of Rs. 3, <u>the market is CLEARED</u> as the quantity demanded and supplied are equal to each other. <u>There, is no SURPLUS</u>.

➔ <u>Thus, we can conclude that pressure of excess supply (surplus) reduces the price.</u>

➔ Similarly, if the price is Rs. 1, the quantity demanded is 500 units and quantity supplied is 100 units. It is a situation where <u>market demand > market supply</u> and there is <u>excess demand or SHORTAGE of supply. As a result of excess demand or SHORTAGE of supply the market price will rise</u>. So long as pressure of excess demand continues price will rise i.e. till point E. At point E, excess demand is eliminated and quantity demand and supplied are equal to each other. <u>The market has CLEARED</u>.

➔ <u>Thus, we can conclude that pressure of excess demand (shortage of supply) increases the price.</u>

➔ The equilibrium price is determined by the intersection between demand and supply <u>therefore, it is also called as the MARKET EQUILIBRIUM</u>

CONCEPT OF PRODUCTION

Why is Production relevant for an economy

The performance of an economy is judged by the level of its production. The amount of goods and services an economy is able to produce determines the richness or poverty of that economy. In fact, the standard of living of people depends on the volume and variety of goods and services produced in a country. Thus, the U.S.A. is a rich country just because its level of production is high.

Why is Production relevant for an economy

According to James Bates and J.R. Parkinson "Production is the organized activity of transforming resources into finished products in the form of goods and services; and the objective of production is to satisfy the demand of such transformed resources.

It should be noted that production should not be taken to mean as creation of matter because, according to the fundamental law of science, man cannot create matter. What a man can do is only to create or add utility to things that already exist in nature.

Production can also be defined as creation or addition of utility. For example, when a carpenter produces a table, he does not create the matter of which the wood is composed of he only transforms wood into a table. By doing so, he adds utility to wood which did not have utility before.

How does Production process create Utility

Form Utility

Changing the form of natural resources. Most manufacturing processes consist of use of physical inputs such as raw materials and transforming them into physical products possessing utility, e.g., changing the form of a log of wood into a table or changing the form of iron into a machine. This may be called conferring utility of form

▶ *Place Utility*

Changing the place of the resources from a place where they are of little or no use to another place where they are of greater use. This utility of place can be obtained by:

> Extraction from earth e.g., removal of coal, minerals, gold and other metal ores from mines and supplying them to markets.

> Transferring goods from where they give little or no satisfaction, to places where their utility is more,

Example: Tin in Malaya is of little use until it is brought to the industrialised centres where necessary machinery and technology are available to produce metal boxes for packing.

Example: Apples in Kashmir orchards have a little utility to farmers. But when the apples are transported to markets where human settlements are thick and crowded like the city centres, they afford more satisfaction to greater number of people

These examples emphasise the additional utility conferred on goods, by all forms of transportation systems, by transport workers and by the agents who assist in the movement and marketing of goods

▶ *Time Utility*

Making available materials at times when they are not normally available e.g., harvested food grains are stored for use till next harvest. Canning of seasonal fruits is undertaken to make them available during off-season. This may be called conferring of utility of time.

▶ *Personal   Utility*

Making use of personal skills in the form of services, e.g., those of organisers, merchants, transport workers etc.

<u>*Illustration to explain how production creates utilities*</u>

In the production of a woollen suit, utility is created in some form or the other.

> Firstly, wool is changed into woollen cloth at the spinning and weaving mill (utility created by changing the form).

> Then, it is taken to a place where it is to be sold (utility added by transporting it).

> Since woollen clothes are used only in winter, they will be retained until such time when they are required by purchasers (time utility).

> In the whole process, the services of various groups of people are utilised (as that of mill workers, shopkeepers, agents etc.) to contribute to the enhancement of utility

Thus, the entire process of production is nothing but creation of form utility, place utility, time utility and/or personal utility.

Other worth noting points about Concept of "Production"

Production process need not necessarily involve conversion of physical inputs into physical output. For example, production of services such as those of lawyers, doctors, musicians, consultants etc. involves intangible inputs to produce intangible output.

Production does not include work done within a household by anyone out of love and affection, voluntary services and goods produced for self-consumption. Intention to exchange in the market is an essential component of production.

The theory of production confines itself to laws of production, production function and methods of production optimisation. Aspects relating to costing and revenue are not studied under production function

FACTORS OF PRODUCTION

Meaning

Factors of production refer to inputs. An input is a good or service which a firm buys for use in its production process. Production process requires a wide variety of inputs, depending on the nature of output.

What are the main factors

Land, labour, capital and entrepreneurial ability are the four factors or resources which make it possible to produce goods and services.

Land

Meaning

The term 'land' is used in a special sense in Economics. It does not mean soil or earth's surface alone, but refers *to all free gifts* of nature which would include besides land in common parlance, natural resources, fertility of soil, water, air, light, heat natural vegetation etc.

It becomes difficult at times to state precisely as to what part of a given factor is due solely to gift of nature and what part belongs to human effort made on it in the past.

▶ Main features of Land are as under: -

Feature	Explanation
Free Gift of Nature	No human effort is required for making land available for production. It has no supply price in the sense that no payment has been made to mother nature for obtaining land.
Supply is Fixed	Land is strictly limited in quantity. It is different from other factors of production in that no change in demand can affect the amount of land in existence. In other words, the total supply of land is perfectly inelastic from the point of view of the economy. However, it is relatively elastic from the point of view of a firm.
Land is Permanent & has in destructive Powers	Land is permanent in nature and cannot be destroyed. According to Ricardo, land has certain original and indestructible powers and these properties of land cannot be destroyed.
Passive Factor	Land is not an active factor. Unless human effort is exercised on land, it does not produce anything on its own.
Immobile	In the geographical sense, land is immobile in nature. Land cannot be shifted physically from one place to another. The natural factors typical to a given place cannot be shifted to other places.
Multiple Uses	Land can be used for varied purposes, though its suitability in all the uses is not the same.
Heterogeneous	No two pieces of land are alike. They differ in fertility and situation.

Labour

▶ Meaning

The term 'labour', means any mental or physical exertion directed to produce goods or services. All human efforts of body or of mind undergone partly or wholly with a view to secure an income apart from the pleasure derived directly from the work is termed as labour.

In other words, it refers to various types of human efforts which require the use of physical exertion, skill and intellect.

> *Imp. Point to remember* Labour, to have an economic significance, must be one which is done with the motive of some economic reward. Anything done out of love and affection, although very useful in increasing human well-being, is not labour in the economic sense of the term.

It implies that any work done for the sake of pleasure or love does not represent labour in Economics.

Example: -

➔ Services of a house-wife are not treated as labour, while those of a maid servant are treated as labour.

➔ If a person sings just for the sake of pleasure, it is not considered as labour despite the exertion involved in it. On the other hand, if a person sings against payment of some fee, then this activity signifies labour.

Main features of Labour are as under: -

Feature	Explanation
Human Effort	Labour, as compared with other factors, is different. It is connected with human efforts whereas others are not directly connected with human efforts. As a result, there are certain human and psychological considerations which may come up unlike in the case of other factors. Therefore, leisure, fair treatment, and favourable work environment etc. are essential for labourers.
Perishable	Labour is highly 'perishable' in the sense that a day's labour lost cannot be completely recovered by extra work on any other day. In other words, a labourer cannot store his labour.
Active Factor	Without the active participation of labour, land and capital may not produce anything.
Inseparable from the labourer	A labourer is the source of his own labour power. When a labourer sells his service, he has to be physically present where they are delivered. The labourer sells his labour against wages, but retains the capacity to work.
Labour power differs from labourer to labourer	Labour is heterogeneous in the sense that labour power differs from person to person. Labour power or efficiency depends on the labourers' inherent and acquired qualities, characteristics of work environment, and incentive to work.
All labour may not be productive	All efforts are not sure to produce resources. In fact, productivity of different labour is something that is the prime factor for determining its role in the entire production process.
Poor bargaining power	Labour has a weak bargaining power. Labour has no reserve price. Since labour cannot be stored, the labourer is compelled to work at the wages offered by employers. For this reason, when compared to employers, labourers have poor bargaining power and can be exploited and forced to accept lower wages.

	The labourer is economically weak while the employer is economically powerful, although things have changed to some extent during the 20th and 21st centuries.
Mobile	Labour is a mobile factor. Workers can move from one job to another or from one place to another. However, in reality, there are many obstacles in the way of free movement of labour from job to job or from place to place.
Supply cannot be adjusted rapidly	The total supply of labour cannot be increased or decreased instantly. Supply of labour at any given point of time depends on the population of the immediate territory (capable of providing the services), their education level, and skill sets. However, when necessary time is allowed, supply of labour can be increased since it is a mobile factor.
Choice between hours of labour and hours of leisure	A labourer can make a choice between the hours of labour and the hours of leisure. This feature gives rise to a peculiar backward bending shape to the supply curve of labour: ➔ The supply of labour and wage rate is directly related. As the wage rate increases, the labourer tends to increase supply of labour by reducing hours of leisure. ➔ Beyond a desired level of income, the labourer reduces supply of labour and increases hours of leisure in response to further rise in wage rate. That is, the labourer prefers more leisure than earning more wages.

Capital

Meaning

Capital as that part of wealth of an individual or community which is used for further production of wealth.

Difference between Capital and Wealth

Whereas wealth refers to all those goods and human qualities which are useful in production and which can be passed on for value, only a part of these goods and services can be characterised as capital because if these resources are lying idle, they will constitute wealth but not capital.

Capital has been rightly defined as **'produced means of production'** *or* 'man-*made instruments* of production'. In other words, capital refers to all man-*made goods that are used for further production of wealth. This definition distinguishes capital from both land and labour because both land and labour are not produced factors. They are primary or original factors of production, but capital is not a primary or original factor; it is a produced factor of production*

Examples: Machine tools and instruments, factories, dams, canals, transport equipment etc., are some of the examples of capital

▶ Various Types of Capital are as under: -

<u>On the basis of time period:</u>

Fixed Capital
Exists in a durable shape and renders a series of services over a period of time. Example: tools, machines, etc.
Circulating Capital
Performs its function in production in a single use and is not available for further use. Example: seeds, fuel, raw materials, etc.

<u>On the basis of time Nature:</u>

Real capital
refers to physical goods such as building, plant, machines, etc.
Human capital
refers to human skill and ability. This is called human capital because a good deal of investment has gone into creation of these abilities in humans.
Tangible capital
can be perceived by senses whereas intangible capital is in the form of certain rights and benefits which cannot be perceived by senses. For example, patents, goodwill, patent rights, etc.
Individual capital
is personal property owned by an individual or a group of individuals.
Social Capital
is what belongs to the society as a whole in the form of roads, bridges, etc

CAPITAL FORMATION

Meaning

Capital formation means a sustained increase in the stock of real capital in a country. In other words, capital formation involves production of more capital goods like, machines, tools, factories, transport equipment's, *electricity etc. which are used for further production of goods.*

Capital formation is also known as investment.

Why is there need for Capital Formation

The need for capital formation or investment is realised for two reasons:

Replacement and renovation

Creating additional productive capacity.

Dilemma of Consumption v/s Saving

➔ *In order to accumulate capital goods, some current consumption has to be sacrificed and savings of current income are to be made. Savings are also to be channelised into productive investment.*

➔ *The greater the extent that people are willing to abstain from present consumption, the greater the extent of savings and investment that society will devote to new capital formation. If a society consumes all what it produces and saves nothing, the future productive capacity of the economy will fall when the present capital equipment wears out.*

➔ *In other words, if the whole of the current present capacity is used to produce consumer goods and no new capital goods are made, production of consumer goods in the future will greatly decline. It is prudent to cut down some of the present consumption and direct part of it to the making of capital goods such as, tools and instruments, machines and transport facilities, plant and equipment etc.*

Stages of Capital Formation

There are mainly three stages of capital formation which are as follows:

Savings

1) Ability to save. Adv.
The ability to save depends upon the income of an individual. Higher incomes are generally followed by higher savings. This is because, with an increase in income, the propensity to consume comes down and the propensity to save increases.
2) Willingness to save

➔ <u>Individual factors</u> Willingness to save depends upon the individual's concern about his future as well as upon the social set-up in which he lives. If an individual is far sighted and wants to make his future secure, he will save more.

➔ <u>Government related factors</u> Moreover, the government can enforce compulsory savings on employed people by making insurance and provident fund compulsory. Government can also encourage saving by allowing tax deductions on income saved

▶ Mobilisation of savings:

It is not enough that people save money; the saved money should enter into circulation and facilitate the process of capital formation. Availability of appropriate financial products and institutions is a necessary precondition for mobilisation of savings. There should be a _wide spread network of banking and other financial institutions_ to collect public savings and to take them to prospective investors.

▶ Investment:

The process of capital formation gets completed only when the real savings get converted into real capital assets. An economy should have an _entrepreneurial class_ which is prepared to bear the risk of business and invest savings in productive avenues so as to create new capital assets.

Investments also depend upon the factors like expected profits, rate of interest, size of market, stability in the money value, internal peace and security, fear of foreign aggression, etc.

Entrepreneur

▶ Meaning

The most important factor in production i.e. _enterprise is provided by entrepreneur_.

An entrepreneur is a person or group of persons who bring together the different factors of production i.e. land, labour and capital at one place; combine them in right proportions; initiate the process of production by making them work together and bear the risks and uncertainty involved in it.

He is therefore also _called the organizer, the manager or risk bearer._

▶ Main functions performed by an entrepreneur are as under: -

Initiating a business enterprise.

➔ An entrepreneur senses business opportunities, conceives project ideas, decides on scale of operation, products and processes and builds up, owns and manages his own enterprise.

➔ The first and the foremost function of an entrepreneur is to initiate a business enterprise. An entrepreneur perceives opportunity, organizes resources needed for exploiting that opportunity and exploits it.

➔ He undertakes the dynamic process of obtaining different factors of production such as land, labour and capital, bringing about co-ordination among them and using these economic resources to secure higher productivity and greater yield.

What is the Reward for Entrepreneur
An entrepreneur hires the services of various other factors of production and pays them fixed contractual rewards: labour is hired at predetermined rate of wages, land or factory building at a fixed rent for its use and capital at a fixed rate of interest.
The surplus, if any, after paying for all factors of production hired by him, accrues to the entrepreneur as his reward for his efforts and risk-taking.
Thus, the reward for an entrepreneur, that is a profit, is not certain or fixed. He may earn profits, or incur losses.

Risk Bearing and Uncertainty bearing

The ultimate responsibility for the success and survival of business lies with the entrepreneur. It may happen that as a result of certain broad changes which were not anticipated by the entrepreneur, the firm has to incur losses.

Various types of risks borne by entrepreneur are as under: -

1) Financial Risks
The risk that operations of the enterprise may not go on in the planned manner and ultimately entrepreneur may have to incur losses is called financial risk
2) Technological Risk
Apart from financial risks, the entrepreneur also faces technological risks which arise due to the inventions and improvement in techniques of production, making the existing techniques and machines obsolete.
Frank Knight is of the opinion that profit is the reward for bearing uncertainties. While nearly all functions of an entrepreneur can be delegated or entrusted with paid managers, risk bearing cannot be delegated to anyone. Therefore, risk bearing is the most important function of an entrepreneur.

Innovation

According to Schumpeter, the true function of an entrepreneur is to introduce innovations.

➔ *Innovation refers to commercial application of a new idea or invention to better fulfilment of business requirements. Innovations, in a very broad sense, include the introduction of new or improved products, devices and production processes, utilisation of new or improved source of raw-materials, adoption of new or improved technology, novel business models, extending sales to unexplored markets etc.*

➔ *According to Schumpeter, the task of the entrepreneur is to continuously introduce new innovations. These innovations may bring in greater efficiency and competitiveness in business and bring in profits to the innovator.*

➔ The entrepreneurs promote economic growth of the country by introducing new innovations from time to time and contributing to technological progress.

OBJECTIVE OF AN ENTERPRISE

Organic Objectives

The basic minimum objective of all kinds of enterprises is to <u>survive or to stay alive</u>. An enterprise can survive only if it is able to produce and distribute products or services at a price which enables it to recover its costs.

If an enterprise does not recover its costs of staying in business, it will not be in a position to meet its obligations to its creditors, suppliers and employees with the result that it will be forced into bankruptcy. Therefore, survival of an enterprise is essential for the continuance of its business activity.

Once the enterprise is assured of its survival, it will aim at <u>growth and expansion</u>. Growth as an objective has assumed importance with the rise of professional managers.

Marris Theory of Firm's Growth

R.L. Marris's theory of firm assumes that the goal that managers of a corporate firm set for themselves is to maximise the firm's balanced growth rate subject to managerial and financial constraints.
It is pointed out that ability or success of the managers is judged by their performance in promoting the growth or expansion of the firm
While owners want to maximise their utility function which relate to profit, capital, market share and public reputation, the managers want to maximise their utility function which includes variables such as salary, power, and status and job security.
Although there is divergence and some degree of conflict between these utility functions, Marris argues that most of the variables incorporated in both of them are positively related to size of the firm and therefore, the two utility functions converge into a single variable, namely, a steady growth in the size of the firm.
<u>The managers do not aim at optimising profits; rather they aim at optimisation of the balanced rate of growth</u> **of the firm** which involves optimisation of the rate of increase of demand for the commodities of the firm and the rate of increase of capital supply

Economic Objectives

The profit maximising behaviour of the firm has been the most basic assumption made by economists. Under this assumption, <u>the firm determines the price and output policy in such a way as to maximize profits</u> within the constraints imposed upon it such as technology, finance etc.

The **investors** expect that their company will earn sufficient profits in order to ensure fair dividends to them and to improve the prices of their stocks.

Not only investors **but creditors and employees** are also interested in a profitable enterprise. Creditors will be reluctant to lend money to an enterprise which is not making profits. Similarly, any increase in salaries, wages and perquisite of employees can come only out of profits.

Meaning of Profit in Economics

The definition of profits in Economics is different from the accountants' definition of profits.

Profit, in the accounting sense, is the difference between total revenue and total costs of the firm. Economic profit is the difference between total revenue and total costs, but total costs here costs include both explicit and implicit costs.

Accounting profit considers only explicit costs while economic profit reflects explicit and implicit costs i.e. the cost of self-owned factors used by the entrepreneur in his own business.

Since economic profit includes this opportunity costs associated with self-owned factors, it is generally lower than the accounting profit.

Concept of Normal Profit and Super profit in Economics

Normal profits include normal rate of return on capital invested by the entrepreneur, remuneration for the labour and the reward for risk bearing function of the entrepreneur. Normal_ profit (zero economic profit) is a component of costs and therefore what a business owner considers as the minimum necessary to continue in the business.

Supernormal profit, also called economic profit or abnormal profit is over and above normal profits. It is earned when total revenue is greater than the total costs. Total costs in this case include a reward to all the factors, including normal profit.

Criticism of this objective

Profit maximization objective has been criticized because all firms do not aim to maximize profits

Some firmtry to achieve SECURITY with reasonable level of profit

Some firms may try to MAXIMISE SALES (Prof. Baumol)

Some economists point that owners and managers of a company try to MAXIMISE THEIR UTILITY rather than profit

Social Objectives

To maintain a continuous and sufficient supply of unadulterated goods and articles of standard qualityTo maintain a continuous and sufficient supply of unadulterated goods and articles of standard quality

To avoid profiteering and anti-social practices.

To create opportunities for gainful employment for the people in the society

To ensure that the enterprise's output does not cause any type of pollution - air, water or noise. An enterprise should consistently endeavour to contribute to the quality of life of its community in particular and the society in general. If it fails to do so, it may not survive for long.

Human Objectives

Human beings are the most precious resources of an organisation. If they are ignored, it will be difficult for an enterprise to achieve any of its other objectives. Therefore, the comprehensive development of its human resource or employees should be one of the major objectives of an organisation. Some of the important human objectives are:

To provide fair deal to the employees at different levels

To develop new skills and abilities and provide a work climate in which they will grow as mature and productive individuals.

To make the job contents interesting and challenging. If the enterprise is conscious of its duties towards its employees, it will be able to secure their loyalty and support

National Objectives

An enterprise should endeavour for fulfilment of national needs and aspirations and work towards implementation of national plans and policies. Some of the national objectives are:

To remove inequality of opportunities and provide fair opportunity to all to work and to progress.

To produce according to national priorities

To help the country become self-reliant and avoid dependence on other nations.

To train young men as apprentices and thus contribute in skill formation for economic growth and development.

Conflict between various Objectives

Various objectives of an enterprise may conflict with one another.
Examples:

➔ *the profit maximisation objective may not be wholly consistent with the marketing objective of increasing its market share which may involve improvement in quality, slashing down of product prices, improved customer service, etc.*

➔ *Similarly, its social responsibility objective may run into conflict with the introduction of technological changes which may cause environmental pollution.*

Note:
What to do in case of conflict in Business Objectives
In such situations, the manager has to strike a balance between the two so that both can be achieved with reasonable success.

Constraints of an enterprise in achievement of its Objectives

In the pursuit of the above objectives an enterprise's action may get constrained in following ways-

Lack of knowledge and information about many variable that affect business

Constraints may be experienced due to governments' restrictions on the production, price and movement of factors.

There may be infrastructural bottleneck.

Changes in business and economic conditions; change in government policies about location, prices, taxes, etc.; natural calamities like fire, flood, famine, etc.

Constraints are also faced due to inflation, rising interest rates, unfavourable exchange rate, capital and labour costs, etc.

Problems of an Enterprise

Problems relating to objectives:

The problem is that these objectives are multifarious and very often conflict with one another. For example, the objective of maximising profits is in conflict with the objective of increasing the market share which generally involves improving the quality, slashing the prices etc.

Thus the enterprise faces the problem of not only choosing its objectives but also striking a balance among them.

▶ *Problems relating to location and size of the plant*

An enterprise has to decide about the <u>location of its plant.</u> It has to decide whether the plant should be located near the source of raw material or near the market. It has to consider costs such as cost of labour, facilities and cost of transportation. Of course, the entrepreneur will have to weigh the relevant factors against one another in order to choose the right location which is most economical.

Another problem relates to the <u>size of the firm.</u> It has to decide whether it is to be a small-scale unit or large-scale unit. Due consideration will have to be given to technical, managerial, marketing and financial aspects of the proposed business before deciding on the scale of operations. It goes without saying that the management must make a realistic evaluation of its strengths and limitations while choosing a particular size for a new unit.

▶ *Problems relating to selecting and organizing physical facilities*

Type of equipment
➔ A firm has to make decision on the nature of production process to be employed and the type of equipment's to be installed. The choice of the process and equipment's will depend upon the design chosen and the required volume of production.   ➔ As a rule, production on a large scale involves the use of elaborate, specialized and complicated machinery and processes.   ➔ Quite often, the entrepreneur has to choose from among different types of equipments and processes of production. Such a choice will be based on the evaluation of their relative cost and efficiency.
Arrangement of Equipment
Having determined the equipment to be used and the processes to be employed, the entrepreneur will prepare a layout illustrating the arrangement of equipment's and buildings and the allocation for each activity

▶ *Problems relating to Finance*

An enterprise has to undertake not only physical planning but also expert financial planning which involves: -

determination of the amount of funds required for the enterprise with reference to the physical plans already prepared

assessment of demand and cost of its products

estimation of profits on investment and comparison with the profits of comparable existing concerns to find out whether the proposed investment will be profitable enough and

determining capital structure and the appropriate time for financing the enterprise etc

▶ Problems relating to organisation structure

An enterprise also faces problems relating to the organisational structure. It has to divide the total work of the enterprise into major specialised functions and then constitute proper departments for each of its specialized functions.

Not only this, the functions of all the positions and levels would have to be clearly laid down and their inter-relationship (in terms of span of control, authority, responsibility, etc) should be properly defined.

In the absence of clearly defined roles and relationships, the enterprise may not be able to function efficiently

▶ Problems relating to marketing

Proper marketing of its products and services is essential for the survival and growth of an enterprise. For this, the enterprise has to discover its target market by identifying its actual and potential customers, and determine tactical marketing tools it can use to produce desired responses from its target market. After identifying the market, the enterprise has to make decision regarding 4 P's namely,

Product:
variety, quality, design, features, brand name, packaging, associated services, utility etc.
Promotion:
Methods of communicating with consumers through personal selling, social contacts, advertising, publicity etc.
Price:
Policies regarding pricing, discounts, allowance, credit terms, concessions, etc.
Place:
Policy regarding coverage, outlets for sales, channels of distribution, location and layout of stores, inventory, logistics etc.

▶ Problems relating to legal formalities

A number of legal formalities have to be carried out during the time of launching of the enterprise as well as during its life time and its closure. These formalities relate to assessing and paying different types of taxes (corporate tax, excise duty, sales tax, custom duty, etc.), maintenance of records, submission of various types of information to the relevant authorities from to time, adhering to various rules and laws formulated by government (for example, laws relating to location, environmental protection and control of pollution, size, wages and bonus, corporate management licensing, prices) etc.

▶ *Problems relating to industrial relations*

With the emergence of the present-day factory system of production, the management has to devise special measures to win the co-operation of a large number of workers employed in industry. Misunderstanding and conflict of interests have assumed enormous dimensions that these cannot be easily and promptly dealt with.

Various problems which an enterprise faces with regard to industrial relations are –

the problem of winning **workers'** *cooperation,*

the problem of enforcing proper discipline among workers,

the problem of dealing with organised labour and

the problem of establishing a state of democracy in the industry by associating workers with the management of industry.

PRODUCTION FUNCTION

Meaning

➡ *Output is a function of inputs i.e. factor services such as land, labour and capital which are used in production. In other words, production is a transformation of PHYSICAL INPUTS into PHYSICAL OUTPUT.*

➡ *The functional relationship between physical inputs and physical output, per unit of time under a given state of technology is called production function.*

➡ *It can also be expressed in the form of a mathematical equation in which output is the dependent variable and inputs are the independent variables.*

$$Q = f (a, b, c\ n)$$

Where –

Q denotes quantity of output of a commodity per unit of time

f stands for function of i.e. depends on a, b, c... n denotes quantity of various inputs

Assumption

The production function is based on the following assumptions:

1. It is specified with reference to a <u>specified period of time</u>.

2. It is assumed that the <u>state of technology remains the same</u>, during the period of time. Any innovation would cause change in the relationship between the given inputs and their output.
For example, use of robotics in manufacturing or a more efficient software package for financial analysis would change the input-output relationship.

3. Whatever input combinations are included in a particular function, the output resulting from their utilization is at the <u>maximum level</u>

Two ways to look at Production function

Because of the above assumption regarding the study of production function, it can be analysed in two different ways: -

1) It can be defined for a given state of technology i.e., <u>the maximum amount of output that can be produced with given quantities of inputs</u> under a given state of technical knowledge. <u>(Samuelson)</u>

2) It can also be defined as the minimum quantities of various inputs that are required to yield a given quantity of output.

Note:
For the purpose of analysis, the whole array of inputs in the production function can be reduced to two; L and K. Restating the equation given above, we get:
$Q = f(L, K)$.
Where Q = Output L= Labour K= Capital

Short run v/s long run Production function

The production function of a firm can be studied in the <u>context of short period or long period</u>.

Note:
<u>*What is the basis for differentiating between short term and long term*</u>
It is to be noted that in economic analysis, the distinction between short-run and long-run is not related to any particular measurement of time (e.g. days, months, or years). In fact, it refers to the extent to which a firm. can vary the amounts of the inputs in the production process.

▶ Short Run period

A period will be considered short-run period if the amount of at least one of the inputs used remains unchanged during that period. Thus, short-run production function <u>shows the maximum amount of a good or service that can be produced by a set of inputs, assuming that the amount of at least one of the inputs used remains unchanged</u>.

Thus, in the short-run, the production function is studied by holding the quantities of capital fixed, while varying the number of other factors (labour, raw material etc.) This is done when the <u>law of variable proportion is studied.</u>

▶ Long run Period

The long run is a period of time (or planning horizon) in which <u>all factors of production are variable.</u> It is a time period when the firm will be able to install new machines and capital equipment's apart from increasing the variable factors of production.

A long- run production function shows the maximum quantity of a good or service that can be produced by a set of inputs, assuming that the firm is free to vary the amount of all the inputs being used.

The behaviour of production when all factors are varied is the subject matter of the law of <u>returns to scale.</u>

Cobb Douglas Production Function

► Background

A famous statistical production function is Cobb-Douglas production function. Paul H. Douglas and C.W. Cobb of the U.S.A. studied the production function of the American manufacturing industries. In its original form, this production function applies not to an individual firm but to the whole of manufacturing in the United States

► What does this function reflect

In this case, output is manufacturing production and inputs used are labour and capital. Cobb Douglas production function is stated as:

$$Q = KLaC \ (1-a)$$

where 'Q' is output, 'L' the quantity of labour and 'C' the quantity of capital. 'K' and 'a' are positive constants

> *Note:*
> <u>Conclusions drawn</u>
> The conclusion drawn from this famous statistical study is that labour contributed about 3/4th and capital about 1/4th of the increase in the manufacturing production. Although, the Cobb Douglas production function supers from many shortcomings, it is extensively used in Economics as an approximation.

► Important Differences Relevant for Study of Production Function

Basis of Comparison	Fixed Inputs	Variable Inputs
(i) Meaning	The factors which cannot be easily and quickly changed and require long time to make adjustment in them with the changes in the level of output are called fixed inputs or fixed factors of production.	The factors which can be easily and quickly changed and readily adjusted with the changes in the level of output are called variable inputs or variable factors of production. ➔ In other words, factor inputs whose quantity may vary from

	➔ In other words, factor inputs whose quantity does not vary from day-to-day are called as fixed inputs.	day-to-day are called as variable inputs.
(ii) Examples	➔ Examples of fixed inputs – buildings, machinery, plant, top management, etc. ➔ It requires long time to make variations in them. ➔ E.g. To construct a new factory building with a larger area and capacity.	➔ Examples of variable inputs – ordinary labour, raw-material, power, fuel chemicals, etc. ➔ It can be readily changed.
(iii) Relation with Output	➔ Fixed inputs do not vary with the level of output. ➔ Its quantity remains the same, whether the output is more or less or zero in SHORT RUN.	➔ Variable inputs vary directly with the level of output. ➔ Such factors are required more, when output is more; less, when output is less and zero, when output is zero in SHORT RUN.
(iv) Cost	➔ The cost of the fixed inputs is called FIXED COST. ➔ In the short run the firm has to bear the fixed cost even if the output is zero. ➔ Since the quantity of fixed inputs remains the same, fixed cost remains the same whatever be the level of output.	➔ The cost of the variable inputs is called VARIABLE COST. ➔ Since variable inputs vary directly with the level of output, variable costs are also positively related with output. If output is zero, variable cost is also zero. ➔ If output is increased, variable cost also increases and vice-versa.

Basis of Comparison	Short Run	Long Run
(i) Meaning	➔ The short run is defined as the period of time in which some factors of production or at least one factor is fixed i.e., does not vary with output. ♦ In the short period, some factors are **FIXED FACTORS** (e.g., factory building, machinery, management, etc.) and some are **VARIABLE FACTORS** (e.g., labour, raw-material, power, fuel, etc.).	➔ The long run is defined as the period of time in which all factors may vary. ➔ In the long run, all factors become variable and so there is no distinction between fixed and variable factors.

(ii) Scale of Production OR Size of the Firm	➔ In the short run, the output is produced with a <u>GIVEN SCALE OF PRODUCTION</u> i.e., the size of plant or firm (and so the production capacity) remains unchanged. ➔ Hence, production can be increased or decreased only by changing the number of variable factors.	➔ In the long run, the output is produced with a <u>CHANGE IN THE SCALE OF PRODUCTION</u> i.e., the size of plant or firm can be increased (and so the production capacity). ➔ Hence, production can be increased by varying all factors i.e., fixed factors (of short period) as well as variable factors.
(iii) Production Law	The production function which is studied in the short run period is called as the <u>Law of Variable Proportions</u>.	The production function which is studied in the long run period is called as the <u>Law of Returns to Scale</u>.
(iv) Decisions about Change in Factors	➔ The decisions to change the number of variable factors (like raw material, labour, etc.) are taken very frequently depending upon changes in demand of the commodity. ➔ Hence, short run is the '<u>ACTUAL PRODUCTION PERIOD</u>' during which some factors are fixed while some are variable. ➔ Thus, firms operate in the short run period.	➔ The decisions to change the number of fixed factors i.e., scale of production or to close down the firm are taken only once in a while. ➔ Hence, long run is the '<u>PLANNING PERIOD</u>'. ➔ Thus, firms plan in the long run period.
(v) Nature of Supply	➔ In the short run period, supply can be adjusted up to a limited extent as per changes in demand. ➔ In other words, supply is relatively inelastic.	➔ In the long run period, supply can be fully adjusted as per changes in demand. ➔ In other words, supply is relatively elastic.
(vi) Nature of Cost	➔ In short run period, cost is classified as **FIXED COST** and **VARIABLE COST**. ♦ Fixed cost is the cost of fixed inputs and variable cost is the cost of variable inputs. ➔ **Fixed cost is the main feature of short run period.**	➔ In long run period, **ALL COSTS ARE VARIABLE**. ➔ **Variable cost is the main feature of long run period.**

(vii) Effect on Price	➔ In short run, the price determination of a commodity is more influenced by – (a) The demand forces than supply forces because supply in short run is relatively inelastic, and (b) The **UTILITY** of the commodity. ➔ The short-run price is called SUB-NORMAL PRICE.	➔ In long run, the price determination of a commodity is more influenced by – (a) The supply forces than demand forces because supply in long run is relatively elastic, and (b) The COST OF PRODUCTION of the commodity. ➔ The long-run price is called NORMAL PRICE.
(viii) Average Cost Curve	➔ The short-run average cost curve is U-shaped. ➔ Its U-shape is explained with the Law of Variable Proportions.	➔ The long-run average cost curve is also U-shaped. ➔ But its U-shape is not as prominent as short-run average cost curve. ➔ Its U-shape is explained with the Law of Returns to Scale. ➔ Long-run average cost curve is also called 'PLANNING CURVE' and 'ENVELOPE CURVE'.
(ix) Profit of Firms	In the short-run period – (a) The firms under perfect competition on being at equilibrium may earn normal profits, super normal profits, or incur losses. (b) The monopoly firm on being at equilibrium may earn normal profits, super normal profits, or incur losses. (c) The firms under monopolistic competition on being at equilibrium may earn normal profits, super normal profits, or incur losses.	♦ In the long-run period – (a) The firms under perfect competition earn only NORMAL PROFITS and operate at optimum level. (b) The monopoly firm can earn SUPER NORMAL PROFITS and operate at sub-optimum level. (c) The firms under monopolistic competition earn only NORMAL PROFITS and operate at sub-optimum level.

CONCEPTS OF PRODUCT

Product i.e. output refers to the volume of goods produced by a firm in a particular period of time. There are three concepts relating to the physical production by factors namely

Total Product *(TP)* Average Product *(AP)* Marginal Product *(MP)*

▶ Total Product

The total output produced by all the factors per unit of time is *called total product.*

Total product increases with an increase in the variable factor input.

▶ Average Product

The average product means the total product per unit of a variable factor.
In other words, it is the total product divided by the number of units of a variable factor.

$$\text{Average Product} = \frac{\text{Total Product}}{\text{No. of units of variable factor}}$$

OR

$$\text{AP} = \frac{\text{TP}}{\text{QVF}}$$

▶ Marginal Product

The marginal product means addition made to total product by the use of an extra unit of variable factor.
It may be stated as-

$$\text{MPn} = \text{TPn} - \text{TPn} - 1$$

where,
MPn= Marginal product when 'n' units of variable factors are used
TP = Total Product
n = number of units of variable factors used.
Marginal Product may also be defined as the change in total output due to use of additional unit of variable factor

$$\text{MP} = \frac{\Delta\text{TP}}{\Delta\text{QVF}}$$

Where –
Δ = a small change Column No. (4) of the following table shows the marginal product schedule

Relationship between AP and MP

Labour	TP	AP	MP	Analysis
1	2	2	2	MP & AP both increase; MP > AP; TP also increases
2	5	2.5	3	TP also increases
3	9	3	4	**MP = AP, AP = maximum**
4	12	3	3	MP & AP both decrease
5	14	2.8	2	MP & AP both decrease, MP < AP; TP increases
6	15	2.5	1	MP < AP; TP increases
7	15	2.1	0	**MP = 0, TP = maximum**
8	14	1.7	-1	AP > MP, both decrease
9	12	1.3	-2	TP decreases

a) Both AP and MP can be calculated by TP.

(b) When AP rises then MP also rises but MP >AP.

(c) When AP is maximum then MP =AP or say MP curve cuts the AP curve at its maximum point

(d) When AP falls then MP also falls but MP
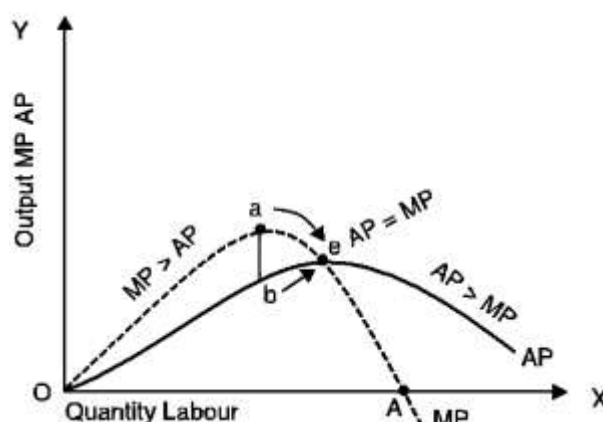
LAW OF VARIABLE PROPORTIONS

What does this law state

The Law of Variable Proportions examines the production function i.e. the input output relation in short run where one factor is variable and other factors of production are fixed.

In other words, it examines production function when the output is increased by varying the quantity of one input.

Thus, the law examines the effect of change in the proportions between fixed and variable & factor inputs on output in three stages viz. Increasing returns, diminishing returns and negative returns.

Note:
Statement of the Law
"As the proportion of one factor in a combination of factors is increased, after a point first l the marginal and then the average product of that factor will diminish". (F. Benhan)

Assumptions

a) The state of technology is assumed to be given and unchanged. If there is any improvement in technology, then marginal product and average product may rise instead of falling.

b) There must be some inputs whose quantity is kept fixed. This law does not apply to cases when all factors are proportionately varied. When all the factors are proportionately varied, laws of returns to scale are applicable.

c) The law does not apply to those cases where the factors must be used in fixed proportions to yield output. When the various factors are required to be used in fixed proportions, an increase in one factor would not lead to any increase in output i.e., marginal product of the variable factor will then be zero and not diminishing.

d) We consider only physical inputs and outputs and not economic profitability in monetary terms.

Understanding through Diagrammatic and Numerical Example

Labour	TP	AP	MP	Analysis
1	2	2.0	2	Stage-I: Law of increasing returns
2	5	2.5	3	
3	9	3.0	4	
4	12	3.0	3	AP = MP and AP is maximum
5	14	2.8	2	Stage-II: Law of decreasing returns
6	15	2.5	1	
7	15	2.1	0	MP = 0, TP is Maximum
8	14	1.7	-1	Stage-III: Law of Negative returns
9	12	1.3	-2	
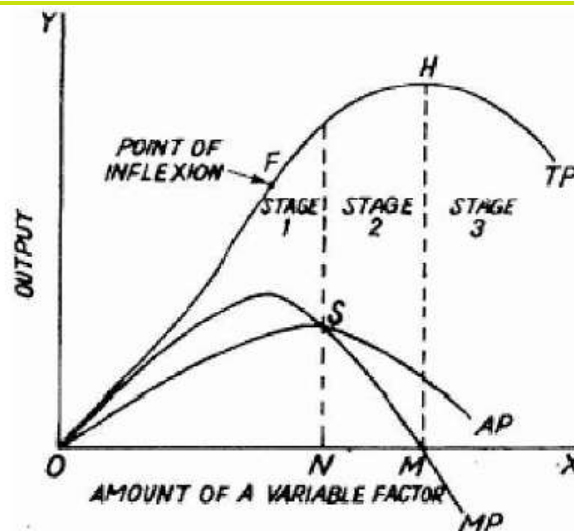
Three Stages of Production under Short run production Function

Stage	TP	MP	AP
Stage I	Increases at an increasing rate	Increases and reaches at maximum point	Increases and reaches its maximum point
Stage II	Increases at a diminishing rate and reaches its maximum point	Decreases and becomes zero	After reaching its maximum point begins to decrease
Stage III	Begins to fall	Becomes Negative	Continues to diminish

Stage 1 – Increasing returns to Factor

Reasons for this Stage

1) Indivisibility of fixed factors: – The law of increasing returns operates because of indivisibility of fixed factors. It means, in order to produce goods up to a given limit, at least one unit of the fixed factor is a fixed

2) Division of Labour & Specialisation – The second reason why we get increasing re-turns in the initial stages is that with sufficient quantity of variable factor, introduction of di- vision of labour and specialization becomes Adv. Dipesh R. Sharma Page 84 possible, which results in higher productivity

Note:
Point of Inflexion is that point on TP at which MP is maximum

Stage 2- Diminishing Returns to Factor

Inadequate relative of fixed factors: –

Once the point is reached at which the amount of variable factor is sufficient to ensure the efficient utilization of the fixed factor, then further increases in the variable factor will cause marginal and average product to decline because the fixed factor then becomes inadequate relative to the quantity of variable factors

Imperfect substitutability: –

Another reason offered for the operation of the diminishing returns is the imperfect substitutability of factors for one another.

Note: Saturation point is that point at which TP is maximum and MP is zero

Stage 3- Negative Returns to Factor

Too excessive quantity of variable factor: –

In this stage the quantity of variable factor be-comes too excessive relative to the fixed factor so that they get in each other's way with a result that the total output falls instead of rising. In such a situation a reduction in the units of the variable factor will increase the total output.

In which Stage would a Producer achieve equilibrium

Why not in Stage 3

Rational producer will never produce in stage 3 where marginal product of the variable factor is negative. This being so, a producer can always increase his output by reducing the amount of

variable factor. Even if the variable factor is free of cost, a rational producer stops before the beginning of the third stage.

Why not in Stage 1: -

A rational producer will also not produce in stage 1 as he will not be making the best use of the fixed factors and he will not be utilising fully the opportunities of increasing production by increasing the quantity of the variable factor whose average product continues to rise throughout stage 1. Even if the fixed factor is free of cost in this stage, a rational entrepreneur will continue adding more variable factors.

Note:
It is thus clear that a rational producer will never produce in stage 1 and stage 3. These stages are called stages of 'economic absurdity' or 'economic non-sense'

Equilibrium always achieved in Stage 2: -

A rational producer will always produce in stage 2 where both the marginal product and average product of the variable factors are diminishing. At which particular point in this stage, the producer will decide to produce depends upon the prices of factors.

RETURNS TO SCALE

The Law of Returns to Scale examines the production function i.e. the input - output relation in long run where increase in output can be achieved by varying the units of ALL FACTORS IN THE SAME PROPORTION.

- ✓ *Thus, in long run all factors become variable.*
- ✓ *It means that in long run the scale of production and the size of the firm can be increased.*
- ✓ *The law of returns to scale analyses the effects of scale on the level of output as*

▶ 1. Increasing Returns to Scale

When the output increases by a greater proportion than the proportion increases in all the factor inputs, it is increasing returns to scale.

E.g. When all inputs are increased by 10% and output rises by 30%.

The reasons of increasing returns to scale are - internal and external economies of scale; indivisibility of fixed factors; improved organisation; division of labour and specialisation; better supervision and control; adequate supply of productive factors, etc.

▶ 2. Constant Returns to Scale

When the output increases exactly in the same proportion as that of increase in all factor inputs, it is constant returns to scale.

E.g. - When all inputs are increased by 10% and output also rises by 10%.

The reason of constant returns to scale is that beyond a certain point, internal and external economies are NEUTRALISED by growing internal and external diseconomies

Constant returns to scale, otherwise called as "Linear Homogeneous Production Function", may be expressed as follows: kQx = f(kK, kL) = k (K, L) If all the inputs are increased by a certain amount (say k) output increases in the same proportion (k). It has been found that an individual rm passes through a long phase of constant returns to scale in its lifetime.

▶ 3. Diminishing Returns to Scale

When the output increases by a lesser proportion than the proportion increase in all the factor inputs, it is diminishing returns to scale. E.g. When all inputs are increased by 20% but output rises by 10%.

The reason of diminishing returns to scale is increased internal and external diseconomies of production.

Internal diseconomies like difficulties in management, lack of supervision and control, delay in decision-making etc.

External diseconomies like insufficient transport system, high freights, high prices of raw materials, power cuts, etc.

▶ Understanding Returns to Scale through Cobb-Douglas Production Function

The Cobb-Douglas production function, explained earlier is used to explain "returns to scale" in production. Originally, Cobb and Douglas assumed that returns to scale are constant. The function was constructed in such a way that the exponents summed to a+1- a=1.

However, later they relaxed the requirement and rewrote the equation as follows:

$$Q = K L^a C^b$$

Where 'Q' is output, 'L' the quantity of labour and 'C' the quantity of capital, 'K' and 'a' and 'b' are positive constants

If a + b > 1 Increasing return to scale result i.e. increase in output is more than the proportionate increase in the use of factors (labour and capital).

If a + b = 1 Constant returns to scale result i.e. the output increases in the same proportion in which factors are increased.

If a + b < 1 decreasing returns to scale result i.e. the output increases less than the proportionate increase in the labour and capital.

Units of Labour & Capital	Marginal Product (Units)	Total Product (Units)	Remarks
1	200	200	*Stage I* Increasing Returns
2	300	500	*Stage I* Increasing Returns
3	400	900	*Stage II* Constant Returns
4	400	1300	*Stage II* Constant Returns
5	400	1700	*Stage II* Constant Returns
6	300	2000	*Stage III* Diminishing Returns
7	200	2200	*Stage III* Diminishing Returns
8	100	2300	*Stage III* Diminishing Returns
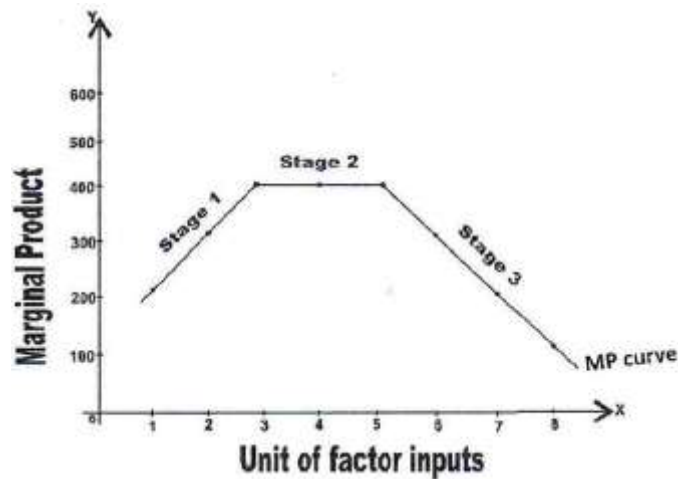
Figure: Returns to Scale

RETURNS TO FACTOR AND RETURNS TO SCALE

Basis	Returns to Factor	Returns to Scale
Meaning	✓ Refers to production size changes when one factor is variable and others are fixed. ✓ Studies output change by varying one input. ✓ Examines change in proportions.	✓ Refers to production size changes by varying all inputs in the same proportion. ✓ Shows effect on output when all inputs change together.
Nature of Inputs	✓ Some inputs are fixed, others variable. ✓ Mix of fixed and variable factors.	✓ All inputs are variable. ✓ All factors of production can be changed.
Time Element	Short Run production function.	Long Run production function.
Application	Does not apply where factors must be used in fixed proportion.	Does apply where factors must be used in fixed proportions.

Stages of Law	✓ Increasing Returns to Factor ✓ Diminishing Returns to Factor ✓ Negative Returns to Factor – Diminishing returns are most common.	✓ Increasing Returns to Scale ✓ Constant Returns to Scale ✓ Diminishing Returns to Scale ✓ All stages appear sequentially.
Causes of Operation	<u>Increasing returns:</u> Indivisibility of fixed factors, division of labour, specialization. <u>Diminishing returns:</u> Poor factor proportion, imperfect substitutability. <u>Negative returns</u>: Failure of fixed & variable factors.	<u>Increasing returns:</u> Internal & external economies. <u>Constant returns:</u> Balanced internal/external economies. <u>Diminishing returns:</u> Internal & external diseconomies.
Scale of Production	➔ Output scale is unchanged; production plant size stays constant. ➔ Only one input varies; others remain fixed.	➔ Output scale and plant size <u>can be increased</u>. ➔ All factors change <u>simultaneously</u> and proportionally.

INTERNAL ECONOMIES

Internal economies are those benefits which accrue to a firm when it expands the scale of production.

Internal economies are the result of the firm's own efforts independent of the actions of other firms.

These economies are particular to the individual firms and are different for different firms depending upon the size of the firm.

The main types of internal economies are as follows

Technical Economies & Diseconomies

The large-scale production is associated with technical economies.

As the firm increases its scale of production, it becomes possible to use better plant, machinery, equipment and techniques of production.

Following are the main forms (causes/reasons) of technical economies

Economies of superior techniques.

➔ A large sized firm can use sophisticated and costly machines and equipments.
➔ Use of superior techniques reduces the cost of production per unit and increases aggregate output.

Economies of increased dimensions.

A large firm can get the mechanical advantage in using large machines and other mechanical units to produce more output.

Example: A Large boiler, large furnace, etc. can be operated by same team as required by smaller boiler, furnace, etc.

Economies of linked processes.

A large sized firm can develop its own sources of raw material, means of transportation, distribution system, etc.

Economies of the use of By-products.

A large sized firm can avoid all kinds of wastage of materials. The firm can use its by- products and waste material to produce another material.

Example: Sugar industry can make alcohol out of the molasses

Economies of specialization.

A large sized firm can introduce greater degree of division of labour and specialisation

Managerial Economies

➔ Large sized firms can introduce division of labour in managerial tasks.
➔ They can employ business executive of high skill and qualification to look after the functioning of various departments like production, finance, sales, advertising, personnel, etc.
➔ This helps to increase the efficiency and productivity of managers resulting in reduction in managerial costs.

Commercial Economies

➔ A large sized firm is able to reap economies of bulk purchases.
➔ It can get discounts from suppliers, railways, transport companies, etc.
➔ It enjoys prompt and regular supply of raw materials.
➔ A large sized firm can also afford to spend large amount of money on advertising, publicity, etc.
➔ It can also give various concessions to wholesale and retail dealers and customers and thus capture markets for its product.

Financial Economies

➔ A big firm enjoys goodwill among lenders or investors.
➔ For raising finance, it can either borrow from bank as it can offer better security or it can raise finance by issuing shares, debentures and by inviting public deposits. Such opportunities are not available to small firms.

Risk Bearing Economies

➔ A large firm is better placed to face the uncertainties and risks of business.
➔ A big firm producing many varieties of goods is in a better position to withstand economic ups and downs. Therefore, it enjoys economies of risk bearing.

INTERNAL DISECONOMIES

➔ _Internal diseconomies_ mean all those factors which raise the cost of production per unit of a particular firm when the scale of production is expanded beyond the point of optimal capacity.
➔ Such diseconomies of scale are as follows.

Production Diseconomies

Production diseconomies set in when expansion of firm's production beyond optimum size leads to rise in the cost per unit of output.
Example: Use of inferior or less efficient factors due to non-availability of efficient factors raises the per unit cost of output.

Managerial Diseconomies

➔ As the scale of production increases burden on management also increases.
➔ Co-ordination of work among different departments becomes difficult. Supervision and control over the activities of subordinates becomes difficult, decision taking is delaved, etc.
➔ As a result, wastage increase and the efficiency and productivity decrease.
➔ Per unit cost starts rising.

Technical Diseconomies

➔ Every equipment has an optimum point at which it works more efficiently and economically.
➔ Beyond optimum point they are overworked and may result in breakdowns, heavy cost of maintenance, etc.

Financial Diseconomies

➔ Expansion of production beyond the optimum scale results in increase in the cost of capital.
➔ It may be due to increased dependence on external finances.

Marketing Diseconomies

➔ Selling diseconomies set in if the scale of production is expanded beyond optimum level.
➔ The advertisement expenditure and marketing overheads increase more proportionately with the scale.

EXTERNAL ECONOMIES

➔ *External economies are those benefits which accrue to all the firms operating in a given industry from the growth and expansion of that industry.*

➔ *External economies are not related to an individual firm's own cost reduction efforts.*

➔ *These are common to all the firms in an industry and shared by many firms or industries.*

➔ T*he main types of external economies are as follows*

Technical Economies

➔ *When the whole industry expands, it may result in the discovery of new technical knowledge, firms pool manpower and finance for research and development resulting in new and improved methods of production and new inventions.*

➔ *Use of improved and better machinery improves production function and cost of production per unit fails.*

Economies of Localization

➔ *When in an area, many firms producing the same commodity are set up, it is called localization of an industry.*

➔ *Due to localization, there is expansion of railways, post & telegraph, banking services, insurance, setting up of booking offices by transport, companies, setting up of powerful transformer by electricity department, etc.*

➔ *All the firms get these facilities at low prices*

Economies of Information

➔ *As pointed earlier, firms pool their resources for research and development.*

➔ *All firms get the benefit of the research in terms of market information, technical information, information about governments economic policies, information about availability of new source of raw material, etc.*

➔ *Also, specialized journals give information about latest developments.*

Cheaper Inputs

➔ *When an industry expands its needs for raw materials, machines, etc. also expand.*

➔ *This may result in exploration of new and cheaper sources of raw materials, machinery, etc.*

➔ *Also, the industries producing such inputs also expand in scale.*

➔ *Therefore, they can supply these inputs at lower prices.*

➔ *As a result, the cost of production per unit of the firm using these inputs falls.*

Growth of Ancillary Industries

➔ With the growth of an industry, many firms specialized in the production of inputs like raw material, tools, machinery, etc. come up.

➔ Such firms are called ancillary units which provides inputs at lower cost to the main industry.

➔ Likewise, some firms may get developed by processing the waste products of the industry.

➔ Thus, wastes are converted into <u>by-products</u>. This reduces the cost of production in gen.

Development of Skilled Labour

➔ When an industry expands specialized institutions like colleges, training centers, management institutes, etc. develop.

➔ This results in continuous availability of skilled labour like technicians, engineers, management experts, etc.

Better transportation & Marketing Facilities

➔ When an industry expands many specialized transporters also develop.

➔ The firm in need of specialized transport service can get them easily at cheaper rates.

➔ Also, many new marketing outlets and specialized marketing institutions develop. The firm need not spend on developing its own marketing outlets.

➔ This reduces the cos.

EXTERNAL DISECONOMIES

The growth and expansion of an industry in a particular area beyond optimum level results in many disadvantages for firms in the industry.

Such disadvantages increase the costs of production of each firm.

Therefore, they are called <u>external diseconomies.</u> Some of the external diseconomies are as follows:

Diseconomies of Scarcity of Inputs

➔ When an industry expands its need for raw materials, machines, tools and equipment's, etc. also expands. - Some inputs are such which cannot be totally substituted.

➔ The firms supplying these inputs come under pressure and may supply inputs at a higher price.

➔ This raises the cost of production per unit of the firm who uses these inputs

Diseconomies of Strains on Infrastructure

➔ Due to concentration of firms in an area infrastructural facilities become inadequate over a time. *Example:* Excessive pressure on transport system results in delayed transportation of raw materials and finished goods.

➔ Other facilities like electric power supply, communication system, water supply, etc. are also over taxed.

➔ This puts strain on infrastructural facilities resulting in increased cost of production.

Diseconomies of High Factor Prices

➔ With the concentration of an industry in a particular area, the demand for factors of production rises.

➔ Thus, the prices of the factors of production go up resulting in increased cost of production.

Diseconomies of Expenditure on Advertising of Expenditure on Advertising

➔ Expansion of an industry also means increase in the number of firms.

➔ Likewise, some firms may get developed by processing the waste products of the industry.

➔ Thus, wastes are converted into by-products. This reduces the cost of production in general.

PRODUCTION OPTIMISATION

Concept of Isoquants:

An iso-product curve or isoquant is a curve, which represents the various combinations of two variable inputs that give the same level of output. As all combinations on the iso-product curve give the same level of output, the producer becomes indifferent to these combinations.

That is why iso-product curve are also called 'production indifference curve' or 'equal product curve'. To understand consider the following production isoquant schedule.

Schedule I				Schedule II			
Combination	Units of Capital	Units of Labour	Units of Output	Combination	Units of Capital	Units of Labour	Units of Output
A	1	12	100	F	2	15	200
B	2	8	100	G	3	11	200
C	3	5	100	H	4	8	200
D	4	3	100	I	5	6	200
E	5	2	100	J	6	5	200

In the schedule I above, the producer is indifferent whether he gets combination A, B, C, D or E. This is because all the combinations of capital and labour give the same level of output i.e. 100 units.

By plotting the above combinations on a graph, we can derive an iso-product curve as shown in the following figure:
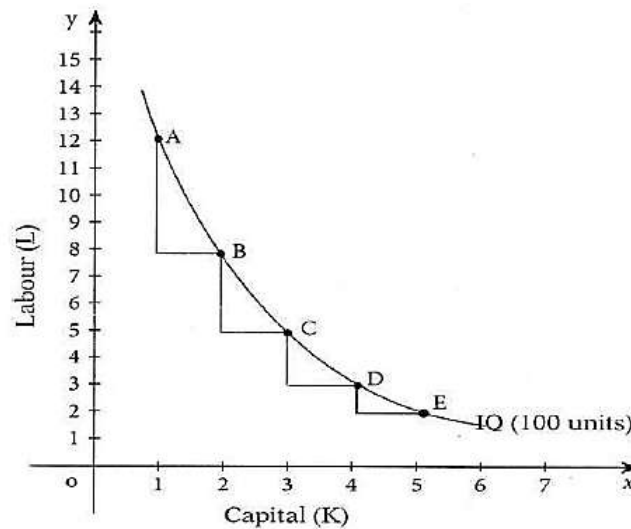
In the diagram, quantity of capital is measured on X-axis and quantity of labour on Y-axis.

The various combinations A, B, C, D, E of capital and labour are plotted and on joining them we derive an iso-product curve. All combinations lying on the iso-product curve yield the same level of output i.e. 100 units and hence technically equally efficient.

If the production schedule II is also plotted on the graph, we will get another iso-product curve IQ200. This will lie above the IQ100 as the combinations contain greater quantities of capital and labour. A set of is product curves is called iso-product curve map.
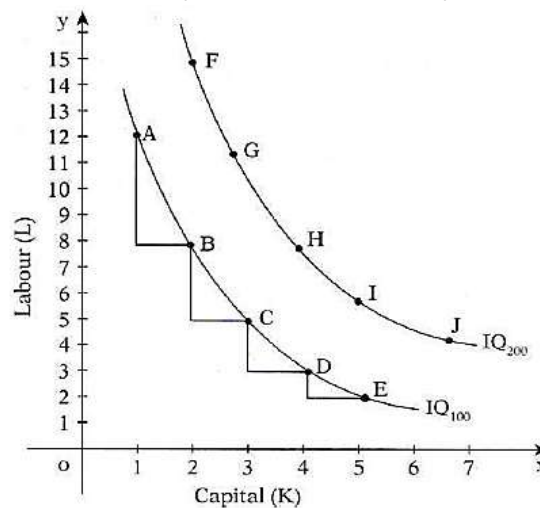
In the diagram, it can be observed that each iso-product curve is labelled in terms of output. All combinations lying of IQ100 give the output of 100 units and all the combinations lying on IQ200 give the output of 200 units. Higher iso-product curve represents higher level of output. Also, it indicates how much more output can be achieved.

▶ *Marginal Rate of Technical Substitution*

The rate at which one factor of production is substituted in place of the other factor without any change in the level of output is called as the marginal rate of technical substitution. *Consider the following schedule.*

Combination	Units of Capital (K)	Units of Labour (L)	MRTS (ΔL/ΔK)	Units of Output
A	1	12	-	100
B	2	8	4L : 1K	100
C	3	5	3L : 1K	100
D	4	3	2L : 1K	100
E	5	2	1L : 1K	100

Each of the factor combinations in the table above yields same level of output. Moving from combination A to B, one unit of capital replaces 4 units of labour. Similarly, moving from B to C, one unit of capital now replaces only 3 units of labour and so on. It implies that labour and capital are imperfect substitutes.

That is why MRTSKL is continuously diminishing. We can measure MRTSKL on an iso-product curve.

▶ 'Iso-Cost Line' OR 'Equal Cost Lines'

*Iso-cost line (*also known Equal Cost Line; Price Line; Outlay Line; Factor Price Line*) shows the various combinations of two factor inputs which the firm can purchase with a given outlay (i.e. budget) and at given prices of two inputs.*

Example: A firm has with itself Rs. 1,000 which it would like to spend on factor 'X' and factor 'Y'. Price of factor 'X' is Rs. 20 per unit.

Price of factor 'Y' is Rs. 10 per unit.

Therefore, if the firm spends the whole amount on factor X, it can buy 50 units of X and if the whole amount is spent on factor Y, it can buy 100 units of Y. However, in between these two extreme limits, it can have many combinations of X and Y for the outlay of Rs. 1,000. Graphically it can be shown as follows –
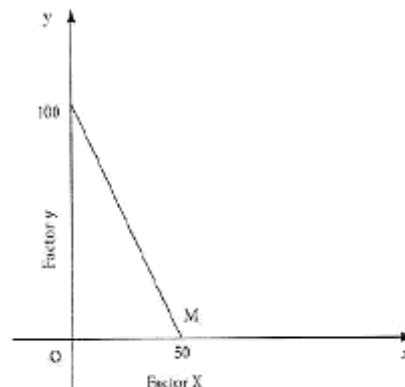
In the diagram OP shows 100 units of Y and OM shows 50 units of X. When we join the two points P and M, we get the iso-cost line. All the combinations of factor X and factor Y lying on iso-cost line can be purchased by the firm with an outlay of Rs. 1,000.

If the firm increases the outlay to Rs. 2,000, the iso-cost line shifts to the right, if prices of two factors remain unchanged. The slope of the iso-cost line is equal to the ratio of the prices of two factors. *Thus, Slope of line*

$$\textbf{PM} = \frac{\textbf{Price of X}}{\textbf{Price of Y}}$$

▶ Producer's Equilibrium OR Production Optimization.

A firm always try to produce a given level of output at minimum cost. For this it has to use that combination of inputs which minimizes the cost of production. This ensures maximization of profits and produce a given level of output with least cost combination of inputs.

The least-cost combination of inputs or factors is called producer's equilibrium or production optimization. This is determined with the help of (a) isoquants, & (b) iso-cost line.

An isoquant or iso-product curve is a curve which shows the various combinations of two inputs that produce same level of output. The isoquants are negatively sloped and convex to origin. The slope of isoquants shows the marginal rate of technical substitution which diminishes. Thus, MRTSxy

$$= \textbf{Slope} = \frac{\Delta \textbf{Y}}{\Delta \textbf{X}} = \frac{\textbf{MPx}}{\textbf{MPy}}$$

Iso-cost line shows the various combination of two factor inputs which the firm can purchase with a given outlay and at given prices of inputs. There can be different outlays and hence different iso-cost lines. Slope of iso-cost line shows the ratio of the price of two inputs i.e.

$$\frac{\textbf{Px}}{\textbf{Py}}$$
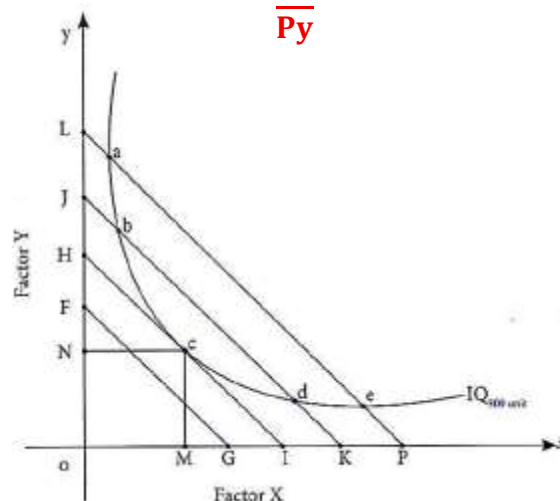
Which will be the least cost combination can be understood with the help of following figure. Suppose firm wants to produce 300 units of a commodity. It will first see the isoquant that represents 300 units.

In the adjoining diagram we find that all combinations a, b, c, d and e can produce 300 units of output. In order to produce 300 units firm with try to find out least cost combination. For this it will super impose the various iso-cost lines on isoquant as shown in the diagram. The diagram shows that combination **'C'** is the least cost combination as here isoquant is tangent to iso-cost line HI.

All other combinations a, b, d and e lying on isoquant cost more as these points lie on higher iso-cost lines. Hence, the point of tangency of isoquant and iso-cost line shows least cost combination. At the point of tangency.

Slope of iso-quant = Slope of iso-cost line

$$\therefore \text{MRTSxy} = \frac{Px}{Py}$$

Thus, the firm will choose OM units of factor X and ON units of factor Y and be at equilibrium as the marginal physical products of two factors are proportional to the factor prices.

Chapter 3
Unit 2: Theory of Cost

RELEVANT CONCEPT OF COST

Accounting Costs and Economic Costs

▶ Accounting costs

These are those cash payments which firms make to outsiders for purchasing or hiring

the services of various productive factors which do not belong to the entrepreneur.

The accounting costs are in the nature of <u>contractual payments</u> to the factor suppliers.

Example: Contractual payments like wages, rent on hired land, interest on borrowed capital, cost of power and fuel, purchase of raw-materials, insurance premium, transportation, advertising, taxes, etc.

These costs are recorded in firm's account book.

<u>All these money expenses are also known as EXPLICIT COSTS or accounting costs</u> as they form part of the cost of production and accounted by the firm.

▶ Economic Costs

Economists take a broader view of the cost concept. Economist's cost <u>refers to what may be called FULL COSTS or ECONOMIC COSTS</u>.

Economic Costs = Explicit costs (or accounting costs) + Implicit costs (or imputed costs)

Thus, economic cost is the sum total of accounting costs (also called explicit costs) and implicit cost (also called imputed costs or opportunity cost)

Implicit costs are costs of self-owned and self-supplied resources by an entrepreneur which are generally <u>not recorded in the firm's account book. There is no contractual obligation for payment to anybody else</u>.

Example: An entrepreneur may utilise his own building or his own capital or may act as a manager of his firm himself. For these productive services, he does not pay rent or interest or salary to himself although the payments accrue to him.

These are <u>implicit or imputed (estimated) costs</u> of various factors owned and supplied by the owner himself. When an entrepreneur invests capital in his business, devotes his time and skills in his business, he has to forego the opportunity of investing his, capital, time and skills elsewhere.

Implicit costs involve the sacrifice of alternatives that have been foregone in the production of a commodity. Hence, implicit costs are also called "opportunity cost" and forms part of the economic costs.

A firm earns <u>economic profits</u> or normal profit when it recovers both explicit costs as well as implicit costs. Thus, normal profit is a part of implicit cost. Profit earned over and above normal profit is called super normal profit.

Outlay Cost and Opportunity Cost

Outlay costs involve actual outlay of funds on wages, material, rent, interest etc. Outlay costs involve financial expenditure at some time and thus are recorded in the books of account.

Our wants are unlimited and resources are scarce but have alternative uses. Hence, the problem of choice among the alternative uses of a given resource for particular purpose arises.

This is because, the use of a resource in producing a commodity always involves the loss of opportunity of production of some other commodity.

<u>The sacrifice or loss of alternative use of a given resource is termed as "opportunity cost.</u>

Thus, the opportunity cost is measured in terms of the <u>foregone benefits from the next best alternative use</u> of a given resource.

Example: The opportunity cost of producing a car is production of 10 scooters sacrificed, which could have been produced with the same number of factors that make a car.

Hence, <u>opportunity costs relate to sacrificed alternatives</u>. They are NOT RECORDED in the books of account.

The concept of opportunity cost is useful in the determination of relative prices of goods, normal remuneration to a factor, in decision making and in analysing optimum allocation of resources.

Direct (or Traceable) Costs and Indirect (or Non- Traceable) Costs

▶ Direct costs

A direct or traceable cost is one which can be identified easily and indisputably with a unit of operation,
Example: a product, a department, a plant or a process.
Example: In the production of shoes, the cost of leather is a direct cost.

▶ Indirect costs

Indirect Costs or Non-Traceable Costs or Common Costs are those costs that are not traceable to plant, department and operation as well as those that are not traceable to individual final products but are charged to jobs or products in standard accounting practice.

Such costs although not directly traceable to the product may bear some functional relationship to production and may vary with output in some definite way.

Example: ELECTRIC POWER. Such <u>common costs</u> which are incurred for general operation of business and benefits all products jointly are called <u>indirect cost</u>.

Incremental costs and Sunk Costs:

Incremental costs are related to the concept of <u>marginal cost</u>. While marginal cost refers to additional cost of producing an extra unit of output, <u>incremental cost</u> refers to the total additional cost when business decisions are taken like-to expand the production, hire more workers, materials, machinery, equipment, replace old plant and machinery, etc.

Sunk costs refer to the costs which has been already incurred in the **past** and cannot be recovered. It also includes an expenditure that has to be made in future under past commitments or contractual agreements. Sunk costs are <u>irrelevant for decision making as it cannot be recovered. Sunk costs do not vary with the changes in business activity</u>. Such costs also act as an important barrier to entry of firms into business.

Example: expenses on advertising, R&D, special equipment's, etc

Historical costs and Replacement costs

Historical costs

are those costs on purchase of assets in the past.

Replacement costs

refer to the expenditure to be made for replacing old assets.

Instability in asset prices make the two costs differ

Private costs and Social costs

Private costs

are those costs which are incurred or provided for by firms. These may be either explicit or implicit since they form part of total cost of production, it implies they figure in business decisions. Therefore, private costs are <u>internalized cost</u>.

Social costs

refer to the total cost to the society due to business activity. Social costs include both <u>private cost and the external cost.</u> It includes resources for which the firm is not required to pay the price like - atmosphere, rivers, lakes, roads, etc. and the cost in terms of disutility created like pollution of all types.

COST FUNCTION

Cost function is the functional relation between COSTS and OUTPUT.

The PRODUCTION FUNCTION of a firm and the PRICES it pays for the inputs determine the firm's cost function.

Thus, cost function refers to the relation between COST OF A PRODUCT and the various DETERMINANTS OF ITS COST.

It can also be expressed in the form of a mathematical equation in which unit cost or total cost is the dependent variable and the prices of various inputs are independent variables.

$$C = f(O, S, T, U, P - - - - - - - -)$$

Where –
C is cost
O is the level of output
S is the size of plant
T is time under consideration
P is the prices of factors of production

➔ *Production function determines the cost function.*
➔ *Therefore, the behaviour of cost of production and the shapes of the cost curves depends upon the laws of returns.*
➔ *The LAW OF RETURNS TO FACTOR determine the shapes of short - period cost curves while the LAW OF RETURNS TO SCALE determine the shapes of long - period cost curves.*

Short run total costs

TOTAL COST (in short run) = TOTAL FIXED COST + TOTAL VARIABLE COST

Points	FIXED COST	VARIABLE COST
Meaning	✓ Fixed costs are incurred on the use of the fixed inputs. ✓ Fixed inputs cannot be varied in the short run. ✓ Therefore, fixed costs do not change with changes in output in short run. ✓ Fixed costs are thus, INDEPENDENT of output. ✓ These include both EXPLICIT COSTS and IMPLICIT COSTS.	✓ Variable costs are incurred on the use of the variable inputs. ✓ Variable inputs can be varied in the short run. – ✓ erefore, variable costs change with the changes in output i.e., they increase or decrease when output rises or falls. ✓ Variable costs thus, DEPEND on output.

Can Be Zero or Not?	✓ Fixed cost can never be zero. ✓ If the level of output falls to ZERO, fixed costs are to be incurred in the short run. ✓ In other words, if firm closes down for some time in short run but remains in business, these costs have to be borne by it.	✓ Variable cost can become zero. ✓ If the level of output falls to zero, variable costs also fall to zero. ✓ In other words, if a firm shuts down for some time in short run, it will not incur any variable cost as it will not use variable factors of production.
Examples	E.g. Contractual rent, maintenance cost, property taxes, interest on capital invested, wages of permanent staff, depreciation, etc.	E.g. wages of labour employed, prices of raw materials, power and fuel, expenses on transport, etc.
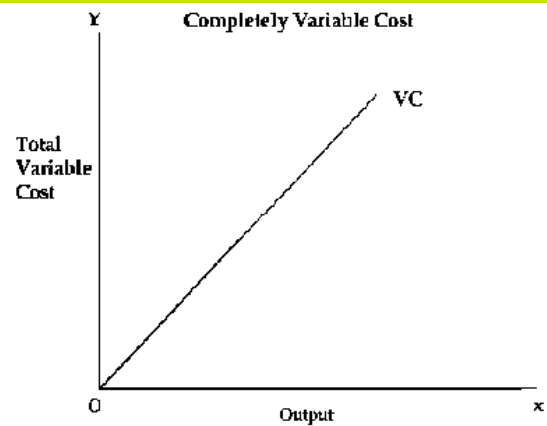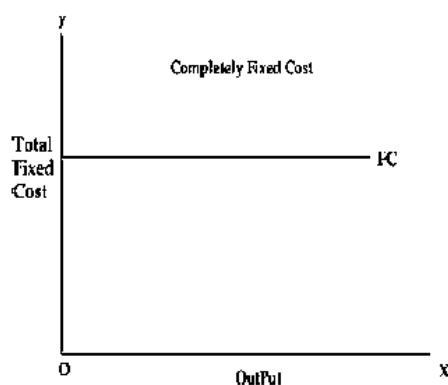
Concept of Semi Variable Cost
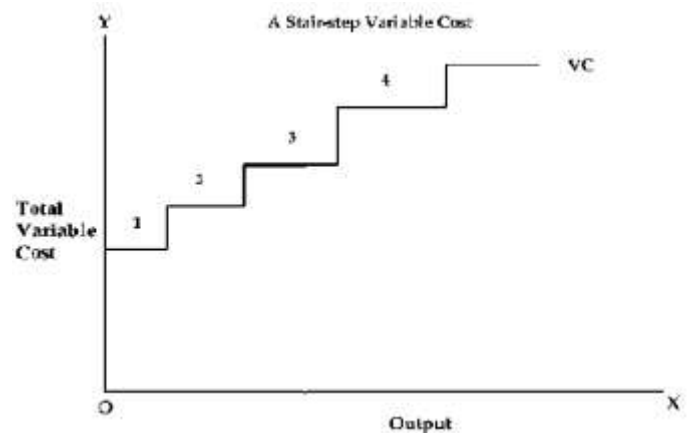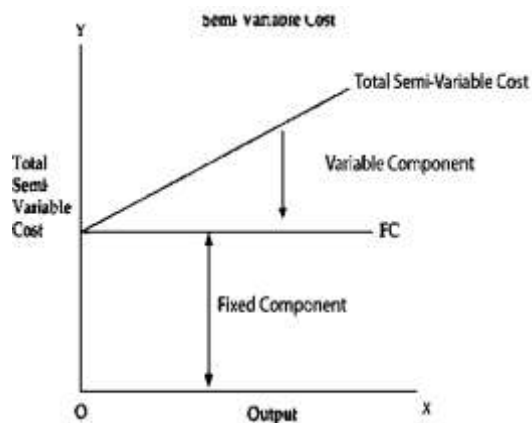
➢ There are some costs which are neither perfectly variable, nor absolutely fixed in relation to the changes in the size of output. They are known as semi-variable costs. Example: Electricity charges include both a fixed charge and a charge based on consumption.

➢ There are some costs which may increase in a stair-step fashion, i.e., they remain fixed over certain range of output; but suddenly jump to a new higher level when output goes beyond a given limit.

Example: Costs incurred towards the salary of foremen will have a sudden jump if another foreman is appointed when the output crosses a particular limit.

Relationship between TFC, TVC and TC

Features of TFC Curve

Graphically, the TFC curve is a horizontal straight line parallel to X- axis.

It indicates that fixed cost remains unchanged at all levels. TFC curve originates from F on Y-axis indicating that fixed cost is to be borne even at zero level of output.

Hence, at zero output TC is not zero. It equals TFC

Features of TVC Curve

Graphically, theTVC curve is positively sloped. It indicates that variable cost increases with the increase in output.

TVC curve originates from0 i.e. origin indicating that Variable cost is zero at zero level of output.

Features of TC Curve

TCreflect the behaviour of TVC. Hence, the shape of TC resembles TVC

TC cost starts from Y axis because even when the output is Nil, TC is equal to TFC at that point

TC curve remains parallel to TVC Curve since their distance (TFC Curve) remains constant throughout
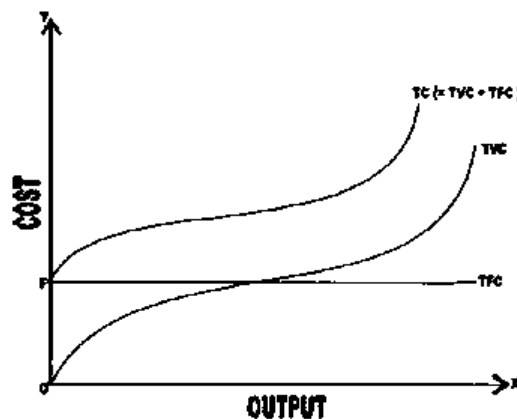
Short run average cost

For the purpose of making decisions about operations, unit cost functions or average costs are more useful than the total cost functions.

We examine here three of these unit cost functions namely –

Average Fixed Cost (AFC) ⟩ Average Variable Cost (AVC) ⟩ Average Total Cost (ATC).

▶ 1. Average Fixed Cost:

Average Fixed Cost is the <u>fixed cost per unit of output</u>. Thus,

$$\text{Average Fixed Cost} = \frac{\text{Total Fixed Cost}}{\text{Total Output}}$$

OR $\text{AFC} = \frac{\text{TFC}}{\text{Q}}$

Output (units)	TFC (Rs.)	AFC (Rs.)
0	60	-
1	60	60
2	60	30
3	60	20
4	60	15
5	60	12
6	60	10
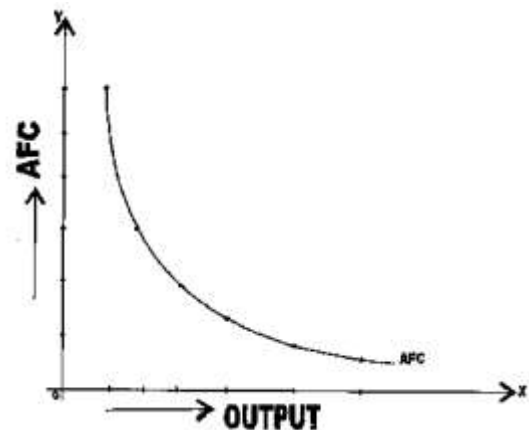
➔ *The above table shows that as the output increases; AFC goes on falling. The reason being TFC is spread over larger quantities of output.*

➔ *When graphed, the AFC curve slopes downwards from left to right throughout its length. The AFC curve comes closer and closer to the X - axis but not touch the X-axis as TFC can never be zero... AFC*

➔ *curve will not touch Y-axis also because at zero level of output, TFC is a POSITIVE VALUE. Any positive value divided by zero will provide infinite value*

➔ *The AFC curve is a RECTANGULAR HYPERBOLA because mathematically it shows the same level of TFC at all its points and geometrically the area of every rectangle on this curve at all points will be equal to the area of every other rectangle.*

▶ 2. Average Variable Cost:

Average variable Cost is the <u>variable cost per unit of output.</u> Thus,

$$\text{Average variable Cost} = \frac{\text{Total variable Cost}}{\text{Total Output}}$$

OR

$$\text{AVC} = \frac{\text{TVC}}{\text{Q}}$$

Output (units)	TVC (Rs.)	AVC (Rs.)
0	0	-
1	40	40
2	76	38
3	102	34
4	132	33
5	170	34
6	222	37
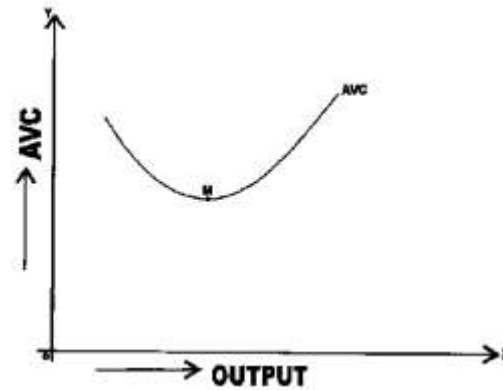
➔ *The above table shows that as the output expands; average variable cost falls initially due to increasing returns to the variable factor.*

➔ *It is minimum at the optimum capacity output.*

➔ *Beyond optimum capacity average variable cost rises very sharply due to diminishing returns to variable factor.*

Thus, AVC and AVERAGE PRODUCT of variable factor are inversely related.

When graphed, AVC curve declines over some range of output, reaches the minimum at optimum capacity, as at point 'M' in the above diagram and then goes on rising as output increases.

Thus, AVC curve is U-shaped indicating three phases decreasing phase, constant phase and increasing phase corresponding to the three phases of AVERAGE PRODUCT of variable factor in the law of Variable Proportions.

▶ *Average Total Cost: (Or Simply Average Cost):*

Average Total Cost is the cost per unit of output. Thus,

$$\text{Average Total Cost or Average Cost} = \frac{\text{Total Cost}}{\text{Total Output}}$$

$$\text{ATC or AC} = \frac{\text{TC}}{\text{Q}}$$

$$\text{ATC or AC} = \frac{\text{TFC}}{\text{Q}} + \frac{\text{TVC}}{\text{Q}} \ or \ \text{ATC or AC} = \text{AFC} + \text{AVC}$$

Output (units)	TC (Rs.)	ATC (Rs.)
0	60	-
1	100	100
2	136	68
3	162	54
4	192	48
5	230	46
6	282	47
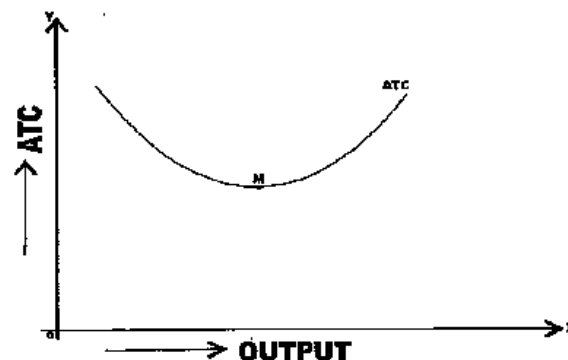
➔ The above table shows that as output increases, ATC falls initially, reach its minimum and then rises due to the Law of variable proportions.

➔ Since, ATC = AFC + AVC, it follows that the behaviour and shape of the ATC curve depends upon the behaviour of AVC curve and AFC curve.

➔ In the beginning, the ATC curve falls sharply when output expands. REASON being, initially both AVC and AFC curves fall.

➔ When AVC curve starts rising, but AFC curve continues to fall steeply, the ATC will continue to fall. REASON being, fall in AFC curve is MORE than the RISE in AVC curve.

➔ As output further increases, ATC curve rises. REASON being, there is sharp rise in AVC which offsets the, fall in AFC. Thus, ATC curve first fall, reach its minimum and then rise.

<u>Therefore, ATC curve is U:: shaped for the same reasons for which the AVC is a 'U' - shaped curve</u>.

Marginal Cost.

➢ Marginal Cost is addition to the total cost caused by producing one more unit of output.

➢ Thus, marginal cost is the cost of the additional unit of output.

➢ It is measured by the change in total cost resulting from a unit increase in output. Thus,

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

$$MTC = \frac{\Delta TC}{\Delta Q}$$

where, Δ — change

Example: If 5 units are produced, total cost = Rs. 206 If 6 units are produced, total cost = Rs. 236 Marginal Cost of 6th unit of output = Rs. 30

➔ The Marginal Cost is INDEPENDENT OF FIXED COST. In the short period, total fixed cost are constant for all levels of output.

➔ The only change in total cost when output changes is CHANGE IN VARIABLE COST. Hence, marginal cost is affected only by the variable cost.

➔ Therefore, marginal cost can also be defined as a change in TVC as a result of a unit change in output.

This can be proved as follows **–**

$$MC_n = TC_n - TC_{n-1}$$
$$since, TC = TFC + TVC$$
$$MC_n = (TVC_n + TFC_n) - (TVC_{n-1} + TFC_{n-1})$$
$$= TVC_n + TFC_n - TVC_{n-1} + TFC_{n-1}$$
$$= TVC_n - TVC_{n-1}$$

Output (units)	TFC (Rs.)	TVC (Rs.)	TC (Rs.)	MC (Rs.)
1	30	50	80	-
2	30	90	120	40
3	30	120	150	30
4	30	170	200	50
5	30	250	280	80
6	30	360	390	110
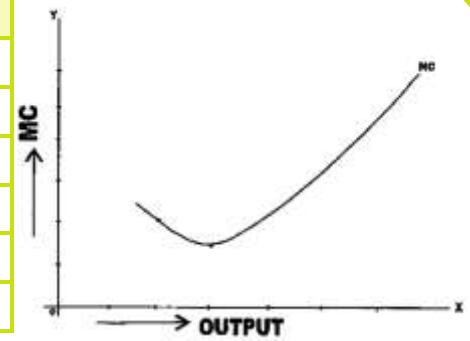
➔ *The above table shows that as the output increases; MC initially falls due to increasing returns to factor but finally MC rises due to diminishing returns to factor. Thus, marginal cost is the inverse of the marginal product of the variable factor.*

➔ *When graphed, the MC curve first declines, reaches minimum and then goes on rising as output increases.*

➔ *Thus, MC curve is U - shaped, this is due to the operation of the law of returns to factor and due to TC or TVC (AC or AVC).*

MC curve passes through the minimum points of AVC and ATC curves
MC curve reaches its minimum point earlier to the minimum points of AVC and ATC curves.
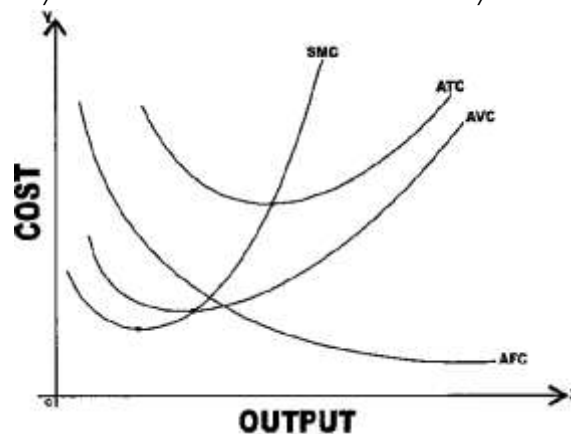
Figure : Different Cost Curves

▶ *Relationship between Average Cost and Marginal Cost.*

Average Total Cost or Average Cost is the Cost per unit of output. Thus,

$$\text{Average Total Cost} = \frac{\text{Total Cost}}{\text{Total Output}}$$

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

Example: Suppose the total cost of producing 5 units of a commodity is Rs. 230, then average cost will be Rs.230/ 5 units = Rs. 46

✓ *Marginal Cost is addition to the total cost caused by producing one more unit of output. Thus, marginal cost is the cost of the additional unit of output. Symbolically,*

$$MCn = TCn - TCn - 1$$

Example: The total cost of producing 5 units is Rs. 206 and that of 6 units is Rs. 236. Then, marginal Cost of producing one more unit = Rs. 236 - Rs. 206 = Rs. 30.

The relationship between Average Total Cost and Marginal Cost can be illustrated with the help of following table and graph.

Output (unit)	TC (Rs.)	ATC (Rs.)	MC (Rs.)
1	10	10.00	10
2	19	9.50	9
3	27	9.00	8
4	35	8.75	8
5	44	8.80	9
6	54	9.00	10
7	65	9.28	11
8	77	9.62	12
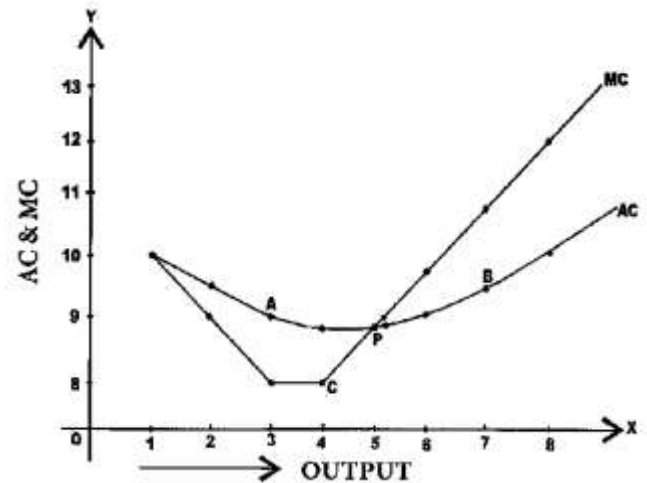
Both the table and diagram above bring out the relationship between average cost and marginal cost clearly as follows: -

1. Both AC and MC are derived from total cost of production. They are derived from the same source

$$Average \ Cost = \frac{Total \ Cost}{Total \ Output}$$

$$Marginal \ Cost = \frac{Change \ in \ Total \ Cost}{Change \ in \ Total \ Output}$$

2. When average cost falls with increase in output, marginal cost also falls and is less than average cost.
➔ It means that marginal cost falls faster.
➔ Thus, when AC curve is falling, MC curve will be below AC curve.
➔ MC curve reaches minimum point 'C earlier then AC curve.
➔ Then, MC curve start rising from point 'C to point T' even when the AC curve is falling

3. The MC curve cuts the AC curve at its minimum point. 'P' in the diagram.
➔ It is the minimum point on AC curve i.e. point of optimum capacity where the average cost is minimum.
➔ Points 'A' and 'B' on the AC curve shows higher average cost due to under and over utilization of plant capacity at respective points.

➔ At point 'P' where the MC curve cuts the AC curve i.e. at point of optimum capacity, MC = AC.

4. When AC rises, with increase in output, MC also rises and is higher than AC. It means that MC rises faster.
➔ Thus, when AC curve is rising, MC curve will be above the AC curve.

5. Between AC and MC, it is MC which brings about changes (i.e. rise or fall) in AC and not other way round. Thus -
(a) When MC < AC, it pulls down AC and AC falls,
(b) When MC = AC, AC is constant and at its minimum, and
(c) When MC > AC, it pulls up AC and AC rises.

Note:
The concept of MC is more significant in finding out equilibrium output while that of AC in finding profit and loss (Discussed in detail in next Chapter)

LONG RUN AVERAGE COST CURVE:

Long run is a period of time during which the firm can vary all inputs. In short run we have seen that, some inputs are fixed and others can be varied to increase the level of output. But in long run all inputs are variable.

In the short run, the size of the plant is fixed. The size of plant cannot be increased or reduced. However, in the long run the firm has sufficient time to bring about changes in the size of plant (i.e. machinery building etc.) in order to expand or contract output.

Thus, in the long run the firm moves from one plant to another. It can increase the size of plant to increase its output or can have smaller plant if it has to reduce output.

The long run average cost curve shows the minimum possible average cost for producing various levels of output.

Consider the following figure –
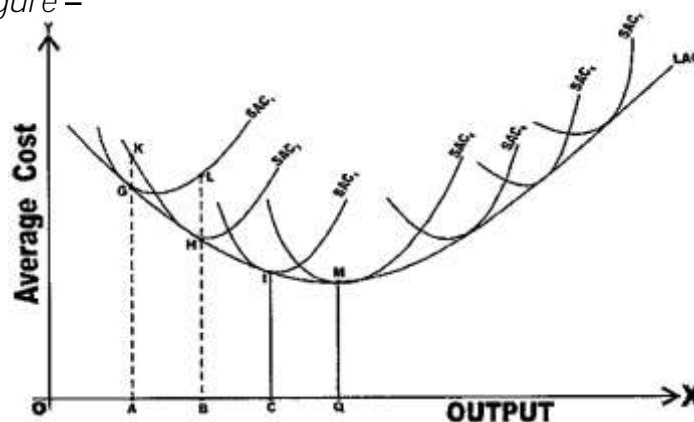
Figure: Long Run Average Cost Curve

How is LAC Derived

In the fig., a smooth long run average cost curve has been shown which has been labelled as LAC.
The LAC curve envelopes infinite short run average cost curves each representing a plant. Hence, SACs are also called plant curves.
In the fig., the LAC curve is derived as a tangent to all the short run average cost curve from SAC, to SAC7. Thus, it is U- shaped.
In the long run, a firm can produce a particular output by building a relevant size of plant and operate on the corresponding SAC.
It selects that size of plant i.e. SAC which gives the lowest cost of producing the given output.

Explanation to the above graph

In the fig., seven short run average cost curves SAC, toSAC7 corresponding to seven different plants are drawn.
In the fig., if the firm wants to produce OA level of output, it will operate on SAC, at a cost of AG per unit.
If the firm produce OA level of output with SAC, it will cost AK per unit to produce which is more.
Similarly, if the firm wants to produce OB level of output with SAC, it will cost more i.e. BL per unit.
So the firm to produce OB output will have to increase the size of plant and operate with SAC, where the cost per unit is less i.e. BH per unit.
Thus, larger outputs can be economically produced i.e. at lowest cost with the bigger plants and small output can be economically produced i.e. at lowest cost with smaller plants.
In the fig., OQ is the optimum output as it is being produced at the minimumpoint of LAC and corresponding SAC i.e. SAC4. Thus, the long run average cost is minimum at output OQ.
If the firm is producing less than optimum output OQ, the other plants are underutilized than their full capacity.
If the firm is producing more than optimum output OQ, the other plants are overutilized than their full capacity.

> *Note:*
> LAC curve is not tangent to the minimum points of the SAC curves. When LAC curve is sloping downwards, it is tangent to falling portions of SACs. When LAC curve is rising upwards, it is tangent to rising portions of SACs.
> LAC curve is also called planning curve. Thus, is because firm plans output in the long run but operates in the short run i.e. by choosing a plant on LAC corresponding to the given output.

> Thus, LAC helps the firm to make choice about the size of plant for producing a particular output at minimum cost.
>
> <u>LAC Curve is also called Envelope Curve</u> The long-run average cost curve is also called "Envelope curve", because its envelopes or supports a family of short run average cost curves from below.

▶ Why Long Run Average Cost Curve is of U-shape?

The shape of LAC curve depends on the Law of Returns to Scale.

As the firm expands, there is increasing returns to scale which means fall in long run average cost due to economies of scale.

When decreasing returns to scale occur it means rise in long run average cost due to diseconomies of scale.

▶ Modern Day Long run Cost Curves

The above figure depicting long-run average cost curve is arrived at on the basis of traditional economic analysis. It is flattened 'U' shaped. <u>This type of curve could exist only when the state of technology remains constant</u>.
But empirical evidence shows modern firms face '<u>L-shaped</u>' cost curve over a considerable quantity of output.
The L-shaped long run cost curve implies that initially when the output is increased due to increase in the size of plant (and associated variable factors), per unit cost falls rapidly due to economies of scale.
The long-run average cost curve does not increase even after a sufficiently large scale of output as it continues to enjoy economies of scale.

Chapter 4
Unit 1: Meaning and Types of Market

Meaning of Market

In ordinary language, a market refers to a place where the buyers and sellers of a commodity gather and strike bargains.

In economics, however, the term **"Market"** refers to a market for a commodity.

Example: Cloth market; furniture market; etc.

➔ According to Chapman, "the term market refers not necessarily to a place and always to a commodity and buyers and sellers who are in direct competition with one another".

➔ According to the French economist Cournot, "Market is not any particular place in which things are bought and sold, but the whole of any region in which buyers and sellers are in such free intercourse with each other that the prices of the same goods tend to equality easily and quickly".

Features of Market

The above-mentioned definitions reveal the following features of a market:

A region
A market does not refer to a fixed place. It covers a region, which may be a town, state, country or even world.
Existence of buyers and sellers.
Market refers to the network of potential buyers and sellers who may be at different places.
Existence of commodity or service.
The exchange transactions between the buyers and sellers can take place only when there is a commodity or service to buy and sell.
Bargaining for a price
between potential buyers and sellers.
Knowledge about market conditions.
Buyers and sellers are aware of the prices offered or accepted by other buyers and sellers through any means of communication.
One price for a commodity or service at a given time

CLASIFICATION OF MARKETS

> ## On the basis of Geographical Area

From the marketing perspective, the geographical area in which the product sales should be undertaken has vast implications for the firm. <u>On the basis of geographical area covered, markets are classified into: -</u>

▶ Local Markets:

When *buyers and sellers are limited to a local area or region*, the market is called a local market. Generally, highly perishable goods and bulky articles, the transport of which over **a long distance is uneconomical' command** a local market.

In this case, the extent of the market is *limited to a particular locality*.

Example: Locally supplied services such as those of hair dressers and retailers have a narrow customer base.

▶ Regional Markets:

Regional markets cover a wider area such as a few adjacent cities, parts of states, or cluster of states. The size of the market is generally large and the nature of buyers may vary in their demand characteristics.

▶ National Markets:

When the demand for a *commodity or service is limited to the national boundaries of a country*, we say that the product has a national market. The trade policy of the government may restrict the trading of a commodity to within the country.

Example: Hindi books may have national markets in India; outside India one may not have market for Hindi books.

▶ International markets:

A commodity is said to have international market when it is exchanged internationally. Usually, high value and small bulk commodities are demanded and traded internationally.

Example: Gold and Silver are examples of commodities that have international market.

> *Note:* The above classification has become more or less outdated as we find that in modern days even highly perishable goods have international market.

On the basis of Time

Alfred Marshall conceived the 'Time' element in markets and on the basis of this, markets are classified into:

▶ Very short period market:

Market period or very short period refers to a period of time in which supply is fixed and cannot be increased or decreased. Commodities like vegetables, flower, fish, eggs, fruits, milk, etc., which are perishable and the supply of which cannot be changed in the very short period come under this category.

Since supply is fixed, very short period price is dependent on demand. An increase in demand will raise the prices vice versa.

▶ Short-period Market:

Short period is a period which is slightly longer than the very short period. In this period, the supply of output may be increased by increasing the employment of variable factors with the given fixed factors and state of technology.
Since supply can be moderately adjusted, the changes in the short period prices on account of changes in demand are less compared to market period.

▶ Long-period Market:

In the long period, all factors become variable and the supply of commodities may be changed by altering the scale of production. As such, supply may be fully adjusted to changes in demand conditions.
The interaction between long run supply and demand determines long run equilibrium price or 'normal price'.

▶ Very long-period or secular period

It is one when secular movements are recorded in certain factors over a period of time. The period is very long. The factors include the size of the population, capital supply, supply of raw materials etc.

On the basis of Nature of Transactions

Spot or cash Market:

Spot transactions or spot markets refer to those markets where goods are exchanged for money payable either immediately or within a short span of time.

Forward or Future Market:

In this market, transactions involve contracts with a promise to pay and deliver goods at some future date

On the basis of Regulation

Regulated Market:

In this market, transactions are statutorily regulated so as to put an end to unfair practices. Such markets may be established for specific products or for a group of products.
Example: Stock exchange

Unregulated Market:

It is also called a free market as there are no stipulations on the transactions

On the basis of Volume of business

Wholesale Market:

The wholesale market is the market where the commodities are bought and sold in bulk or large quantities. Transactions generally take place between traders.

Retail Market:

When the commodities are sold in small quantities, it is called retail market. This is the market for ultimate consumers.

On the basis of Competition

Based on the type of competition markets are classified into

a) perfectly competitive market and   b) imperfectly competitive market

TYPES OF MARKET STRUCTURES

The main types of markets can be summed up as follows:

1. Perfect Competition:

Perfect competition market is one where there are many sellers selling identical products to many buyers at a uniform.

2. Monopoly:

Monopoly market structure is a market situation in which there is a single seller of a commodity selling to many buyers.
The commodity has no close substitutes available.
A monopolist therefore, has a considerable influence on the price and supply of his commodity.

3. Monopolistic Competition:

Monopolistic competition is a market situation in which there are many sellers selling differentiated goods to many buyers.

4. Oligopoly

Oligopoly is a market situation in which there are few sellers selling either homogeneous or differentiated goods.

Table: Features of major types of markets

Points	Perfect Competition	Monopoly	Monopolistic Competition	Oligopoly
Number of sellers	Many	One	Many	Few
ii. Product	Homogeneous	Unique having no substitutes	Differentiated	Homogeneous or differentiated
Selling Cost	No	Negligible	High	High
Degree of control over price	No Control. Price taker.	Full control. Price maker	Limited due to product differentiation.	Limited
Demand (or AR) Curve	Horizontal straight line parallel to x-axis	Downward sloping	Downward sloping	Indeterminate
Price elasticity of demand	Infinite, P = MC	Small, P > MC	Large, P > MC	Small

CONCEPTS OF TOTAL REVENUE, AVERAGE REVENUE AND MARGINAL REVENUE.

▶ *Total Revenue: (TR)*

Total revenue may be defined as the total amount of money received by the firm by selling a

certain unit of a commodity.

It is obtained by multiplying the price per unit of a commodity with the total number of units sold.

Total Revenue = Price per unit × Total No. of units sold

$$TR = P \times Q$$

Example: A firm sells 100 units of a commodity (a) Rs. 15 each, then its total revenue is Rs. 15 × 100 units = Rs. 1,500.

▶ Average Revenue: (AR)

Average revenue is the revenue per unit of the commodity sold.

It is simply the total revenue divided by the number of units of output sold.

$$\text{Average Revenue} = \frac{\text{Total Revenue}}{\text{No. of Units sold}}$$

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

Example: A firm earns total revenue of Rs. 2,000 by the sale of 100 units of a commodity, then its average revenue is Rs. 20 (Rs. 2000 ÷ 100 units)

- By definition average revenue is the price per unit of output. To prove it —

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

$$\text{since } TR = P \times Q$$

$$AR = \frac{P \times Q}{Q}$$

$$\therefore AR = P \text{ (Price)}$$

▶ Marginal Revenue (MR):

Marginal revenue refers to the addition to total revenue by selling one more unit of a commodity. Marginal revenue may also be defined as the change in total revenue resulting from the sale of one more unit of a commodity.

Example: If a firm sells 100 units of a commodity @ Rs. 15 each, its TR is Rs. 1,500. Now, if it increases the sale by ten units i.e. it sells 110 units @ Rs. 14 each, its TR is Rs. 1,540. Thus, it MR is Rs. 40

$$MR = \frac{\Delta TR}{\Delta Q}$$

Where - Δ TR is the change in total revenue Δ Q is the change in the quantity sold

For one unit change –

$$MRn = TRn - TRn - 1$$

Where

MRn= Marginal Revenue from 'n' units

TRn = Total Revenue of 'n' units

TRn-1= Total Revenue from 'n-1' units

n = any give number.

MARGINAL REVENUE, AVERAGE REVENUE/TOTAL REVENUE AND ELASTICITY

The relationship between AR, MR and price elasticity of demand can be examined with the

$$MR = AR\frac{e = 1}{e}$$

Where, e = price elasticity of demand.

➔ *If e=1, MR = 0*

➔ *If e > 1, MR will be positive i.e. MR > 0*

➔ *If e<1, MR will be negative i.e. MR<0*
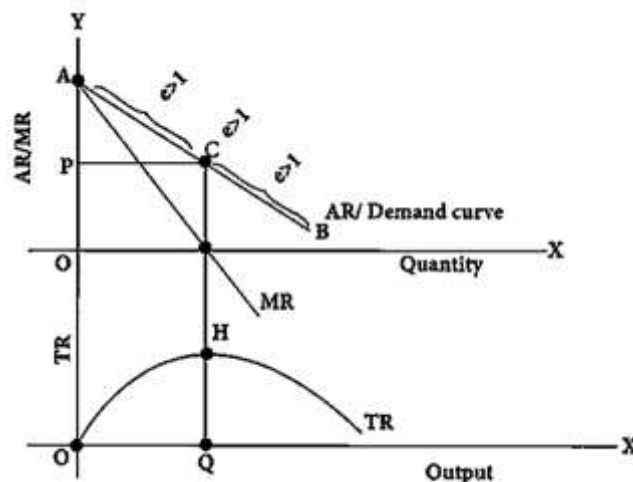
Figure: The relationship between AR, MR, TR & elasticity of demand.

The above figure reveals the following on a straight-line demand curve (or AR curve):

When e > 1, marginal revenue is positive and therefore total revenue is rising,

When e=I, marginal revenue is zero and therefore total revenue is maximum, and

When e<I, marginal revenue is negative and therefore total revenue is falling.

BEHAVIOURAL PRINCIPLES

Principle 1:

A firm should not produce at all if its total revenue is either equal to or less than its total variable cost.

Principle 2:

It will be profitable for the firm to expand output so long as marginal revenue is more than marginal cost till the point where marginal revenue equals marginal cost.

Also, the marginal cost curve should cut its marginal revenue curve from below.

DETERMINATION OF EQUILIBRIUM PRICE

➔ We know that law of demand reveals, if other conditions remain unchanged, more quantity of a commodity is demanded in the market at a lower price and less quantity is demanded at a higher price. Therefore, demand curve slopes downward.

➔ Similarly, the law of supply reveals, if other conditions remain unchanged, more quantity of a commodity is supplied in the market at a higher price and less quantity is supplied at a lower price. Therefore, supply curve slopes upward.

➔ Demand and supply are the two main factors that determine the price of a commodity in the market. In other words, the price of a commodity is determined by the inter-action of the forces of demand and supply.

➔ The price that will come to prevail in the market is one at which quantity demanded equals quantity supplied.

➔ This price at which quantity demand equals quantity supplied is called equilibrium price.

➔ The quantity demanded and supplied at equilibrium price is called equilibrium quantity.

➔ The process of price determination is illustrated with the help of following imaginary schedule and diagram.
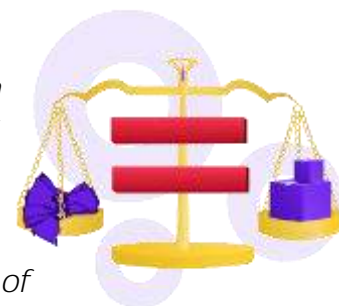
Price (Rs. per unit)	Quantity Demanded (Units)	Quantity Supplied (Units)	Trend	Pressure on Price
5	100	500	Excess supply	↓ Fall
4	200	400	Excess supply	↓ Fall
3	300	300	Equilibrium	=
2	400	200	Excess demand	↑ Rise
1	500	100	Excess demand	↑ Rise

The above table shows that at a price of Rs. 3 per unit, the quantity demanded equals quantity supplied of the commodity. At Rs. 3 two forces of demand and supply are balanced.

Thus, Rs. 3 is the equilibrium price and equilibrium quantity at Rs. 3 is 300 units.
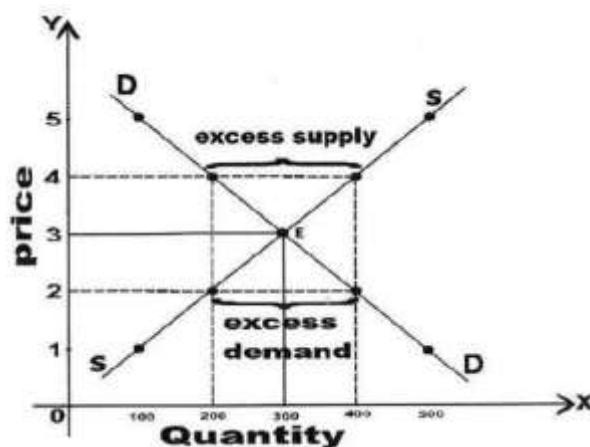
Figure: Determination of Price

The equilibrium between demand and supply can also be explained graphically as in Fig.
In Fig.- the market is at equilibrium at point 'E', where the demand curve and supply curve intersect each other. Here quantity demanded and supplied, are equal to each other.
At point 'E', the equilibrium price is Rs. 3 per unit and equilibrium quantity is 300 units.
If the price rises to Rs. 4 per unit, the supply rises to 400 units but demand falls to 200 units. Thus, there is excess supply of 200 units in the market.
In order to sell off excess supply of 200 units the sellers will compete among themselves and in doing so the price will fall.
As a result, the quantity demand will rise and quantity supplied will fall and becoming equal to each other at the equilibrium price Rs. 3.
Similarly, if the price falls to Rs. 2 per unit, the demand rises to 400 units but supply falls to 200 units. Thus, there is excess demand of 200 units in the market.
As the price is less there is competition among the buyers to buy more and more. This competition among buyers increases with the entry of new buyers.
More demand and less supply and competition among buyers will push up the price.
As a result, quantity demanded will fall and quantity supplied will rise and become equal to each other at the equilibrium price of Rs. 3.

EFFECTS OF SHIFTS IN DEMAND AND SUPPLY ON EQUILIBRIUM PRICE

➔ *While determining the equilibrium price, it was assumed that demand and supply conditions were constant. In reality however, the condition of demand and supply change continuously.*

➔ *Thus, changes in income, taste and preferences, changes in the availability and prices of related goods, etc. brings changes in demand conditions and cause demand curve to shift either to right or left.*

➔ *In the same way, changes in the technology, changes price of labour, raw materials, etc., changes in the number of firms, etc. brings changes in supply conditions and cause supply curve to shift either to right or left.*

(a) Change (shift) in Demand and Supply remaining constant.

Figure : Effects of Changes in Demand on Equilibrium price

In Fig.- DD and SS are the original demand and supply curves respectively inter-secting each other at point E.

At point E, the equilibrium price is OP and the demand and supply {i.e. equilibrium quantity) are equal at OQ.

When the demand increases, the demand curve shifts upwards from DD to D, D, supply remaining the same.

As a-result, the equilibrium price rises from OP to OP, and the equilibrium quantity increases from OQ to OQ, as shown at point E.

When the demand decreases, the demand curve shifts downwards from DD to D, D, Supply remaining the same.

As a result, the equilibrium price falls from OP to OP, and the equilibrium quantity decreases from OQ to OQ, as shown at point E2

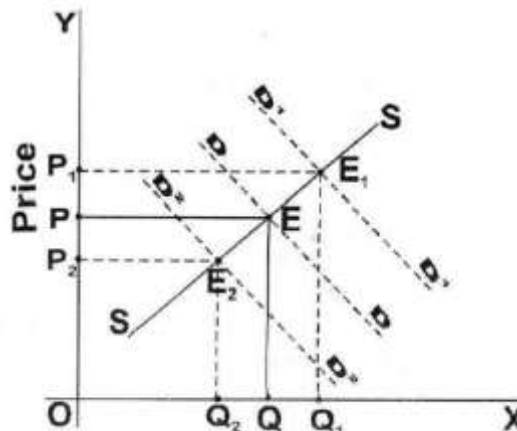## (b) Change (shift) in Supply and Demand remaining constant.
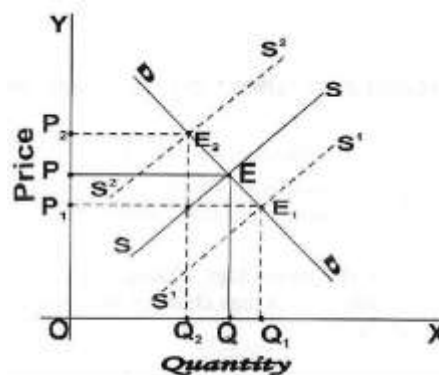
Figure: Effects of Changes in Supply on Equilibrium Price.

In Fig. - DD and SS are the original demand and supply curves respectively inter-sections each other at point E.

At point E, the equilibrium price is OP and the demand and supply (i.e. Equilibrium quantity) are equal at OQ.

When the supply increases, the supply curve shifts to the right from SS to S1S1, demand remaining the same.

As a result, the equilibrium price falls from OP to OP1 and the equilibrium quantity increases from OQ to OQ1 as shown at point E1.

When the supply decreases, the supply curve shifts to the left from SS to S2S2, demand remaining the same.

As a result, the equilibrium price rises from OP to OP2 and the equilibrium quantity decreases from OQ to OQ2 as shown at point E2.

EFFECTS OF SIMULTANEOUS SHIFTS IN DEMAND AND SUPPLY ON EQUILIBRIUM PRICE.

Sometimes demand and supply conditions may change at the same time changing the equilibrium price and quantity. The changes in both demand and supply simultaneously can be discussed with the help of following diagrams:
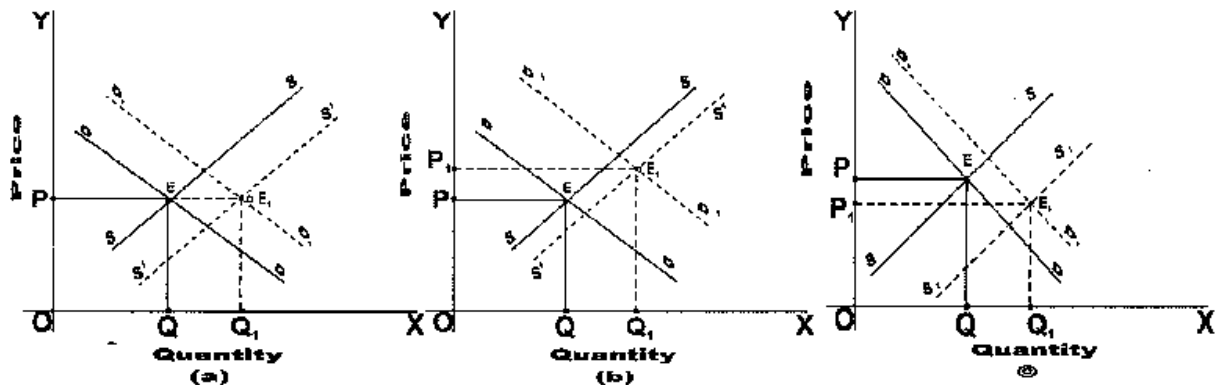
Figure: Effect of simultaneous changes in Demand & Supply on Equilibrium Price.

In Fig. - DD and SS are the original demand and supply respectively inter-setting each other at point E at which the equilibrium price is OP and the equilibrium quantity is OQ.

Fig. (a) shows that the increase in demand is equal to increase in supply. The new curves D1D1 and S1S1 intersect at E1. Therefore, the new equilibrium price is equal to old equilibrium price OP. But equilibrium quantity increases.

Fig. (b) shows that the increase in demand is more than increase in supply. The new curves D1D1 and S1S1 intersect each other at point E, which shows that new equilibrium price OP1 is higher than old equilibrium price OP. But equilibrium quantity increases.

Fig. (c) shows that the increase in supply is more than increase in demand. The new curves D1D1 and S1S1 intersect each other at point E1 which shows that new equilibrium price OP1 is lower than old equilibrium price OP. But equilibrium quantity increases.

PERFECT COMPETITION

Introduction

Perfect competition is a market structure where there are large number of firms (seller) which produce and sell homogeneous product. Individual firm produces only a small portion of the total market supply.

Therefore, a single firm cannot affect the price

Price is fixed by industry	→	Firm is only a price taker	→	So the price of the commodity is uniform

Features of perfect competition

Following are the main features of perfect competition:

1. Large number of buyers and sellers:
→ The number of buyers and sellers is so large that none of them can influence the price in the market individually.
→ Price of the commodity is determined by the forces of market demand and market supply.

2. Homogeneous Product
The product produced by all the firms in the industry are homogeneous.

They are identical in every respect like colour, size, etc.	Products are perfect substitutes of each other.

3. Free entry and exit of the firms from the markets
→ New firms are free to enter the industry any time.
→ Old firms or loss incurring firms can leave industry any time.
→ The condition of free entry and exit applies only to the long run equilibrium of the industry.

4. Perfect knowledge of the market
Under perfect competition, all firms (sellers) and buyers have perfect knowledge about the market. Both have perfect information about prices at which commodities can be sold and bought.

5. Perfect mobility
The factors of production can move freely from one occupation to another and from one place to another.

6. No transport cost:
Transport cost is ignored as all the firms have equal access to the market

7. No selling cost
➔ Under perfect competition commodities traded are homogeneous and have uniform price.
➔ Therefore, firm need not make any expenditure on publicity and advertisement.
➔ _Equilibrium of the Industry:_

Industry is a group of firms producing identical commodities.
Under perfect competition, price of a commodity is determined by the interaction between market demand and market supply of the whole industry.
The equilibrium price is determined at a point where demand for and supply of the whole industry are equal to each other.
No individual firm can influence the price.
Firm has to accept the price determined by the industry.
Therefore, **the** firm is said to be price taker and industry, the price maker.

Equilibrium of the industry is illustrated as follows:
Price Determination

Price (Rs. Per Unit)	Demand (Units)	Supply (Units)
10	20	100
8	40	80
6	60	60
4	80	40
2	100	20
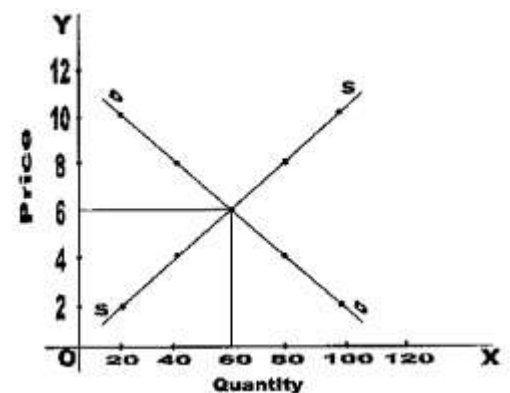
Equilibrium Price (Industry)

➔ The above table and fig. shows that at a price of Rs. 6 per unit, the quantity demanded equals quantity supplied.
➔ The industry is at equilibrium at point 'E', where the equilibrium price is Rs. 6 and equilibrium quantity is 60 units.

Equilibrium of a firm:
➔ We have already seen that under the perfect competition; the price of the commodity is determined by the forces of market demand and market supply i.e. price is determined by industry.
➔ Individual firm has to accept the price determined by the industry. Hence, firm is a PRICE TAKER.

Table - Equilibrium price (Industry)

Price (Rs. per unit)	Demand (units)	Supply (units)
10	20	100
8	40	80
6	60	60
4	80	40
2	100	20

Table - Firm

Price (Rs.)	Quantity Sold (units)	Total Revenue (TR)	Average Revenue (AR)	Marginal Revenue (MR)
6	8	48	6	
6	10	60	6	6
6	12	72	6	6
6	14	84	6	6
6	16	96	6	6

In the table - the equilibrium price for the industry has been fixed at Rs. 6 per unit through the inter-action of market demand and supply.

Table - shows that the firm has no choice but to accept and sell their commodity at a price that has been determined by the industry i.e. Rs. 6 per unit.

The firm cannot charge higher price than the market price of Rs. 6 per unit because of fear of losing customers to rival firms.

There is no incentive for the firm to lower the price also.

Firm will try to sell as much as it can at the price of Rs. 6 per unit.

Table - shows that firm's AR = MR = Price.
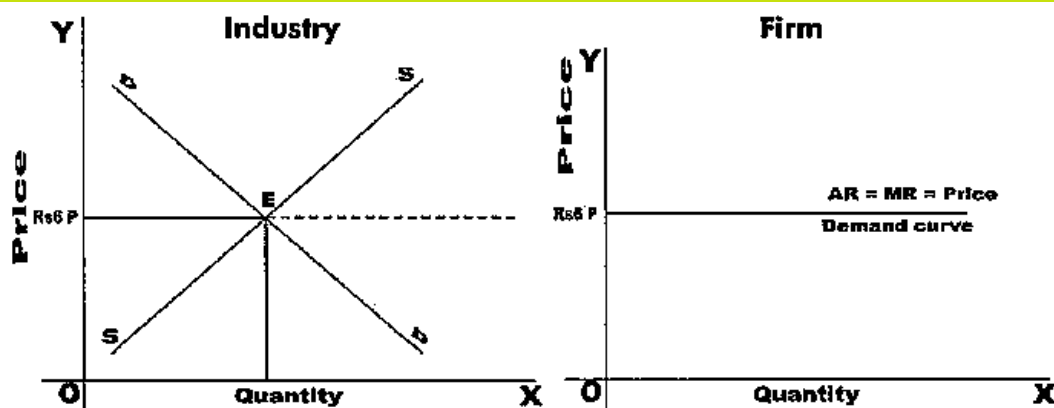
Fig: **The firm's demand curve, AR and MR curves under perfect competition.**

Fig. shows that being a price taker firm, it has to sell at a given price i.e. Rs. 6 per unit.

Therefore, firm's demand curve is a horizontal straight line parallel to X-axis i.e. **a perfectly elastic demand curve.**

We know that price of a commodity is also the AR for the firm.

Therefore, demand curve also shows the AR for different quantities sold by the firm.

As every additional unit is sold at a given price i.e. Rs. 6 per unit, the MR = AR and **the two curves coincide.**

Thus, in a perfectly competitive market a firm's **AR — MR = Price = Demand Curve**

Conditions for equilibrium of a firm:
➔ *In perfect competition, the firms are price takers and output adjusters.*
➔ *This is because the price of the commodity is determined by the forces of market demand and market supply i.e. by whole industry and individual firm has to accept it.*
➔ *Therefore, firm has to simply choose that level of output which yields maximum profit at the prevailing prices.*
➔ *The firm is at equilibrium when it maximises its profit.*
➔ *The output which helps the firm to maximise its profit is called equilibrium output.*

There are two conditions for the equilibrium of a firm. They are —

1. Marginal Revenue should be equal to the marginal cost i.e. MR = MC. (First order condition)

2. Firm's marginal cost curve should cut its marginal revenue curve from below i.e. marginal cost curve should have positive slope at the point of equilibrium. (Second order condition)

If MR > MC, there is incentive to produce more and add to profits.

If MR < MC, the firm will have to decrease the output as cost of production of additional units is high.

When MR = MC, it is equilibrium output which maximises the profits.
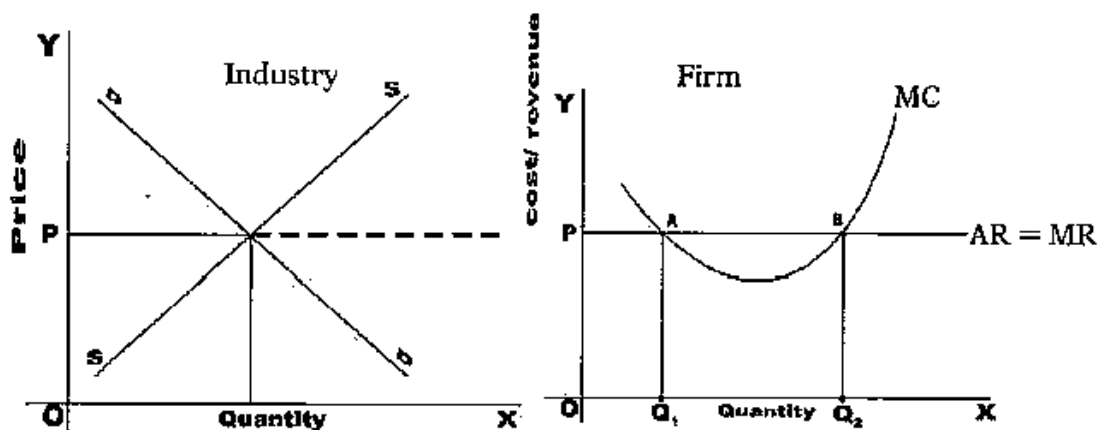
Fig: Equilibrium position of the firm in a competitive market

Fig. shows that OP is the price determined the industry and firm has to accept it.

At prevailing price OP the firm faces horizontal demand curve or average revenue curve.

Since the firm sells every additional unit at the same price, marginal revenue curve coincides with average revenue curve.

In the fig. at point 'A', MR = MC but second condition is not fulfilled.

Therefore, OQ1 is not equilibrium output. Firm should expand output beyond OQ1 because- - it will result in the fall of marginal cost, and - add to firm's profits.

In the fig. at point 'B' not only MR = MC but MC curve cuts the MR curve from below i.e. it has positive slope.

Therefore, OQ2 is the equilibrium level of output and point 'B' represents equilibrium of firm.

Supply curve of the firm in a competitive market.

In a perfectly competitive industry, the MC curve of the firm is also its supply curve. This can be explained with the help of following figure.
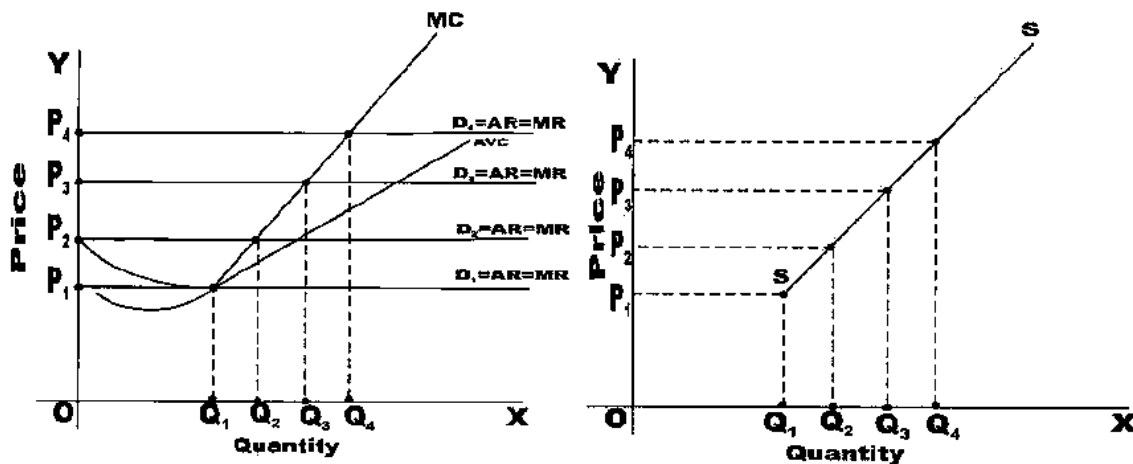
Figure: Marginal Cost and Supply curve of a competitive firm

The fig. shows that at the market price OP1 the firm faces demand curve D1.

At OP1 price the firm supplies OQ1 quantity because here MC = MR.

If the price rises to OP2 the firm faces demand curve D2.

At OP2 price the firm supplies OQ2 quantity.

Similarly, at OP3 and OP4 price corresponding supplies are OQ3 and OQ4 respectively.

Thus, the firm's marginal cost curve indicates the quantities of output which it willsupply at different prices.

It can be observed that the competitive firm's short run supply curve is identical only with that portion of MC curve, which lies above the AVC.

Hence, price ≥ AVC.

Short Run Equilibrium of a Competitive Firm. (Price - Output Equilibrium)

A competitive Firm in the short run attains equilibrium at a level of output which satisfies the following two conditions:

1. **MC = MR**, and
2. MC curve cuts the MR curve from below.

When a competitive firm, is in short run equilibrium, it may find itself in any of the following situations —

it break evens i.e. earn NORMAL PROFITS where Average Revenue = Average Cost i.e. AR = AC.

it earns profit i.e. earn SUPER NORMAL PROFITS where Average Revenue > Average Cost i.e. AR > AC.

it suffer LOSSES where Average Revenue < Average Cost i.e. AR < AC.

▶ Normal Profits (AR = AC):

A firm would earn normal profits if at the equilibrium output AR=AC

Equilibrium point:	E (MR = MC)
Equilibrium output: OQ	OQ
Average Revenue:	QE(=OP)
Average Cost: QE	QE

Therefore, **AR = AC**. Hence, Normal Profits.

▶ Super Normal Profits (AR > AC):

A firm would earn super normal profits if at the equilibrium output AR > AC

Equilibrium Point	E (Where MR = MC)
Equilibrium Output	OQ
Average Revenue	QE (= OP)
Average Cost	QF
Profit per Unit	Average Revenue - Average Cost = QE - QF = EF)
Total Profit	Total output × profit per unit =OQ × EF= Area PEFG
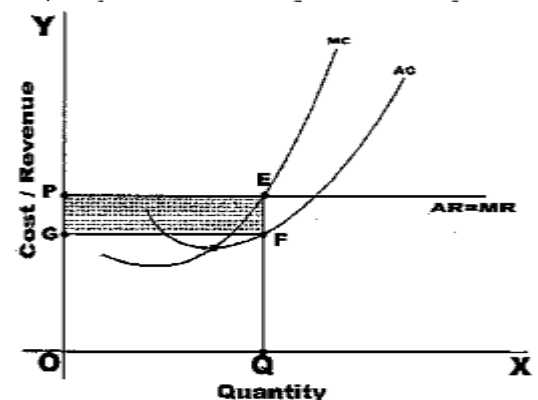
▶ Losses (AR < AC):

A firm suffer losses, if at the equilibrium level of output, its AR < AC.

Equilibrium Point	E (where MR = MC)
Equilibrium Output	OQ
Average Revenue	QE
Average Cost	QF
Loss per Unit	Average cost - Average Revenue= QF – QE = EF
Total Loss:	Total output × loss per unit = OQ X EF = Area PEFG
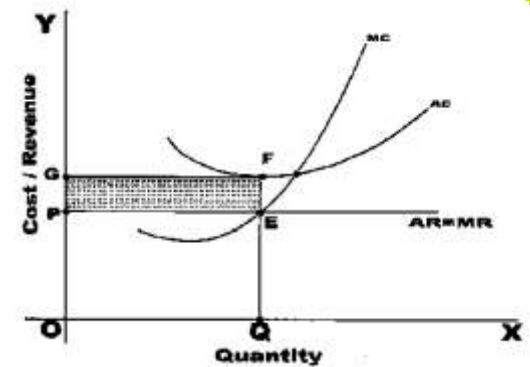
➔ *When the firm incur losses, a question arises whether it should continue to produce or should it shut down?*

➔ *The answer to this lies in the cost structure of the firm.*

➔ *Total cost of a firm= Total Fixed Costs + Total Variable Costs*

➔ *Fixed costs once incurred cannot be recovered even if the firm shuts down.*

➔ *Therefore, whether to shut down or not depends on variable costs alone.*

➔ *If AR (Price) > AVC or AR = AVC, the firm can continue to produce even though it suffers losses at the equilibrium level of output.*

➔ *If AR (Price) < AVC, the firm should shut down.*

Long run Equilibrium of a Competitive Firm.

In a perfectly competitive market, there is no restriction on the entry or exit of firms.

Therefore, if existing firms are earning super normal profits in the short run, they will attract new firms to enter the industry.

As a result of this, the supply of the commodity increases. This brings down the price per unit.

On the other hand, the demand for factors of productions rises which pushes up their prices and so the cost of production rises.

Thus, the price line or AR curve will go down and cost curves will go up.

As a result of this, price line or AR curve becomes tangent to long run average cost curve. This wipes out super normal profit.

Hence, in long run firms earn only normal profits
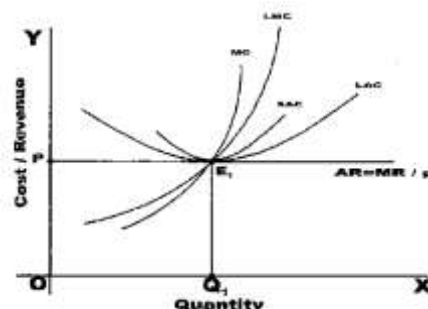
Fig: Long run equilibrium of a competitive industry and its firms

Fig. Shows that long run LMR = LMC = LAC = LAR = Price
The firm is at equilibrium at point E1.
E1 is the minimum point of LAC curve. Thus, firm produces equilibrium output OQ1 at the minimum or optimum cost.
In the long run under competitive market -
Firms earn just normal profits, and
competitive firms are of optimum size because they produce at optimum cost i.e. at the lowest point of long run average cost curve.

MONOPOLY

Introduction:

✓ <u>'Mono'</u> *means single and* 'Poly' *means seller*.
✓ *So monopoly refers to that market structure where there is a single firm producing and selling a commodity which has no close substitute.*
✓ *As there are no rival firms producing close substitute,*

Fthe monopoly firmitself is industry, and

its output constitutes the total market supply.

Features of Monopoly Market:

Following are the main features of the monopoly market:

1. Single seller and large number of buyers.
➔ There is only one seller or producer of a commodity in the market but there are many buyers.
➔ As a result, the monopoly firm has full control over the supply of the commodity.
2. No close substitutes.
➔ The commodity sold by the monopolist generally has no close substitutes.
➔ Therefore, the cross elasticity of demand between monopolist's commodity and other commodity is zero or less than one.
➔ As. a result monopoly firm faces a downward sloping demand curve.
3. Restrictions to entry for new firms.
➔ The monopoly firm controls the situation in such a way that it becomes difficult for new firms to enter the monopoly market and compete with monopoly firm.
➔ There are many barriers to the entry of new firm which can be economic, institutional or artificial in nature.

4. Price maker.
➔ A monopoly firm has full control over the supply of the commodity
➔ Price is solely fixed by the monopoly firm. So, a monopoly firm is a "price maker".

Sources of Monopoly:

The sources of monopoly may be listed as follows:

1. Patents, copyrights and trademarks.
Legal support provided by the government to promote inventions, to produce a particular commodity, etc. by granting patents, copyrights, trademarks, etc. creates monopoly.
2. Control of raw materials.
If one firm acquires the sole ownership or control of essential raw materials, then the other firms cannot compete.
3. Economies of large scale.
➔ The monopoly firm may be very big and enjoy economies of large scale of production.   ➔ The cost of production is therefore low; hence it may supply goods at low prices.   ➔ This leaves no scope for new firms to enter the market.
4. Government control on entry
Example: In defence production; public utility services like water, transportation, electricity, etc.
5. Business combines.
Monopolies are created by forming cartels, pools, syndicates, etc. by the firms producing the same goods to control price and output.

Average Revenue and Marginal Revenue Curves under Monopoly

Monopoly firm constitutes industry.
Therefore, the entire demand of the consumers faces the monopolist.
The demand curve of a monopoly firm is the same as the market demand curve of the commodity.
As the demand curve of the consumers for a commodity slope downward, the monopolist faces a downward sloping demand curve.
This means that monopolist can sell more quantity only by lowering the price of the commodity
The demand curve facing the monopolist is also his average revenue curve. Thus, average revenue curve of the monopolist slopes downwards
As the demand curve i.e. average revenue curve slopes downwards, marginal revenue curve will be below it.

Table: Revenue Schedule of a Monopoly Firm

Units Sold	Price (Rs.) (AR)	Total Revenue Rs. (TR)	Marginal Revenue Rs. (MR)
1	10	10	10
2	9	18	8
3	8	24	6
4	7	28	4
5	6	30	2
6	5	30	0
7	4	28	-2
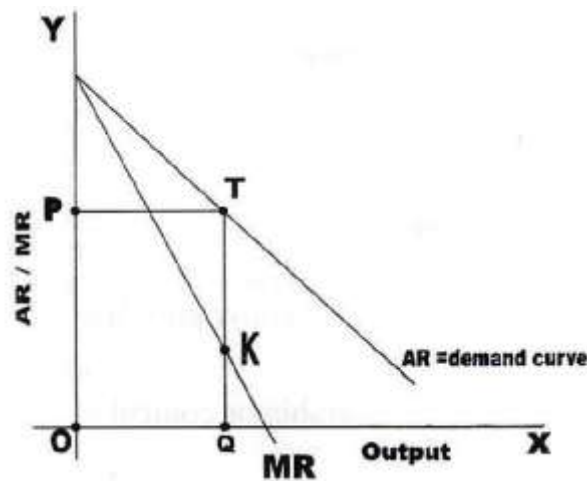
Fig: AR and MR curves under Monopoly

- ✓ In the figure above, AR curve of the monopolist slopes downward and MR curve lies below it.
- ✓ At a quantity OQ, average revenue i.e. price is OP (=QT) and marginal revenue is QK which is less than average revenue OP (=QT).

Thus, in case of monopoly —

AR and MR are both negatively sloped curves,

MR curve lies half way between the AR curve and the Y-axis,

AR cannot be zero i.e. AR curve cannot touch X-axis,

MR can be zero or even negative i.e. MR curve can touch or cut the X-axis.

Short Run Equilibrium of the Monopoly Firm (Price - Output Equilibrium)

➢ A monopolist will produce an output that maximizes his total profits.
➢ A monopolist will maximize his total profits when —

Marginal Cost = Marginal Revenue (MC = MR),

Marginal cost curve cuts the marginal revenue curve from below.

➢ *When a monopoly firm is in the short run equilibrium, it may find itself in the following situations*

1. Firm will earn SUPER NORMAL PROFITS if its AR > AC;

2. Firm will earn NORMAL PROFITS if its AR = AC,

3. Firm will suffer LOSSES if its AR < AC.

▶ 1. Super Normal Profits (AR > AC):

The monopoly firm would earn super normal profits if at the equilibrium output AR > AC.

Equilibrium Point	E (Where MR = MC)
Equilibrium Output	OQ
Average Revenue	QL (= OP)
Average Cost	QM
Profit per Unit	Average Revenue - Average Cost = QL – QM = LM
Total Profit	Total Output × Profit per unit= OQ × LM = Area PLMR

▶ 2. Normal Profits (AR = AC):

The monopoly firm would earn normal profits if at the equilibrium output AR = AC

Equilibrium Point	E (where MR = MC)
Equilibrium Output	OQ
Average Revenue	QL
Average Cost	QL

Therefore, AR=AC. Hence, normal profits.
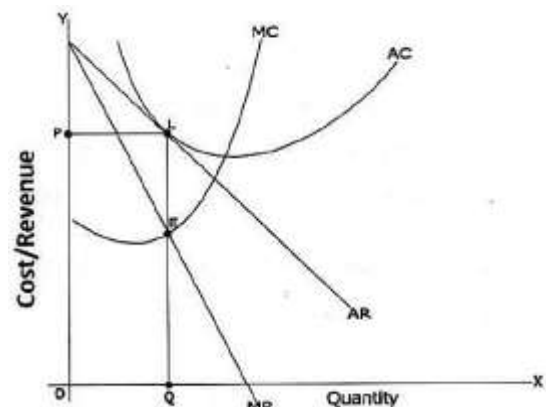
▶ 3. Losses (AR < AC):

The monopoly firm would suffer losses, if at the equilibrium output its AR < AC

Equilibrium Point	E (where MR = MC)
Equilibrium Output	OQ
Average Revenue	QL (=OP)
Average Cost	QM
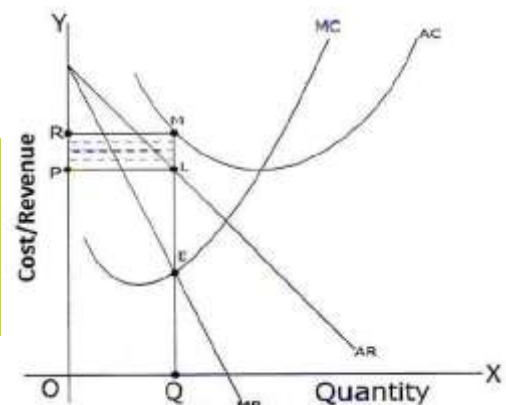
Loss per Unit	Average Cost - Average Revenue = QM – QL = QM
Total Loss	Total output × Loss per unit =OQ × ML = Area PLMR

➢ *If monopoly firm's AR > AVC or AR = AVC, it can continue to produce though it suffers losses at the equilibrium level of output.*

Long Run Equilibrium of a Monopoly Firm:

The long run equilibrium of the monopoly firm is attained where its **MARGINAL COST = MARGINAL REVENUE i.e. MC = MR.**
The monopoly firm can continue to earn super normal profits even in the long run.
This is because entry to the market for new firms is blocked.
All costs are variable costs in the long run and these must be recovered.
This means that monopoly firm does not suffer loss in the long run.
However, if it is unable to recover variable costs, it should shut down.
Fig. Shows the long run equilibrium of a monopoly firm.
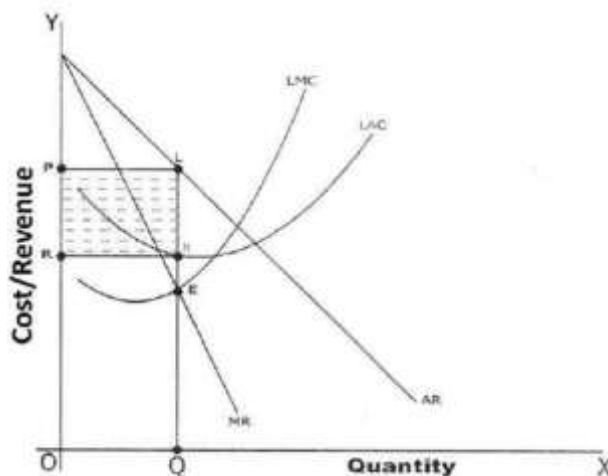
Fig: Long Run Equilibrium of a Monopoly Firm

Equilibrium Point	E (where MC = MR)
Equilibrium Output	OQ
Average Revenue (Price)	QL (=OP)
Long Run Average Cost	QM
Profit per Unit	Average Revenue - Average Cost = QL – QM = LM
Total Profit	Total Output × Profit per unit =OQ × LM = Area PLMR

➔ *Thus, we find that monopoly firm continue to earn super normal profits in long run.*
➔ *A monopoly firm does not produce at the lowest point of LAC curve i.e. does not produce at optimum level because of absence of competition.*
➔ *In other words, it operates at sub-optimum level and therefore, does not produce optimum output.*

UNIQUE
ACADEMY FOR COMMERCE

Concept of Price Discrimination:

A monopoly firm is also the industry.

A single firm controls the entire supply.

Therefore, the firm has the power to sell the same commodity to different buyers at different prices.

When the firm charge different prices to different customers for the same commodity, it is engaged in price discrimination.

Example: Electricity supplying firm charge higher rate per unit of electricity from industrial units than domestic consumers.

Conditions for price discrimination:

Price discrimination is possible under the following conditions:

1. Existence of two or more than two sub-markets.

The monopolist should be able to divide the total market for his commodity into two or more sub-markets. n Such division of market may be on the basis of income, geographic location, age, sex, etc.

Example: on the basis of income, a doctor may charge high fees from rich patients than from poor.

2. Different markets should have different price elasticity of demand.

The difference in price elasticity of demand in different markets enables the monopolist to discriminate among customers.

He can charge higher price in inelastic market and lower price in elastic market.

3. No possibility of resale.

It should not be possible for buyers to purchase the commodity from a cheaper market and sell it in the costlier markets.

In other words, there should be no contact among the buyers of the two markets.

4. Control over supply

The supply should be in full control of the monopolist.

Price-output determination under price discrimination

Suppose a discriminating monopolist sell his output in market 'A' and market 'B'

Market 'A' has less elastic demand and market 'B' has more elastic demand.

Suppose the monopolist has only one production facility then he is faced with the questions-

| How much to produce? | How much to sell in each market? | How much price to charge in each market? |

The monopolist will first decide profitable level of total output (i.e. where MR = MC) and then allocate the quantity between two markets.

The condition for equilibrium here would be-

MC = MRa= MRb. It means that MC must be equal to MR in individual markets separately.

MC = AMR (aggregate marginal revenue). It means that the monopolist must be in equilibrium not only in individual markets but also when the two markets are treated as one.

The process of price determination under price discrimination is shown in the following figure —
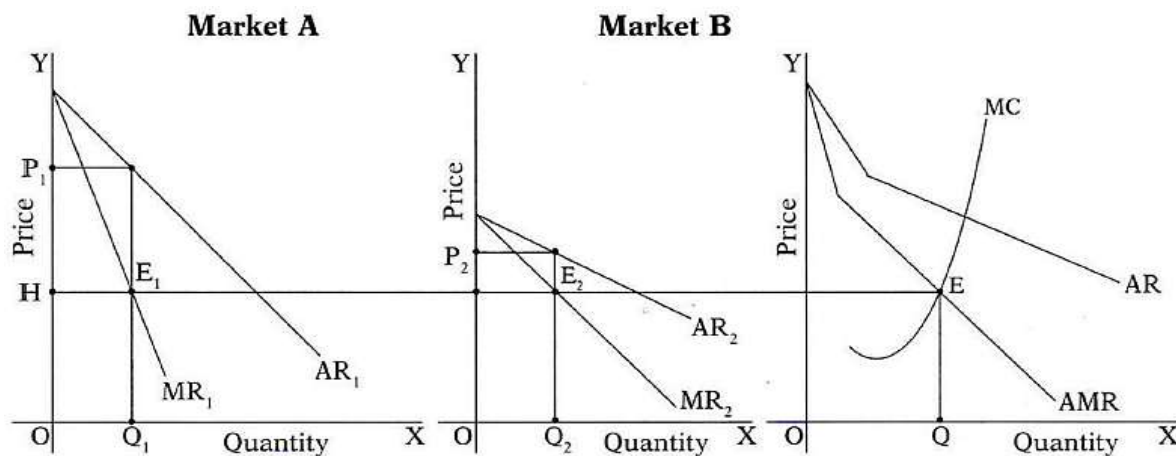
Fig: Fixation of total output and price discrimination in market A & B.

In the fig. - MC curve intersect the AMR curve at point E

Point E shows the total output is OQ.

When a perpendicular EH is drawn, it intersects MRa at E1 and MRb at E2These are the equilibrium point of market A and B

Point Ej shows that quantity sold in market A is OQ1 and the price charged is OP1.

Point E2 shows that quantity sold in market B is OQ2 and the price charged is OP2

Price charged in market 'A' is higher than in market 'B'.

Thus, a discriminating monopolist charger a higher price in the market 'A' having less elastic demand and a lower price in the market 'B' having more elastic demand.

The-marginal revenue is different in different markets.

Example: Suppose the single monopoly price is Rs. 40 and elasticity of demand in market A and B is 2 and 4 respectively.

MR in market A

$$= ARa \frac{(e-1)}{e}$$
$$= 40 \frac{(2-1)}{2}$$
$$= 20$$

MR in market B

$$= ARb \frac{(e-1)}{e}$$
$$= 40 \frac{(4-1)}{4}$$
$$= 30$$

➔ It is clear from the above example that the marginal revenue is different in different markets when elasticity of demand at the single price is different.

➔ MR is higher in the market having high elasticity and vice versa

➔ In the above example, since marginal revenue in market 'B' is more, it will be profitable for monopolist to transfer some units of the commodity from market 'A' to 'B\

➔ When monopolist transfers the commodity from market A to B, he is practicing price discrimination.

➔ As a result, the price of commodity will increase in market A and will decrease in market B.

➔ Ultimately the marginal revenue in the two market will become equal.

➔ When marginal revenue becomes equal in the two markets, it will no longer be profitable to transfer the units of commodity from market A to B

▶ Objectives of Price discrimination:

To earn maximum profit; to dispose of surplus stock; to enjoy economies of scale; to capture foreign markets etc.

▶ Degrees of price discrimination

Pigou classified price discrimination as follows:

first degree price discrimination
where the monopolist fixes a price which take away the entire consumer's surplus,
second degree price discrimination
where the monopolist takes away only some part of consumer's surplus. Here price changes according to the quantity sold.   Example: large quantity sold at a lower price,
third degree price discrimination
where the monopolist charges the price according to location customer segment, income level, time of purchase etc.

IMPERFECT COMPETITION: MONOPOLISTIC COMPETITION

Introduction:

➜ We have studied two models that represent the two extremes of market structures namely perfect competition and monopoly.

➜ The two extremes of market structures are not seen in real world.

➜ In reality we find only imperfect competition which fall between the two extremes of perfect competition and monopoly.

➜ The two main forms of imperfect competition are—

Monopolistic Competition and	Oligopoly

Meaning and features of Monopolistic Competition.

➢ As the name implies, monopolistic competition is a blend of competitive market and monopoly elements.

➢ There is competition because of large number of firms with easy entry into the industry selling similar product.

➢ The monopoly element is due to the fact that firms produce differentiated products. The products are similar but not identical.

➢ This gives an individual firm some degree of monopoly of its own differentiated product.

➢ Example: NUT and APTECH supply similar products, but not identical.

Similarly, bathing soaps, detergents, shoes, shampoos, tooth pastes, mineral water, fitness and health centres, readymade garments, etc. all operate in a monopolistic competitive market.

The characteristics of monopolistic competitive market can be summed up as follows:

1. Large number of buyers and sellers

➜ There are large number of firms.
   ✓ So, each individual firms cannot influence the market.
   ✓ Each individual firm share relatively small fraction of the total market.

➜ The number of buyers is also very large and so single buyer cannot influence the market by demanding more or less.

2. Product Differentiation

➜ The product produced by various firms are not identical but are somewhat different from each other but are close substitutes of each other.

➜ Therefore, the products are differentiated by brand names. E.g. - Colgate, Close-Up, Pepsodent, etc.

➜ Brand loyalty of customers gives rise to an element of monopoly to the firm.

3. Freedom of entry and exit

New firms are free to enter into the market and existing firms are free to quit the market.

4. Non-Price Competition

➔ Firms under monopolistic competitive market do not compete with each other on the basis of price of product.

➔ They compete with each other through advertisements, better product development, better after sales services, etc.

➔ Thus, firms incur heavy expenditure on publicity advertisement, etc.

▶ Short Run Equilibrium of a Firm in Monopolistic Competition. (Price- Output Equilibrium)

Each Firm in a monopolistic competitive market is a price maker and determines the price of its own product.

As many close substitutes for the product are available in the market, the demand curve (average revenue curve) for the product of individual firm is relatively more elastic.

The conditions of equilibrium of a firm are same as they are in perfect competition and monopoly i.e.

| MR = MC, and | MC curve cuts the MR curve from below. |

The following figures show the equilibrium conditions and price-output determination of a firm under monopolistic competition.

When a firm in a monopolistic competition is in the short run equilibrium, it may find itself in the following situations

1. Firm will earn SUPER NORMAL PROFITS if its AR > AC;

2 . Firm will earn NORMAL PROFITS if its AR = AC;

3. Firm will suffer LOSSES if its AR < AC

▶ 1. Super Normal Profits (AR > AC):

Equilibrium Point	E (where MR = MC)
Equilibrium Output	OQ
Average Revenue (AR)	QL (= OP)
Average Cost (AC)	QM
Profit per Unit	Average Revenue - Average Cost = QL - QM = LM
Total Profit	Total Output × Profit per Unit = OQ × LM = Area PLMR
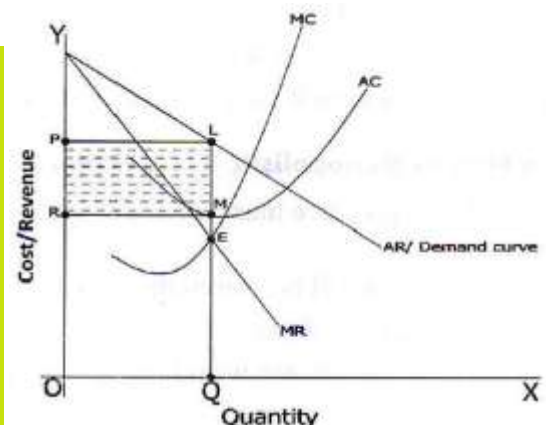
The firm will earn NORMAL PROFITS if AC curve is tangent to AR curve i.e. when AR=AC

▶ 2. Losses (AR < AC):

Equilibrium Point	E (where MR = MC)
Equilibrium Output	OQ
Average Revenue (AR)	QL
Average Cost (AC)	QM
Loss per Unit	Average Cost – Average Revenue = QM – QL = **ML**
Total Loss	Total Output × Loss per Unit = OQ × ML = Area PLMR
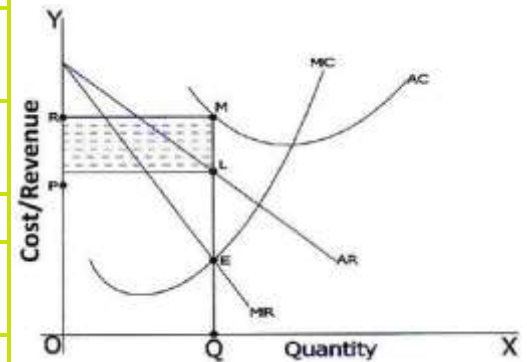
The firm may continue to produce even if incurring losses if its AR > AVC.

▶ Long Run Equilibrium of a Firm in Monopolistic Competition.

If the firms in a monopolistic competitive market earn super normal profits, it attracts new firms to enter the industry.	
With the entry of new firms' market will be shared by more firms.	
As a result, profits per firm will go on falling.	
This will go on till super normal profits are wiped out and <u>all the firms earn only normal profits</u>.	
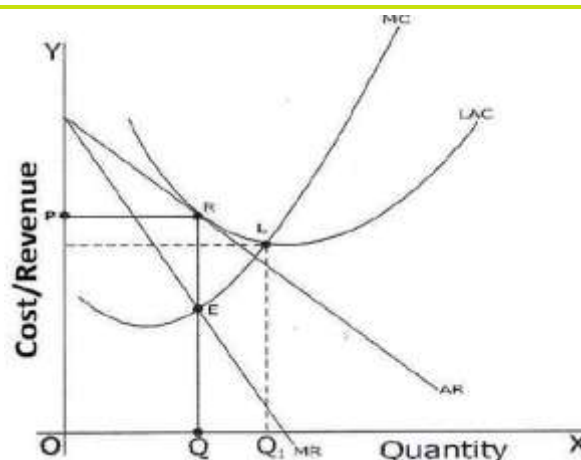
Fig: Long Run Equilibrium of a firm in Monopolistic Competition

Equilibrium Point	E (where MR = MC)
Equilibrium Output	OQ
Average Revenue (AR)	QR
Average Cost (AC)	QR

Therefore, AC=AR. Hence, Normal Profits.
➔ *In the long run firms in a monopolistic competitive market just earn NORMAL PROFITS.*
➔ *Firms operate at sub-optimal level as shown by point 'R' where the falling portion AC curve is tangent to AR curve.*
➔ *In other words firms do not operate at the minimum point of LAC curve 'L'.*
➔ *Therefore, production capacity equal to QQ, remains idle or unused called excess capacity.*
➔ *This implies that in monopolistic competitive market —*

<u>*Firms are not of optimum size and each firm has excess production capacity*</u>
➔ *The firm can expand its output from Q to Q, and reduce its average cost.*
➔ *But it will not do so because to sell more it will have to reduce its average revenue even more than average costs.*
➔ *Hence, firms will operate at sub-optimal level only in the long run*

OLIGOPOLY

Introduction:

'Oligo' means few and **'Poly'** means seller. Thus, oligopoly refers to the market structure where there are few sellers or firms.
They produce and sell such goods which are either differentiated or homogeneous products.
Oligopoly is an important form of imperfect competition.
Example: Cold drinks industry; automobile industry; Idea; Airtel. Hutch, BSNL mobile services in Nagpur; tea industry; etc.

Types of Oligopolies:

Pure or perfect oligopoly
occurs when the product is homogeneous in nature, e.g. Aluminium industry.
Differentiated or imperfect oligopoly
where products are differentiated. E.g. toilet products.
Open oligopoly
where new firms can enter the market and compete with already existing firm.
Closed oligopoly where entry of new firm is restricted.
Collusive oligopoly when some firms come together with some common understanding and act in collusion with each other in fixing price and output.
Competitive oligopoly where there is no understanding or collusion among the firms.

Partial oligopoly where the industry is dominated by one large firm which is looked upon by other firms as the leader of the group. The dominating firm will be the price leader.

Full oligopoly where there is absence of price leadership.

Syndicated oligopoly where the firms sell their products through a centralized syndicate.

Organized oligopoly where the firms organize themselves into a central association for fixing prices, output, quotas, etc.

Characteristics of Oligopoly Market:

Following are the special features of oligopoly market:

▶ Interdependence

In an oligopoly market, there is interdependence among firms.

A firm cannot take independent price and output decisions.

This is because each firm treats other firms as rivals.

Therefore, it has to consider the possible reaction to its rivals price-output decisions.

▶ Importance of advertising and selling costs.

Due to interdependence, the various firms have to use aggressive and defensive marketing tools to achieve larger market share.

For this the firms spend heavily on advertisement, publicity, sales promotion, etc. to attract large number of customers.

Firms avoid price-wars but are engaged in non-price competition. **Example:** free set of tea mugs with a packet of Duncan's Double Diamond Tea

▶ Indeterminate Demand Curve.

The nature and position of the demand curve of the oligopoly firm cannot be determined.

This is because it cannot predict its sales correctly due to indeterminate reaction patterns of rival firms.

Demand curve goes on shifting as rivals too change their prices in reaction to price changes by the firm.

▶ Group behaviour.

The theory of oligopoly is a theory of group behaviour.

The members of the group may agree to pull together to promote their mutual interest or fight for individual interests or to follow the group leader or not.

Thus, the behaviour of the members is very uncertain.

Price and output decisions in an Oligopolistic Market:

As seen earlier, an oligopolistic firm does not know how rival firms react to each other decisions. Therefore, it has to be very careful when it makes decision about its price. Rival firms retaliate to price change by an oligopolistic firm. Hence, its demand curve indeterminate. Price and output cannot be fixed. Some of the important oligopoly models are:

1. Some economists assume that oligopolistic firms make their decisions independently. Therefore, the demand curve becomes definite and hence equilibrium level of output can be determined.
2. Some believe that oligopolistic can predict the reaction of rivals on the basis of which he makes decisions about price and quantity.
3. Cornet considers OUTPUT is the firm's-controlled variable and not price.
4. In a model given by **Stackelberg**, the leader firm commits to an output before all other firms. The rest of firms follow it and choose their own level of output.
5. Bertrand model states PRICE is the control variable for firms and therefore each firmsets the price independently.
6. In order to pursue common interests, oligopolistic enter into enter into agreement and jointly act as monopoly to fix quantity and price.

▶ *Price Leadership:*

A large or dominant firm may be surrounded by many small firms. The dominant firm takes the lead to set the price taking into account of the small firms. Dominant firm may adopt any one of the following strategies—

1. 'Live and let live' strategy where dominant firm accepts the presence of small firms and set the price. This is called price-leadership.
2. In another strategy, the price leader sets the price in such a way that it allows some profits to the follower firms.
3. Barometric price leadership where an old, experienced, respectful, largest acts as a leader and sets the price. It makes changes in price which are beneficial from all firm's and industry's view point. Price charged by leader is accepted by follower firms

▶ *Kinked Demand Curve:*

In many oligopolistic industries there is price rigidity or stability.

The prices remain sticky or inflexible for a long time.

Oligopolists do not change the price even if economic conditions change.

Out of many theories explaining price rigidity, the theory of kinked demand curve hypothesis given by American economist Paul M. Sweezy is most popular.

According to kinked demand curve 4 hypothesis, the demand curve faced by an oligopolist have a **'Kink'** at the prevailing price level.

A kink is formed at the prevailing price because –

the portion of the demand curve above the prevailing price is elastic,

the portion of the demand curve below the prevailing price is inelastic
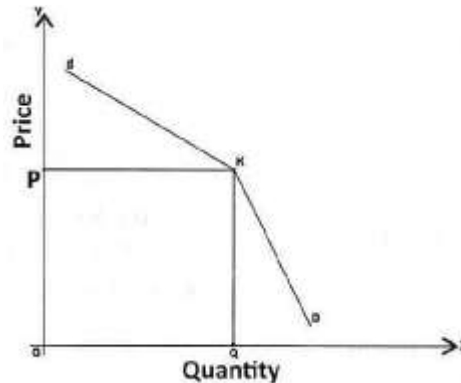
Fig: Kinked Demand Curve under Oligopoly

✓ *In the fig., OP is the prevailing price at which the firm is producing and selling OQ output.*
✓ *At prevailing price OP, the upper portion of demand curve dK is elastic and lower portion of demand curve KD is inelastic.*
✓ *This difference in elasticities is due to the assumption of particular reactions by kinked demand curve theory.*
✓ *The assumed reaction pattern is –*

1. If the oligopolist raises the price above the prevailing price OP, he fears that none of his rivals will follow him.
➔ Therefore, he will lose customers to them and there will be substantial fall in his sales.
➔ Thus, the demand with respect to price rise above the prevailing price is highly elastic as indicated by the upper portion of demand curve dK.
➔ The oligopolist will therefore, stick to the prevailing prices.

2. If the oligopolist reduces the price below the prevailing price OP to increase his sales, his rivals too will quickly reduce the price.
➔ This is because the rivals fear that their customers will get diverted to price cutting oligopolist's product.
➔ Thus, the price cutting oligopolist will not be able to increase his sales very much.
➔ Hence, the demand with respect to price reduction below the prevailing price is inelastic as indicated by the lower portion of demand curve KD.
➔ The oligopolist will therefore, stick to the prevailing prices.
➔ Each oligopolist will, thus, stick to the prevailing price realising no gain in changing the price.

➔ A kink will, therefore, be formed at the prevailing price which remains rigid or sticky or stable at this level.

Other Important Market Forms:

Duopoly in which there are only TWO firms in the market. It is subset of oligopoly.

Monopoly is a market where there is a single buyer. It is generally in factor market.

Oligopsony market where there are small number of large buyers in factor market.

Bilateral monopoly market where there is a single buyer and a single seller. It is mix of monopoly and monopsony markets.

Chapter 5
Business Cycles

UNDERSTANDING **THE MEANING OF TERM 'BUSINESS CYCLES"**

One of the basic underlying features of any economy across the globe is the fluctuation in economic activities over a period of time. There have been periods of prosperity followed by periods of downturns in economic activity.

These <u>rhythmic fluctuations in aggregate economic activity</u> *that an economy experiences over a period of time are called* business cycles or trade cycles.

A business cycle is the natural rise and fall of economic growth that occurs over time. In other words, business cycle refers to alternate expansion and contraction of overall business activity as manifested in fluctuations in measures of aggregate economic activity, such as, gross national product, employment and income. Business cycles or the periodic booms and slumps in economic activities reflect the upward and downward movements in economic variables.

A typical business cycle or trade cycle consists of the following:

Periods of good trade	
Characterized by:	
Rising prices	*Low unemployment percentage*

Periods of bad trade	
Characterized by:	
Falling prices	*High unemployment percentage*

▶ *Characteristics of Business Cycles or Economic fluctuations*

➢ They are recurrent and occur periodically.

➢ They occur again and again but not always at regular intervals, nor are they of the same length. (Some business cycles may be lasting for several years while others may be short ending in two to three years.)

DIFFERENT PHASES OF BUSINESS CYCLE

Experience of various countries suggest that their economies grow over a period of time but this growth story is filled with business cycles (their GDP line going up, declining but gaining momentum again). Ultimately growth of any economy can be projected in the following figure:
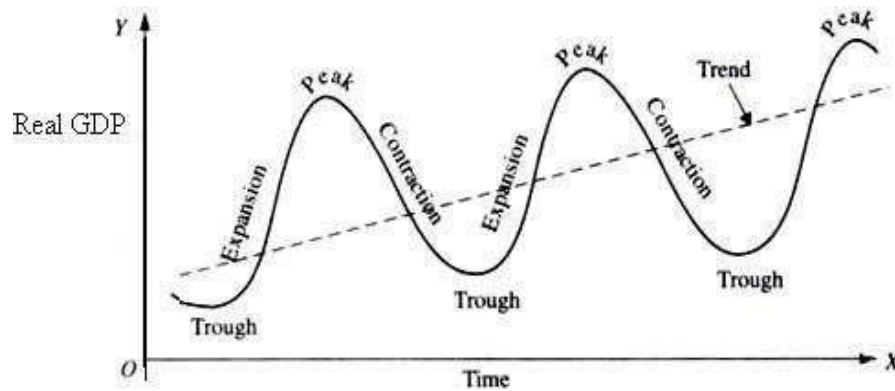
▶ Observations from above diagram

Steady broken line in the middle represents steady growth of the economy (excluding the impact of business fluctuation). This line basically shows overall 'trend' of the economy over a period of time.
The first stage in the above diagram is called 'trough' when the overall economic activities i.e. production and employment, are at the lowest level.
This is followed by 'expansion path' - when production and employment expand and the economy starts reviving,
The stage of expansion goes on till the economy reaches the point called 'peak', however beyond that this stage cannot go on indefinitely. Hence after reaching the 'peak', the economy starts on 'contraction path' when the level of economic activity starts declining.
The contraction or downturn continues till it reaches the lowest turning point i.e. 'trough'. However, after remaining at this point for some time, the economy revives again and a new cycle starts.

Features of different phases of Business cycles

▶ Expansion

Increase in national output, employment, aggregate demand, capital and consumer expenditure.
Increase in sales, profits of business entities resulting to rising stock prices, increased credit availability from banks.
Negligible involuntary employment (almost Zero). Unemployment, if any, in the economy would be because of following reasons: ➤ Frictional unemployment (i.e. due to change of jobs, or suspended work due to strikes or due to imperfect mobility of labour)   ➤ Structural unemployment (i.e. unemployment caused due to structural changes in the economy)

Investment happening is good and hence demand for goods and services is also very high. Resultantly, prices and costs tend to rise faster.

Increasing prosperity and people enjoy high standard of living due to high levels of consumer spending, business confidence, production, factor incomes, profits and investment.

Note: The stage of expansion continues till there is full employment of resources and production is at its maximum possible level using the available productive resources. The growth rate eventually slows down and reaches its peak.

Peak

The term peak refers to the top or the highest point of the business cycle. In other words, after this point, stage of expansion ends and stage of contraction starts.

Reasons

In the later stages of expansion, inputs are difficult to find as they are short of their demand and therefore input prices increase.

Output prices also rise rapidly leading to increased cost of living and greater strain on fixed income earners.

Consumers begin to review their consumption expenditure on housing, durable goods etc. Consequently, actual demand stagnates.

Remember: The economy cannot continue to grow endlessly. Point of 'Peak' is the end of *expansion and it occurs when economic growth has reached a point where it will stabilize for a short time and then move in the reverse direction*

Contraction

How'Contraction'starts:

There is fall in the levels of investment and employment. (Demand decreasing..!!)

Producers do not instantaneously recognise the pulse of the economy and continue anticipating higher levels of demand. Therefore, they maintain their existing levels of investment and production (with the hopes of a better future..!!)

The consequence is a discrepancy or mismatch between demand and supply. Supply far exceeds demand.

Once this stage is reached, producers now realize that that they have indulged in excessive investment and over production. Hence, they respond by holding back future investment plans, cancellation and stoppage of orders for equipment and all types of inputs including labour. (Supply side contracts..!!)

As producers contract their supply, there is a chain of reactions in the input markets as well - producers of capital goods and raw materials in turn respond by cancelling and curtailing their orders. (Fire of contraction starts spreading across sectors now…!!)

How consumers play a role in recession

Due to fall in prices of products (including inputs) incomes of wage and interest earners gradually decline resulting in decreased demand for goods and services.

Producers lower their prices in order to dispose off their inventories and for meeting their financial obligations.

Consumers, in their turn, expect further decreases in prices and postpone their purchases. With reduced consumer spending, aggregate demand falls, generally causing fall in prices.

The discrepancy between demand and supply gets widened further. This process gathers speed and recession becomes severe.

Stage of severe recession

Investments start declining; production and employment decline resulting in further decline in incomes, demand and consumption of both capital goods and consumer goods.

Business firms become pessimistic about the future state of the economy and there is a fall in profit expectations which induces them to reduce investments.

Bank credit shrinks as borrowings for investment declines, investor confidence is at its lowest.

Bank credit shrinks as borrowings for investment declines, investor confidence is at its lowest.

The process of recession is complete and the severe contraction in the economic activities pushes the economy into the phase of depression.

▶ Trough and Depression:

➔ *Depression is the severe form of recession and is characterized by extremely sluggish economic activities. Main features of this stage are:*

➔ *Growth rate becomes negative and the level of national income and expenditure declines rapidly.*

➔ *Demand for products and services decreases, prices are at their lowest and decline rapidly forcing firms to shutdown several production facilities.*

➔ *Companies are unable to sustain their work force, and hence job cuts. This leads to mounting unemployment and consequently the consumers are left with very little disposable income.*

➔ There is fall in the interest rate due to which people's demand for holding liquid money (i.e. in cash) increases. *Despite lower interest rates, the demand for credit declines because investors' confidence has fallen. Credit generation remains low due to possible banking or financial crisis. (that are general consequences of depression)*
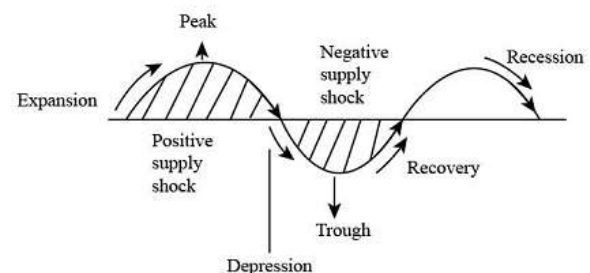
➔ *Industries, especially capital and consumer durable goods industry, suffer from excess capacity.*

➔ *Large number of bankruptcies and liquidation significantly reduce the magnitude of trade and commerce. At the depth of depression, all economic activities touch the bottom and the phase of trough is reached.*

> *Point to be note: The economy cannot continue to contract endlessly. It reaches the lowest level of economic activity called trough and then starts recovering.*

Recovery

After a rough patch, there is end of pessimism and the beginning of optimism which reverses the process.

This revival process generally happens in the following manner:

➔ *Pervasive unemployment forces the workers to accept wages lower than the prevailing rates.*

➔ *Due to this, the producers anticipate lower costs and better business environment. As business confidence gets better, they start to invest again and to build stocks;*

➔ *Slowly, the banking system starts expanding credit; technological advancements require fresh investments into new types of machines and capital goods;*

➔ *Employment increases, aggregate demand picks up and prices gradually rise.*
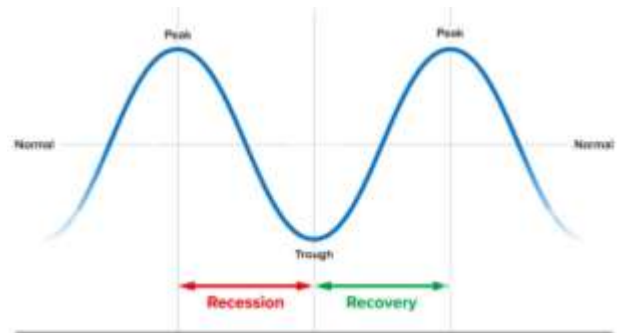
Spurring of investment is the main factor that acts as a turning point from depression to expansion. As investment rises, production increases, employment improves, income improves and consumers begin to increase their expenditure.

Increased spending causes increased aggregate demand and in order to fulfill the demand more goods and services are produced. Employment of labour increases, unemployment falls and expansion takes place in the economic activity.

WHAT ARE THE DIFFERENT INDICATORS TO DETECT WHICH PHASE IS GOING ON

Meaning of Indicators

It is very difficult to predict the turning points of business cycles. Economists use changes in a variety of activities to measure the business cycle and to predict where the economy is headed towards. These are called indicators.

Types of Indicators

Leading Indicators

Meaning
A leading indicator is a measurable economic factor that changes before the economy starts to follow a particular pattern or trend. In other words, those variables that change before the real output changes are called 'Leading indicators'. Leading indicators often change prior to large economic adjustments.
Examples:
✓ Changes in stock prices,   ✓ profit margins and profits,   ✓ indices such as housing, interest rates and prices   ✓ value of new orders for consumer goods, new orders for plant and equipment, building permits for private houses,   ✓ fraction of companies reporting slower deliveries,   ✓ index of consumer confidence and money growth rate
Significance
Leading indicators, though widely used to predict changes in the economy, are not always accurate. Even experts disagree on the timing of these so-called leading indicators. For instance:- it may be weeks or months after a stock market crash before the economy begins to show signs of receding. Nevertheless, it may never happen.

Lagging indicators

Meaning
Lagging indicators reflect the economy's historical performance and changes in these indicators are observable only after an economic trend or pattern has already occurred. In other words, variables that change after the real output changes are called 'Lagging indicators'.
Examples:
✓ unemployment,   ✓ corporate profits,   ✓ labour cost per unit of output,   ✓ interest rates,   ✓ the consumer price index and   ✓ commercial lending activity
Significance
If leading indicators signal the onset of business cycles, lagging indicators confirm these trends

Coincident indicator

Meaning
Coincident economic indicators, also called concurrent indicators, coincide or occur simultaneously with the business-cycle movements. Since they coincide fairly closely with changes in the cycle of economic activity, they describe the current state of the business cycle
Examples:
✓ Gross Domestic Product,   ✓ industrial production, inflation,   ✓ personal income,   ✓ retailsales and   ✓ financial market trends such as stock market prices.
Significance
These indicators give information about the rate of change of the expansion or contraction of an economy more or less at the same point of time it happens.

General Features of Business Cycles

Business Cycles may differ in terms of duration and intensity, but all of them share the following common features:

No fixed duration
Business cycles occur periodically although they do not exhibit the same regularity. The duration of these cycles vary.
Variance in intensity
Fluctuations are common phenomenon in any economy, however, the intensity of each business cycle varies
Lack of regularity in different phases
All business cycles have distinct phases of expansion, peak, contraction and trough. However, these phases seldom display any smoothness and regularity. Further, the length of each phase also differs (hence nobody can be sure when recession has ended…!!
Pervasive in nature
Business cycles typically generally originate in free market economies (since forces of demand and supply decide the direction of such economies). Accordingly, the effect of these cycles is generally pervasive i.e. disturbances in one or more sectors get easily transmitted to all other sectors.

Disproportionate effect on different sectors

Although all sectors are adversely affected by business cycles, some sectors such as capital goods industries, durable consumer goods industry etc, are disproportionately affected. Moreover, compared to agriculturalsector, the industrials sector is more prone to the adverse effects of trade cycles.

Complex in nature

Business cycles are exceedingly complex phenomena. This is because of the reason that they do not have uniform characteristics and causes and they are caused by varying factors. Therefore, it is difficult to make an accurate prediction of trade cycles before their occurrence.

Impact on all economic variables

Repercussions of business cycles get simultaneously felt on nearly all economic variables viz. output, employment, investment, consumption, interest, trade and price levels.

Contagious from one nation to another

Business cycles are contagious and are international in character. They begin in one country and mostly spread to other countries through trade relations.

Example: the great depression of 1930s in the USA and Great Britain affected almost all the countries, especially the capitalist countries of the world. The recent sub prime crisis of US is another example that quickly spread across the globe.

Impact on social well being

Business cycles have serious consequences on the well being of the society. The period of recession is a very agonizing period causing lots of distress for all.

For instance:- The great depression of 1929-33 is still cited for the enormous misery and human sufferings it caused

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Some Real-Life Examples of Business Cycles

Great Depression of 1930

→ Longest, deepest, and the most widespread depression of the 20th century during 1930s.
→ Started in the US and became worldwide.
→ Global GDP fell by around 15% between 1929 and 1932. Production, employment and income fell.

What lead to it

✓ There is difference of opinion amongst economists regarding causes of Great Depression.
✓ While British economist John Maynard Keynes regarded lower aggregate expenditures in the economy to be the cause of massive decline in income and employment,
✓ Monetarists opined that the Great Depression was caused by the banking crisis and low money supply.

✓ Many other economists blamed deflation, over- indebtedness, lower profits and pessimism to be the main causes of Great Depression.

Recovery

✓ The economies of the world began recovering in 1933.
✓ Increased money supply, huge international inflow of gold, increased governments' spending due to World War II etc., were some of the factors which helped economies slowly come out of recession and enter the phase of expansion and upturn.

▶ *Information Technology bubble burst of 2000*

Also termed as Dot.Com bubble. It roughly covered the period 1997-2000

What lead to it

✓ During this period, many new Internet–based companies (commonly referred as dotcom companies) were started.
✓ Due to rapid growth of internet, venture capitalists invested huge amount in these companies. These companies were also able to borrow from the market at low interest rates.
✓ Due to over- optimism in the market, investors were less cautious. There was a great rise in their stock prices.
✓ These companies offered their services or end products for free with the expectation that they could build enough brand awareness to charge profitable rates for their services later (something we see even today in e-commerce space..!!).

The burst of Bubble

✓ The recent global economic crisis owes its origin to US financial markets.
✓ After the year 2000, the US Federal Reserve (the Central Bank of US) reduced the rate of interest which led to large liquidity or money supply with the banks.
✓ With lower interest rates, credit became cheaper and the households, even with low creditworthiness, began to buy houses in increasing numbers.
✓ Excess liquidity with banks and availability of new financial instruments led banks to lend without checking the creditworthiness of borrowers (Loans were given even to subprime households and also to those persons who had no income or assets)
✓ Due to oversupply in the market, prices of houses (that were held as mortgages) declined significantly and hence the sub – prime households started defaulting on a large scale in paying off their instalments.
✓ This caused huge losses to the banks. Losses in banks and other financial institutions had a chain eect and soon the whole US economy and the world economy at large felt its impact.

CAUSES OF BUSINESS CYCLES

Internal Causes

External Causes

Internal Causes

Fluctuations in Effective Demand

According to Keynes, fluctuations in economic activities are due to fluctuations in aggregate effective demand.

*Effective demand refers to the willingness and ability of consumers to purchase goods at different prices.

How aggregate demand leads to economic fluctuations

Higher level of demand
➔ In a free market economy, where maximization of profits is the aim of businesses, a higher level of aggregate demand will induce businessmen to produce more. (since more production would mean more sale and hence more profits)
➔ As a result, there will be more output, income and employment
➔ However, if aggregate demand outstrips aggregate supply, it causes inflation

Lower level of demand
➔ If the aggregate demand is low, there will be lesser output, income and employment (since producers will cut their output to avoid situation of excess supply)
➔ Investors sell stocks, and buy safe-haven investments that traditionally do not lose value (such as bonds, gold and the U.S. dollar)
➔ As companies lay off workers, consumers lose their jobs and stop buying anything but necessities. That causes a downward spiral

Impact of Foreign Trade
➔ The difference between exports and imports is the net foreign demand for goods and services.
➔ This is a component of the aggregate demand in the economy, and therefore variations in exports and imports can lead to business fluctuations as well.

Conclusion:

Increase in Aggregate demand
- *Conditions of expansion and boom*

Decrease in Aggregate demand
- *Conditions ofrecession and depression*

▶ Fluctuations in Investment

According to some economists, fluctuations in investments are the prime cause of business cycles.

Why do investments fluctuate
➔ Changes in the profit expectations of entrepreneurs.
➔ New inventions may cause entrepreneurs to increase investments in projects which are cost-efficient or more profit inducing.
➔ Investment may rise when the rate of interest is low in the economy.

Effect of Fluctuations in Investment
➔ Investment spending is considered to be the most volatile component of the aggregate demand.
➔ Increases in investment shift the aggregate demand to the right, leading to an economic expansion (how increase in demand leads to boom is already explained above)
➔ Decreases in investment have the opposite effect

▶ Variations in government spending

Fluctuations in government spending with its impact on aggregate economic activity result in business fluctuations (since it is an important component of aggregate demand..!!)
Government spending, especially during and after wars, has destabilizing effects on the economy.

▶ Macroeconomic policies

Macroeconomic policies mainly includes monetary and fiscal policies of the government.
How these policies lead to business cycles

Expansionary/ Inflationary policies
Examples:
Increased government spending ➡ Tax cuts ➡ Softening of interest rates,
Impact
➔ Boost to aggregate demand, resulting to expansion and boom
➔ Inflationary effects (mainly due to interest rate cuts) and decline in unemployment rates
Anti Inflationary policies
Examples:
Reduction in government spending ➡ Increase in taxes ➡ Increase in interest rates
Impact
➔ Downward pressure on the aggregate demand leading to slow down in the economy

➔ At times, such slowdowns may be drastic, showing negative growth rates and may ultimately end up in recession.

Money Supply

According to Hawtrey, trade cycle is a purely monetary phenomenon. Unplanned changes in supply of money may cause business fluctuation in an economy.

Increase in supply of money
Expansion in aggregate demand leading to boom in economic activities.   Capital is easily available, and therefore consumers and businesses alike can borrow at low rates (This stimulates more demand, creating a virtuous circle of prosperity)   However, excessive increase of credit and money also set off inflation in the economy
Decrease in money supply
➔ Decrease in money supply and/or contraction of credit creation by banks leads to lesser investible funds for businessmen and lesser disposable funds for consumers   ➔ Due to lesser investment and lesser demand, there is fall in output, employment etc. and hence initiation of recession in the economy

Psychological factors

Anticipation theory by Pigou

Theory
➔ According to Pigou, modern business activities are based on the anticipations of business community and are affected by waves of optimism or pessimism.   ➔ Business fluctuations are the outcome of these psychological states of mind of businessmen.
Stages of Optimism
If entrepreneurs are optimistic about future market conditions, they make investments, and as a result, the expansionary phase may begin.
Stages of Pessimism
➔ Investors tend to restrict their investments.   ➔ With reduced investments, employment, income and consumption also take a downturn and the economy faces contraction in economic activities.

Other Theories

Innovation Theory by Schumpeter
According to Schumpeter's innovation theory, trade cycles occur as a result of innovations which take place in the system from time to time.
Cobweb theory by Nicholas Kaldor

➔ This theory holds that business cycles result from the fact that present prices substantially influence the production at some future date.

➔ The present fluctuations in prices may become responsible for fluctuations in output and employment at some subsequent period.

External Causes

Wars

➔ *During war times, production of war goods, like weapons and arms etc., increases and most of the resources of the country are diverted for their production.*

➔ *This affects the production of other goods - capital and consumer goods.*

➔ *Fall in production causes fall in income, profits and employment.*

➔ *This creates contraction in economic activity and may trigger downturn in business cycle.*

Post War Reconstruction

➔ *After war, when the country begins to reconstruct itself, expenditure is incurred for building houses, roads, bridges etc. due to which economic activity begins to pick up.*

➔ *All these activities push up effective demand due to which output, employment and income go up. (thereby pushing the economy upwards..!!).*

Technology shocks

➔ *Although growing technology enables production of new and better products and services, however these products generally require huge investments for new technology adoption.*

➔ *On account of this, technological advancement in any country leads to expansion of employment, income and profits etc. and give a boost to the economy.*

Example: Due to the advent of mobile phones, the telecom industry underwent a boom and there was expansion of production, employment, income and profits.

Natural Factors

➔ *These mainly include weather cycles which cause fluctuations in agricultural output. This leads to instability in the economies, especially those economies which are mainly agrarian.*

➔ *Even in other economics, there is an indirect impact caused in the following manner:*

In the years when there are draughts or excessive floods, agricultural output is badly affected. With reduced agricultural output, incomes of farmers fall and therefore they reduce their demand for industrial goods.

Reduced production of food products also pushes up their prices and thus reduces the income available for buying industrial goods.

Reduced demand for industrial products may cause industrialrecession.

Population growth

The rate of savings in the economy directly depends on population growth. Where the population growth rate outpaces the economic growth rate, the result is lesser overall savings in the economy.

Fewer saving will reduce investment and as a result, income and employment will also be less.

With lesser employment and income, the effective demand will be less, and overall, there will be slowdown in economic activities.

Other reasons

In the world of globalisation, it is natural that business fluctuations occurring in one part of the world get easily transmitted to other parts.

Changes in laws related to taxes, trade regulations, government expenditure, transfer of capital and production to other countries, shifts in tastes and preferences of consumers are also potential sources of disruption in the economy.

WHY IS STUDY OF BUSINESS CYCLES RELEVANT FOR BUSINESS DECISION MAKING

Direct Impact on profits

Understanding the business cycle is important for businesses of all types as they affect the demand for their products and in turn their profits which ultimately determines whether a business is successful or not.

Formulation of appropriate policies

Knowledge regarding business cycles and their inherent characteristics is important for a businessman to frame appropriate policies. For example,

Period of prosperity opens up new and superior opportunities for investment, employment and production and thereby promotes business.

Period of recession or depression reduces business opportunities and profits (businessmen play defensive during this time..!!)

Planning regarding expansion and down sizing

One of prime consideration to be kept in mind by any profit maximising firm while undertaking the function of <u>forward planning</u>, is study of the ecnmic environment in which it is operating.

The stage of the business cycle is crucial while making managerial decisions regarding <u>expansion or down-sizing.</u>

Businesses have to advantageously respond to the need to alter production levels relative to demand. Different phases of the cycle require fluctuating levels of input use, especially labour input.

Capability to expand or rationalize production operations so as to suit the stage of the business cycle is the key to long term success of any firm.

Impact due to nature of product

Products that vary directly with economic cycle

Businesses whose fortunes are closely linked to the rate of economic growth are referred to as "cyclical" businesses.

These include fashion retailers, electrical goods, house-builders, restaurants, advertising, overseas tour operators, construction and other infrastructure firms.

During a boom, such businesses see a strong demand for their products but during a slump, they usually suffer a sharp drop in demand.

Products that vary inversely with economic cycle

It may also happen that some businesses actually bene_t from an economic down turn.

This happens when their products are perceived by customers as representing good value for money, or a cheaper alternative compared to more expensive products.

Ability to respond appropriately

Understanding what phase of the business cycle an economy is in and what implications the current economic conditions have for their current and future business activity, helps businesses to better anticipate the market and to respond with greater alertness.

For instance:- Study of stage of business cycle helps a firm to determine the exact timing of its new product launch (the ability to forecast the future economic climate is what determines the success of newly launched product..!!)

Chapter 6
Unit 1: National Income Accounting

NATIONAL INCOME ACCOUNTING

National Income Accounting is a system of macroeconomic accounts that tracks economic transactions from the production of goods and services to their final disposal. It was pioneered by Nobel prize-winning economists Simon Kuznets and Richard Stone.
This system defines concepts and then constructs corresponding measures to help understand how various transactions are interrelated and provide insight into the economy's functioning. It serves the needs of government, private analysts, policymakers, and decision-makers.

Example:

Tracking the entire process from a car factory producing vehicles, to the wages paid to workers, to the consumer purchasing the car, and finally to the government collecting taxes on the sale.

▶ *Responsible Bodies in India*

*The **Central Statistical Organisation (CSO)** in the Ministry of Statistics and Programme Implementation (MoSP&I) compiles National Accounts Statistics*

*At the state level, **State Directorates of Economics and Statistics (DESs)** are responsible for compiling State Domestic Product and other aggregates*

USEFULNESS AND SIGNIFICANCE OF NATIONAL INCOME ESTIMATES

National income accounts are fundamental aggregate statistics in macroeconomic analysis, particularly valuable for emerging and transition economies. Their usefulness includes:

Economic Structure and Shifts

Showing the composition and structure of national income across different economic sectors, their periodic variations, and broad sectoral shifts over time.

Example:

Observing that the service sector's contribution to national income has steadily increased over the last two decades, indicating a structural shift from agriculture or manufacturing.

Policy Making

Providing a quantitative basis for macroeconomic modeling, analysis, assessing and choosing economic policies, and objectively evaluating government economic policies. Governments use sectoral contribution information to decide on sector-specific development policies to boost growth rates.

Example

If national income data shows stagnant growth in the manufacturing sector, the government might introduce new policies like tax incentives or skill development programs for manufacturing.

Income Distribution

Highlighting income distribution and potential inequalities among different income categories.

Example

Analysis of national income estimates might reveal that the top 10% of the population earns 50% of the total national income, pointing to significant income inequality.

International Comparisons

Facilitating comparisons of structural statistics (e.g., investment to growth ratios, tax proceeds, fiscal deficit, government expenditures to GDP). It also helps in determining eligibility for international loans or other funds and their conditions.

Example

Comparing India's GDP growth rate with that of China or other developing nations to understand its relative economic performance.

Business Forecasting

Assisting businesses in forecasting future demand for their products.

Example

A company producing consumer electronics might use national income growth projections to anticipate higher consumer spending and plan its production accordingly.

Growth and Inflation Policies

Combined with financial and monetary data, national income data guides policies related to economic growth and inflation.

Example

If national income data indicates robust growth but also rising inflation, the central bank might consider tightening monetary policy to manage price levels.

DIFFERENT CONCEPTS OF NATIONAL INCOME

The discussion of national income begins with Gross Domestic Product (GDP), which measures the output side of the economy. Inputs like labor and capital are factors of production, and payments to them (wages, interest) are factor payments.

Gross Domestic Product (GDP)

Gross Domestic Product (GDP) is the <u>value of all final goods and services produced within the country's domestic territory within a given period,</u> typically a year. It includes the value of both goods (e.g., houses, mobiles) and services (e.g., telecom, health, insurance), valued at their market price.

Example:
If a country produces 10 million cars, 50 million smartphones, and provides 100 million hours of consulting services in a year, the GDP would be the sum of the market value of all these final products and services.

Nominal GDP or GDP$_{MP}$

- The value of all final goods and services produced in the country within a given period.
- The output of each of these is valued at its market price, and the values are added together to get GDP$_{MP}$

Real GDP

- Nominal GDP increases over time for two reasons:
- 1. The production of most of goods increases over time
- 2. The prices of most goods also increase over time.
- real GDP is constructed as the sum of the quantities of final goods times constant (rather than current prices)

GDP Deflator

- *GDP deflator* $= \dfrac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$

- The GDP deflator is a price index used to convert nominal GDP to *real GDP* $= \dfrac{\text{Nominal GDP}}{\text{GDP Deflator}} \times 100$

- The deflator measures the current level of prices relative to the level of prices in the base year. Since nominal GDP and real GDP must be the same in the base year, the deflator for the base year is always 100.

- The inflation rate between two consecutive years can be compute using the following procedure: *Inflation rate in year 2* $= \dfrac{\text{GDP deflator in year 2} - \text{GDP deflator in year 1}}{\text{GDP deflator in year 1}}$

Example:
If a country's Nominal GDP is ₹5000 Crores and Real GDP is ₹4000 Crores.
GDP Deflator = (₹5000 / ₹4000) * 100 = 125.
Interpretation: The price level has increased by 25% since the base year.

Net Domestic Product (NDP)

Net Domestic Product (NDP) is equal to <u>GDP minus depreciation</u> (consumption of fixed capital). It measures the net amount of goods and services produced in the country in a given period, accounting for the capital used up in production. It also considers asset obsolescence and complete destruction.

$$NDP_{mp} = GDP_{mp} - Depreciation$$

<u>Distinction:</u> The basis for distinguishing between 'gross' and 'net' is depreciation.

$$Gross = Net + Depreciation \ or \ Net = Gross - Depreciation$$

Gross National Product (GNP)

Gross National Product (GNP) is the <u>market value of all final economic goods and services produced by normal residents of a country</u> during an accounting year, <u>including net factor income from abroad (NFIA).</u>
It represents the total income earned by a nation's permanent residents (nationals).
It differs from GDP by including income earned by citizens abroad and excluding income earned by foreigners within the domestic territory. GNP is evaluated at market prices, hence GNP_{MP}.

$GNP_{MP} = GDP_{MP} + $ Net Factor Income from Abroad

<u>Net Factor Income from Abroad (NFIA)</u> is the difference between what a country's citizens and companies earn abroad and what foreign citizens and overseas companies earn in that country.

NFIA = Net compensation of employees + Net income from property and entrepreneurship + Net retained earnings.

If NFIA is positive, GNP_{MP} will be greater than GDP_{MP}.
<u>Distinction:</u> The distinction between 'national' and 'domestic' is net factor income from abroad.

Example
If India's GDP is ₹20,000 Crores, Indian companies earn ₹2,000 Crores from their overseas operations, and foreign companies earn ₹1,500 Crores within India, then:
NFIA = ₹2,000 - ₹1,500 = ₹500 Crores.
GNP_{MP} = ₹20,000 + ₹500 = ₹20,500 Crores.

Net National Product at Market Prices (NNP$_{MP}$)

Net National Product at Market Prices (NNP$_{MP}$) is the market value of all final economic goods and services produced by normal residents within a country's domestic territory, including NFIA, but <u>excluding depreciation.</u>

$$\text{NNP}_{MP} = \text{GNP}_{MP} - \text{Depreciation}$$

<u>Alternative Formulas:</u>

$$\text{NNP}_{MP} = \text{NDP}_{MP} + \text{Net Factor Income from Abroad}$$
$$\text{NNP}_{MP} = \text{GDP}_{MP} + \text{Net Factor Income from Abroad} - \text{Depreciation}$$
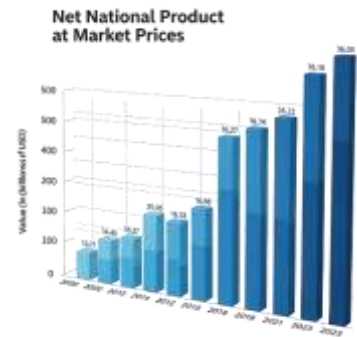
Example

If GNPMP is ₹20,500 Crores and depreciation is ₹800 Crores, then NNP$_{MP}$ = ₹20,500 - ₹800 = ₹19,700 Crores.

Gross Domestic Product at Factor Cost (GDP$_{FC}$)

Gross Domestic Product at Factor Cost (GDP$_{FC}$) is <u>GDP at market prices minus net indirect taxes.</u> It measures the money value of output produced within a country's domestic limits in a year, as received by the factors of production.

$$\text{Factor Cost} = \text{Market Price} - \text{Net Indirect Taxes}$$

$$\text{GDP}_{FC} = \text{GDP}_{MP} - \text{Indirect Taxes} + \text{Subsidies}$$

Composition: GDP$_{FC}$ can also be expressed as the sum of factor incomes and depreciation:

$$\text{GDP}_{FC} = \text{Compensation of employees} + \text{Operating Surplus (rent + interest + profit)} + \text{Mixed Income of Self-employed} + \text{Depreciation}$$

Distinction: The basis for distinguishing between market price and factor cost is <u>net indirect taxes (Indirect taxes - Subsidies).</u>

Example

If GDP$_{MP}$ is ₹15,000 Crores, Indirect Taxes are ₹1,200 Crores, and Subsidies are ₹300 Crores, then Net Indirect Taxes = ₹1,200 - ₹300 = ₹900 Crores.
GDP$_{FC}$ = ₹15,000 - ₹900 = ₹14,100 Crores.

Factor Cost vs Basic Price vs Market Price	GDP at Basic Price excludes any taxes on products the producer receives from the purchaser and passes on to the government but includes any subsidies the producer receives from the government and uses to lower the prices charged to purchasers.
	Basic price = factor cost + Production taxes - Production subsidy

Relationship between Factor Cost and Basic Price	Factor cost + production tax - production subsidies = Basic prices
Relationship between Basic Price and Market Price	Basic Price + Product tax - Product Subsidy = Market Price

Note: Market price includes both product tax as well as production tax while excluding both product and production subsidies.

Net Domestic Product at Factor Cost (NDP$_{FC}$)

Net Domestic Product at Factor Cost (NDP$_{FC}$) is the total factor incomes earned by the factors of production within the domestic territory, or domestic income net of depreciation. It is obtained by deducting indirect taxes and adding subsidies to NDPMP.

$$NDP_{FC} = NDP_{MP} - \text{Net Indirect Taxes}$$

Composition:

$$NDP_{FC} = \text{Compensation of employees} + \text{Operating Surplus (rent + interest + profit)} + \text{Mixed Income of Self-employed}$$

Example:
If NDP$_{MP}$ is ₹14,200 Crores and Net Indirect Taxes are ₹900 Crores, then NDP$_{FC}$ = ₹14,200 - ₹900 = ₹13,300 Crores.

Net National Product at Factor Cost (NNP$_{FC}$) or National Income

National Income (NI) is defined as the factor income accruing to the normal residents of the country during a year. It is the sum of domestic factor income (NDPFC) and net factor income from abroad (NFIA).

$$NNP_{FC} = \text{National Income} = \text{FID (factor income earned in domestic territory)} + \text{NFIA}$$

If NFIA is positive, national income will be greater than domestic factor incomes.

Example
If NDP$_{FC}$ is ₹13,300 Crores and NFIA is ₹500 Crores, then National Income (NNPFC) = ₹13,300 + ₹500 = ₹13,800 Crores.

Per Capita Income

GDP per capita is a measure of a country's economic output per person. It is obtained by dividing the country's real gross domestic product by the total population. It serves as an indicator of the standard of living of a country.

<div align="center">

Per Capita Income = Real GDP / Total Population

</div>

Example

If a country's Real GDP is ₹100,000 Crores and its population is 10 Crores, then Per Capita Income = ₹100,000 Crores / 10 Crores = ₹10,000 per person.

Personal Income (PI)

Personal Income (PI) is the income received by the household sector (including Non-Profit Institutions Serving Households). Unlike national income, which measures earned income by factors of production, personal income measures actual current income receipts of persons from all sources, which may or may not be earned from productive activities.

It includes transfer payments (e.g., social security benefits, unemployment compensation, welfare payments). Personal income excludes retained earnings, indirect business taxes, corporate income taxes, and employers' contributions to social security. Net interest paid by households to firms and government is also deducted.

<div align="center">

PI = NI + income received but not earned – income earned but not received

PI = NI - Undistributed profits – Net interest payments made by households – Corporate Tax + Transfer Payments to the households from firms and government

</div>

> *Note: National income is not the sum of personal incomes because PI includes transfer payments (excluded from NI) and not all national income accrues to individuals as PI.*

Example:
If National Income is ₹13,800 Crores.
Undistributed Corporate Profits: ₹500 Crores
Corporate Taxes: ₹300 Crores
Net Interest Payments by Households: ₹100 Crores
Transfer Payments (e.g., pensions, unemployment benefits): ₹600 Crores
PI = ₹13,800 - ₹500 - ₹100 - ₹300 + ₹600 = ₹13,500 Crores.

Disposable Personal Income (DI)

Disposable Personal Income (DI) is the amount of money in the hands of individuals that is _available for their consumption or savings._ It is derived from personal income by subtracting direct taxes paid by individuals and other compulsory payments to the government.

DI = PI - Personal Income Taxes – Non-tax payments

Example

If Personal Income is ₹13,500 Crores and Personal Income Taxes (direct taxes) are ₹1,500 Crores, then DI = ₹13,500 - ₹1,500 = ₹12,000 Crores. This is the income households can freely spend or save.

Other Aggregates

Net National Disposable Income (NNDI)

NNDI = Net National Income + other net current transfers from the rest of the world (Receipts less payments)

NNDI = NNI + net taxes on income and wealth receivable from abroad + net social contributions and benefits receivable from abroad

Example

If NNI (NNPFC) is ₹13,800 Crores and net current transfers from abroad are ₹200 Crores, then NNDI = ₹13,800 + ₹200 = ₹14,000 Crores. This represents the total income available to residents for consumption or saving after accounting for international transfers.

GNDI = NNDI + Consumption of Fixed Capital (CFC)
GNDI = GNI + other net current transfers from the rest of the world (Receipts less payments)

Example

If NNDI is ₹14,000 Crores and CFC (depreciation) is ₹800 Crores, then GNDI = ₹14,000 + ₹800 = ₹14,800 Crores. This is the total gross income available for expenditure and saving, including capital consumption.

Domestic Income Categorization

Domestic Income (NDPFC) can be categorized into:

Income from domestic product accruing to the public sector
Includes income from property and entrepreneurship accruing to government administrative departments and savings of non-departmental enterprises.
Income from domestic product accruing to the private sector
NDPFC - Income from property and entrepreneurship accruing to government administrative departments - Savings of non-departmental enterprises.

Example

If NDPFC is ₹13,300 Crores, government property income is ₹1,000 Crores, and non-departmental enterprise savings are ₹200 Crores, then income to the private sector = ₹13,300 - ₹1,000 - ₹200 = ₹12,100 Crores.

Private Income

Private Income is a measure of the income (both factor income and transfer income) that accrues to the private sector from all sources, both within and outside the country.

Private Income = Factor income from net domestic product accruing to the private sector + Net factor income from abroad + National debt interest + Current transfers from government + Other net transfers from the rest of the world

Example

If factor income to private sector is ₹12,100 Crores, NFIA is ₹500 Crores, national debt interest is ₹150 Crores, current transfers from government are ₹250 Crores, and other net transfers from the world are ₹50 Crores, then:

Private Income = ₹12,100 + ₹500 + ₹150 + ₹250 + ₹50 = ₹13,050 Crores.

MEASUREMENT OF NATIONAL INCOME IN INDIA

The Circular Flow of Income

The circular flow of income refers to the continuous circulation of production, income generation, and expenditure involving different economic sectors. It comprises three interlinked phases:

Production Phase
Firms produce goods and services using factor services.

Example

A technology company manufactures smartphones using labor, capital, and raw materials.

Income/Distribution Phase

Factor incomes (rent, wages, interest, profits) flow from firms to households.

Example

The technology company pays salaries to its employees, rent for its factory, interest on loans, and distributes profits to shareholders.

Expenditure/Disposition Phase

Income received by factors of production is spent on consumption and investment goods, leading to further production and sustaining the flow.

Example

Employees spend their wages on smartphones, food, and housing. Shareholders reinvest their profits or spend them on goods and services.

These three phases (production, distribution, and disposition) happen simultaneously, allowing national income to be viewed from three angles: as a flow of production/value added, as a flow of income, and as a flow of expenditure. Each perspective suggests a different calculation method and data requirements.

Value Added Method or Product Method (Industrial Origin Method / Net Output Method)

This method calculates national income as the <u>sum total of net value added at factor cost across all producing units</u> of the economy. It measures each enterprise's unduplicated contribution to total output within the domestic territory.

▶ *Steps*

1. Identify and Classify Producing Enterprises

Group into primary, secondary, and tertiary sectors, further divided into sub-sectors.

Example

Identifying a farm (primary), a car manufacturer (secondary), and a software development company (tertiary).

2. Estimate Gross Value Added (GVA$_{MP}$) by each enterprise

GVA$_{MP}$ is equivalent to GDPMP for the entire economy.

Gross Value Added (GVA$_{MP}$) = Value of output – Intermediate consumption

Value of Output = Sales + Change in stock

> *Note:* Intermediate consumption includes imports if total purchases are given. Sales include exports if domestic sales are separate.

Example

A bakery's output value (sales + change in stock of bread) is ₹1,000,000. Its intermediate consumption (flour, yeast, electricity) is ₹300,000. GVAMP = ₹700,000.

3. Estimate National Income

Sum of all (GVA$_{MP}$) – Depreciation = Net Value Added (NVA$_{MP}$).
Sum of all (NVA$_{MP}$) = Net Domestic Product at Market Price (NDP$_{MP}$).
Net Value Added (NVA$_{MP}$) – Net Indirect Taxes = Net Domestic Product at Factor Cost (NDP$_{FC}$).
NDP$_{FC}$ + Net Factor Income from Abroad (NFIA) = National Income (NNP$_{FC}$).

<u>*Items Included:*</u> *Own account production of fixed assets, imputed value of production for self-consumption, imputed rent of owner-occupied houses, and change in stock.*

Income Method (Factor Payment Method / Distributed Share Method)

This method calculates national income by <u>summing factor incomes paid out by all production units</u> within the domestic territory. These incomes are paid for services rendered by factors of production (wages, rent, interest, profit). It includes factor payments to both residents and non-residents within the domestic territory.

NDP$_{FC}$ = Sum of factor incomes paid out by all production units within the domestic territory of a country

NNP$_{FC}$ or National Income = Compensation of employees + Operating Surplus (rent + interest + profit) + Mixed Income of Self-employed + Net Factor Income from Abroad

▶ *Incomes Included:*

Compensation of employees
Wages, salaries, bonus, dearness allowance, commission, employers' contribution to provident fund, imputed value of compensation in kind.
Non-labour income (Operating Surplus)
Rent (actual and imputed), royalty, interest on productive loans, dividends, undistributed profits (before taxes), and profits of unincorporated and government enterprises.
Mixed Income of Self-employed
Incomes of self-employed individuals (lawyers, engineers, traders) where it's difficult to separate labor and capital elements.

▶ Incomes Excluded:

Transfer incomes: Pensions of retired workers.

Capital gains, windfall profits, income from sale of second-hand goods and financial assets, and payments out of past savings.

Interest paid by the government on public debt, interest on consumption loans, and interest paid by one firm to another.

Included: Commissions, brokerages, and imputed value of services by owners of production units.

Expenditure Method (Income Disposal Approach)

In this approach, national income is the <u>aggregate final expenditure in an economy during an accounting year.</u> It sums the value of goods and services purchased by each type of final user.

$$GDP_{MP} = \sum \text{Final Expenditure}$$
$$GDP_{MP} = C + GD_{FC} + NXGNP_{MP} = GDP_{MP} + NFIA$$
$$GNP_{FC} = GNP_{MP} - NIT \quad NNP_{FC} = GNP_{FC} - \text{Depreciation}$$

▶ Components of Final Expenditure:

Final Consumption Expenditure (C)

(a) Private Final Consumption Expenditure (PFCE)

Volume of final sales of goods and services to consumer households and non-profit institutions for consumption. Includes own-consumption of primary products and payments for domestic services. Excludes land and residential buildings (part of gross capital formation).

Example

Households buying groceries, clothes, paying for haircuts, or consuming vegetables grown in their own gardens.

(b) Government Final Consumption Expenditure (G)

Total money spent by the government in producing collective services (defense, education, healthcare) which are not sold in the market. Excludes transfer payments like pensions, scholarships, unemployment allowance.

Example

Government spending on salaries of teachers, doctors in public hospitals, and defense equipment.

Gross Domestic Capital Formation (GDCF) / Gross Investment (I)

Part of total expenditure not consumed but added to fixed tangible assets and stocks. Includes acquisition of fixed assets, accumulation of stocks (raw materials, finished goods), machinery, construction, changes in inventories, and acquisition of valuables.

Example:

A company building a new factory, purchasing new machinery, or an increase in the stock of unsold finished goods.

Net Exports (NX)

Difference between exports and imports of a country. Can be positive or negative.

Example

If a country exports ₹500,000 worth of goods and imports ₹300,000 worth, Net Exports = ₹200,000.

Deriving National Income (NNP$_{FC}$) from Expenditure Method:

$$GDP_{MP} = C + G + GDCF + NX \text{ (where } GD_{FC} = \text{Gross Domestic Capital Formation)}$$
$$GNP_{MP} = GDP_{MP} + NFIA$$
$$GNP_{FC} = GNP_{MP} - NIT$$
$$NNP_{FC} = GNP_{FC} - \text{Depreciation}$$

Comparison of Methods

Ideally, all three methods should yield the same national income figure. Using multiple methods helps in checking accuracy and provides different insights into the economy's structure.

Countries like India often use a combination of methods across different sectors (e.g., production method for agriculture, income method for small-scale sector, expenditure method for construction) due to data limitations.

THE SYSTEM OF REGIONAL ACCOUNTS IN INDIA

Regional accounts provide an integrated database for transactions within a regional economy, aiding decision-making at the regional level.

State Income / Net State Domestic Product (NSDP)

A monetary measure of all goods and services produced in a state within a given period, without duplication.

Per Capita State Income

NSDP divided by the mid-year projected population of the state.

Compilation
State-level estimates are prepared by State Income Units of respective State Directorates of Economics and Statistics (DESs), with conceptual and methodological advice from the Central Statistical Organisation (CSO).
Supra-regional sectors
Activities like railways, communications, banking, insurance, and central government administration that cut across state boundaries. Their economic contribution is compiled for the whole economy and allocated to states based on relevant indicators.

Example

The Maharashtra DES compiles the NSDP for Maharashtra, which would include the value of all goods and services produced within the state's boundaries. The contribution from Indian Railways to Maharashtra's NSDP would be an allocated share of the national railway income.

GDP AND WELFARE

While GDP measures a country's ability to obtain many requirements for a better life, it is <u>not a perfect measure of overall well-being or welfare.</u> GDP measures exclude several critical aspects of citizen well-being:

Income Distribution
GDP per capita is inadequate as it doesn't reflect how income is distributed; unequal distribution can mean lower overall well-being even with high per capita GDP.
Quality Improvements
It doesn't fully capture quality improvements due to technological and managerial innovations.
Hidden Production
Excludes production hidden from authorities (tax evasion, illegal activities like drugs, gambling).
Non-market Production
Largely excludes non-market production (with few exceptions) and non-economic contributors to well-being (e.g., health, education levels, political participation, social/political factors).
Loss of Leisure Time
Increased work hours raise GDP but can reduce welfare due to less leisure time.
Economic 'Bads
Does not account for negative externalities like crime, pollution, traffic congestion, which reduce welfare.
Volunteer Work
Excludes unpaid volunteer work that contributes to social well-being.

Qualitative Aspect
Misses many things contributing to economic welfare like fairness, gender equality, security, community feeling.
Externalities
Does not account for both positive and negative externalities that don't form part of market transactions.
Defensive Expenditures
Doesn't distinguish between production that improves life and production that merely prevents worsening (e.g., defense expenditures, police protection, repairs from accidents). Increased spending on police due to rising crime raises GDP but only prevents things from getting worse, not necessarily improving overall welfare.

Example

A country with a high GDP might also have severe air pollution (an economic 'bad') which reduces the quality of life, or a significant portion of its GDP might come from military spending (defensive expenditure) without necessarily indicating an improvement in citizen welfare.

LIMITATIONS AND CHALLENGES OF NATIONAL INCOME COMPUTATION

Computing national income, especially in underdeveloped and developing countries, faces numerous challenges.

▶ A. Conceptual Difficulties:

Lack of Agreed Definition	*No universally agreed definition of national income.*
Distinction between Good	*Difficulty in accurately distinguishing between final goods and intermediate goods.*
Transfer Payments	*Issue of how to incorporate transfer payments.*
Services of Durable Goods	*How to value the services provided by durable goods.*
Income Distribution	*Difficulty in incorporating income distribution.*
Valuation of New Goods	*Valuing new goods at constant prices.*
Government Service	*Valuing government services.*

B. Other Challenges:

Data Issues: Inadequacy and unreliability of available data.

Non-monetized Sector: Presence of a large non-monetized sector (e.g., goods/services exchanged without money).

Production for Self-Consumption: Difficulty in estimating production for self-consumption.

Unrecorded Incomes: Absence of income recording due to illiteracy and ignorance.

Occupational Classification: Lack of proper occupational classification.

Depreciation Estimation: Accurate estimation of consumption of fixed capital (depreciation).

Example

In rural areas, many households produce food for their own consumption rather than selling it. Accurately valuing this "self-consumption" is challenging for national income statisticians, as there's no market transaction to observe. Similarly, estimating the depreciation of old, unrecorded machinery in small-scale industries can be difficult.

INTRODUCTION

The Keynesian theory focuses on factors determining the level of <u>national income</u> and the determination of <u>equilibrium aggregate income and output.</u> The <u>Great Depression of the 1930s</u> highlighted the inadequacy of classical economic theories, which could not explain persistent unemployment or offer solutions. Keynes's work provided a theoretical foundation for government spending *recommendations to reduce unemployment.*

Keynes's Building Blocks of Modern Macroeconomics

Consumption to Income Relation & The Multiplier
Explains how shocks to aggregate demand are amplified, leading to larger shifts in output.
Liquidity Preference
Keynes's term for the **demand for money**, explaining how monetary policy affects interest rates and aggregate demand.
Importance of Expectations
How shifts in expectations significantly affect **consumption** and **investment**, becoming a major factor in demand and output shifts.

<u>The Keynesian theory is presented through three models:</u>

Two-sector model	Three-sector model	Four-sector model
consisting of the household and the business sectors,	consisting of household, business and government sectors, and	consisting of household, business, government and foreign sectors

CIRCULAR FLOW IN A SIMPLE TWO-SECTOR MODEL

The _circular flow model_ illustrates how money moves through society, from producers (as wages) to workers and back to producers (as payments for products), forming an _endless circular flow of money._ It also explains how various factors contribute to a nation's _GDP or national income,_ hence also called the _circular flow of income model._

Primary Players and Markets in a Two-Sector Model

Households
- Own all factors of production, sell their services to earn factor incomes, and spend _all_ their income on consuming goods and services produced by firms.

Business Firms
- Hire factors of production from households, produce and sell goods/services to households, and do not save.

Markets
- Markets for goods and services, and markets for factors of production.
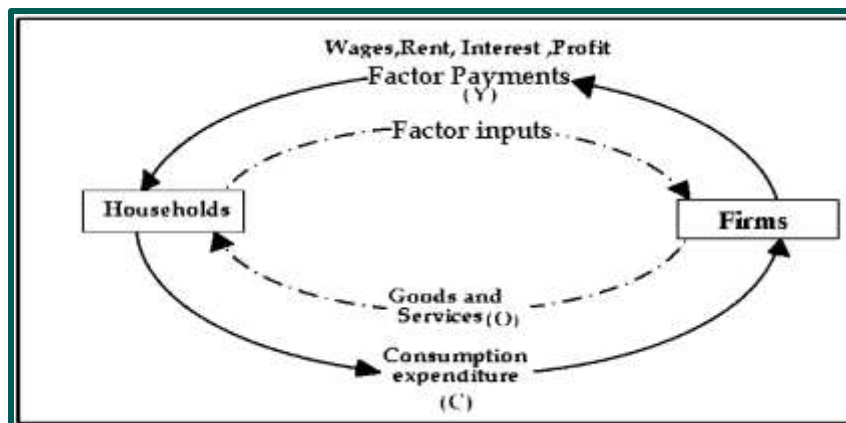
Key Assumptions of the Two-Sector Model:

Total income produced (Y) accrues entirely to households and equals their disposable personal income (Yd); thus,

$$Y = Yd.$$

There are no corporations, corporate savings, or retained earnings.

There are no injections into or leakages from the system.

Household expenditures equal the total receipts of firms, which in turn equal the value of output.

Factor Payments = Household Income = Household Expenditure = Total Receipts of Firms = Value of Output.

The circular flow depicts both _real flows_ (actual goods or services) and _money flows_ (payments for services/consumption).

BASIC CONCEPTS AND FUNCTIONS

▶ Equilibrium

Equilibrium is a state where there is _no tendency to change,_ a position of rest. In an economy, _output is at equilibrium when the quantity produced equals the quantity demanded._ This means the production plans of firms match the expenditure plans of households.

Example
If a car manufacturer plans to produce 1,000 cars, and consumers collectively plan to buy exactly 1,000 cars, the market for cars is in equilibrium. There's no pressure to produce more or less.
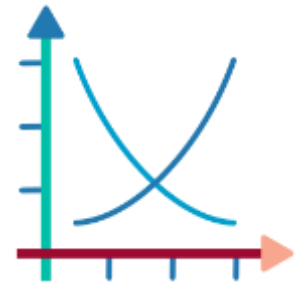
Aggregate Demand Function

Aggregate Demand (AD) represents the _total planned expenditure_ in an economy. In a simple _two-sector economy, ex ante (planned) aggregate demand_ for final goods, or aggregate expenditure, consists of two components:

> Ex ante aggregate demand for consumer goods (C)

> Ex ante aggregate demand for investment goods (I)

The aggregate demand function is

$$AD = C + I$$

Investment (I) is assumed to be _exogenously determined and constant_ in the short run. Therefore, _AD depends largely on aggregate consumption expenditure_.

The Consumption Function

Consumption function expresses the functional relationship between aggregate consumption expenditure and aggregate disposable income, expressed as:

$$C = f(Y)$$

> When income is low, consumption expenditures of households will exceed their disposable income and households dissave i.e., they either borrow money or draw from their past savings to purchase consumption goods.

> If the disposable income increases, consumers will increase their planned expenditures and current consumption expenditures rise, but only by less than the increase in income.

The specific form of consumption–income relationship termed the consumption function, proposed by Keynes is as follows:

$$C = a + bY$$

$$MPC = \frac{\Delta C}{\Delta Y} = b$$

where C = aggregate consumption expenditure;

Y= total disposable income; a is a constant term which denotes the (positive) value of consumption at zero level of disposable income; and the parameter b, the slope of the function, (ΔC /ΔY) is the marginal propensity to consume (MPC) i.e., the increase in consumption per unit increase in disposable income.

▶ The Keynesian Consumption Function

The Keynesian assumption is that consumption increases with an increase in disposable income, but that the increase in consumption will be less than the increase in disposable income (b <1). i.e., 0 < b < 1. This fundamental relationship between income and consumption plays a crucial role in the Keynesian theory of income determination.
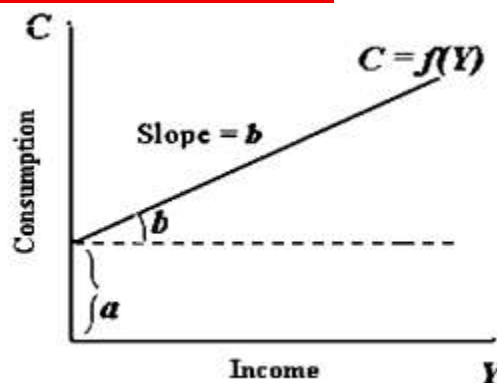
The consumption function shows the level of consumption (C) corresponding to each level of disposable income (Y) and is expressed through a linear consumption function, as shown by the line marked C = f(Y).

Relationship Between Income and Consumption

Marginal propensity to consume, the average propensity to consume is a ratio of consumption defining income consumption relationship. The ratio of total consumption to total income is known as the average propensity to consume (APC).

$$APC = \frac{Total\ Consumption}{Total\ Income} = \frac{C}{Y}$$

Income (Y) (₹ Crores)	Consumption (C) (₹ Crores)	Saving (₹ Crores)	APC (C/Y)	MPC (ΔC /ΔY)
0	50	-50	∞	
100	125	-25	125/100 = 1.25	75/100 = 0.75
200	200	0	200/200 = 1.00	75/100 = 0.75
300	275	25	275/300 = 0.92	75/100 = 0.75
400	350	50	350/400=0.88	75/100 = 0.75
500	425	75	425/500=0.85	75/100 = 0.75

Note: *The conventional Keynesian MPC is assumed to have a constant value less than 1.00 and usually greater than 0.50: APC is calculated at various income levels. It is obvious that the proportion of income spent on consumption decreases as income increases. What happens to the rest of the income that is not spent on consumption?*

If it is not spent, it must be saved because income is either spent or saved; there are no other uses to which it can be put. Thus, just as consumption, saving is a function of disposable income:

$$S = f(Y)$$

Relationship Between Income, Consumption and Saving

Income is either spent or saved. Thus, saving is also a function of disposable income:

$$S = f(Y)$$

The saving function *shows the functional relationship between national income and saving. By definition,*

$$Y = C + S$$

which implies

$$S = Y - C.$$

Since C = a + bY, then

$$S = Y - (a + bY) = -a + (1 - b)Y.$$

▶ Marginal Propensity to Save (MPS)

$$MPS = \Delta S / \Delta Y = 1 - b.$$

If 'b' (MPC) is the increase in consumption from a unit increase in income, then (1-b) is the increase in saving. _MPS is always positive_ because 0 < b < 1, so (1-b) is also between 0 and 1.

$$MPC + MPS = 1.$$

▶ Average Propensity to Save (APS)

$$APS = \text{Total Saving} / \text{Total Income} = S / Y.$$

It's the ratio of total saving to total income, or the part of total income that is saved.

▶ Marginal Propensity to Consume (MPC)

Is always _less than unity_, but _greater than zero_, i.e., _0 < b < 1_ Also, _MPC + MPS = 1_; we have

$$MPS \; 0 < b < 1.$$

∴Saving is an increasing function of the level of income because the marginal propensity to save _(MPS) = 1- b is positive_, i.e., saving increases as income increases.

Relationship between Income, Consumption and Saving

(₹'Crores)

Disposable Income (Yd)	Consumption (C)	Saving (S)
0	20	-20
60	70	-10
120	120	0
180	170	10
240	220	20

▶ The Consumption and Saving Function

The consumption and saving functions are graphed. The saving functions shows the level of saving (S) at each level of disposable income (Y).
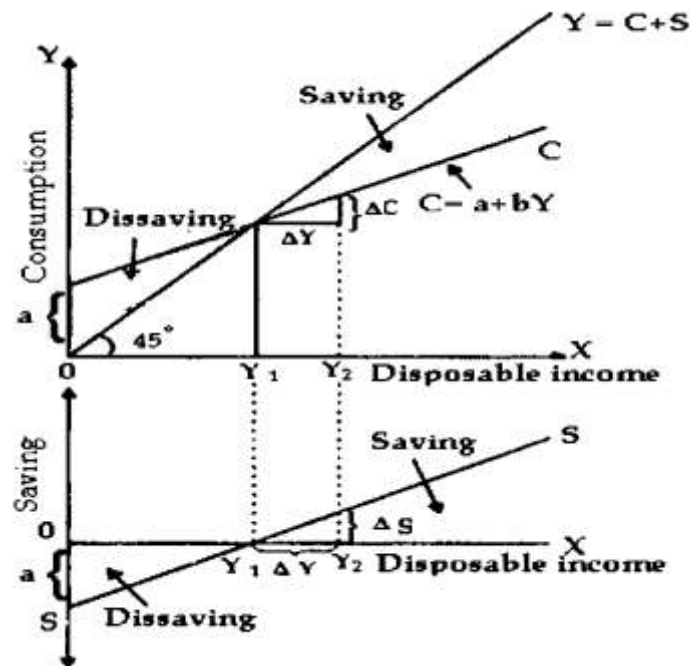
Consumption at zero level of income is positive (equal to a), and as such there should be dissaving also of the same magnitude.

$$\therefore \text{ National income } Y = C + S, \text{ Therefore, } S = Y - C.$$

The slope of the saving function is the marginal propensity to save. If a one-unit increase in disposable income leads to an increase of 'b' units in consumption, the remainder **(1 - b)** is the increase in saving.

Saving is an increasing function of the level of income. In other words, saving increases as income rises.

Aggregate Supply

Ex ante or planned aggregate supply (AS) is the total supply of goods and services firms plan to sell during a specific period. It is equal to the national income of the economy, which is either consumed or saved.

$$AS = C + S.$$

THE TWO-SECTOR MODEL OF NATIONAL INCOME DETERMINATION

In the Keynesian framework, the <u>equilibrium level of income and output</u> occurs when aggregate demand (C + I) equals aggregate supply (C + S) or output. This simplifies to the condition where Investment (I) equals Savings (S).

$$C + I = C + S \text{ or } I = S$$

Graphically, equilibrium is where the <u>aggregate demand curve (C+I) intersects the 45-degree line.</u> The 45-degree line represents all points where aggregate expenditure equals aggregate output.
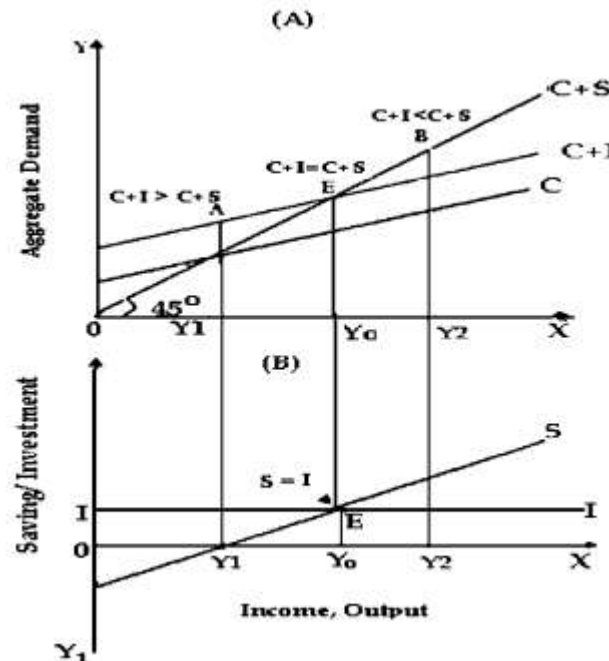
The 45- degree line illustrates every single point at which planned aggregate expenditure, measured on the Y, or vertical axis, is equal to planned aggregate production, which is measured on the X, or horizontal axis. In other words, all points on the 45° line indicate that aggregate expenditure equals aggregate output; i.e. (C+I) is equal to Y or (C+S). Therefore, the line maps out all possible equilibrium income levels.

For all points below the 45-degree line, planned aggregate expenditure is lesser than GDP and for all points above the 45-degree line; planned aggregate expenditure is greater than GDP. we would like equilibrium to occur at potential GDP i.e., at the level of full employment. Only at point E and at the corresponding equilibrium levels of income and output Y_0 does aggregate demand exactly equals output. At that level of output and income, planned spending precisely matches production.

Putting it differently, there is no reason for C + I and C + S to always be equal.

The investment function (I) is shown in panel B of the figure, equilibrium, planned investment equals savings. Above the equilibrium of income Y_0, saving (the distance between the 45 degree line and the consumption schedule) exceeds planned investment, while below equilibrium level of income Y_0 , planned investment exceeds saving.

The equality between saving and investment can be seen directly from national income accounting. Since income is either spent or saved, Y = C+S. Without government and foreign trade, aggregate demand equals consumption plus investment, Y=C+I. Putting the two together, we have C+S = C+I, or S=I.

If the leakages are greater than the injections, then national income will fall, while if injections are greater than leakages, national income will rise. The national income will be in equilibrium only when intended saving is equal to intended investment. If there is any deviation from equilibrium, i.e., planned saving is not equal to planned investment, the process of readjustment will bring the economy back to equilibrium.

▶ According to Keynes

Aggregate demand will not always be equal to aggregate supply. Aggregate demand depends on the households' plan to consume and to save. *Aggregate supply depends on the producers' plan to produce goods and services.*

In other words, aggregate supply represents aggregate value expected by business firms and aggregate demand represents their realised value.

For the aggregate demand and the aggregate supply to be equal so that equilibrium is established, the households' plan must coincide with producers' plan. *At equilibrium, expected value equals realised value.*

However, Keynes held the view that there is no reason to believe that:

(i) consumers' *consumption plan always coincides with* producers' *production plan, and*

(ii) that producers' plan to invest matches always with households' plan to save.

Equilibrium with Unemployment or Inflation

A crucial point in Keynesian economics is that equilibrium does _not necessarily occur at full employment._ The economy can settle at an equilibrium level that is _higher or lower than the full employment equilibrium._

(C+I)
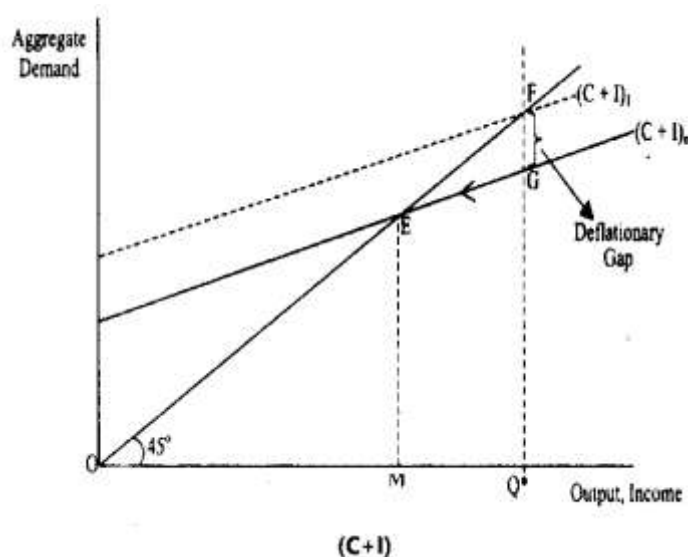
(i) Deflationary Gap (Recessionary Gap)

➔ Occurs when _aggregate demand is less than the full employment level of output._
➔ This signifies _deficient demand._
➔ It arises when the equilibrium level of aggregate production falls short of what could be produced at full employment.
➔ Firms experience _unplanned build-up of inventories_ (unsold goods), leading them to _cut production and employment._ This causes output and income to decrease until an under-employment equilibrium is reached.
➔ Keynes argued this was happening during the Great Depression, with high unemployment due to insufficient spending.

Example
Suppose a country's full employment GDP is $1000 billion. At this level, the aggregate demand (C+I) should be $1000 billion to maintain full employment. However, if the actual aggregate demand is only $800 billion, there's a $200 billion deflationary gap.
This means there aren't enough buyers for the goods and services that could be produced at full employment, leading to job losses and reduced output.

▶ (ii) Inflationary Gap

➔ *Occurs when <u>aggregate demand is greater than the full employment level of output.</u>*

➔ *This signifies <u>excess demand.</u>*

➔ *It's the amount by which actual aggregate demand exceeds the demand required for full employment equilibrium.*

➔ *This typically happens during a <u>business-cycle expansion</u> and leads to <u>demand-pull inflation.</u>*

➔ *At full employment, real output is constant, so excess demand only causes the <u>price level to rise,</u> leading to an increase in nominal output but not real output or employment.*

Example

Using the same country with a full employment GDP of $1000 billion. If aggregate demand (C+I) is $1200 billion, there's a $200 billion inflationary gap. The economy cannot produce more than $1000 billion in real goods and services, so the excess demand simply drives up prices, resulting in inflation rather than more jobs or output.

THE INVESTMENT MULTIPLIER

An increase in autonomous investment by ΔI shift the aggregate demand schedule from C+I to C+I+ΔI. Correspondingly, the equilibrium shifts from E to E1 and the equilibrium income increases more than proportionately from Yo to Y1.
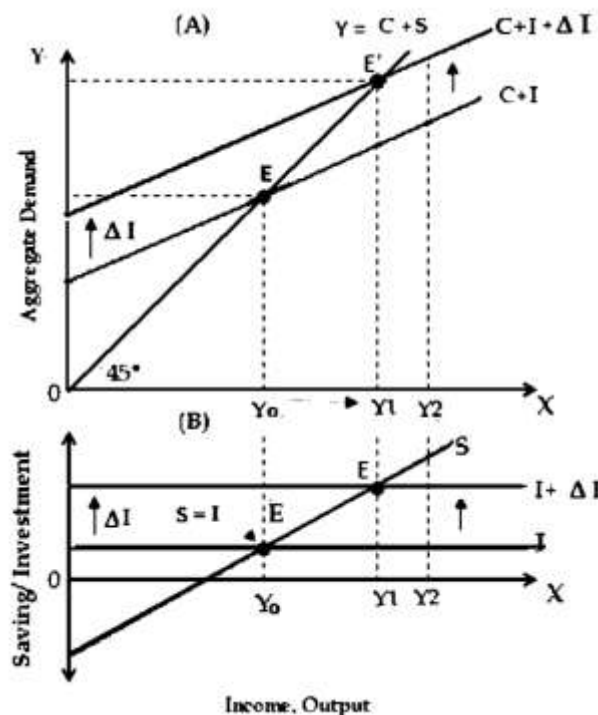
Why and how does this happen?

This occurs due to the operation of the investment multiplier.

Multiplier refers to the phenomenon whereby increase in investment expenditure will lead to a proportionately larger change (or multiple changes) in the equilibrium level of national income. When the level of investment increases by an amount, say ΔI, the equilibrium level of income will increase by some multiple amounts, Δ Y. The ratio of ΔY to ΔI is called the investment multiplier, k.

$$k = \Delta Y / \Delta I$$

The size of the multiplier effect is given by Δ Y = k ΔI.

Thus, multiplier indicates the change in equilibrium national income for each rupee change in the desired autonomous investment. Since the increase in national income (ΔY) is the result of increase in investment (ΔI), the multiplier is called 'investment multiplier.'

The process behind the multiplier can be compared to the 'ripple effect' of water. The economy being in equilibrium, an upward shift in aggregate demand leads to an increase in national income which in a two-sector economy will be, by definition, distributed as factor incomes.

There will be an equal increase in disposable income. Firms experience increased demand and as a response, their output increases. The process further continues as an autonomous rise in investment leads to induced increases in consumer demand as income increases.

At the end that the increase in equilibrium income per rupee increase in investment is:

$$\Delta Y / \Delta I = 1/1 - MPC = 1/MPS$$

Marginal Propensity to Consume (MPC)

The determinant of the value of the multiplier and that there exists a direct relationship between MPC and the value of multiplier. Higher the MPC more will be the value of the multiplier, and vice-versa.

On the contrary, higher the MPS, lower will be the value of multiplier and vice-versa. The maximum value of multiplier is infinity when the value of MPC is 1 i.e., the economy decides to consume the whole of its additional income. The value of the multiplier is the reciprocal of MPS.

The MPC, on which the multiplier effect of increase in income depends, is high in underdeveloped countries; but ironically the value of multiplier is low. Due to structural inadequacies, increase in consumption expenditure is not generally accompanied by increase in production.

> *Note:* By how much does a one unit increase in autonomous spending raise the equilibrium level of income?
>
> In equilibrium, income equals aggregate demand, it would seem that a unit increase in autonomous demand or spending should raise equilibrium income by one unit. That is not correct.
>
> In Fact, the effect of an increase in investment (upward shift in the investment schedule) causes an upward shift in the aggregate demand function. It is due to a process of multiple increases in equilibrium income due to increase in investment and how much increase occurs depends upon the marginal propensity to consume. The process of increase in national income due to increase in investment depicts the investment multiplier impact illustrated below.

The <u>multiplier concept is central to Keynes's theory</u> because it explains how shifts in investment caused by changes in business expectations set off a process that causes not only investment but also consumption to vary. The multiplier shows how shocks to one sector are transmitted throughout the economy.

<u>Increase in income due to increase in initial investment</u>, does not go on endlessly. The process of income propagation slows down and ultimately comes to a halt. Causes responsible for the decline in income are called leakages. Income that is not spent on currently produced consumption goods and services may be regarded as having leaked out of the income stream. If the increased income goes out of the cycle of consumption expenditure, there is a leakage from the income stream which reduces the effect of multiplier. The more powerful these leakages are, the smaller the value of the multiplier.

<u>The leakages are caused due to:</u>

1. progressive rates of taxation which result in no appreciable increase in consumption despite increase in income

2. high liquidity preference and idle saving or holding of cash balances and an equivalent fall in marginal propensity to consume

3. increased demand for consumer goods being met out of the existing stocks or through imports

4. additional income spent on purchasing existing wealth or purchase of government securities and shares from shareholders or bondholders

5. undistributed profits of corporations

6. part of increment in income used for payment of debts

7. In the case of full employment additional investment will only lead to inflation, and

8. scarcity of goods and services despite having high MPC

DETERMINATION OF EQUILIBRIUM INCOME: THREE-SECTOR MODEL

Aggregate demand in the <u>*three-sector model of closed economy*</u> *(neglecting foreign trade) consists of three components namely, household consumption(C), desired business investment demand(I)* and the government sector's demand for goods and services(G).

Thus, in equilibrium:

$$Y = C+I+G$$

Since there is <u>*no foreign sector, GDP and national income are equal.*</u>
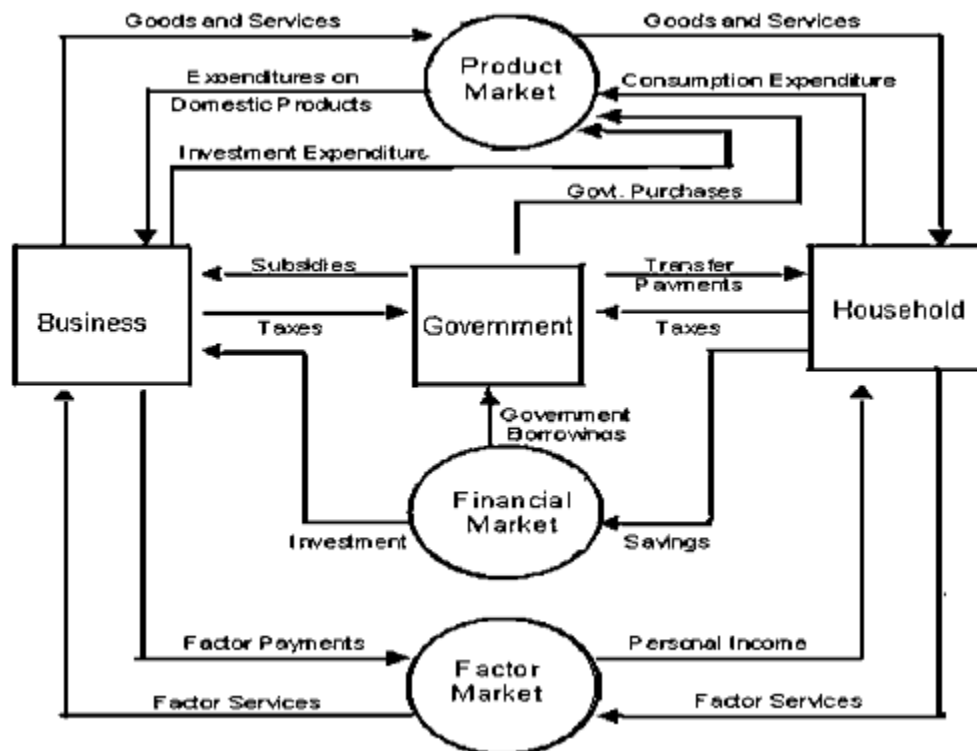
The <u>*three-sector, three-market circular flow model*</u> *which accounts for government intervention highlights the role played by the government sector. Thus:*

i) Taxes on households and business sector to fund government purchases

ii) Transfer payments to household sector and subsidy payments to the business sector

iii) Government purchases goods and services from business sector and factors of production from household sector, and

iv) Government borrowing in financial markets to finance the deficits occurring when taxes fall short of government purchases

The two-sector model shows that national income does not directly return to firms, but instead, it flows through savings and tax payments to the government.

Leakages in the household sector do not necessarily mean total demand falls short of output. Additional demands from the business sector for investment and government sector injections occur, with the investment injection representing a flow of funds lent to the business sector.

The three-sector Keynesian model is commonly constructed assuming that government purchases are autonomous. This is not a realistic assumption, but it will simplify our analysis. Determination of income can also be explained with the help of aggregate demand and aggregate supply.

$$AD = C + I + G$$
$$AS = C + S + T$$

The equilibrium national income is determined at a point where both aggregate demand and aggregate supply are equal, that is,

$$AD = Y = AS$$
$$C + I + G = Y = C + S + T$$

▶ *Determination of Equilibrium Income: Three Sector Model*

The variables measured on the vertical axis are C, I and G. The autonomous expenditure components namely, investment and government spending do not directly depend on income and are exogenous variables determined by factors outside the model.

You may observe that in panel B the lines that plot this autonomous expenditure components are horizontal as them level does not depend on Y. Therefore, C + I + G schedule lies above the consumption function by a constant amount.
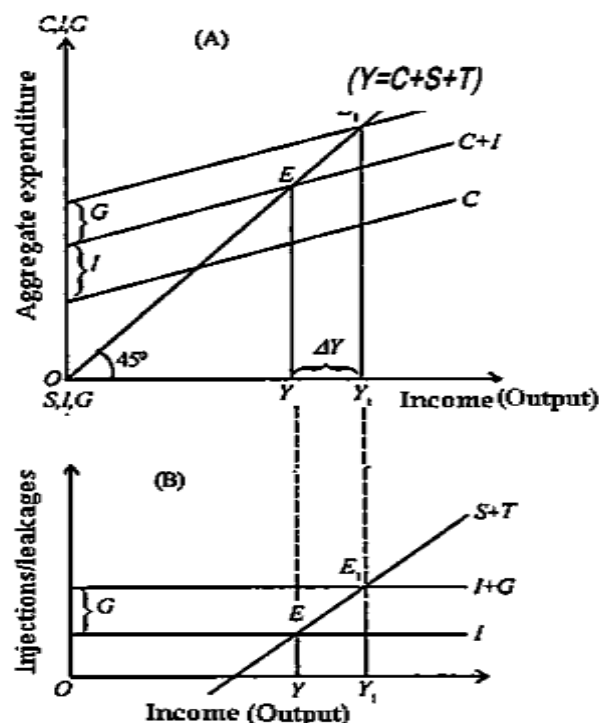
The <u>line S + T in the graph plots</u> the value of savings plus taxes. This schedule slopes upwards because saving varies positively with income. Just as government spending, the level of <u>tax receipts (T) is decided by policy makers.</u>

The equilibrium level of income is shown at the point E, 1 where the (C + I + G) schedule crosses the 45° line, and aggregate demand is therefore equal to income (Y). In equilibrium, it is also <u>true that the (S + T) schedule intersects the (I + G) horizontal schedule.</u>

The graph are not points of equilibrium. Consider a <u>level of income below Y.</u> It generates consumption as shown along the consumption function. When this level of consumption is added to the autonomous expenditures (I + G), aggregate demand exceeds income; the (C + I + G) schedule is above the 45° line.

<u>Equivalently at this point I + G is greater than S + T,</u> as can be seen in panel B, with demand outstripping production, desired investments will exceed actual investment and there will be an unintended inventory shortfall and therefore a tendency for output to rise.

At income above Y1, output exceeds demand, leading to excess inventories and reduced production. Employment declines, and output falls back to equilibrium. At Y, output equals aggregate demand, with total spending, output, and employment restoring equilibrium, not price changes.

The Government Sector and Income Determination

(i) Income Determination with Lump Sum Tax

We assume that the government imposes a lump sum tax, i.e. taxes that do not depend on income, has a balanced budget (G=T) and also that there are no transfer payments. The consumption function is defined as –

$$C = a + b\,Yd$$

Where Yd = Y –T (disposable income), T = lump sum tax

$$Y = a + b\,(Y - T) + I + G$$
$$Y = 1/1\text{-}b\,(a\text{-}bT+I+G)$$

(ii) Income Determination with tax as a function of Income

We have analysed the effect of a balanced budget with an autonomous lump sum tax. In reality, the tax system consists of both lump sum tax and proportional taxes. The tax function is defined as;

$$\text{Tax function } T = \bar{T} + t\,Y$$

Where $\bar{T}$ = autonomous constant tax

t = income tax rate

T = total tax

The consumption function is

$$C = a + b\,Y\,d$$

Where $Y\,d = Y - T$ or $Y - \bar{T} - t\,Y$

$$C = a + b(Y - \bar{T} - t\,Y)$$

Therefore, the equilibrium level of national income can be measured as-

Y = C + I + G

Y = a + bYd + I + G

Y = a + b(Y-$\bar{T}$-tY) + I + G

Y = a + bY - b$\bar{T}$ - b t

Y + I + G Y - bY + btY = a - b$\bar{T}$ + I + G

Y (1 - b + bt) = a - b$\bar{T}$ + I + G

Y = 1/1-b(1-t) (a - b$\bar{T}$ + I + G)

Where 1/1-b(1-t) (represent the tax multiplier)

(iii) Income Determination with Tax (as a Function of Income), Government Expenditure and Transfer Payments

Here consumption function is written as

C = a + b (Y - $\bar{T}$ - tY + TR)

Y = a + b (Y - $\bar{T}$ - tY + TR) + I + G; Y = 1/1-b(1-t) (a - b$\bar{T}$ + bTR + I + G)

$$Y = \frac{1}{1-b(1-t)}(a - b\bar{T} + bTR + I + G)$$

DETERMINATION OF EQUILIBRIUM INCOME: FOUR SECTOR MODEL

The four-sector model includes all four macroeconomic sectors, the household sector, the business sector, the government sector, and the foreign sector. The foreign sector includes households, businesses, and governments that reside in other countries. The following flowchart shows the circular flow in a four-sector economy.

In the four-sector model, there are three additional flows namely: exports, imports and net capital inflow which is the difference between capital outflow and capital inflow.

The **C+I+G+(X-M)** line indicates the aggregate demand or the total planned expenditures of consumers, investors, governments and foreigners (net exports) at each income level.
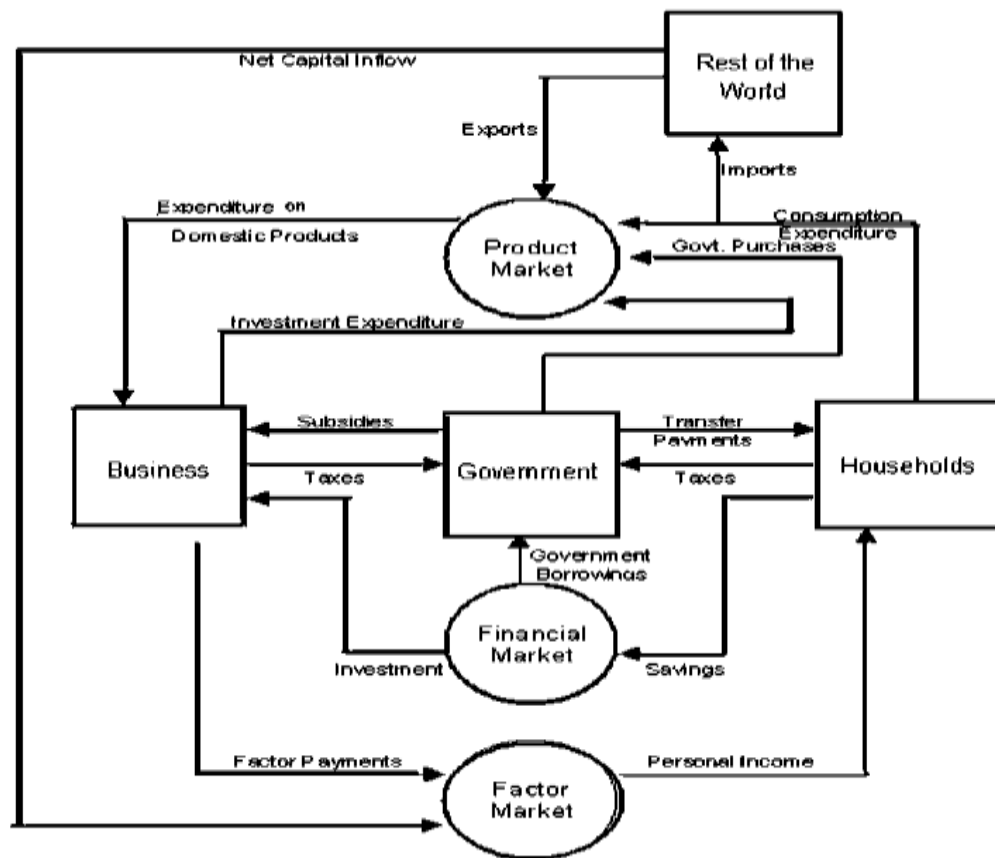
In equilibrium, we have

$$Y = C + I + G + (X\text{-}M)$$

The domestic economy trades goods with the foreign sector through exports and imports. Exports are the injections in the national income, while imports act as leakages or outflows of national income.

Exports represent foreign demand for domestic output and therefore, are part of aggregate demand. Since imports are not demands for domestic goods, we must subtract them from aggregate demand.

The demand for imports has an autonomous component and is assumed to depend on income. Imports depend upon marginal propensity to import which is the increase in import demand per unit increase in GDP.

The demand for exports depends on foreign income and is therefore exogenously determined and autonomous. Imports are subtracted from exports to derive net exports, which is the foreign sector's contribution to aggregate expenditures.

Since import has an autonomous component ($\bar{M}$) and is assumed to depend on income(Y) and marginal propensity to import (m), the import function is expressed as $M = \bar{M} + mY$. Marginal propensity to import $m = \Delta M/\Delta Y$ is assumed to be constant.

$$Y = C + I + G + (X - M)$$
$$\text{Where } C = a + b(Y-T)$$
$$M = \bar{M} + mY$$

The equilibrium level of National Income can now be expressed by –

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

$Y = a + b(Y - T) + I + G + X - \bar{M} - mY$

$Y - bY + mY = a - bT + I + G + X - \bar{M}$

$$Y = \frac{1}{1-b+m} (a - bT + I + G + X - \bar{M})$$

The economy being in equilibrium, suppose export of country increases by ΔX autonomously, all other factors remaining constant. By incorporating the increase in exports by ΔX, the equilibrium equation of the country can be expressed as

$Y + \Delta Y = 1/1-b+m \ (a - bT + I + G + X - \bar{M} + \Delta X)$ or

$Y + \Delta Y = 1/1-b+m \ (a - bT + I + G + X - \bar{M}) + 1/1-b+m \ \Delta X$

As, $Y = 1/1-b+m = (a - bT + I + G + X - \bar{M})$

We get, $Y + \Delta Y = Y + 1/1-b+m \ \Delta X$

Subtracting Y from both sides, we get $\Delta Y = 1/1-b+m \ \Delta X$

By rearranging $\Delta Y = 1/1-b+m \ \Delta X$, we get

$$\frac{\Delta Y}{\Delta X} = \frac{1}{1-b+m}$$

Or alternatively written as

$$\frac{\Delta Y}{\Delta X} = \frac{1}{1-b+m}$$

The term $1/1-b+m$ is known as foreign trade multiplier whose value is determined by marginal propensity to consume (b) and marginal propensity to import (m).

If in the model proportional income tax and government transfer payments are incorporated, then only the denominator of the multiplier will change. If income tax is of form $T = \bar{T} + tY$ where $\bar{T}$ is constant lump-sum, t is the proportion of income tax and TR > 0 and autonomous, then the four-sector model can be expressed as: –

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

Where $C = a + b(Y - \bar{T} - tY + TR)$

$M = \bar{M} + mY$.

The equilibrium level of National Income can now be expressed as:

$$y = \frac{1}{1-b(1-t)+m} (a - b\bar{T} + b\,TR + I + G + X - \bar{M})$$

Determination of Equilibrium Income: Four Sector Model

Equilibrium is identified as the intersection between the **C + I + G + (X - M)** line and the 45- degree line. The equilibrium income is Y. From panel B, we find that the leakages **(S+T+M)** are equal to injections **(I+G+X)** only at equilibrium level of income.
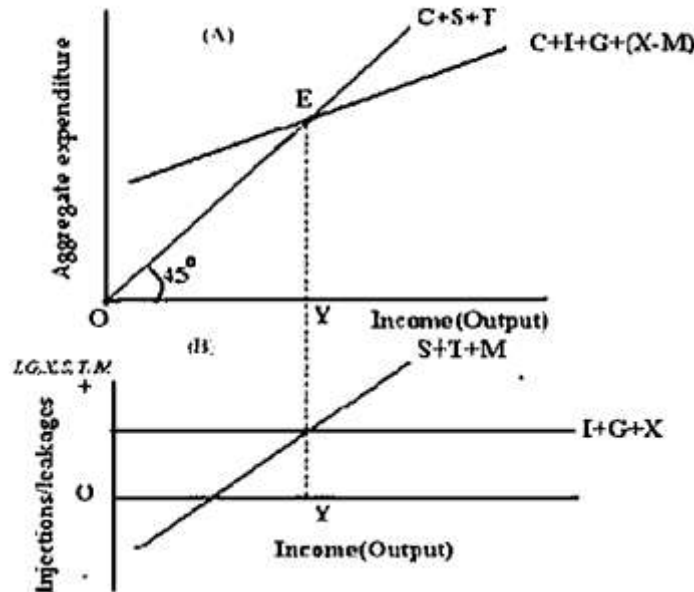
Net exports(X-M) are incorporated into the <u>four-sector model of income determination</u>. injections increase the level of income and leakages decrease it. Therefore, if <u>net exports are positive (X > M),</u> there is <u>net injection and national income increases.</u> Conversely, if <u>X<M, there is net withdrawal and national income decreases.</u>

Effects on Income When Imports are Greater than Exports

Equilibrium income is expressed as a product of two terms: **ΔY = k ΔI**; i.e., the <u>level of autonomous investment expenditure and the investment multiplier.</u> The autonomous expenditure multiplier in a four-sector model includes the effects of foreign transactions and is stated as **1/(1−b+m)** where 'm' is the propensity to import which is greater than zero.

You may recall that the multiplier in a closed economy is **1/(1−b)**.
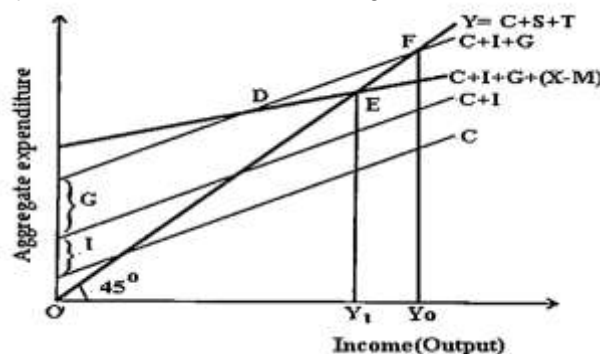
The <u>greater the value of 'm', the lower will be the autonomous expenditure multiplier</u>. The more open an economy is to foreign trade, (the higher mis) the smaller will be the response of income to aggregate demand shocks, such as changes in government spending or autonomous changes in investment demand.

The <u>higher the value of 'm', the larger the proportion of this induced effect on demand for foreign, not domestic, consumer goods.</u> The increase in imports per unit of income constitutes an additional leakage from the circular flow of (domestic) income at each round of the multiplier process and reduces the value of the autonomous expenditure multiplier.

Increased export demand boosts domestic output and equilibrium income, similar to increased government spending or investment. However, exports are beneficial as they increase resource efficiency, leading to attempts to stimulate the domestic economy by promoting exports and restricting imports.

INTRODUCTION

Macroeconomics is the study of the economy as a whole. _There are three main macroeconomic goals for any nation:_

First is economic growth

✓ If the real gross domestic product grows at a faster rate than the population, then people can enjoy a higher standard of living.

Second goal is high levels of employment

✓ which will ensure higher income and higher output. When unemployment occurs, it harms not only the unemployed, but the society as a whole because there is loss of output that could have been produced.

Third macroeconomic goal is stable price levels

✓ Inflation reduces real incomes and purchasing power of some people, and disproportionately affects lower income families.

On the contrary, _deflation signals a downturn in economic activity_ which may cause recession or even depression and large-scale unemployment. The government does not expect the economy to function automatically; rather it intervenes to direct them to function in particular directions.

THE ROLE OF GOVERNMENT IN AN ECONOMIC SYSTEM

Scarcity arises because wants are unlimited while resources are limited, making it impossible to produce all goods and services. Hence, an economic system is needed to decide what, how, and for whom to produce, and how resources should be allocated.

Modern societies follow three systems for resource allocation:

| capitalism (market-based), | → | socialism (government-controlled), and | → | mixed economy (both markets and government). |
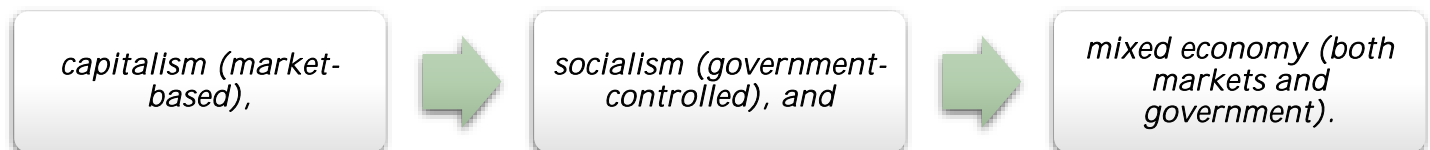
Adam Smith's:

Advocate of free markets and minimal government, but with well-defined roles.
Government Roles according to Smith:

a) National defence – protection from external threats.

b) System of justice – internal law, order, and property protection.

c) public institutions/works – roads, bridges, canals, harbours, postal system that private sector may not efficiently build.

Post—Great Depression (1930s):

State's role in the economy expanded. *Traditional functions supplemented by economic/fiscal functions. All countries agree government must play a major role. Intervention believed to positively influence economic performance.*

Richard Musgrave (1959)

The Theory of Public Finance introduced three functions of government:

Resource allocation – ensure efficiency, correct market failures.

Income redistribution – ensure fairness in wealth and income.

Macroeconomic stabilization – maintain price stability, growth, employment.

Nature of Functions:
- ✓ *Allocation & distribution* → *microeconomic.*
- ✓ *Stabilization* → *macroeconomic (monetary & fiscal policies, stability, growth, employment, price control).*

National Budget: Reflects government's economic policy and is the main tool to exercise these functions.

THE ALLOCATION FUNCTION

Resource allocation

Resource allocation involves determining how available resources (factors of production) are distributed among various uses, thereby dictating what goods and services are produced and in what quantities. This is critical due to scarce resources and unlimited wants.

Optimal or efficient allocation

Optimal or efficient allocation means resources are used best, minimizing waste. Economic efficiency ensures resources serve people best, minimizing waste. While private sector allocation is driven by market supply, demand, and price mechanisms based on consumer sovereignty and

producer profit motives, the state's allocation is achieved through its revenue and expenditure via governmental budgeting. In reality, both markets and governments determine resource allocation.

Market failures

<u>Market failures</u> provide the rationale for the government's allocative function. Markets often fail to efficiently allocate resources or produce the right quantity of goods, necessitating government intervention to improve social welfare.

▶ Reasons for Market Failure:

- ✓ Imperfect competition and presence of monopoly power in different degrees leading to under-production and higher prices than would exist under conditions of competition. Markets may fail to control the abuses of monopoly power.
- ✓ Markets typically fail to provide collective public goods such as defence which are, by their very nature, consumed in common by all people.
- ✓ Incomplete markets; markets may fail to produce the right quantity merit goods, such as education and healthcare
- ✓ Common property resources (e.g. environment) are overused and exhausted in individual pursuit of self-interest.
- ✓ Externalities which arise when the production and consumption of a good or service affect third parties (e.g. pollution).
- ✓ Factor immobility which causes unemployment and inefficiency.
- ✓ Imperfect information because it may not be in the interests of one party to provide full information to the other party, and
- ✓ Inequalities in the distribution of income and wealth

<u>According to Musgrave</u>, the state fulfils citizens' needs by ensuring optimal allocation of limited resources. Since markets often fail—leading to overproduction of demerit goods and underproduction of merit goods—government intervention becomes essential to improve social welfare.

<u>The government allocates resources by:</u>

- ✓ Establishing property rights and enforcing contracts.
- ✓ Correcting externalities where prices don't reflect true costs/benefits.
- ✓ Providing merit goods and restricting demerit goods.

Thus, government intervention complements rather than replaces markets in achieving efficient resource allocation.

The government's resource allocation role uses *expenditure and tax policies to improve economic performance*. *The allocative function in budgeting decides how resources are distributed among different uses.*

(a) who and what will be taxed
(b) how much and on what the government revenue will be spent
(c) the process by which the total resources of the economy are divided among various uses
(d) the optimum mix of various social goods (both public goods and merit goods).
(e) the level of involvement of the public sector in the national economy
(f) the reallocation of society's resources from private use to public use.

A variety of allocation instruments are available by which governments can influence resource allocation in the economy. *For example:*

The government can directly produce economic goods, e.g., electricity and public transport services.
The government influences resource allocation by altering market prices through taxes and subsidies. Incentives like tax concessions/subsidies encourage production of welfare goods, while disincentives like higher taxes discourage consumption of harmful goods (e.g., alcohol, cigarettes).
The government influences allocation through legislation and force, e.g., banning single-use plastics to stop resources from shifting into their production.
Competition and merger policies shape industry structure; e.g., India's Competition Act promotes fair competition and prevents anti-competitive practices.
Government regulations—like licensing, controls, minimum wages, and industry location directives—affect resource allocation.
government sets legal and administrative frameworks, and
governments may adopt any combination of possible remedies

THE REDISTRIBUTION FUNCTION

Economic growth has increased wealth but unevenly distributed it, leading to the government's *redistributive role.* *The distributive function of the budget* addresses "for whom" goods and services are produced.
Redistribution occurs through:

Expenditure side: *free/subsidised education, healthcare, housing, food, etc.*

Revenue side: *progressive taxation.*

Thus, government intervention ensures a fairer distribution of income and wealth and influences effective demand across households.
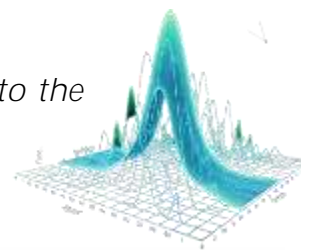
The distribution function of the government aims at:

redistribution of income to achieve an equitable distribution of societal output among

households ensuring increased overall social welfare

advancing the well-being of those members of the society who suffer from deprivations of different types

providing equality of income, wealth and opportunities

providing security (in terms of fulfillment of basic needs) for people who have hardships, and ensuring that everyone enjoys a minimum standard of living

A few examples of the redistribution function (or market intervention for socio-economic reasons) performed by governments are:

taxation policies of the government whereby progressive taxation of the rich is combined with provision of subsidy to the poor households

Progressive tax revenue funds public services for low-income groups, e.g., subsidized food grains for BPL households.

employment reservations and preferences to protect certain segments of the population, minimum wages and minimum support prices for farmers for their output

unemployment benefits and transfer payments to provide support to the underprivileged, dependent, physically handicapped, the older citizens and the unemployed.

families below the poverty line are provided with monetary aid and aid in kind

regulation of manufacture and sale of certain products to ensure the health and wellbeing of consumers, and

special schemes for backward regions and for the vulnerable sections of the population.

Modern welfare states provide subsidized education, healthcare, pensions, and social security. However, redistribution creates a _trade-off between equity and efficiency_: higher taxes promote equity but may discourage work, savings, and investment, reducing output and future revenues. Hence, budgetary policy must balance equity with efficiency, ensuring redistribution with minimal efficiency costs.

STABILIZATION FUNCTION

Macroeconomic stability is said to exist when:

an economy's output matches its production capacity,

the economy's total spending matches its total output

the economy's labour resources are fully employed, and

Inflation is low and stable.

The stabilization function, based on Keynesian theory, arises because markets cannot ensure full employment or price stability and are prone to business cycles. Governments and central banks use fiscal and monetary policies to counter recessions, inflation, or stagflation. Without intervention, instabilities may persist, harming especially the poor. Global interdependence further spreads such instabilities through the <u>contagion effect.</u>

<u>The stabilization function is concerned with the performance of the aggregate economy in terms of:</u>

labour employment and capital utilization,

overall output and income,

general price levels,

balance of international payments, and.

the rate of economic growth.

The stabilization function is a core part of fiscal policy, aiming to eliminate macroeconomic fluctuations from suboptimal resource allocation. Events like the 2008 economic crisis and the COVID-19 pandemic have underscored the importance of countercyclical fiscal policy.

Government Stabilization Interventions:

Governments intervene through both <u>monetary policy and fiscal policy:</u>

▶ Monetary Policy:

Controlled by the central bank, it influences the size of the money supply and interest rates, which in turn affect consumption, investment, and prices. *Example:* The central bank reducing interest rates to encourage borrowing and investment during an economic slowdown.

▶ Fiscal Policy:

Involves government expenditure and taxation decisions to direct actions of individuals and organizations.

Government expenditure injects money and stimulates demand.

Taxes reduce disposable income and effective demand.

Applications of Fiscal Policy:

▶ During Recession (Expansionary Fiscal Policy):

Government increases expenditure or cuts taxes (or both) to stabilize or boost aggregate demand, putting more money in people's hands. Deficit budgets are expected to stimulate economic activity.

Example: To combat a recession, the government launches a large infrastructure project, hiring many workers and increasing demand for materials.
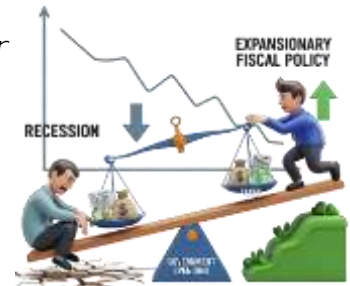
▶ To Control High Inflation (Contractionary Fiscal Policy):

Government cuts expenditure or raises taxes. Surplus budgets tend to slow down economic activity.

Example: To cool down an overheated economy with high inflation, the government might temporarily increase the income tax rate, reducing consumer spending.

Summary-

High Inflation: Decrease government spending, raise taxes, and/or reduce money supply. expenditure injects money and stimulates demand.

High Unemployment: Increase government spending, reduce taxes, and/or increase money supply.

Effective policy design is challenging, as there's often a conflict between different budgetary goals. Governments must balance these goals to avoid jeopardizing one while pursuing another.

CENTRE AND STATE FINANCE

Fiscal federalism (Richard Musgrave) refers to the division of functions and finances among government levels. The Centre handles stabilization and redistribution, while States/Local bodies manage resource allocation.

Indian Federal Structure:

India is a federation with 28 states and 8 union territories, characterized by two autonomous sets of government: national and regional. An independent judiciary resolves disputes between the central and state governments regarding power division.

Constitutional Division of Powers (Article 246):

The Indian Constitution delineates powers through three lists:

Union List:
Parliament alone can legislate (e.g., Defense, foreign affairs, currency).
State List:
State legislative assemblies alone can legislate (e.g., public order, police, health).
Concurrent List:
Both Parliament and state assemblies can legislate. In case of conflict, central law prevails (e.g., education, forests).

Revenue and Expenditure Responsibilities:

Revenue and expenditure responsibilities are clearly demarcated for both central and state governments.

Union Government's Revenue Powers:

Has greater revenue-raising powers, levying taxes such as:

Income tax (excluding agricultural income).

Customs and export duties.

Excise duties on certain goods.

Corporation tax.

Tax on capital value of assets (excluding agricultural land).

Terminal taxes.

Security transaction tax.

Central GST (CGST) and Union Excise Duty (after GST reform).

State Governments' Revenue Powers:

Can levy taxes on:

Agricultural income.

Lands and buildings..

Mineral rights.

Electricity, vehicles, tolls, professions..

Land revenue.

Excise duties on certain items.

State property and income are exempt from central taxation, and union property is exempt from state taxation.

▶ Expenditure Decentralization:

Central Government:
Responsible for nationally important areas like Defense, foreign affairs, foreign trade/exchange management, money/banking, cross-state transport, and communication.
State Governments:
Responsible for agriculture and industry facilitation, social sector services (health, education), police protection, state roads, and infrastructure. **Example:** A state government is responsible for building and maintaining hospitals and schools within its borders.
Local Self-Governments (Municipalities, Panchayats):
Entrusted with public utility services like water supply, sanitation, local roads, and electricity. **Example:** A municipal corporation manages garbage collection and local street maintenance in a city.
Concurrent List Items:
Both central and state governments share responsibility for providing services.

⬡ Inter-Governmental Transfers and Revenue Sharing

States often have fewer income sources and may depend significantly on the Union for revenue. Articles 268-281 of the Constitution contain specific provisions for distributing finances among states.

▶ Constitutional Articles for Financial Distribution

Article	Provision
268	Duties levied by the Union but collected and appropriated by the States.
269	Taxes levied and collected by the Union but assigned to the States.
270	Taxes levied and collected by the Union and distributed between the Union and States as prescribed in clause 2.
271	Surcharge on certain duties and taxes for purposes of the Union.
275	Statutory Grants – in-aid from the Union to certain States.
282	Grants for any public purpose.
293	Loans for any public purpose.

The Finance Commission (Article 280)

A unique feature of the Indian Constitution is the Finance Commission, a constitutionally mandated body under Article 280. It is central to fiscal federalism, evaluating union and state finances, recommending tax sharing, and laying down principles for distributing these taxes among states.

The Finance Commission helps in maintaining fiscal federalism in India by performing following functions:

a. Distribution of net tax proceeds between Union and States, and allocation of States' respective shares.

b. Determining principles and amount of grants-in-aid for needy states.

c. Recommend measures to the President for augmenting a State's Consolidated Fund to support panchayats and municipalities, based on the State Finance Commission's advice.

d. Consider any financial matter referred by the President in the interest of sound finance.

The Finance Commission ensures vertical equity (Centre–State share) and horizontal equity (distribution among States). It assesses Union gross tax revenue, deducts cesses, surcharges, and non-tax revenue to arrive at the Net Divisible Pool (NDP). Since the 2000 amendment, all Union taxes form part of the NDP. The Commission then recommends the percentage for States, with the balance retained by the Centre.

The 15th Finance Commission

The 15th Finance Commission (constituted on 27 Nov 2017) was set up after the abolition of the Planning Commission and introduction of GST. It fixed States' share in Central taxes at 41% for 2021–26, same as 2020–21 but lower than the 14th FC's 42% (2015–20), with 1% adjusted for the UTs of J&K and Ladakh. The criteria for distribution remain unchanged from 2020–21.

(a) Income Distance i.e the distance of a state's income from the state with the highest income.

(b) Area

(c) Population (2011)

(d) Demographic performance (to reward efforts made by states in controlling their population)

(e) Forest and ecology:

(f) Tax and fiscal efforts:

Goods and Services Tax (GST)

Introduced on July 1, 2017, the GST significantly altered financial relations between the Centre and states, making India's indirect tax regime <u>unitary.</u> It subsumed most indirect taxes like <u>excise, service tax, sales tax, and octroi.</u>

▶ GST Structure:

State GST (SGST):
Levied and collected by states.
Central GST (CGST):
Levied and collected by the Union.
Integrated GST (IGST):
Applied on inter-state movement of goods/services and on imports/exports. It's a combination of SGST and CGST, administered and collected by the Union, then distributed between the Union and states after input tax credit settlement and destination verification.
GST accounts for 35% of Union's gross tax revenue and about 44% of states' own tax revenue.

▶ Supreme Court Verdict (May 2022):

The Supreme Court ruled that Union and state legislatures have "equal, simultaneous and unique powers" to make laws on GST, and the recommendations of the GST Council are not binding on them.

▶ GST Compensation to States:

The GST system replaced a production-based taxation system with a consumption-based one. To address manufacturing states' apprehension about revenue loss, compensation was provided for five years from implementation. This compensation fund is financed by a cess levied on certain luxury and demerit goods. The compensation period was extended beyond five years due to the pandemic-induced economic slowdown.

Top 5 Compensation-receiving states (transition period):

Maharashtra, Karnataka, Gujarat, Tamil Nadu, and Punjab.

Total compensation (2022-23)

₹1,15,662 crore.

Borrowing by Governments

Borrowing powers are defined under Articles 292 and 293 of the Constitution.

Union Government (Article 292):

Can borrow within limits set by Parliament against the Consolidated Fund of India or give guarantees.

State Governments (Article 293):

Can borrow within India against the State's Consolidated Fund, within limits set by the state legislature, or give guarantees. States require the Centre's consent to borrow if they are already indebted to the Centre from a previous loan. The Centre can also provide loans to states and guarantees for state loans.

Chapter 7

Unit 2: Market Failure/ Government Intervention To Correct Market Failure

INTRODUCTION

➢ A well-functioning market, prices provide the accurate signals to producers and consumers and the right quantity of whatever consumers choose to consume will be produced and supplied at the right price.

➢ However, this is not always true. Under certain circumstances, 'market failure' occurs, i.e., the market fails to allocate resources efficiently and therefore, market outcomes become inefficient.

THE CONCEPT OF MARKET FAILURE

Market failure refers to inefficient allocation of resources, where the free market misallocates society's scarce resources. It results in overproduction or underproduction of certain goods and services, leading to sub-optimal outcomes.

There are two types of market failure namely;

1. Complete Market Failure	No goods or services are supplied despite demand (e.g., pure public goods).
2. Partial Market Failure –	The market functions but produces the wrong quantity or charges the wrong price, causing welfare loss.

WHY DO MARKETS FAIL?

Markets fail because the conditions of perfect competition—such as many small firms, perfect knowledge, and homogeneous products—rarely exist in reality. While perfect competition ensures efficient allocation of resources, real-world markets deviate from these conditions, leading to inefficient outcomes. Hence, it becomes necessary to study the causes of market failure and the government's role in addressing them.

There are four major reasons for market failure.

Market power,

Externalities,

Public goods, and

Incomplete information

Market Power

Market Power- *The ability of firms to act as price makers and charge above marginal cost, earning profits. Excessive market power leads to restricted output and higher prices than under perfect competition. Profits arise from dominance, not efficiency, causing market failure by misallocating goods and services.*

Example: *A dominant internet service provider in a rural area, having little competition, charges higher prices for slower internet speeds than what would be available in a competitive urban market.*

Externalities

Externalities – *Indirect effects of consumption or production on others that are not reflected in market prices. They are outside the price mechanism and remain uncompensated.*

Types:

Negative externalities – *Actions impose costs on others (e.g., pollution).*

Positive externalities – *Actions confer benefits on others (e.g., education).*

Also called spillover effects, neighbourhood effects, third-party effects, side effects. Externalities cause market inefficiency since costs/benefits are not borne by the originator.

Production Externalities	
An external cost generated in <u>production</u> may be imposed on others either in <u>consumption</u> or in <u>production.</u>	
Negative production externality	• <u>Negative production externality in consumption</u> – e.g., an aluminium factory pollutes a river, creating health hazards for people using the water. • <u>Negative production externality in production</u> – e.g., river pollution reduces fish catch, harming fishermen's output. Firms ignore external costs on consumers or producers, and such costs are not reflected in product prices.
A <u>positive production externality</u> creates benefits for others, which may be received in <u>production or consumption.</u>	
Positive production externality	• <u>In production</u> – Employee training benefits other firms when trained workers switch jobs. • <u>In consumption</u> – A well-kept garden provides enjoyment to passersby, though not considered in production decisions.
Consumption Externalities	
<u>Negative consumption externalities</u> arise from consumption that imposes external costs on others, which may be felt in <u>consumption or production.</u>	

Negative consumption externalities	• Examples of <u>negative consumption externalities in consumption</u> include public smoking (passive smoking, litter, reduced aesthetics) and loud radio playing that disturbs others. • Examples of <u>negative consumption externalities in production</u> include classroom disturbance by students reducing teaching effectiveness, and excessive alcohol consumption lowering work efficiency.
A <u>positive consumption externality</u> arises from consumption that benefits others, and the benefits may be received in <u>consumption or production.</u>	
Positive consumption externalities	• Immunization against contagious diseases provides <u>positive consumption externality,</u> as it protects others from infection. • Employees' use of health club services creates a <u>positive consumption externality</u> for firms through higher efficiency and productivity.

<u>When externalities exist, producers and consumers ignore costs or benefits to third parties.</u>

Private cost – *Direct money costs of production (wages, raw materials, utilities), reflected in firm accounts and supply curve.*

Social cost – Total cost to society = Private cost + External cost *(borne by third parties).*

Firms consider only private costs, excluding external costs like pollution. Hence, market prices fail to reflect true social costs and benefits, giving wrong signals. This leads to overproduction or underproduction, making output socially suboptimal — a case of <u>market failure.</u>

Public Goods

<u>Paul A. Samuelson (1954)</u> *introduced the concept of <u>collective consumption goods,</u> now called <u>public goods.</u> A public good is one whose consumption by one person does not reduce availability for others.*

Private goods:

Scarce, excludable, and rivalrous. One's consumption prevents others' consumption. Market allocates them efficiently. <u>Examples:</u> *food, clothing, cars, houses.*

Public goods:

Non-rival (one's use doesn't reduce others' use) and non-*excludable (cannot prevent access). Indivisible, with zero extra cost for additional users.* <u>Examples:</u> *national defence, street lighting, law enforcement, sanitation.*

Issue:

Public goods face externalities, lack of property rights, and the <u>free-rider problem</u>, as people can consume without paying.

▶ Result:

Markets underproduce or fail to produce public goods since firms cannot charge prices, causing market failure.

Incomplete Information

Complete information is vital for competitive markets, but in reality, buyers and sellers lack full knowledge of factors affecting decisions, so the assumption of perfect information is not met.

complexity of products and services (e.g. cardiac surgery, financial products like mutual funds),

difficulty of getting correct information, and

deliberate misinformation by interested parties (e.g. highly persuasive advertisements). Information failure results in market failure

▶ Asymmetric Information:

Asymmetric information arises when one party (buyer or seller) has more information than the other, distorting decision-making. Example: ... (specific case to be added).

the landlords know more about their properties than the tenants,

a borrower knows more about their ability to repay a loan than the lender,

a used-car seller knows more about the vehicle quality than the buyer,

health insurance buyers know more about their state of health than the insurance companies

some traders may possess insider information in financial markets.

When one party knows more than the other, it creates information gaps leading to market failure. Key issues are adverse selection and moral hazard.

Adverse Selection:

Adverse selection arises from asymmetric information before a transaction. One party with more knowledge exploits the other, causing inefficiency and market failure.

➤ Insurance market – Insurers know less about buyers' health risks. High-risk individuals seek coverage more, raising claims and premiums. Healthy people opt out, leaving mostly unhealthy buyers. This spirals into higher costs and may even lead to missing markets.

➤ Used car market (Akerlof's "lemons problem") – Sellers know more about car quality. Buyers, uncertain, offer lower "average" prices. Good cars exit the market, leaving mostly poor-quality cars ("lemons"), reducing both quality and trade.

Result – Asymmetric information eliminates high-quality goods/services, forcing consumers into substandard choices or out of the market, a clear case of <u>market failure</u>.

Example: In the lending market, borrowers who know they are high-risk (less likely to repay) are more eager to take out loans at standard interest rates, while low-risk borrowers might find the rates too high, leading to a pool of predominantly high-risk borrowers.

Moral Hazard:

<u>Moral hazard</u> arises when one party shifts costs to others through unobserved actions after a market exchange. It occurs due to lack of information about future behaviour, leading to risky or irresponsible actions since consequences are borne by others.

- <u>**Insurance example**</u>: Drivers with full coverage may drive carelessly, raising claim probabilities. In health insurance, full coverage reduces concern about costs, encouraging overuse and pushing up premiums.
- <u>**Problem**</u>: Insurers cannot easily monitor actions post-sale, so they face higher claim risks. This may force them to raise premiums for all or even withdraw from the market, leading to missing markets.

After examining market failure, we now turn to <u>government intervention mechanisms</u> used to address it and promote social welfare.

Free markets still need <u>government intervention</u> for efficiency. The government supports markets by:

- Providing physical infrastructure (roads, bridges, airports, waterways).
- Creating institutional infrastructure (legal framework, rule of law, property rights, contract enforcement).
- Enforcing competition and consumer protection laws.

Example: A person who has comprehensive health insurance might be less inclined to seek out cost-effective medical treatments or preventive care, knowing that the insurance company will cover a significant portion of the expenses, thus potentially increasing overall healthcare costs.

GOVERNMENT INTERVENTION TO MINIMIZE MARKET POWER

To counter monopoly's social costs, governments use <u>competition laws</u> that promote fair markets and prevent anti-competitive practices. Examples include India's <u>Competition Act, 2002 (amended 2007), US Antitrust laws, and UK's Competition Act, 1998.</u> These laws prohibit collusion, restrictive trade practices, and actions like <u>predatory pricing.</u>

<u>Other measures include:</u>

Market liberalisation by introducing competition in previously monopolistic sectors such as energy, telecommunication etc.

Controls on mergers and acquisitions if there is possible market domination

Price capping and price regulation

Profit or rate of return regulation

Patronage to consumer associations

Tough investigations into cartelisation and unfair

practices such as collusion and predatory pricing

Restrictions on monopsony power of firms

Reduction in import controls and

Nationalisation

➢ However, sometimes we find that governments protect monopoly positions of firms that have developed unique innovations. For example, patent and copyright laws grant exclusive rights of products or processes to provide incentives for invention and innovation.

GOVERNMENT INTERVENTION TO CORRECT EXTERNALITIES

Markets create externalities as producers and consumers consider only private costs and benefits. For social welfare, all costs and benefits must be internalized—i.e., decision-makers account for external costs (negative) and benefits (positive).

Governments use various measures to curb negative externalities and encourage positive ones. The common example is pollution, often addressed through regulation.

Government initiatives towards negative externalities may be classified as:

1. Direct controls or regulations that openly regulate the actions of those involved in generating negative externalities, and

2. 'Market-based' policies that would provide economic incentives

Direct controls (command solutions) ban activities causing negative externalities or restrict them to a set limit.

A few examples are:

The government can set emission standards, legally limiting pollutants a firm may release; violations attract fines or criminal liability.

Other forms of direct government intervention include licensing, production quotas, and mandated production processes.

In our country, the production, use, and sale of many commodities and services are prohibited.

Smoking is completely banned in many public places.

Governments address negative externalities through laws and environmental standards that regulate producer and consumer actions. Example: India's Environment (Protection) Act, 1986.

Government can restrict firms' emissions into air and water or require them to install pollution-control devices.

Governments may require firms to install pollution-abatement mechanisms to meet emission standards. This raises average costs, so new firms enter only if product prices exceed production costs plus abatement expenses.

Governments may establish special bodies to address pollution, such as the Ministry of Environment & Forests, the Pollution Control Board of India, and State Pollution Control Boards.

Market-based approaches like environmental taxes and cap-and-trade use the price mechanism to influence behaviour. Governments adjust prices through taxes and subsidies to guide market participants.
This is achieved by:

1. Setting the price directly through a pollution tax

2. Setting the price indirectly through the establishment of the cap-and-trade system.

One method Pollution taxes (Pigouvian taxes): A.C. Pigou proposed taxes based on the amount of pollution a firm produces. These taxes ensure the polluter pays by raising private costs and discouraging harmful activities.

Effect of tax: By raising private costs, pollution tax reduces demand and output of goods that create negative externalities.

However, there are problems in administering an efficient pollution tax.

Pollution taxes are hard to set and enforce as they require complex and costly monitoring of polluters.

If demand for the good is inelastic, pollution tax has little effect on reducing demand, and producers can easily pass the burden to consumers through higher prices.

High pollution taxes may hurt employment and investment, as firms may shift production to countries with lower taxes.

Second approach the second indirect pricing approach is tradable emissions permits, also called cap and trade, where firms are licensed to release a set amount of pollution within a given period.

The government sets a fixed number of permits (the cap) that limit total legal emissions. Each firm is allocated permits for specific emission levels, and exceeding this limit invites heavy fines.

Firms can trade government-issued permits in a market. Thus, each unit of pollution carries an opportunity cost—either buy a permit or forgo revenue from selling it. Low-polluting firms can sell surplus permits and earn income.

Firms with costly pollution-reduction technology usually buy permits, while firms that can reduce pollution cheaply sell their surplus permits.

High polluters face higher costs and reduced competitiveness, while low polluters gain revenue and profitability by selling surplus permits—creating a strong incentive to reduce pollution.

Cap-and-trade is simple and cost-effective, setting a clear pollution cap. However, firms with inelastic demand can pass the extra permit costs to consumers through higher prices.

Polluters are made to treat pollution as a private cost. Positive externalities, despite their benefits, are also market failures since free markets lead to underproduction of such goods.

Since positive externalities enhance welfare, governments address them by implementing policies such as:

> corrective subsidies to the producers aimed at increasing the supply of the good

> corrective subsidies to consumers aimed at increasing the demand for the good.

A corrective production subsidy is when the government bears part of a firm's cost to encourage production of goods with positive externalities. This market-based policy lowers production costs and promotes output.

For goods and services with highly positive externalities, the government directly produces and provides them, such as public education, healthcare, and research. It also undertakes activities improving environmental quality like afforestation, reforestation, water body protection, sewage treatment, and toxic waste cleanup.

GOVERNMENT INTERVENTION IN THE CASE OF MERIT GOODS

> Merit goods are goods that have substantial positive externalities and hence they are socially desirable. Merit goods can be provided through

> the market, but are likely to be underproduced and

> under-consumed through the market mechanism so

> that social welfare will not be maximised. Examples of

> merit goods include education, health care, welfare services, housing, fire protection, waste management, public libraries, museums, public parks etc.

➤ The possible government responses to under-provision of merit goods are regulation, subsidies, direct government provision and a combination of government provision and market provision.

➤ Regulation determines how a private activity may be conducted. For example, the way in which education is to be imparted is government regulated

GOVERNMENT INTERVENTION IN THE CASE OF DEMERIT GOODS

Demerit goods are socially undesirable goods like cigarettes, alcohol, and drugs. Their consumption creates significant negative externalities. However, not all goods with negative externalities are demerit goods (e.g., steel production causes pollution but steel is not undesirable).

The government should intervene in free markets to discourage the excessive production and consumption of demerit goods.

How do governments correct market failure result from demerit goods?

➤ The government may impose a <u>complete ban</u> on demerit goods, such as making the possession, trade, or consumption of intoxicating drugs illegal

➤ Governments may use <u>persuasion through negative advertising</u> to highlight the dangers of consuming demerit goods.

➤ Governments may <u>ban advertising and promotion</u> of demerit goods through legislation.

➤ Strict regulations may be imposed to <u>restrict access to demerit goods,</u> particularly for vulnerable groups like children and adolescents.

➤ Regulatory controls may include <u>spatial and time restrictions</u>, such as banning smoking in public places, restricting tobacco sales near schools, or limiting sales during specific hours.

➤ A common method to reduce consumption of demerit goods is imposing <u>very high taxes,</u> making them costly and less affordable (e.g., high GST rates on such goods in India).

➤ The government can fix a <u>minimum price</u> below which the demerit good should not be exchanged.

Demerit goods like alcohol have inelastic demand; taxes or bans reduce use only slightly, often driving them underground.

GOVERNMENT INTERVENTION IN THE CASE OF PUBLIC GOODS

Government directly provides key public goods like defence, legal system, fire protection, and disease prevention to overcome the free-rider problem and prevent market failure.

Excludable public goods like parks and museums can be funded by fees, licensed to private firms under government regulation, or supported by donations.

Some goods are public despite being privately producible, as market provision could harm society—e.g., drug approval, atomic energy, airport security.

PRICE INTERVENTION: NON-MARKET PRICING

Price intervention is a legal restriction on price, taking one of two forms: a price floor (a minimum price, such as a minimum wage) or a price ceiling (a maximum price, such as rent control).

The government intervenes in volatile markets, e.g., through India's MSP and *procurement programs, to ensure farmers a stable income.*

The government sets price ceilings on essential commodities, like food grains, to ensure affordability during scarcity

To stabilize prices and supply, governments maintain buffer stocks, buying in good harvests and releasing during low production.

GOVERNMENT INTERVENTION FOR CORRECTING INFORMATION FAILURE

Governments intervene to address market failures caused by information gaps, ensuring consumers can make informed choices. Examples include:

Government makes it mandatory to have accurate labelling and content disclosures by producers. E.g. Labelling on cigarette packets, display of nutritional information on food packages.

Mandatory disclosure of information, for example: SEBI requires that accurate information be provided to prospective buyers of new stocks.

Public dissemination of information to improve knowledge

Regulation of advertising and setting of advertising standards to make advertising more responsible, informative and less persuasive

GOVERNMENT INTERVENTION FOR EQUITABLE DISTRIBUTION

A key government role is income redistribution to ensure social equity, using measures like progressive taxes, subsidies, transfer payments, social security, reservations, and targeted budgeting.

The government intervenes to curb the black economy and related market distortions, prioritizing equity even if it reduces efficiency.

Government interventions in markets are varied, but their effectiveness is uncertain. Government failure—when intervention causes inefficiency or misallocates resources—often occurs.

It happens when:

intervention is ineffective causing wastage of resources expended for the intervention

intervention produces fresh and more serious problems

Every government intervention has costs and benefits, and policymakers must weigh both before acting.

INTRODUCTION

Governments perform multiple functions such as protection of territory, maintaining law and order, provision of public goods, and implementing welfare plans. To carry out these functions, adequate financial resources are required.

The budget is an important policy instrument that enables the government to:

 Efficiently allocate scarce resources for maximum social welfare.

 Reallocate resources as per priorities.

 Redistribute income and wealth.

 Reduce economic fluctuations and ensure stability.

 Promote sustainable GDP growth and reduce regional disparities.

Definition:

A budget is a statement showing "where the money comes from and where it goes." It presents proposed expenditure and means of financing for a specific period, usually a year.

It includes:

 Estimates of revenue and expenditure.

 Budgeted estimates for the coming fiscal year.

 Projections for sectors like agriculture, industry, and services.

The budget is thus the most comprehensive report of government finances. Along with the Union Budget, states and local bodies also prepare budgets, but the focus here is on the Union Budget.

THE PROCESS OF BUDGET MAKING

The budgetary process is how the executive and legislature frame taxing and spending proposals. In India, the Ministry of Finance, in consultation with NITI Aayog and other ministries, prepares the budget. It is then presented to and approved by both houses of Parliament before the fiscal year begins (April 1–March 31).

Though the term budget is not mentioned in the Constitution, the process is called *budgeting.* Under *Article 112,* the President must place before Parliament an *Annual Financial Statement* showing estimated receipts and expenditures of the Government of India for each financial year. *The budgetary procedures are –*

(i) Preparation of the budget

(ii) Presentation and enactment of the budget and

(iii) Execution of the budget.

The budget process mainly consists of two types of activities:

1. The administrative process, wherein the budget along with the accompanying documents are prepared in consultation with various stakeholders;

2. The legislative process wherein the budget is passed by the parliament after discussions.

The Union Budget is usually presented on *1st February,* though its preparation starts around *August–September* of the previous year. The *Budget Division* of the Ministry of Finance issues a *budget circular* with instructions and formats for preparing estimates to ministries, states, UTs, and autonomous bodies.

Each ministry/department prepares separate *estimates of receipts and expenditure.* The finance minister then holds *pre-budget consultations* with state governments, industry bodies, farmers' groups, labour organizations, social sector representatives, NITI Aayog experts, and economists to gather suggestions.

Finally, the budget is presented in Parliament in a format decided by the Finance Ministry *(after considering suggestions of the Estimates Committee).* The documents mainly show *receipts and expenditures for two years.*

They are:

(i) Budget estimates (BE) of receipts and expenditure in respect of current and ensuing financial year

(ii) For the current year through Revised Estimates (RE); and

(iii) Actuals of the year preceding the current year

The *budget speech* is a policy document highlighting the government's proposed policies and programmes. While presenting the budget in the Lok Sabha, the finance minister outlines taxation, borrowing, and expenditure plans for the *new financial year.*
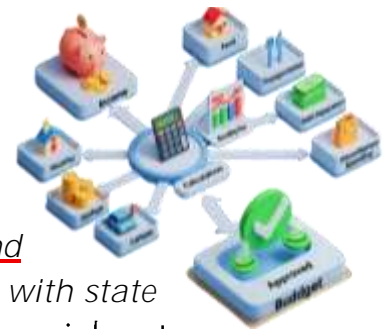
The budget speech of the finance minister is usually in two parts

Part A of the budget speech outlines the country's macro-economic situation and budget estimates for the coming year. It highlights government priorities, sources of funds (taxes and borrowings), expenditure allocations, and new schemes for various sectors.

Part B of the budget speech reviews developmental progress, outlines future policy directions, and presents tax proposals for the coming year, including changes in the existing taxation system.

The **Annual Financial Statement (AFS)** presents government receipts and expenditures in three parts, corresponding to the three types of government accounts.

1. Consolidated Fund of India	2. Contingency Fund of India, and the	3. Public Account.

Apart from the Finance Minister's budget speech, several budget documents are also presented to Parliament.

(a) Annual Financial Statement (AFS)

(b) Demands for Grants (DG)

(c) Finance Bill

(d) Statements mandated under FRBM Act:

i. Macro -Economic Framework Statement
ii. Medium-Term Fiscal Policy cum Fiscal Policy Strategy Statement

Along with the mandated budget documents, nine explanatory statements are also presented. Expenditures charged on the Consolidated Fund of India, such as salaries of the President, Judges, and other constitutional authorities, are shown separately and are not subject to parliamentary vote. In an election year, the budget is often presented twice—first as a Vote on Account for a few months, followed by the full Annual Financial Statement.

The Union Budget is discussed in two stages in the Lok Sabha—first a general discussion, followed by ministry-wise voting on demands for grants after review by standing committees. Lok Sabha can approve, reduce, or reject grants, while Rajya Sabha only holds a general discussion without voting.

After this, the **Appropriation Bill** authorizes expenditure from the Consolidated Fund, and the **Finance Bill** gives effect to taxation proposals. Cut motions may be moved to reduce specific demands. The Finance Bill must be passed within 75 days, and Rajya Sabha has only 14 days to return it with recommendations, which Lok Sabha may accept or reject.

Outstanding demands are settled through the 'Guillotine' process on the last day of discussion. Key reforms include advancing the budget presentation to 1st February and merging the Railway Budget with the General Budget from 2017-18.

SOURCES OF REVENUE

The Department of Revenue under the Ministry of Finance oversees revenue matters relating to direct and indirect union taxes. It also administers and enforces regulatory measures under GST, central sales tax, stamp duties, and other fiscal laws.

The Department of Revenue administers all direct and indirect union taxes through two statutory boards.

1. the Central Board of Direct Taxes (CBDT) and	2. the Central Board of Indirect Taxes and Customs (CBIC).

The CBDT handles levy and collection of direct taxes, while the CBIC deals with GST, customs, excise, service tax, and other indirect taxes.

Government receipts are classified under two categories:

1. Revenue receipts which consist of tax revenue and non-tax revenue.	2. Capital receipts which consist of debt receipts and non-debt capital receipts

The broad sources of revenue are:

1. Corporation tax
2. Taxes on income
3. Wealth tax
4. Customs duties
5. Union excise duties
6. Goods and services tax including GST compensation cess
7. Taxes on union territories

The Centre's net tax revenue is the total tax revenue after deducting the states' share and the NCCD transferred to the National Calamity Contingency Fund.

Non-tax revenues comprise the following:

1. Interest receipts,
2. Dividends and profits from public sector enterprises and surplus transfers from Reserve Bank of India
3. Other non-tax revenues and
4. Receipts of union territories

Government earns revenue from <u>social services</u> (healthcare, education, housing, broadcasting, sports, art and culture) and <u>economic services</u> (transport, communication, energy, science & technology, environment, railways, and administration).

<u>Capital Receipts include:</u>

1. Non-debt capital receipts which include

(a) Recoveries of loans and advances
(b) Miscellaneous capital receipts (disinvestments and others)

2. Debt capital receipts which include

(a) Market loans for different purposes
(b) Short term /Treasury bill borrowings
(c) Securities issued against small savings,
(d) State provident fund (Net)
(e) Net external debts
(f) Other receipts (Net)

<u>Non-debt receipts</u> include loan recoveries and proceed from asset sales/divestment of PSU equity.
<u>Debt receipts</u> include market loans, RBI borrowings, and foreign loans.
<u>Other receipts</u> include Sovereign Gold Bonds, savings bonds, and funds from international institutions.

PUBLIC EXPENDITURE MANAGEMENT

Given limited resources, <u>public expenditure management</u> is vital to maintain fiscal sustainability. In developing economies like India, high public spending is needed for growth and jobs. Reducing fiscal deficit requires a balanced revenue–expenditure strategy. Since government spending influences resource allocation, it must be directed to socially desirable areas.

Public expenditure management ensures fiscal responsibility by designing cost-effective programmes to achieve objectives. Unproductive spending leads to significant economic costs and long-term negative effects such as:

larger deficits

higher levels of taxation,

lower economic growth,

fewer resources available for use elsewhere, and

greater debt burden in the future.

The _Department of Expenditure_ under the Finance Ministry oversees the _public financial management system_ of the central government and related _state finance matters._

the implementation of the recommendations of the Finance Commission and the Central Pay Commission,

monitoring of audit comments/observations, and

preparation of central government accounts.

Additionally, it also assists central ministries/departments in

controlling the costs and prices of public services,

reviewing systems and procedures to optimize outputs and outcomes of public expenditure.

In pre-budget meetings chaired by the Secretary (Expenditure), fund requirements and receipts are reviewed. After Finance Minister's approval, provisional expenditure estimates are shared with ministries. The _Expenditure Profile_ document presents consolidated data on government expenditure and financial performance across ministries/departments.

Total budget expenditure (revenue and capital) of ministries and departments consists of _central expenditure and transfers._

In Expenditure budget, the Central government expenditure is classified into six broad categories as below:

A. Centre's Expenditure:

Establishment Expenditure of the Centre;
Central sector schemes, and
Other central expenditures including those on CPSEs and Autonomous Bodies

B. Centrally Sponsored Schemes and other Transfers: The transfers include

Centrally sponsored schemes
Finance Commission transfers and
Other transfers to states

Establishment expenditure covers ministry/department and subordinate office expenses, while _Central Sector Schemes_ are fully funded and implemented by central government agencies.

PUBLIC DEBT MANAGEMENT

In emerging and developing economies, governments are the largest borrowers. Public debt, raised mainly through domestic market instruments, refers to loans taken by the government to be repaid with interest. Since debt servicing is continuous, governments usually refinance maturing bonds instead of cutting spending or raising taxes. Effective debt management is vital for macroeconomic stability, growth, and welfare, while debt sustainability depends on both the debt level and the government's repayment capacity.

Public debt management is the process of deciding the size, structure, maturity, interest rates and redemption of government debt so as to raise the required funds at minimum risk and cost.

The central government's policy seeks to meet financing needs at the lowest long-term borrowing cost while keeping debt at sustainable levels and fostering a vibrant domestic bond market.

Its strategy rests on maintaining low borrowing costs, mitigating risks, and promoting market development.

The institutions responsible for public debt management are:

Reserve Bank of India

- domestic marketable debt i.e., dated securities, treasury bills and cash management bills.

Ministry of Finance (MOF)

- external debt

Ministry of Finance; Budget Division and Reserve Bank of India

- Other liabilities such as small savings, deposits, reserve funds etc.

The Internal Debt Management Department (IDMD) of the RBI manages the domestic debt of the central government, 28 states, and two union territories. The RBI acts as debt manager for marketable internal debt, issuing treasury bills for short-term needs and dated securities for long-term financing of the fiscal deficit. Since 1997, it also provides short-term credit to states through Ways and Means Advances (WMA) to cover temporary cash flow mismatches.

External debt, comprising bilateral and multilateral loans, is managed by the Department of Economic Affairs under the Ministry of Finance. It mainly comes from multilateral agencies like the World Bank and ADB, with no sovereign borrowing from international capital markets. All external debt is long-term, largely at fixed interest rates, though it carries the risk of higher servicing costs due to domestic currency depreciation.

The Fiscal Responsibility and Budget Management (FRBM) Act, 2003 provides a legal framework to reduce the central government's deficit and debt to sustainable levels.

The objectives of the act are:

inter-generational equity in fiscal management,

long run macroeconomic stability,

better coordination between fiscal and monetary policy, and

transparency in fiscal operation of the government.

The _Public Debt Management Cell (PDMC), established in 2016 under the Department of Economic Affairs, frames the Medium-Term Debt Management Strategy (MTDS) 2021–24_ to guide debt composition. _Its aim is to raise debt at the lowest cost while meeting financing needs without disruption._

The RBI has actively worked to develop the government securities market and widen investor participation. To boost retail investment, it launched the 'RBI Retail Direct' facility on February 5, 2021.

for improving the ease of access by retail investors through online access to the primary and secondary government securities market

to provide the facility to open their government securities account ('Retail Direct') _with the Reserve Bank._

BUDGET CONCEPTS

Type of budgets
- Balanced budget
- Unbalanced budget
  - surplus budget
  - deficit budget
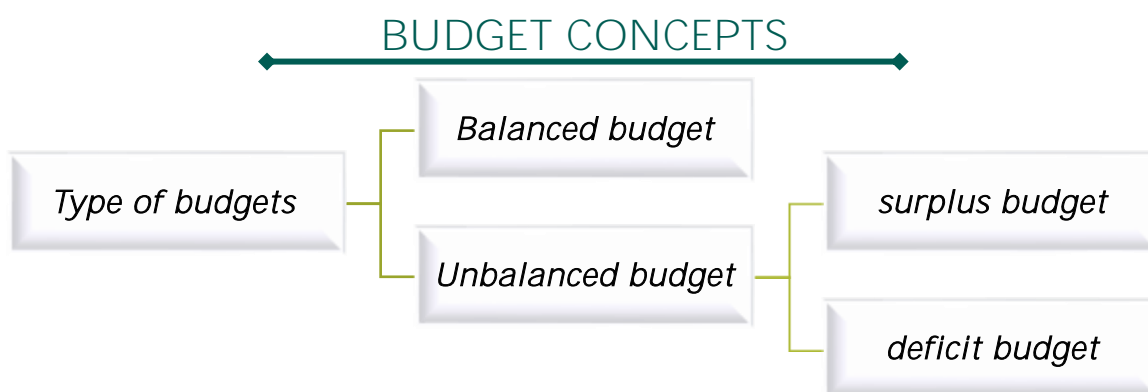
Type of budgets

▶ **Balanced budget:**

A balanced budget is a budget in which revenues are equal to expenditures. Thus, neither a budget deficit nor a budget surplus exists. Revenue does not fall short of expenditure. i.e., revenue is equal to expenditure (Revenue= Expenditure)

▶ **Unbalanced budget:**

The budget may either be surplus or deficit.

A surplus budget:
when estimated government receipts are more than the estimated government expenditure it is termed as surplus budget. When the government spends less than the receipts the budget becomes surplus. Briefly put, public revenue exceeds public expenditure (R>E.)
A deficit budget:
when estimated government receipts are less than the government expenditure, it is termed as a deficit budget. A deficit budget increases the liability of the government or decreases its reserves. In modern economies, most of the countries follow deficit budgeting.

In modern economies, most of the countries follow deficit budgeting.

Capital Receipts

Capital receipts are government receipts that reduce assets or <u>increase liabilities, such as loan recoveries, disinvestment proceeds, and borrowings.</u>

Revenue Receipts

<u>Revenue receipts</u> are government receipts that <u>neither create liabilities nor reduce assets.</u> They are of two types: <u>tax revenues and non-tax revenues.</u>

Revenue Expenditure

<u>Revenue expenditure</u> is the spending by the government that does not create physical or financial assets. It includes expenses for the regular functioning of government departments, providing services, paying interest on government debt, and giving grants to states or other entities (even if some grants lead to asset creation).

Capital Expenditure

<u>Capital expenditure</u> is government spending that creates physical or financial assets or reduces financial liabilities, such as acquisition of land, <u>buildings, machinery, investments, and loans to states, UTs, or PSUs.</u>

When government spending exceeds revenue, it leads to a budget deficit, measured in different ways with varying economic implications.

Budgetary Deficit or Overall Deficit Budgetary

Budgetary deficit is the excess of total government expenditure <u>(revenue + capital)</u> over its total receipts <u>(revenue + capital).</u>

Revenue Deficit

<u>Revenue deficit</u> is the excess of revenue expenditure over revenue receipts, indicating that government's current income is insufficient to meet its regular expenses.

<p style="text-align:center; color:red;">Revenue Deficit=Revenue Expenditure – Revenue Receipts</p>

Fiscal Deficit

Fiscal deficit is the excess of total expenditure over total receipts (excluding borrowings) in a fiscal year. It represents the borrowing requirement of the government and is usually expressed as a percentage of GDP.

Total receipts (excluding borrowings) = Revenue receipts + non-debt capital receipts.
non-debt capital receipts include loan recoveries and proceed from sale/divestment of government assets/PSU equity.

<p style="text-align:center; color:red;">Fiscal deficit = Total Expenditure –Total Receipts excluding borrowing
Fiscal Deficit = (Revenue Expenditure + Capital Expenditure) – (Revenue Receipts + Capital Receipts excluding borrowing)
Fiscal Deficit = (Revenue Expenditure- Revenue Receipts) + (Capital Expenditure – Capital Receipts excluding borrowing)
Fiscal Deficit = Revenue Deficit + (Capital Expenditure - Capital Receipts excluding borrowing)</p>

Fiscal deficit indicates the government's total borrowing requirement. If revenue deficit forms a large part of it, most borrowing is used for consumption rather than investment.

Primary Deficit

Primary deficit = Fiscal deficit – Net interest liabilities

Net interest liabilities = Interest payments – Interest receipts on government lending.

It measures the government's borrowing for current expenditure excluding interest, highlighting present fiscal imbalances.

Finance Bill

Finance Bill – introduced after the Union Budget; details imposition, abolition, alteration, or regulation of taxes proposed in the budget.

Outcome budget

Links budget allocations to annual performance targets using output and outcome indicators; serves as a progress report showing whether ministries/departments achieved desired results and used funds as intended.

Guillotine

When time for discussing all demands for grants is over, the Speaker puts all pending demands to vote at once.

Cut Motions

Motions to reduce government expenditure on specific grants, either for economy, policy disagreement, or to raise a grievance.

Consolidated Fund of India

All government revenues, loans raised, and loan repayments are credited here; all expenditures are made from it and require Parliament's appropriation; divided into revenue and capital.

Contingency Fund of India

Placed at the President's disposal for urgent, unforeseen expenditure; advances are made without prior parliamentary approval and later recouped from the Consolidated Fund.

Public Account

Used for funds where the government acts as a banker (e.g., Provident Funds, Small Savings); money belongs to depositors; expenditure does not require parliamentary approval.

INTRODUCTION

Governments pursue economic goals such as growth, equity, poverty reduction, stability, and full employment. The budget serves as a key policy instrument, using taxation, expenditure, borrowing, and deficit financing—collectively termed <u>fiscal policy</u>—to influence economic activity.

Fiscal policy, a <u>demand-side policy</u>, seeks to regulate aggregate demand, output, and employment. Classical economists opposed government intervention, believing markets self-adjust to full employment with stable prices, making fiscal measures unnecessary.

However, the <u>Great Depression</u> exposed the limits of classical theory. In 1936, Keynes emphasized government spending to raise demand and reduce unemployment. Since then, fiscal policy has gained importance, especially during crises like the global financial recession, with many nations adopting an active fiscal role.

OBJECTIVES OF FISCAL POLICY

The objectives of fiscal policy stem from society's goals and the need to correct market failures by *providing public goods and services like roads, education, and healthcare for social welfare.*

Since nations differ in conditions and priorities, fiscal policy objectives also vary across countries.

However, the most common objectives of fiscal policy are:

- *Achievement and maintenance of full employment,*
- *maintenance of price stability,*
- *acceleration of the rate of economic development, and*
- *equitable distribution of income and wealth,*

The objectives of fiscal policy vary across countries and time—developed nations stress stability and equality, while developing nations prioritize growth, employment, and equity. Fiscal policy influences resource use and GDP through aggregate demand.

From the identity GDP = C + I + G + NX,

government spending directly affects G, while taxes, transfers, and expenditure indirectly influence <u>C, I, and NX,</u> making fiscal policy a key instrument for economic stabilization.

TYPES OF FISCAL POLICY

Fiscal policy involves deliberate adjustments of revenue, expenditure, and debt to reduce unemployment in recessions and control inflation. Such contra-cyclical policies are of two types: Expansionary (To Combat Recession) And Contractionary (To Curb Inflation).

a) Expansionary Fiscal Policy

Expansionary fiscal policy is used during recessions or anticipated contractions to counter falling GDP, weak demand, low consumer spending, and rising unemployment. It aims to boost economic activity and close the recessionary gap through increased government spending or reduced taxes.

How does the government achieve this?

Tax cuts raise purchasing power, increasing demand, output, and employment.

Higher government spending injects money into the economy, raising demand, output, and employment.

A mix of higher government spending and lower personal or business taxes boosts aggregate demand.

Expansionary fiscal policy often leads to budget deficits, as tax cuts lower revenue while government spending exceeds collections.

b) Contractionary fiscal policy

Contractionary fiscal policy curtails aggregate demand to control inflation during rapid economic expansion. It aims to close the inflationary gap and prevent unsustainable growth, inflation, and asset bubbles.
Contractionary fiscal policy works through:

__Decrease in government spending:__ A cut in government spending reduces money in the economy, thereby lowering aggregate demand.

__Increase in personal income taxes and/or business taxes:__ Higher personal taxes cut disposable income and consumption, while higher business taxes reduce profits, investments, and new entries—together lowering aggregate demand.

A mix of reduced government spending and higher personal or business taxes lowers aggregate demand. of higher government spending and lower personal or business taxes boosts aggregate demand.

Contractionary fiscal policy should ideally lead to a smaller government budget deficit or a larger budget surplus.

To sum up:

During inflation or overuse of resources, fiscal policy seeks to curb excessive aggregate spending.

During deflation or low resource use, fiscal policy boosts aggregate spending to offset weak demand.

THE INSTRUMENTS OF FISCAL POLICY

The main tools of fiscal policy are taxes, government spending, public debt, and the budget.

Government Expenditure as an Instrument of Fiscal Policy

Government expenditure, covering consumption, investment, and transfers, is a key fiscal tool influencing national income. Changes in spending affect consumption, investment, and employment. Public expenditure—like capital works, subsidies, relief, and social security—generates income and supports full employment.
Government expenditures include:

1. Current expenditures to meet the day to day running of the government,

2. Capital expenditure refers to government investments in equipment and infrastructure.

3. Transfer payments are government outlays that don't add to GDP, as they only shift income *between groups without direct output contribution.*

Government expenditure serves both functional needs and economic stabilization. In recessions, public works (roads, irrigation, electrification, etc.) create jobs, generate incomes, and trigger a multiplier effect as spending boosts demand and production. Financing such spending through deficit budgets—via borrowing or money creation—is preferred, though borrowing risks crowding out private investment.
Public investment also builds business confidence and induces further employment. Conversely, during inflation, reducing public spending curbs excess demand and helps stabilize prices.

Taxes as an Instrument of Fiscal Policy

Taxes are the main revenue source and a key fiscal tool for stabilizing the economy. By altering disposable income, taxation influences consumption, investment, and aggregate demand. In recessions, lower income and corporate taxes raise spending and investment, while in inflation, higher or new taxes reduce purchasing power to curb demand. However, excessive taxation may discourage investment, so balance is essential.

Public Debt as an Instrument of Fiscal Policy

Public borrowing and debt repayment help manage inflation and deflation. Public debt may be internal (domestic) or external (foreign), and takes the form of market loans (treasury bills, securities, bonds) or small savings (schemes like NSC). Borrowing reduces aggregate demand, while debt repayment releases money into the economy, raising demand.

Budget as an Instrument of Fiscal Policy

The government budget—a yearly statement of revenues and expenditures—is a key tool to regulate aggregate demand. Its impact depends on the budget balance.

A government's budget can either be balanced, surplus or deficit.

A balanced budget occurs when government spending equals tax revenue, causing no net impact on aggregate demand.

A budget surplus arises when revenues exceed spending, reducing aggregate demand as leakages surpass injections.

A budget deficit occurs when spending exceeds revenue, raising aggregate demand as injections surpass leakages.

A surplus reduces national debt, while a deficit increases it. Adjusting revenue and expenditure in the budget helps manage growth, inflation, unemployment, and external stability.

Fiscal Policy for Long-run Economic Growth

Fiscal policy manages demand for short-run stability, but long-term growth needs supply-side support. It influences growth by shaping incentives for individuals and firms.

For Example:

Infrastructure spending in fiscal policy boosts supply by providing essential facilities that support private sector growth.
Public spending on education, healthcare, and R&D builds human capital, which enhances productivity and drives long-run growth.
Taxes affect growth positively or negatively depending on whether they promote or hinder saving and investment.
A well-framed tax policy that encourages innovation and entrepreneurship fosters private investment and growth, while excessive corporate taxes can harm incentives and output.
Tax and spending policies, such as subsidies, can correct market failures caused by externalities.
Increase in environment taxes increase the cost of firms and reduce their output
Subsidies on inputs and support prices to producers (e.g. farmers) generate higher output.

Fiscal Policy for Reduction in Inequalities of Income and Wealth

Many economies face rising income and opportunity inequality. Fiscal policy is a key tool for governments to influence income distribution and promote equity and social justice. In developing countries, policymakers address issues like poverty, unemployment, and illiteracy by adjusting tax rates, tax structures, and the levels and direction of public spending. Government revenues and expenditures are important instruments for redistributing income, influencing societal income distribution both directly and indirectly. Measures can be designed to achieve specific distributional effects.

A progressive direct tax system ensures that individuals with greater ability to pay contribute more to government expenses, promoting a fair distribution of the tax burden.

Indirect taxes can be structured differently: luxuries consumed mainly by the rich are heavily taxed, while necessities that constitute a larger share of lower-income households' spending are lightly taxed or exempt.

A well-planned public expenditure policy redistributes income from the rich to poorer sections through targeted welfare programs, **such as:**

(i) poverty alleviation programmes

(ii) free or subsidized medical care, education, housing, essential commodities etc. to improve the quality of living of the poor

(iii) infrastructure provision on a selective basis (e.g. rural roads, water supply for tribal area)

(iv) various social security schemes under which people are entitled to old-age pensions, unemployment relief, sickness allowance etc.

(v) subsidized production of products of mass consumption

(vi) public production and/ or grant of subsidies to ensure sufficient supply of essential goods,

(vii) strengthening of human capital for enhancing employability etc.

Excessive progressive taxes or overly generous social programs can discourage work, saving, and investment; tax and fiscal policies must be carefully designed to avoid harming production and efficiency.

Limitations of Fiscal Policy

Fiscal policy, the deliberate use of government spending and taxes to influence the economy, has significant limitations in its choice and implementation.

A major challenge in using fiscal policy to stabilize the economy is the presence of time lags, including:

Recognition lag:

The economy is complex, and macroeconomic variables are often hard to interpret. Accurate, timely data is difficult to collect, and the government may delay recognizing the need for policy changes.

Decision lag:

After recognizing the need for intervention, the government must evaluate alternative policies, which can cause delays in deciding the most appropriate course of action.

Implementation lag:

Even after deciding on appropriate policies, delays can occur in passing legislation and implementing measures due to bureaucracy, especially in a democratic setup.

Impact lag:

An impact lag occurs when the effects of a policy take time to become visible.

Due to various lags, fiscal policy changes may be mistimed—for example, an expansionary policy might be introduced when the economy is already recovering, or a contractionary policy when a downturn is underway.

There are difficulties in instantly changing governments' spending and taxation policies. •

Reducing government spending is practically difficult, especially on items like defense, social security, or ongoing large capital projects.

Public works are hard to adjust with the trade cycle because large projects like highways and dams have long gestation periods, and some urgent projects cannot be postponed even to counter business cycle fluctuations.

Supply-side economists argue that some fiscal measures create disincentives—for instance, higher profit taxes can reduce firms' investment incentives, and increased social security benefits can discourage work and saving.

Deficit financing raises people's purchasing power, but in underdeveloped countries, production may not keep pace, causing uncontrolled price increases.

Increased government borrowing creates a long-term burden on future generations, as debts must be repaid. If borrowed funds are not productively used, surpluses to service debt may be insufficient. External debt has been a persistent issue for India and many developing countries.

When governments compete with the private sector for funds, interest rates may rise, discouraging investment and borrowing, which can limit the intended increase in aggregate demand. This is known as the crowding-out effect.

Crowding Out

Fiscal policy can have secondary effects that may reduce its effectiveness. Government spending can sometimes replace private spending, diminishing its impact on aggregate demand.

During a recession, expansionary fiscal policy—through increased spending or tax cuts—creates a budget deficit financed by borrowing, often via long-term bonds. Large government borrowing can raise interest rates, crowding out private investment and consumption, thereby weakening the policy's impact and potentially limiting long-term growth.

However, in deep recessions, crowding out is minimal since private investment is already low, allowing the government to borrow without significantly raising interest rates.

Conclusion

Well-designed and timely fiscal policy is essential for managing recession, inflation, economic growth, and income distribution. During a recession, boosting aggregate demand can increase output without raising prices, while at full employment, expansionary policy mainly raises prices with little effect on output. Fiscal policy also promotes growth and equitable income distribution.

THE CONCEPT OF MONEY

Introduction and Definition of Money

Money is something that plays an essential role in fulfilling human needs and making things work. Despite its familiarity, its exact definition and workings are often unclear to many.

Fundamentally, money is anything that serves three key functions:

Store of Value:
People can save money and use it later to smooth their purchases over time. **Example:** Saving ₹500 today to buy a book next week.
Unit of Account:
It provides a common base for prices. **Example:** A shirt costs ₹800, and a pair of trousers costs ₹1200. Money provides a common measure for comparing their values.
Medium of Exchange:
It's something people use to buy and sell from one another. **Example:** A consumer buys groceries by giving ₹200 to the shopkeeper.

The Role of Money vs. Barter Economy:

Without money, economies would resort to barter, where goods and services are directly exchanged. This makes specialization difficult because one would need to find someone who not only has what you need but also needs what you can provide (a "double coincidence of wants").

Example: A painter needing eggs would have to find an egg farmer who needs their house painted. If the farmer doesn't need painting, the exchange cannot occur. Money simplifies this by allowing you to sell your goods/services for a common medium (money) and then use that money to buy what you need from anyone who accepts it. This facilitates specialization and transactions, increasing the demand for money.

Nature and Characteristics of Money

There isn't a single, unique definition of money in economic theory or practice. It can be defined for policy purposes as liquid financial assets whose stock variation impacts aggregate economic activity, or as a statistical concept including liquid liabilities of financial intermediaries. For money to effectively serve its functions, it should possess several characteristics:

Generally Acceptable:
Widely recognized and taken as payment.
Durable or Long-Lasting:
Able to withstand repeated use.
Effortlessly Recognizable:
Easy to identify as money.
Difficult to Counterfeit:
Not easily reproducible by unauthorized individuals.
Relatively Scarce, but has Elasticity of Supply:
Sufficiently limited to maintain value but can be adjusted in supply as needed.
Portable or Easily Transported:
Convenient to carry around.
Possessing Uniformity:
Each unit should be identical in value and appearance.
Divisible into Smaller Parts:
Can be broken down into smaller usable quantities without losing value.   **Example:** A ₹2000 note can be exchanged for two ₹500 notes and ten ₹100 notes, allowing for smaller transactions.

Fiat Money

Historically, precious metals like gold and silver were used as currency. Over time, people found it more convenient to deposit these metals in banks and use paper notes claiming ownership of the deposits. Eventually, the link between the paper notes and the precious metal was broken, giving rise to <u>fiat money</u>.

<u>*Fiat money is materially worthless but derives its value from the collective agreement of a nation to ascribe value to it*</u>*. It works because people believe it will. Governments now typically issue it.*

Example: The Indian Rupee is fiat money. Its value isn't backed by gold, but by the government's declaration and the public's confidence in its acceptance for transactions.

How Money is Measured

In official statistics, the amount of money in an economy is typically measured as _broad money_. This concept encompasses everything that provides a store of value and liquidity. _Liquidity_ refers to how easily financial assets can be converted into another form of money (like cash) at close to full market value on short notice.

While national currencies and transferable deposits (known as _narrow money_) are always included in broad money, other components may also qualify based on their store of value and liquidity. The IMF (2000) suggests the following can be counted as broad money:

National Currencies:
Generally issued by the central government.
Transferable Deposits:
Includes demand deposits (transferable by check/money order), bank checks (if used as medium of exchange), travellers checks (for transactions with residents), and deposits commonly used for payments (e.g., some foreign-currency deposits).
Other Deposits:
Such as non-transferable savings deposits, term deposits (fixed period deposits), or repurchase agreements (selling a security with an agreement to buy it back).
Securities other than shares of stock:
Like tradable certificates of deposit and commercial paper (corporate IOUs).   **Example:** Your savings account balance, the cash in your wallet, and a fixed deposit certificate are all components of broad money in an economy.

THE DEMAND FOR MONEY

Introduction to Demand for Money

The _demand for money_ exists when people desire to hold money. It is a _derived demand_, meaning money is not demanded for its intrinsic value but for its purchasing power — the ability to command real goods and services. It is a demand for _real balances_. People demand money primarily for its _liquidity_ and its ability to _store value_.

The decision to demand money involves choosing how much of one's wealth to hold as money versus other assets like bonds, even though money may offer little or no return. Individuals, households, and firms hold money because it's the most convenient way to conduct daily transactions.

Factors Affecting Demand for Money

The demand for money plays an important role in determining interest rates, prices, and income in an economy, and understanding these factors is crucial for monetary authorities. The quantity of nominal money people wants to hold in liquid form depends on several factors:

Income:

Higher individual income generally leads to higher expenditure, so richer people tend to hold more money to finance their spending. The demand for money is positively related to real income.
Example: A person receiving a higher monthly salary might keep more cash on hand for increased daily expenses or larger purchases.

General Level of Prices:

The quantity of money people desire to hold is directly proportional to the prevailing price level; higher prices necessitate holding more money for the same transactions.

Rate of Interest:

Money offers little to no return, while other assets (like bonds) yield interest. Therefore, the interest rate represents the **opportunity cost of holding money**. A higher interest rate means a higher opportunity cost, leading to a lower demand for money.
Example: If bank savings accounts offer a very high interest rate, people might prefer to keep less cash and more funds in those accounts to earn returns.

Real GDP:

(Implied by income and transactions).

Degree of Financial Innovation:

Innovations like internet banking, application-based transfers, and automated teller machines (ATMs) reduce the need to hold physical liquid money.
Example: The widespread use of UPI for instant payments reduces the need for individuals to carry large amounts of physical cash.

THEORIES OF DEMAND FOR MONEY

Classical Approach: The Quantity Theory of Money

One of the oldest economic theories, the QTM was first proposed by Irving Fisher in 1911 and later by neoclassical economists. Both versions emphasize a strong relationship between money and the price level, asserting that the quantity of money is the main determinant of the price level or the value of money. Changes in the general level of commodity prices are primarily determined by changes in the quantity of money in circulation.

Fisher's Version (Equation of Exchange / Transaction Approach):
The formal statement is:

$$MV = PT.$$

M: Total amount of money in circulation (average).
V: Transactions velocity of circulation (average number of times a unit of money is spent).
P: Average price level (P = MV/T).
T: Total number of transactions. (Later replaced by real output Y by other economists).
Fisher extended this to include bank deposits (credit money) (M') and their velocity (V'):

$$MV + M'V' = PT$$

M': Total quantity of credit money.
V': Velocity of circulation of credit money.

In this approach, V and V' are assumed constant, and The (volume of transactions) is fixed in the short run due to full employment. The total volume of transactions multiplied by the price level (PT) represents the demand for money for transaction purposes. This demand is equal to the supply of money (MV + M'V').

*Example: If an economy has ₹1000 in circulation (M), and each unit of money is spent 5 times a year (V), leading to a total of 500 transactions (T) at an average price of ₹10 (P), then 1000 * 5 = 10 * 500, or 5000 = 5000. If the money supply (M) increases, with V and T constant, P must rise.*

The Cambridge Approach (Cash Balance Approach)

Early 1900s economists like Alfred Marshall and J.M. Keynes (at Cambridge) offered a different perspective, known as the cash balance approach. This approach argues that money increases utility in two ways:

__Enabling separation of sale and purchase:__ Allows transactions to occur at different times rather than simultaneously. This is similar to Fisher's transaction motive.

__Being a hedge against uncertainty:__ Money acts as a temporary store of wealth to guard against unforeseen events. This introduces a precautionary motive. Thus, in the Cambridge approach, money is demanded for itself, not just as a means of exchange, encompassing a temporary store of wealth and precautionary needs.

Factors Determining Demand:

The amount of money demanded depends partly on income and partly on other factors like wealth and interest rates. Higher income means more purchases and thus a greater need for money as a temporary store of value to manage transaction costs.

The demand for money is positively related to the money value of aggregate expenditure, which is equal to nominal national income.

<u>Cambridge Money Demand Function:</u>

$$Md = k\,PY$$

Md: Demand for money balances.

Y: Real national income.

P: Average price level of currently produced goods and services.

PY: Nominal income.

k: Proportion of nominal income

(PY) that people want to hold as cash balances, known as 'Cambridge k'.

This parameter reflects economic structure and monetary habits. The neoclassical theory, encompassing both Fisher and Cambridge, primarily views money as a means of transactions or exchange, focusing on the transaction demand for money.

Example: If a country's nominal income (PY) is ₹10 trillion, and people on average wish to hold 10% of their income as cash (k=0.1), then the demand for money (Md) would be ₹1 trillion.

The Keynesian Theory of Demand for Money (Liquidity Preference Theory)

John Maynard Keynes, in "The General Theory of Employment, Interest and Money" (1936), coined the term <u>'Liquidity Preference Theory'</u>. This theory explains people's desire to hold money rather than securities or long-term interest-bearing investments. According to Keynes, people hold money (M) for three motives:

| Transactions Motive | ⇒ | Precautionary Motive | ⇒ | Speculative Motive |

▶ a. Transactions Motive

This motive arises from the <u>need for cash for current personal and business transactions</u> due to a lack of synchronization between receipts and expenditures. It bridges the time gap between receiving income and planned spending. Keynes believed transaction balances were not significantly affected by interest rates. The transaction demand for money is <u>directly proportional and positively related to the level of income</u>.

$$Lr = kY$$

Lr: Transactions demand for money.

k: Ratio of earnings kept for transactions purposes.

Y: Earnings (national income for aggregate demand).

Example: A small business owner receives large payments once a month but has daily expenses. They hold a certain amount of cash to cover these expenses until the next payment arrives.

▶ b. Precautionary Motive

Individuals and businesses keep a portion of their income to finance u<u>nforeseen and unpredictable contingencies</u> or unanticipated expenditures. The amount demanded depends on income size, economic/political conditions, and personal characteristics (e.g., optimism/pessimism, farsightedness). Keynes considered precautionary balances to be <u>income elastic and not very sensitive to the rate of interest</u>, similar to transaction balances.

Example: An individual might keep ₹10,000 in a readily accessible bank account for unexpected car repairs or medical emergencies.

▶ c. The Speculative Demand for Money

➢ *The speculative motive reflects people's desire to hold cash in order to be equipped to exploit any attractive investment opportunity requiring cash expenditure. According to Keynes, people demand to hold money balances to take advantage of the future changes in the rate of interest, which is the same as future changes in bond prices. It is implicit in Keynes theory, that the 'rate of interest' is really the return on bonds.*

➢ *Keynes assumed that that the expected return on money is zero, while the expected returns on bonds are of two types, namely:*

(i) the interest payment	(ii) the expected rate of capital gain.

➢ *The market value of bonds and the market rate of interest are inversely related. A rise in the market rate of interest leads to a decrease in the market value of the bond, and vice versa. Investors have a relatively fixed conception of the 'normal' or 'critical' interest rate and compare the current rate of interest with such 'normal' or 'critical' rate of interest.*

➢ *If wealth-holders consider that the current rate of interest is high compared to the 'normal or critical rate of interest, they expect a fall in the interest rate (rise in bond prices). At the high current rate of interest, they will convert their cash balances into bonds because*

(i) they can earn high rate of return on bonds	(ii) they expect capital gains resulting from a rise in bond prices consequent upon an expected fall in the market rate of interest in future.

➢ *Conversely, if the wealth-holders consider the current interest rate as low, compared to the *normal or critical rate of interest, i.e., if they expect the rate of interest to rise in future (fall*

in bond prices), they would have an incentive to hold their wealth in the form of liquid cash rather than bonds because:

(i) the loss suffered by way of interest income forgone is small,

(ii) they can avoid the capital losses that would result from the anticipated increase in interest rates, and

(iii) the return on money balances will be greater than the return on alternative assets

(iv) If the interest rate does increase in future, the bond prices will fall and the idle cash balances held can be used to buy bonds at lower price and can thereby make a capital- gain.

➢ The speculative demand for money of individuals can be diagrammatically presented as follows:

Individual's Speculative Demand for Money

»The current rate of interest is higher than the critical rate of interest rc, the entire wealth is held by the individual wealth-holder in the form of government bonds. If the rate of interest falls below the critical rate of interest rc, the individual will hold his entire wealth in the form of speculative cash balances.
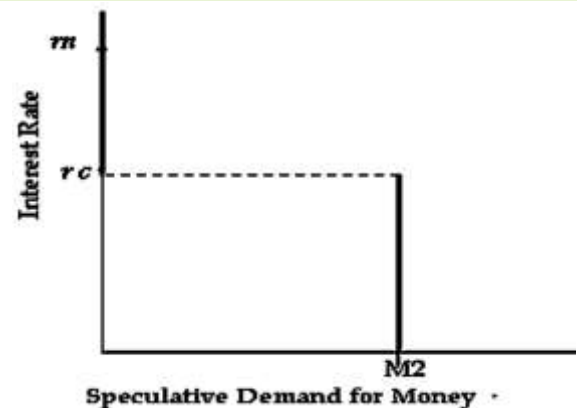
● When we go from the individual speculative demand for money to the aggregate speculative demand for money, the discontinuity of the individual wealth-holder's demand curve for the speculative cash balances disappears and we obtain a continuous downward sloping demand function showing the inverse relationship between the current rate of interest and the speculative demand for money as shown in figure below:

Aggregate Speculative Demand for Money

According to Keynes, higher the rates of interest, lower the speculative demand for money and lower the rate of interest, higher the speculative demand for money.
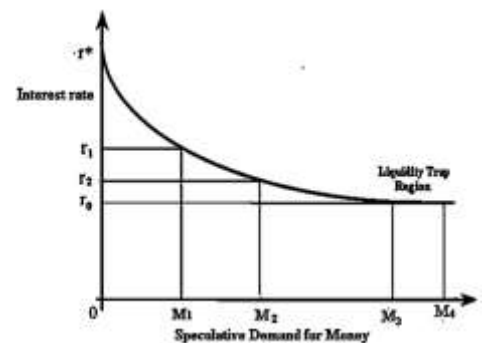
The Concept of Liquidity Trap

➢ A liquidity trap occurs when expansionary monetary policy fails to stimulate economic growth due to fear of adverse events like deflation or war. The general public holds onto money supply at a given interest rate, making monetary policy in open market operations ineffective in affecting interest rates and income levels.

➢ At a short-term zero percent interest rate, a liquidity trap exists, as the public prefers to hold money, which also pays zero percent interest, for transactions.

➢ Investors maintain cash savings instead of holding bonds, leading to a liquidity trap where speculative demand becomes elastic with interest rates and parallel to the X axis.

This situation is called a 'Liquidity trap'

✓ The liquidity trap, a result of ineffective monetary policy, prevents the monetary authority from stimulating the economy by increasing money supply, thereby preventing excess funds from being converted into new investment.

✓ The Bank of Japan's liquidity trap, a key part of Keynesian economic theory, resulted in a record-breaking 0.2% drop in Japan's 10-year yield.

Japan, Real GDP Growth Rate
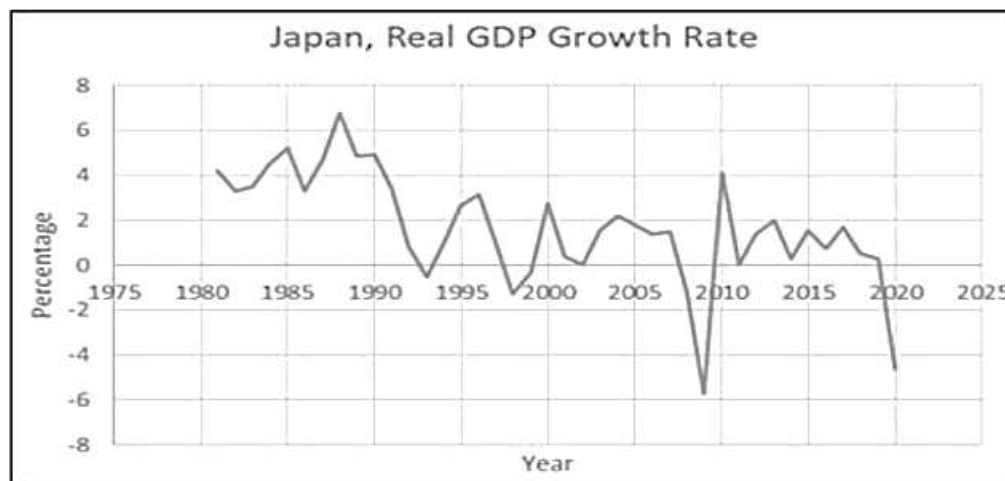
POST-KEYNESIAN DEVELOPMENTS IN THE THEORY OF DEMAND FOR MONEY

Inventory Approach to Transaction Balances

Baumol (1952) and Tobin (1956) developed a deterministic theory of transaction demand for money, known as Inventory Theoretic Approach, in which money or 'real cash balance' was essentially viewed as an inventory held for transaction purposes.

Inventory models assume that there are two media for storing value:

a) money and

b) an interest-bearing alternative financial asset.

➢ There is a fixed cost of making transfers between money and the alternative assets e.g. broker charges. While relatively liquid financial assets other than money (such as, bank deposits) offer a positive return, the above said transaction cost of going between money and these assets justifies holding money.

➤ Baumol introduced a new theory of demand for money, focusing on inventory management, stating that individuals hold money for transaction purposes.

➤ Individuals must maintain an optimal money inventory for daily transactions, incurring cost, or opportunity cost, which is the interest rate they could have earned if their wealth were held in savings deposits, fixed deposits, bonds, or shares.

➤ The individual will choose the number of times the transfer between money and bonds takes place in such a way that the net profits from bond transactions (Interest – Transaction cost) are maximized. Therefore, they hold an optimum combination of bonds and cash balance, i.e., an amount that minimizes the opportunity cost and transfer cost.

➤ Baumol has proved that the average amount of cash withdrawal which minimises cost is given by-

$$C = \sqrt{2bY/r}$$

➤ This means that the average amount of cash withdrawal which minimizes cost is the square root of the two times broker's fee multiplied by the size of an individual's income and divided by the interest rate. This is also called Square Root Rule.

FRIEDMAN'S RESTATEMENT OF THE QUANTITY THEORY

➤ Milton Friedman expanded Keynes' speculative money demand within asset price theory, treating money demand as a general theory of capital asset demand, influenced by factors like price.

1. Permanent income.	2. Relative returns on assets. (Which incorporate risk)

➤ Friedman argues that money's demand is determined by permanent income, the present expected value of future income, rather than current income, and its demand is influenced by various factors.

➤ Friedman identifies the following four determinants of the demand for money. The nominal demand for money:

- is a function of total wealth, which is represented by permanent income divided by the discount rate, defined as the average return on the five asset classes in the monetarist theory world, namely money, bonds, equity, physical capital and human capital.

- is positively related to the price level, P. If the price level rises the demand for money increases and vice versa

- rises if the opportunity costs of money holdings (ie. returns on bonds and stock) decline and vice versa.

- is influenced by inflation, a positive inflation rate reduces the real value of money balances, thereby increasing the opportunity costs of money holdings.

THE DEMAND FOR MONEY AS BEHAVIOUR TOWARD RISK

➤ *James Tobin, an American economist, in his analysis makes a valid assumption that people prefer more wealth to less. According to him, an <u>investor is faced with a problem of what proportion of his portfolio of financial assets</u> he should keep in the form of ready money (which earns no interest) and in the form of investment (which earns interest) such as bonds. An individual's portfolio may also consist of more risky assets such as shares.*

➤ *A person can hold money or he can invest his money. There are two factors which determine how much he should invest and what amount he should hold with him. First factor is return and second factor is risk.*

➤ *If he invests his money in bond, he can earn interest but there is risk in investment because there is price volatility of bond. It means return attached with risk. If he held money with him, there is no return but there is no risk of price volatility.*

It means he has to consider both factor at the time of investment viz. return and risk.

If there is high return on investment compare to risk, the individual will increase the proportion of wealth in bonds and decrease the holding of money. If there is low return on investment compare to risk, the individual will increase the proportion of wealth in cash and increase the demand of money.

TOBIN'S LIQUIDITY PREFERENCE FUNCTION

➤ *Tobin's liquidity preference function reveals the correlation between interest rate and money demand, suggesting that higher bond returns attract individuals to invest more in bonds.*

➤ *Tobin's portfolio approach suggests that higher interest rates decrease money demand and increase bond holding, while vice versa. The demand function for money as an asset slopes downwards.*

➤ *Tobin's liquidity preference theory posits that asset demand for money in a portfolio increases as bond interest rates fall, based on a downward sloping liquidity preference function curve. This theory has been proven true through empirical studies measuring interest elasticity of money demand as an asset.*

CONCLUSION

We have discussed the important theories pertaining to demand for money. All the theories have provided significant insights into the concept of demand for money. While the transactions version of Fisher focused on the supply of money as determining prices, the cash balance approach of the Cambridge University economists established the formal relationship between demand for real money and the real income.

Keynes developed the money demand theory on the basis of explicit motives for holding money and formally introduced the interest rate as an additional explanatory variable that determines the demand for real balances. The post-Keynesian economists developed a number of models to provide alternative explanations to confirm the formulation relating real money balances with real income and interest rates.

However, we find that all these theories establish a positive relation of demand for money to real income and an inverse relation to the rate of return on earning assets, i.e. the interest rate. However, the propositions in these theories need to be supported by empirical evidence. As countries differ in respect of various determinants of demand for money, we cannot expect any uniform pattern of behaviour. Broadly speaking, real income, interest rates and expectations in respect to inflation are significant predictors of demand for money.

Chapter 8
Unit 2: Concept of Money Supply

INTRODUCTION

Money supply means the stock of money. It refers to the stock of money available to the public as a means of payment and store of value. Public <u>includes</u> household, firms and institutions <u>except</u> Government and the banking system. <u>Demand deposit with bank is included in the meaning of money supply</u>.

RATIONALE OF MEASURING MONEY SUPPLY

The empirical analysis of money supply is crucial for two main reasons:

1. It facilitates analysis of monetary developments in order to provide a deeper understanding of the causes of money growth.

2. It is essential from a monetary policy perspective as it provides a framework to evaluate whether the stock of money in the economy is consistent with the standards for price stability and to understand the nature of deviations from this standard.

The central banks all over the world adopt monetary policy to stabilize price level and GDP growth by directly controlling the supply of money. This is achieved mainly by managing the quantity of the monetary base. The success of monetary policy depends to a large extent on the controllability of the monetary base and the money supply.

THE SOURCES OF MONEY SUPPLY

The supply of money in the economy depends on:

(a) the decision of the central bank based on the authority conferred on it, and

(b) the supply responses of the commercial banking system of the country to the changes in policy variables initiated by the central bank to influence the total money supply in the economy.

Central Bank (Primary Source):

The central bank (e.g., the Reserve Bank of India) is the <u>primary source</u> of money supply in all countries, empowered to issue currency.

The currency it issues is '<u>fiat money</u>' and is a liability of the central bank and government. It is backed by supporting reserves (like gold and foreign exchange).

Most countries adopt a '<u>minimum reserve system</u>', where the central bank can issue currency to any extent by maintaining only a certain minimum reserve of gold and foreign securities.

This currency issued by the central bank is known as 'high-powered money' or 'monetary base'.
Example: The central bank releases a new series of ₹500 banknotes into circulation to replace old, worn-out notes, thereby directly adding to the high-powered money.

Commercial Banking System (Secondary Source):

The banking system is the second major source of money supply.

Banks create 'credit money' through their borrowing and lending activities with the public. This process leads to an expansion of the money supply.

Example: When a person takes a loan from a commercial bank to buy a car, the bank credits the loan amount to the person's account, creating new demand deposits and thus new credit money.

Evolution of Money:

The form and functions of money have evolved significantly over time: from commodity money (e.g., salt, cattle) to metallic currency (coins), paper currency, and now digital currency.

Central Bank Digital Currencies (CBDCs):

These are legal tender issued by a central bank in a digital form, akin to sovereign paper currency but taking a different form. They are exchangeable at par with existing currency, accepted as a medium of payment, legal tender, and a safe store of value. CBDCs appear as a liability on a central bank's balance sheet.

Example: The Digital Rupee (e₹) being piloted by the RBI is a CBDC, aiming to provide a digital alternative to physical cash while maintaining central bank oversight.

Cryptocurrencies

(e.g., Bitcoin) are not legally recognised as currency in India and face significant legislative uncertainties; hence, they are not categorised as money in this context.

MEASURES OF MONEY SUPPLY (INDIAN CONTEXT)

The Reserve Bank of India (RBI) compiles and publishes various measures of money supply. Since April 1977, the RBI has been publishing data on four alternative measures: M1, M2, M3, and M4, in addition to reserve money.

M1 (Narrow Money):

This is the most liquid measure of money supply.

M_1 = Currency notes and coins with the public + Demand deposit of banks + Other deposits of RBI

Example: If the public holds ₹1,000 billion in cash, commercial banks hold ₹3,500 billion in demand deposits, and the RBI holds ₹100 billion in other deposits, then M1 = ₹1,000 + ₹3,500 + ₹100 = ₹4,600 billion.

M2:
A broader measure than M1.
M2 = M1 + Savings deposits with post office savings banks.
Example: If M1 is ₹4,600 billion and savings deposits in post office savings banks are ₹200 billion, then M2 = ₹4,600 + ₹200 = ₹4,800 billion.
M3 (Broad Money):
This is the most commonly used measure of money supply, also referred to as 'aggregate monetary resources'.
M3 = M1 + Time deposits with the banking system.
Example: If M1 is ₹4,600 billion and time deposits (fixed deposits, recurring deposits) with commercial banks are ₹8,000 billion, then M3 = ₹4,600 + ₹8,000 = ₹12,600 billion.
M4:
The broadest measure of money supply.
M4 = M3 + Total deposits with the Post Office Savings Organization (excluding National Savings Certificates).
Example: If M3 is ₹12,600 billion and all deposits with Post Office Savings Organization (excluding NSCs) are ₹300 billion, then M4 = ₹12,600 + ₹300 = ₹12,900 billion.
Reserve Money (High-Powered Money):
This determines the level of liquidity and price level in the economy.
Reserve Money = Currency in circulation + Bankers' deposits with the RBI + Other deposits with the RBI.

DETERMINANTS OF MONEY SUPPLY

Money Supply Theories: -
➢ *First view: Money supply determined exogenously by central bank.*
➢ *Second view: Money supply determined endogenously by economic activities affecting currency holding desire and interest rates.*
The 'money multiplier approach' explains the determinants *of money supply by examining the relationship between money stock and money supply in terms of the monetary base, which includes currency and bank reserves, and the central bank's behaviour.*

THE CONCEPT OF MONEY MULTIPLIER

➢ *The Reserve Bank of India generates the monetary base, also known as high-powered money, through loans and investments of excess reserves.*
➢ *A one-rupee increase in the monetary base results in a money multiplier, causing the money supply to increase by more than one rupee.*
➢ *The money supply is defined as: Money is either currency held by the public or bank deposits:*

$$M = C + D.$$
$$M = m \times MB$$

➢ Where M. is the money supply, m is the money multiplier and MB is the monetary base or high-powered money.

From the above equation, we can derive the money multiplier (m) as

$$\textbf{Money Multiplier (m)} = \frac{\textbf{Money supply}}{\textbf{Monterary base}}$$

➢ Money multiplier m is defined as a ratio that relates the changes in the money supply to a given change in the monetary base. It is the ratio of the stock of money to the stock of high- powered money

➢ The multiplier indicates what multiple of the monetary base is transformed into money supply. In other words, money and high-powered money is related by the money multiplier.

We make two simplifying assumptions as follows:

Banks never hold excess reserves	Individuals and non-bank corporations never hold currency.

What determines the size of the money multiplier?

The money multiplier is the reciprocal of the reserve ratio. Deposits, unlike currency held by people, keep only a fraction of the high-powered money in reserves and the rest is lent out and culminates in money creation. If the reserve ratio in a country for all commercial banks, then each unit of (say Rupee) money reserves generate 1/R money.

Therefore, for any value of R, the

Money Multiplier is $\frac{1}{R}$

➢ Thus, the higher the reserve ratio, the less of each deposit banks loan out, and the smaller the money multiplier. If some portion of the increase in high-powered money finds its way into currency, this portion does not undergo multiple deposit expansion. The size of the money multiplier is reduced when funds are held as cash rather than as demand deposits.

THE MONEY MULTIPLIER APPROACH TO SUPPLY OF MONEY

The money multiplier approach to money supply propounded by Milton Friedman and Anna Schwartz, (1963) considers *three factors as immediate determinants of money supply*, namely

Behavior of the Central bank	Behavior of commercial bank	Behavior of the general public
• The stock of high powered money (H)	• The ratio of excess reserve to deposit e= {ER/D}	• The ratio of currency to deposit c ={C/D}

(a) The Behaviour of the Central Bank	Central bank change money supply by two ways: (1) Supply of high-powered money (2) Reserve ratio **Supply of high-powered money:** If supply of high-power money increase, there is increase of money supply and vice versa. It means supply of money and money multiplier is directly related to supply of high-powered money. **Reserve Ratio:** If Central bank increase reserve ratio, supply of money decrease and vice versa. It means supply of money and money supplier is inversely related to reserve ratio.
(b) The Behaviour of Commercial Banks	Bank generally maintains extra reserve other than statutory ratio. The purpose of maintenance of excess reserve is the expected risk of deposit outflow. Ratio of Excess reserve to deposit is called excess reserve ratio which can be calculated as follows: *Excess reserve ratio = Excess reserve/Deposit* *Higher excess reserve ratio – Low loan – Low money supply* *Lowe excess reserve ratio – High loan – High money supply* **Excess reserve ratio depends on:** (a) Interest rate (b) Expected deposit outflow If interest rate is high, excess reserve ratio is low and vice versa. It means excess reserve ratio is inversely related to interest rate. If there is high expectancy of deposit outflow, excess reserve ratio is high and vice versa. It means excess reserve ratio is directly related to expectancy of deposit outflow.
(c) The Behaviour of the Public	The public either hold cash or deposit it into bank account. There is currency ratio which represent holding of currency to deposit. Higher the ratio means people hold high currency and deposit money falls. If deposit is low, bank can create only less credit money. Money multiplier falls and ultimately supplies of money decrease. Lower the ratio means people hold less currency and deposit high amount in bank. If deposit is high, bank can create high credit money. Money multiplier increases and ultimately supply of money increase. There is one more ratio which is Time deposit-demand deposit ratio. High ratio means high time deposit, less reserve by bank, higher credit money, high credit multiplier and ultimately high money supply. Low Time deposit-demand deposit ratio means low time deposit, high reserve by bank, low credit money, low credit multiplier and ultimately low money supply.

It means, size of money multiplier is determined by required reserve ratio at the central bank, the excess reserve ratio of the commercial bank, and the currency ratio of the public. Higher ratios mean lower the size of money multiplier and low money supply. Lower ratio means higher the size of money multiplier, and high money supply.

MONETARY POLICY AND MONEY SUPPLY

Central banks stimulate economic activity by injecting liquidity into the system through open market operations (OMO), where government securities purchase creates a high-powered monetary base.

The banking system's credit creation process, assuming no excess reserves, reduced currency holding, and business loan demand, will generate money.

$$\Delta Money\ supply\ \frac{1}{R}X\ \Delta Reserves$$

An open market sale by a central bank reduces reserves, thereby decreasing the money supply, a process similar to an open market purchase.
The money multiplier's value may be zero when interest rates are low and banks hold newly injected reserves as excess reserves without risk.

EFFECT OF GOVERNMENT EXPENDITURE ON MONEY SUPPLY

Due to increase in government expenditure, money supply increase. For expenditure, government borrows from RBI and pay as expenditure to the public. Public deposit money in to bank account which create further money (credit money).

The Credit Multiplier: The Credit Multiplier, also referred to as the deposit multiplier or the deposit expansion multiplier, describes the amount of additional money created by a commercial bank through the process of sending the available money it has in excess of the central bank's reserve requirements. The deposit multiplier is, thus inextricably tied to the bank's reserve requirement.

This measure tells us how much new money will be created by the banking system for a given increase in the high-powered money. It reflects a bank's ability to increase the money supply the credit multiplier is the reciprocal of the required reserve ratio if reserve ratio is 20%, then credit multiplier 1/020-5

$$\text{Credit Multiplier} = \frac{1}{\text{Required Reserve Ratio}}$$

The deposit multiplier and the money multiplier though closely related are not identical because:

a) generally, banks do not lend out all of their available money but instead maintain reserves at a level above the minimum required reserve.

b) all borrowers do not spend every Rupee they have borrowed.
They are likely to convert some portion of it to cash. We need to keep in mind that creating money through credit by banks does not mean creating wealth. Money creation is not the same as wealth creation.

Chapter 8
Unit 3: Monetary Policy

MONETARY POLICY DEFINED

Monetary policy refers to the measures undertaken by governments and central banks to manage economic fluctuations and achieve <u>price stability</u> (low and stable inflation). In India, the Reserve Bank of India (RBI) uses monetary policy to regulate the availability, cost, and use of money and credit to promote economic growth, price stability, and other economic goals.

The RBI typically conducts monetary policy by <u>adjusting the supply of money</u>, often through <u>buying or selling securities in the open market</u>. These actions influence <u>short-term interest</u> rates, which, in turn, affect longer-term rates and overall economic activity.

➔ *When a central bank <u>lowers interest rates</u>, monetary policy is considered easing.*

Example: If the RBI reduces its key policy rate, it makes borrowing cheaper for banks, which can then lend to businesses and consumers at lower rates, stimulating spending.

➔ *When a central bank <u>raises interest rates</u>, monetary policy is considered <u>tightening</u>.*

Example: If the RBI increases its key policy rate, banks face higher borrowing costs, leading them to raise their own lending rates, which can cool down an overheating economy by discouraging borrowing and spending.

THE MONETARY POLICY FRAMEWORK

A central bank executes monetary policy within an established framework, which comprises three core components:

Objectives of monetary policy

Analytics of monetary policy (focusing on transmission mechanisms)

Operating procedure (focusing on operating targets and instruments)

Objectives of Monetary Policy

➢ *Monetary policy objectives provide clear guidance to policymakers, reflecting a country's economic policy, and often align with the overall objectives of economic policy.*

➤ *The Reserve Bank of India Act, 1934 aims to regulate bank notes and reserves to secure monetary stability in India, maintaining a balance between price stability and economic growth.*

➤ <u>*Given the development needs of developing countries, the monetary policy of such countries also incorporates explicit objectives such as:*</u>

(i) maintenance the economic growth,	*(ii) ensuring an adequate flow of credit to the productive sectors,*	*(iii) sustaining - a moderate structure of interest rates to encourage investments, and*	*(iv) creation of an efficient market for government securities.*

Considerations of financial and exchange rate stability have assumed greater importance in India recently on account of the increasing openness of the economy and the progressive economic and financial sector reforms.

Transmission of Monetary Policy

<u>*Monetary transmission mechanism*</u> *describes how changes in the central bank's monetary policy settings flow through to influence economic activity and inflation. This process is intricate, with uncertainty regarding the timing and magnitude of its impact.*

The transmission typically occurs in two stages:

Changes to monetary policy directly affect interest rates in the economy.

Changes to interest rates then influence economic activity and inflation.

There are primarily four channels through which this transmission occurs:

Saving and Investment Channel

Monetary policy influences economic activity by altering incentives for saving and investment, impacting consumption, housing, and business investment.

Lower interest rates on bank deposits
Reduce the incentive for households to save, encouraging them to spend more on goods and services. **Example:** If the interest rate on savings accounts falls from 4% to 2%, a household might decide to buy a new car now rather than saving for it.
Lower interest rates for loans
Encourage households to borrow more for assets like housing, as repayments become cheaper. **Example:** A reduction in mortgage rates from 7% to 6% might make buying a house more affordable, leading to increased demand.

Lower lending rates for businesses

Reduce the cost of borrowing for capital goods (e.g., new machinery, factory buildings), making investment projects more profitable and encouraging business expansion.

Example: A manufacturing company might decide to take out a loan to upgrade its production line if the interest rate on that loan drops, as the expected return on the investment now comfortably exceeds the borrowing cost.

Cash-flow Channel

Monetary policy affects the amount of disposable cash available to households and businesses by changing interest rates, influencing their spending.

Reduced lending rates lower interest repayments on debt

Increasing the cash available for spending on goods and services, particularly for those with variable-rate loans or who are liquidity-constrained.

Example: A homeowner with a variable-rate mortgage sees their monthly payment decrease when interest rates fall, leaving them with more income to spend on other household necessities or luxuries.

Conversely, reduced interest rates lower income from deposits

Which might lead some to restrict spending.

Example: Retirees relying on interest income from fixed deposits might see their monthly income decrease if rates fall, potentially leading them to cut back on discretionary spending. In the Indian economy, the former effect is generally expected to be larger, leading to an overall increase in spending.

Asset Prices and Wealth Channel

Asset prices and people's wealth influence their borrowing capacity and spending. This channel primarily affects consumption and investment.

Lower interest rates support asset prices

(like housing and equities) by making the present discounted value of future income higher, increasing demand for these assets.

Example: When bond yields fall, investors might shift funds into stocks or real estate, driving up their prices.

Higher asset prices increase the equity (collateral) available for banks to lend against

making it easier for households and businesses to borrow.

Example: If the value of a property increases, its owner has more collateral against which to secure a new loan for a renovation or business venture.

An increase in asset prices boosts people's wealth

leading to higher consumption and housing investment, as households tend to spend a portion of any wealth increase.

Example: An individual whose stock portfolio has significantly appreciated might feel wealthier and decide to purchase a new high-value item or invest in a second property.

Exchange Rate Channel

The exchange rate can significantly influence economic activity and inflation, especially for export-oriented sectors or those competing with imports.

If the central bank lowers the policy rate, domestic interest rates fall relative to international rates (all else being equal).

Example: If interest rates in India are 5% and in the US they are 6%, capital might flow from India to the US to earn higher returns.

Lower domestic interest rates reduce the returns for investors on assets in India

Leading them to shift funds to foreign assets and currencies, which reduces demand for domestic currency.

Example: International investors holding Indian government bonds might sell them to invest in bonds from a country offering higher interest rates, selling Indian rupees in the process.

This leads to a lower exchange rate (depreciation of the domestic currency), making foreign goods and services more expensive and domestic goods more competitive internationally. This increases exports and domestic activity.

Example: A weaker Indian rupee makes Indian software services cheaper for American companies, leading to an increase in Indian software exports.

A lower exchange rate also adds to inflation because imports become more expensive in local currency terms.

Example: If the rupee depreciates against the dollar, imported crude oil becomes more expensive for India, pushing up petrol prices domestically.

Operating Procedures and Instruments

Operating procedures refer to the day-to-day implementation of monetary policy by central banks using various instruments. Monetary policy instruments are the tools used to influence money market and credit conditions to achieve monetary policy objectives. These are broadly categorised into quantitative and qualitative tools.

Quantitative Tools

These tools impact the money supply across the entire economy, affecting sectors like manufacturing, agriculture, and housing.

Reserve Ratio:

Banks are required to hold a certain percentage of their deposits as reserves.

Cash Reserve Ratio (CRR):
The percentage of a bank's <u>Net Demand and Time Liabilities (NDTL)</u> that it must keep as cash with the RBI. Banks cannot lend this money or earn interest on it.   **Example:** If the CRR is 4% and a bank has ₹100 crore in NDTL, it must deposit ₹4 crore with the RBI. An increase in CRR would reduce the funds available for banks to lend, thereby contracting the money supply.
Statutory Liquidity Ratio (SLR):
The percentage of a bank's <u>Demand and Time Liabilities (DTL)/NDTL</u> that it must maintain in liquid assets like gold or RBI-approved securities (e.g., government securities). Banks can earn low interest on these securities.   **Example:** If SLR is 18%, a bank with ₹100 crore in DTL must hold ₹18 crore in specified liquid assets. An increase in SLR requires banks to hold more assets in less profitable forms, limiting their lending capacity.

Open Market Operations (OMO):

The RBI buys and sells government securities in the open market to control money supply and liquidity.

Selling government securities:
Sucks liquidity from the market.   **Example:** If the RBI sells ₹10,000 crore worth of government bonds, buyers pay for these bonds from their bank accounts, reducing the cash reserves of banks and thus overall liquidity in the system.
Buying government securities:
Injects liquidity into the market.   **Example:** If the RBI buys ₹5,000 crore worth of government bonds, it pays the sellers, which increases the cash reserves of banks and boosts liquidity. OMOs are used to manage temporary liquidity mismatches, often due to foreign capital flows.

▶ *Market Stabilisation Scheme (MSS):*

The Government of India borrows from the RBI (in addition to its normal borrowing) and issues treasury bills or dated securities. This is used to absorb excess liquidity from the market, often due to large capital inflows, without sterilising these through OMOs.

Example: If a significant amount of foreign investment flows into India, leading to excess rupees in the system, the government might issue special bonds under MSS to absorb this liquidity, preventing inflationary pressures.

▶ *Policy Rates*

(Under Liquidity Adjustment Facility - LAF): The LAF is a key instrument for adjusting liquidity and money supply.

Bank Rate:
The interest rate at which the RBI lends long-term funds to banks. Currently, it is mainly used to prescribe penalties for banks failing to maintain CRR or SLR. **Example:** If a commercial bank consistently falls short of its SLR requirement, the RBI might impose a penalty on it based on the prevailing bank rate.
Repo Rate:
The rate at which banks borrow short-term funds from the RBI by selling government securities with an agreement to repurchase them later. This is considered the 'policy rate' in India. **Example:** A bank facing a temporary shortage of funds might borrow overnight from the RBI at the repo rate, pledging government bonds as collateral and agreeing to buy them back the next day. A lower repo rate encourages banks to borrow more and lend, increasing money supply
Reverse Repo Rate:
The rate the RBI pays to banks for keeping additional funds with the RBI. It is linked to the repo rate, typically as Repo Rate – 1%. **Example:** If banks have surplus funds, they can lend them to the RBI at the reverse repo rate, earning interest. A higher reverse repo rate encourages banks to park funds with RBI, reducing liquidity in the market.
Marginal Standing Facility (MSF) Rate:
A penal rate at which scheduled commercial banks can borrow additional overnight funds from the RBI, beyond what's available through LAF. Banks can use up to 1% of their SLR securities for this purpose. It is typically set as Repo Rate + 1%. **Example:** If a bank faces an acute, unexpected overnight liquidity crunch and has exhausted its regular repo borrowing limits, it can access emergency funds through the MSF at a higher penal rate, dipping into its SLR holdings.

Qualitative Tools

These are selective tools that influence the money supply in specific sectors of the economy, rather than the entire economy directly.

Margin Requirements:

The RBI prescribes a certain margin against collateral for loans, which affects customers' borrowing habits.

Example: If the RBI increases the margin requirement for loans against property from 25% to 40%, a borrower seeking a ₹1 crore loan would now need to put up ₹40 lakh (instead of ₹25 lakh) as their own share, making it harder to borrow.

Moral Suasion:

The RBI persuades banks to direct funds towards certain sectors (e.g., government securities) or away from others.

Example: The RBI might advise commercial banks to prioritise lending to the agricultural sector, or caution them against excessive lending to speculative real estate projects.

Selective Credit Control:

The RBI controls credit by restricting lending to specific industries or speculative businesses.

Example: To curb speculation in the stock market, the RBI might instruct banks to reduce credit limits for loans against shares.

THE ORGANISATIONAL STRUCTURE FOR MONETARY POLICY DECISIONS

Understanding the organisational structure is essential to grasp how monetary policy is conducted in India.

The Reserve Bank of India (RBI) Act, 1934, was amended on June 27, 2016, to provide statutory backing to the Monetary Policy Framework Agreement (MPFA) and establish a Monetary Policy Committee (MPC).

The MPFA is an agreement between the Government of India and the RBI that specifies the maximum tolerable inflation rate the RBI must target to achieve price stability. This amendment provides a statutory basis for implementing a 'flexible inflation targeting framework'.

The Monetary Policy Committee (MPC), consisting of six members, is responsible for determining the **policy rate** (repo rate) to achieve the inflation target. Decisions are made through debate and majority vote by this panel of experts.

The inflation target is set by the Government of India, in consultation with the RBI, once every five years.

For Example: The Central Government notified a 4% Consumer Price Index (CPI) inflation target for the period from August 5, 2016, to March 31, 2021, with an upper tolerance limit of 6% and a lower tolerance limit of 2%.

The <u>choice of CPI</u> as the inflation anchor was made because it closely reflects the cost of living and has a greater influence on inflation expectations compared to other measures.

The RBI is mandated to publish a <u>Monetary Policy Report every six months</u>, explaining inflation sources and forecasting inflation for the next 6-18 months.

Failure to achieve the inflation target is defined as:

Average inflation being more than the upper tolerance level (6%) for any three consecutive quarters.

Average inflation being less than the lower tolerance level (2%) for any three consecutive quarters.

India's adoption of inflation targeting aligns it with countries like New Zealand, the USA, the UK, European Union, and Brazil. However, some countries are now shifting towards targeting nominal GDP growth.

CONCLUSION

Monetary policy decisions, particularly in emerging markets like India, are complex due to uncertainties and the need to balance growth and inflation concerns. Challenges include nascent financial systems, unintegrated markets, external uncertainties, and issues related to the central bank's operational autonomy. Successful inflation targeting requires significant operational autonomy for the central bank and strong coordination between fiscal and monetary authorities.

Chapter 9
Unit 1: Theories of International Trade

INTERNATIONAL TRADE: DEFINITION, DISTINCTION, BENEFITS, AND CRITICISMS

Definition:

International trade is the exchange of goods and services, as well as resources, between countries.
It specifically involves transactions between residents of different nations.

Distinction from Internal Trade:

The sources highlight that international trade involves <u>greater complexity</u> compared to internal (domestic) trade.

The provided questions hint at differences such as transactions in multiple currencies and differences in legal systems. (The source implicitly supports these through the definition of international trade involving different countries and the mention of "governments' policies").

Benefits of International Trade:

International trade boosts economic efficiency, growth, and incomes by enabling a wider market and enabling companies to benefit from the division of labour.

Foreign trade directly benefits communities by enhancing resource efficiency, reducing domestic monopolies, and ensuring productivity gains through better utilization of natural, human, industrial, and financial resources.

Trade opens markets, materials, and competitive prices, promoting innovative products and wider consumer choices. It also helps nations acquire foreign exchange reserves for imports.

International trade boosts automation, promotes technological advancement, stimulates innovations, and encourages investment in research and development, thereby enhancing productivity and stimulating innovative services in various sectors.

Improving the quality of goods and services, producing superior products, enhancing labour and environmental standards, and moving up the global value chain are crucial for emerging economies.

Opening new markets expands the productive base and promotes export diversification, thereby introducing new production possibilities.

Trade can enhance human resource development by facilitating research, knowledge exchange, and best practices between trade partners.

Trade fosters international cooperation and harmony by fostering mutually beneficial exchanges among citizens from different countries, thereby strengthening the bonds between nations.

➢ *Despite being a dynamic force, which has an enormous potential to generate overall economic gains, liberal global trade and investments are often criticized as detrimental to national interests.*

The major arguments put forth against trade openness are:

1. International trade can lead to unequal market access and disregard for fair trading principles, potentially exacerbated by wealth differences between trading countries.
2. Underprivileged countries are at risk of economic exploitation due to the growing political power of global corporations, as domestic entities can easily be outperformed by financially stronger transnational companies.
3. The rapid environmental damage and resource exhaustion could have severe negative impacts on society as a whole.
4. Trade cycles and economic crises in different countries are likely to be rapidly transmitted to other countries.
5. Underdeveloped countries' excessive dependence on foreign nations can lead to economic and political instability, exploitation, cultural loss, and severe consequences during times of war and political disturbances.
6. Excessive export orientation can lead to a distortion of actual investments, diverting them from a country's genuine investment needs.
7. Trade policies often lack transparency and predictability, leading to risks such as import bans, high tariffs, and trade embargoes due to changes in participating countries' policies.

IMPORTANT THEORIES OF INTERNATIONAL TRADE

Many goods and services are imported due to non-production reasons, but also those produced within the country. Theoretical explanations of international trade provide answers to these questions and related questions.

The Mercantilists' View of International Trade

The Theory of Absolute Advantage

The Theory of Comparative Advantage

The Heckscher-Ohlin Theory Of Trade

Globalization and New International Trade Theory

THE MERCANTILISTS' VIEW OF INTERNATIONAL TRADE

Mercantilism, a European economic policy from the 16th to 18th centuries, aimed to control industry and trade through massive exports over imports. This system, based on uneven distribution of resources, allowed for the flow of labour, raw materials, capital, and finished products across national boundaries, promoting wealth accumulation and a favourable balance of payment.

THE THEORY OF ABSOLUTE ADVANTAGE

Adam Smith, the father of economics, believed that international trade is based on absolute cost advantage. He believed that mutually beneficial trade occurs when one country can produce one commodity at an absolute advantage, and other countries can produce another at an absolute advantage. This principle refers to a party's ability to produce more goods or services using the same resources.

However, absolute advantage can be determined by comparing labour productivity, meaning no trade can occur if a nation has no absolute advantage. This concept contrasts with comparative advantage, which refers to producing specific goods at lower opportunity costs.

<u>*Assumptions of the Absolute Advantage Theory:*</u>

Trade between the two countries.

He took into consideration a two-country and two-commodity framework for his analysis.

There is no transportation cost.

Smith assumed that the costs of the commodities were computed by the relative amounts of labour required in their respective production processes.

He assumed that labour was mobile within a country but immobile between countries.

He implicitly assumed that any trade between the two countries considered would take place if each of the two countries had an absolutely lower cost in the production of one of the commodities.

THE THEORY OF COMPARATIVE ADVANTAGE

David Ricardo observed that trade was driven by comparative rather than absolute costs (of producing a good). One country may be more productive than others in all goods, in the sense that it can produce any good using fewer inputs (such as capital and labour) than other countries require to produce the same good.

Ricardo's insight was that such a country would still benefit from trading according to its comparative advantage-exporting products in which its absolute advantage was greatest, and importing products in which its absolute advantage was comparatively less (even if still positive).

Even a country that is more efficient (has absolute advantage) in everything it makes would benefit from trade.

Consider an example:	**Country A:** One hour of labour can produce either three kilograms of steel or two shirts
	Country B: One hour of labour can produce either one kilogram of steel or one shirt.

Country A is more efficient in both products; Now suppose Country B offers to sell Country A two shirts in exchange for 2.5 kilograms of steel.

Country B diverts two hours of work from producing two shirts to produce two additional shirts, while Country A uses one hour to produce three additional kilograms of steel. Despite the same number of shirts produced, Country B produces two additional shirts, resulting in more steel production than before, indicating trade gains.

A country's comparative advantage extends beyond physical goods to services like computer code or financial products, allowing it to benefit from exporting and importing these products.

Douglas Irwin (2009) calls comparative advantage "good news" for economic development. "Even if a developing country lacks an absolute advantage in any field, it will always have a comparative advantage in the production of some goods," and will trade profitably with advanced economies.

THE HECKSCHER-OHLIN THEORY OF TRADE

Swedish economists Eli Heckscher and Bertil Ohlin identified factor endowments, which include labour and capital, as a key factor in determining comparative advantage in the early 20th century.

The Heckscher-Ohlin proposition suggests that countries often export goods whose production heavily utilizes the relatively abundant factor of production in their country.

Economists believe that countries with capital should export capital-intensive products, while those with labour should export labour-intensive products, considering other factors influencing trade patterns. Foreign competition pressures profits, forcing less efficient firms to contract and creating room for more efficient ones.

Expansion and new entry bring better technologies and product varieties, enabling greater selection across goods, a concept not covered by the factor endowment approach.

Trade offers efficiency benefits, resulting in more products and greater product variety. It also enhances investment spending by providing firms with a wider variety of inputs, facilitating innovation, and promoting sustained growth.

Economic models often overlook technology transfer and pro-competitive forces in trade impact assessments. However, research shows trade reforms like reducing tariffs and nontariff barriers yield larger benefits than conventional models suggest.

Comparison of Theory of Comparative Costs and Modern Theory

Theory of Comparative Costs	Modern Theory
The basis is the difference between countries is comparative costs	Explains the causes of differences in comparative costs as differences in factor endowments
Based on labour theory of value	Based on money cost which is more realistic.
Considered labour as the sole factor of production and presents a one-factor (labour) model	Widened the scope to include labour and capital as important factors of production. This is 2-factor model and can be extended to more factors
Treats international trade as quite distinct from domestic trade	International trade is only a special case of inter-regional trade
Studies only comparative costs of the goods concerned	Considers the relative prices of the factors which influence the comparative costs of the goods
Attributes the differences in comparative advantage to differences in productive efficiency of workers	Attributes the differences in comparative advantage to the differences in factor endowments.
Does not take into account the factor price differences	Considers factor price differences as the main cause of commodity price differences
Does not provide the cause of differences in comparative advantage	Explains the differences in comparative advantage in terms of differences in factor endowments
Normative; tries to demonstrate the gains from international trade	Positive; concentrates on the basis of trade

GLOBALIZATION AND NEW INTERNATIONAL TRADE THEORY

The revolution that swept through the theory of international trade in the first half of the 1980s-the rise of the so-called 'new trade theory'-left many of the insights of traditional trade theory intact. In particular, introducing imperfect competition and increasing returns into the picture does not alter the fundamental point that trade is a positive-sum game, generally carried on to countries' mutual benefit.

Indeed, the new trade theory adds to the positive sum: by enlarging markets, international trade increases competition and allows greater exploitation of economies of scale, both of which represent gains over and above those due to comparative advantage.

The new trade theory suggests that in practice many traded goods are produced by industries that are both oligopolistic and subject to external economies (e.g., because of economies of scale in the production of non-traded intermediates). Thus, instead of a picture of an international economy that is at a Pareto optimum, the new trade theory offers a picture of one in which markets normally lead to suboptimal results.

American economist and journalist Paul Krugman received the 2008 Nobel Prize for Economics for his work in economic geography and in identifying international trade patterns. In the late 1970s, Paul Krugman noticed that the accepted model that economists used to explain patterns of international trade did not fit the data.

The Heckscher-Ohlin model predicted that trade would be based on such factors as the ratio of capital to labour, with "capital-rich" countries exporting capital-intensive goods and importing labour-intensive goods from "labour- rich" countries. But Krugman noticed that most international trade takes place between countries with roughly the same ratio of capital to labour.

The auto industry in capital-intensive Sweden, for example, exports cars to capital-intensive America, while Swedish consumers also import cars from America. This is particularly true in key economic sectors in India such as electronics, IT, food, and automotive. We have cars made in India, yet we purchase many cars made in other countries.
Krugman defended free trade.

He was passionate and showed deep concern for the well- being of people around the world. One such example is "In Praise of Cheap Labor," published in Slate in 1997. In it, Krugman told of Smokey Mountain, a huge garbage dump in Manila in which men, women, and children made a living combing through garbage for valuable items. Low-wage jobs in multinational companies' factories in the Philippines, Bangladesh, and other poor countries, he noted, are much better alternatives.

Because multinational companies hired many of these poor workers, he wrote that "the result has been to move hundreds of millions of people from abject poverty to something still awful but nonetheless significantly better.

<u>*According to NTT, two key concepts give advantages to countries that import goods to compete with products from the home country:*</u>

Economies of Scale: A firm's cost per unit decreases as it increases production, leading to higher profits when it serves both domestic and foreign markets.

Network effects affect one person's value for a good or service, enhancing its utility as the number of users increases. This phenomenon, also known as the 'bandwagon effect', is particularly evident in mobile apps like What's App and software like Microsoft Windows.

Chapter 9
Unit 2: The Instruments of Trade Policy

INTRODUCTION

➜ After a decade of eschewing free trade deals, India has embarked on an FTA-signing spree that is quickly transforming the country into one of the most FTA-engaged countries in the world.

➜ The reinvigorated Free Trade Agreement rush began with an agreement with Mauritius on 1 April 2021, followed by fast-track negotiations with the United Arab Emirates (UAE), Australia, the United Kingdom (UK), Canada and the European Union (EU).

➜ On 18 February 2022, a comprehensive economic partnership agreement (CEPA) with the UAE was concluded within 90 days of the commencement of negotiations and has been in force since 1 May 2022. In addition, an Economic Cooperation and Trade Agreement (ECTA) with Australia also concluded on 2 April 2022.

➜ The next highly-anticipated Free Trade Agreement in the works is with the UK, which is expected to conclude by Diwali (the festival of lights) in October 2022. Free Trade Agreement discussions are also on the fast track with Canada, the EU, as well as with the Gulf Cooperation Council (GCC - Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE) and Israel.

Free trade allows voluntary market interactions, while protectionism protects domestic producers. Trade liberalization reduces trade barriers, promoting global market access.
Unit 1 highlights the efficiency benefits of trade, including economic growth, job creation, and welfare.

However, fair competition isn't always present, and unobstructed international trade can cause dislocation, leading to pressure on policymakers to restrict imports or increase exports.
Historically, governments have used various policy instruments, not necessarily based on economic merit, to restrict the free flow of goods and services across national boundaries.

Government intervention measures can be simple, widespread, and transparent, while others are complex, less apparent, and often involve various distortions.
This unit explores trade policy instruments, their uses, and implications, aiming to inform policy responses and promote balanced dialogues on trade policy issues and international agreements.
Trade policy involves government instruments for promoting or restricting imports and exports, including tariffs and non-tariff measures, and is shaped by countries' obligations during trade negotiations.

TARIFFS

Tariffs, also known as customs duties, are taxes or duties imposed on imported or exported goods and services.

They are financial charges imposed at the border on goods moving between customs territories.

Tariffs are universally used trade measures determining market access for goods.

Countries have a tariff schedule specifying the tariff collected on each good and service.

Tariffs aim to alter relative prices of imported goods and services to contract domestic demand and regulate import volume.

They raise domestic market prices while leaving world market prices unaffected.

The main goals of tariffs are to raise government revenue and protect domestic import-competing industries.

Forms of Import Tariffs

Specific Tariff

Ad valorem tariff
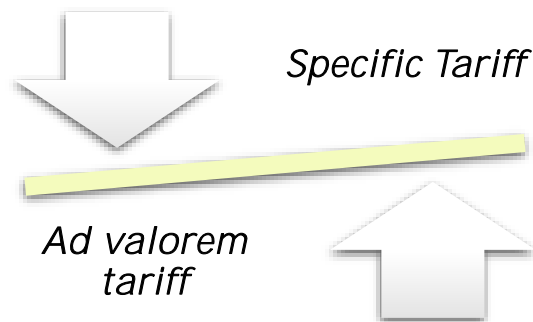
(i) Specific Tariff:

Specific tariff is a fixed amount of money per unit or commodity, varying based on the type of goods imported or exported.

Example: A specific tariff of 1000/ may be imposed on imported bicycles, but its protective value varies inversely with the import price. For instance, if the price of a cycle increases by 10% due to inflation, customs valuation is not applicable.

(ii) Ad valorem tariff:

Ad valorem tariffs are fixed percentages of the monetary value of a good, such as a 20% bicycle tariff. They preserve the protective value of the tariff on home producers but encourage undervaluing the good's price to reduce tax burden. Despite this, ad valorem tariffs are widely used globally.

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│ tariff       │   │ subsidies    │   │ Trade        │   │ Duties       │   │ g Duties     │
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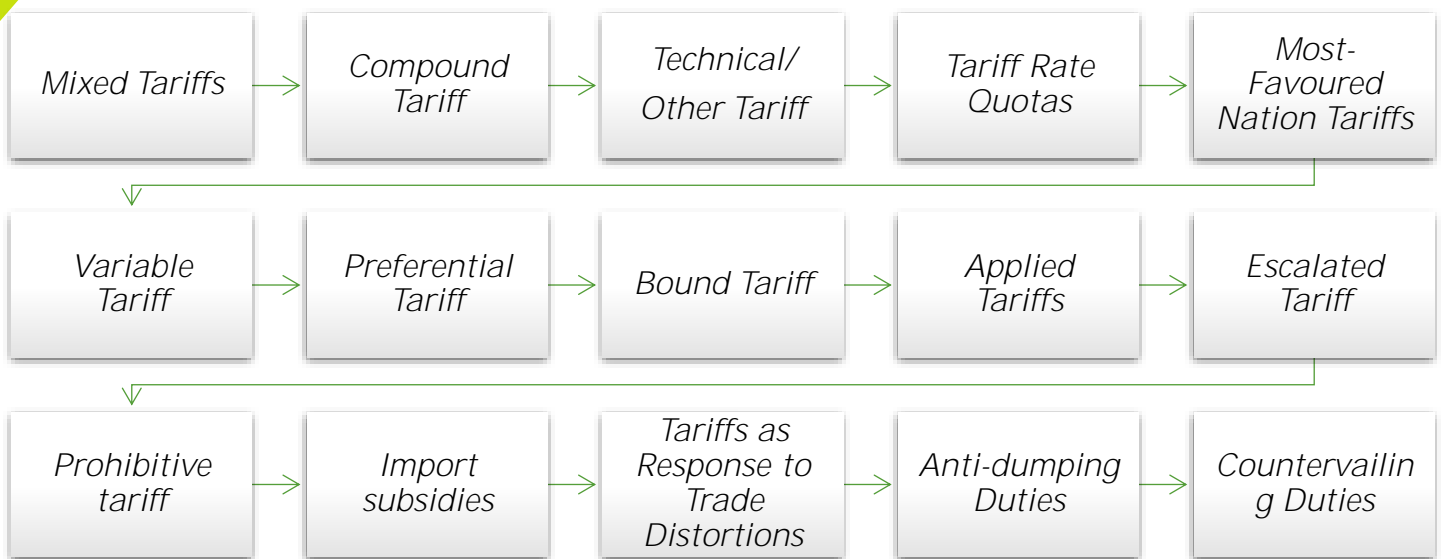
There are many other variations of the above tariffs, such as:

Mixed Tariffs

Mixed tariffs are expressed either on the basis of the value of the imported goods (an ad valorem rate) or on the basis of a unit of measure of the imported goods (a specific duty) depending on which generates the most income (or least income at times) for the nation.

Compound Tariff or a Compound Duty

Compound Tariff or a Compound Duty is a combination of an ad valorem and a specific tariff. That is, the tariff is calculated on the basis of both the value of the imported goods (an ad valorem duty) and a unit of measure of the imported goods (a specific duty). It is generally calculated by adding up a specific duty to an ad valorem duty.

Technical/ Other Tariff

These are calculated on the basis of the specific contents of the imported goods i.e., the duties are payable by its components or related items. For example: 3000/ on each solar panel plus * 50/ per kg on the battery.

Tariff Rate Quotas

Tariff rate quotas (TRQs) combine two policy instruments: quotas and tariffs. Imports entering under the specified quota portion are usually subject to a lower (sometimes zero) tariff rate. Imports above the quantitative threshold of the quota face a much higher tariff.

Most-Favoured Nation Tariffs

MFN tariffs refer to import tariffs which countries promise to impose on imports from other members of the WTO, unless the country is part of a preferential trade agreement (such as a free trade area or customs union). This means that, in practice, MFN rates are the highest (most restrictive) that WTO members charge each other. Some countries impose higher tariffs on countries that are not part of the WTO.

Variable Tariff

A duty typically fixed to bring the price of an imported commodity up to the level of the domestic support price for the commodity.

Preferential Tariff

Nearly all countries are part of at least one preferential trade agreement, under which they promise to give another country's products lower tariffs than their MFN rate. These agreements are reciprocal. A lower tariff is charged from goods imported from a country which is given preferential treatment.

Bound Tariff

A WTO member binds itself with a legal commitment not to raise tariff rate above a certain level. By binding a tariff rate, often during negotiations, the members agree to limit their right to set tariff levels beyond a certain level. The bound rates are specific to individual products and represent the maximum level of import duty that can be levied on a product imported by that member.

A member is always free to impose a tariff that is lower than the bound level. Once bound, a tariff rate becomes permanent and a member can only increase its level after negotiating with its trading partners and compensating them for possible losses of trade. A bound tariff ensures transparency and predictability.

Applied Tariffs

An 'applied tariff' is the duty that is actually charged on imports on a Most-Favoured Nation (MFN) basis. A WTO member can have an applied tariff for a product that differs from the bound tariff for that product as long as the applied level is not higher than the bound level.

Escalated Tariff

refers to the system wherein the nominal tariff rates on imports of manufactured goods are higher than the nominal tariff rates on intermediate inputs and raw materials, i.e., the tariff on a product increase as that product moves through the value-added chain.

Example: A four percent tariff on iron ore or iron ingots and twelve percent tariff on steel pipes.

This type of tariff is discriminatory as it protects manufacturing industries in importing countries and dampens the attempts of developing manufacturing industries of exporting countries. This has special relevance to trade between developed countries and developing countries. Developing countries are thus forced to continue to be suppliers of raw materials without much value addition.

Prohibitive tariff

A prohibitive tariff is one that is set so high that no imports can enter.

Import subsidies

Import subsidies also exist in some countries. An import subsidy is simply a payment per unit or as a percent of value for the importation of a good (i.e. a negative import tariff).

Tariffs as Response to Trade Distortions

Sometimes countries engage in 'unfair foreign-trade practices which are trade distorting in nature and adverse to the interests of the domestic firms. The affected importing countries, upon confirmation of the distortion, respond quickly by measures in the form of tariff responses to offset the distortion. These policies are often referred to as "trigger-price" mechanisms. The following sections relate to such tariff responses to distortions related to foreign dumping and export subsidies.

Anti-dumping Duties

An anti-dumping duty is a protectionist tariff that a domestic government imposes on foreign imports that it believes are priced below fair market value.

Dumping occurs when manufacturers sell goods in a foreign country below the sales prices in their domestic market or below their full average cost of the product. Dumping may be persistent, seasonal, or cyclical.

Dumping may also be resorted to as a predatory pricing practice to drive out established domestic producers from the market and to establish monopoly position. Dumping is an international price discrimination favouring buyers of exports, but in fact, the exporters deliberately forgo money in order to harm the domestic producers of the importing country.

Dumping is unfair and constitutes a threat to domestic producers and therefore when dumping is found, anti-dumping measures may be initiated as a safeguard instrument by imposing additional import duties/tariffs so as to offset the foreign firm's unfair price advantage. This is justified only if the domestic industry is seriously injured by import competition, and protection is in the national interest (that is, the associated costs to consumers would be less than the benefits that would accrue to producers).

Countervailing Duties

Countervailing duties are tariffs that aim to offset the artificially low prices charged by exporters who enjoy export subsidies and tax concessions offered by the governments in their home country. If a foreign country does not have a comparative advantage in a particular good and a government subsidy allows the foreign firm to be an exporter of the product, then the subsidy generates a distortion from the free-trade allocation of resources.

In such cases, CVD is charged in an importing country to negate the advantage that exporters get from subsidies to ensure fair and market-oriented pricing of imported products and thereby protecting domestic industries and firms.

Effects of Tariffs

A tariff levied on an imported product affects both the exporting country and the importing country.

i. Tariff barriers hinder trade, reducing imports and exports, and impacting international trade volume. Imposing tariffs worsens exporting countries' market access prospects.

ii. Tariffs increase the cost of imported goods, deterring domestic consumers from consuming them, resulting in a loss of consumer surplus and reduced consumption compared to free trade.

iii. Tariffs promote the consumption and production of domestically produced import substitutes, thereby safeguarding domestic industries.

iv. Imposition of tariffs boosts importing country producers' well-being, increases domestic market price increases, and reduces foreign competition, allowing them to charge higher prices.

v. The price increase boosts industry output, potentially attracting new firms to capitalize on the high profits, resulting in increased employment.

vi. Tariffs distort trade by ignoring comparative advantage, hindering countries from gaining from it, and thus, discourage efficient production globally and promote inefficient domestic production.

vii. Tariffs boost the government revenues of the importing country by the total tariff it charges.

Trade liberalization, through government policies or negotiated reductions, has reduced tariff protection and shifted focus to non-tariff measures (NTMs), which have restrictive and distortionary effects on international trade, countering the benefits of tariff reduction.

NON-TARIFF MEASURES (NTMS)

➔ Tariffs are visible trade barriers, increasing import prices, while nontariff measures, more prominent than conventional barriers, are hidden measures that interfere with free trade.

➔ Non-tariff measures (NTMs) are policy changes that alter international trade conditions, including mandatory requirements set by the exporting, importing, or transit country's government.

➔ Non-tariff barriers (NTBs) are discriminatory measures imposed by governments to favor domestic industries over foreign ones, while NTMs are used to circumvent free-trade rules.

➔ WTO agreements allow the use of Nontariff Measures (NTMs) under specific conditions, such as the Technical Barriers to Trade (TBT) Agreement and Sanitary and Phytosanitary Measures (SPS) Agreement.

However, NTMs can sometimes be used to circumvent free-trade rules and favour domestic industries, making it difficult to distinguish between legitimate and protectionist NTMs.

Technical Measures

Non-technical Measures

Categorization of NTMs

NTMs are categorised based on their scope and design:

Technical Measures:

Technical measures encompass product-specific properties, specifications, and production processes to ensure product quality, food safety, environmental protection, national security, and animal and plant health.

Non- Technical Measures:

Non-technical measures relate to trade requirements; for example; shipping requirements, custom formalities, trade rules, taxation policies, etc.

These are further distinguished as:

(a) Hard measures (e.g., Price and quantity control measures),

(b) Threat measures (e.g., Anti-dumping and safeguards) and

(c) Other measures such as trade-related finance and investment measures.

Furthermore, the categorization also distinguishes between:

(i) Import-related measures which relate to measures imposed by the importing country, and

(ii) Export-related measures which relate to measures imposed by the exporting country itself.

(iii) In addition to these, there are procedural obstacles (PO) which are practical problems in administration, transportation, delays in testing, certification etc which may make it difficult for businesses to adhere to a given regulation.

Technical Measures

Sanitary and Phytosanitary (SPS) Measures

Technical Barriers to Trade (TBT)

## ▶ 1. Sanitary and Phytosanitary (SPS) Measures:

SPS measures protect human, animal, and plant life from risks from additives, pests, contaminants, toxins, and disease-causing organisms, while preserving biodiversity.

They include bans on certain goods, quality and hygienic requirements, production processes, and compliance assessments, such as importing poultry from avian flu-affected countries.

▶ 2. Technical Barriers to Trade (TBT):

Technical Barriers to Trade (TBT) which cover both food and non-food traded products refer to mandatory *'Standards and Technical Regulations that define the specific characteristics* that a product should have, such as its size, shape, design, labelling / marking / packaging, functionality or performance and production methods, excluding measures covered by the SPS Agreement.

TBT measures, such as testing, inspection, and certification, ensure product conformity to export requirements. These standards-based measures protect consumers and preserve resources, but can also hinder imports or discriminate against domestic products. Altering production processes to meet diverse export market requirements may be difficult or costly.
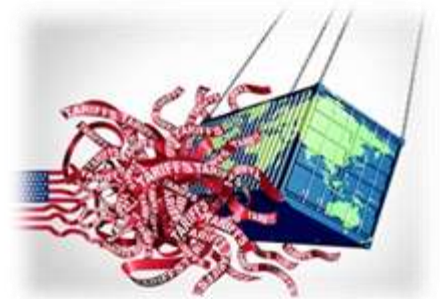
⬡ Non-Technical Measures

Trade protective measures neutralize import adverse effects in importing countries' markets, with commonly practiced measures including:

▶ (i) Import Quotas:

An import quota is a direct restriction on the physical amount of a good allowed into a country for a year, typically set below the free trade level and enforced by licenses.

▶ (ii) Price Control Measures:

Price control measures, also known as *'Para-tariff'* measures, are measures used to regulate the prices of imported goods, such as establishing a minimum import price for sulphur, to support domestic prices when import prices are lower.

▶ (iii) Non-automatic Licensing and Prohibitions:

India's import measures limit goods from various sources, ranging from nonautomatic licensing to complete prohibitions.

Examples include discretionary licenses for textiles, prohibitions on arms and related materials from Iraq, and items under 60 EXIM codes.

▶ (iv) Financial Measures:

Financial measures aim to increase import costs by regulating foreign exchange access and payment terms. They include advance payment requirements and controls, denying foreign exchange use for certain import types or goods from certain countries.

▶ (v) Measures Affecting Competition:

These measures are aimed at granting exclusive or special preferences or privileges to one or a few limited groups of economic operators. It may include government imposed special import channels or enterprises, and compulsory use of national services.

▶ (vi) Government Procurement Policies:

Government procurement policies may hinder trade by mandating domestic firms for a specified percentage of purchases, despite higher prices, and favouring local tenders over foreign ones in public tenders.

▶ (vii) Trade-Related Investment Measures:

The measures involve local content requirements that mandate a specific percentage of a final good to be produced domestically.

(a) requirement to use certain minimum levels of locally made components, (25 percent of components of automobiles to be sourced domestically)

(b) restricting the level of imported components, and

(c) limiting the purchase or use of imported products to an amount related to the quantity or value of local products that it exports. (A firm may import only up to 75 % of its export earnings of the previous year).

▶ (viii) Distribution Restrictions:

Distribution restrictions restrict goods' distribution in importing countries, requiring additional licenses or certifications. Geographical or agent types may be limited, such as limiting imported fruits to outlets with refrigeration facilities.

▶ (ix) Restriction on post-sales Services:

Producers may be restricted from providing aftersales services for exported goods in the importing country. Such services may be reserved to local service companies of the importing country.

▶ (x) Administrative Procedures:

Costly administrative procedures for importing foreign goods can hinder free trade, increase transaction costs and discourage imports. Non-tariff measures, such as license requirements and red tape, can also hinder compliance.

▶ (xi) Rules of origin:

Country of origin refers to the country where a product was produced or traded, and rules of origin are criteria used by importing countries to determine the national source of a product, with significant procedural obstacles in home countries.

▶ (xii) Safeguard Measures:

Countries temporarily restrict imports of a product to protect their domestic industry from serious harm due to a surge in imports, ensuring non-discriminatory measures.

▶ (xiii) Embargos:

An embargo is a government-imposed ban on import or export of certain commodities for a specified or indefinite period, often imposed for political, health, or religious reasons.

EXPORT-RELATED MEASURES

(i) Ban on exports:	Export-related measures, including technical and non-technical measures, are implemented by the exporting country to control international markets, such as limiting agricultural exports during shortages, thereby increasing international prices.
(ii) Export Taxes:	An export tax, either specific or ad valorem, increases goods' prices, decreases exports, and increases domestic supply, leading to lower domestic prices and higher consumption.
(iii) Export Subsidies and Incentives:	Tariffs on imports negatively impact exports, leading to compensatory measures like export subsidies and duty drawbacks. Governments provide financial support to domestic producers, often promoting exports to encourage domestic industries to sell abroad.

(iv) Voluntary Export Restraints:	Voluntary Export Restraints (VERs) are informal quotas imposed by an exporting country to limit the quantity of goods exported. Originating from political considerations, VERs are negotiated between the importer and exporter to appease the importing country and avoid retaliatory trade restraints.

Over the past few decades, global trade patterns have undergone significant transformations, with developing countries becoming increasingly important. Regional arrangements and policies aimed at protecting economic interests are shaping the global trade landscape. Students are expected to stay updated on these ongoing changes.

Chapter 9
Unit 3: Trade Negotiations

INTRODUCTION TO TRADE NEGOTIATIONS

Trade negotiations involve intense bilateral and multilateral discussions among nations on the international stage. These negotiations are crucial in the modern global economy, influenced by events such as **Britain's exit from the European Union, the United States***–Mexico–Canada Agreement (USMCA) succeeding NAFTA, and global events like trade wars and pandemics.*

▶ Key Stakeholders:

National governments are not the sole parties involved; various interest groups, lobbying groups, pressure groups, and Non-Governmental Organizations (NGOs) also exert influence. Each negotiating party's position reflects its underlying interests, such as bargaining for market access through tariff reduction versus clamouring for protection of domestic industries.

TAXONOMY OF REGIONAL TRADE AGREEMENTS (RTAS)

Regional Trade Agreements (RTAs)

Are defined as groupings of countries, which may or may not belong to the same geographical region, formed with the objective of reducing trade barriers among member countries. An RTA is essentially *a treaty between two or more governments* *that establishes the rules of trade for all signatories.* *As of 1 February 2021, 339 RTAs were in force.*

Trade negotiations lead to various types of agreements:

Unilateral Trade Agreements:
Definition: An importing country offers trade incentives to encourage an exporting country to engage in international economic activities, aiming to improve the exporting country's economy. **Example:** A developed nation offering preferential tariff rates to products from a specific least-developed country without requiring reciprocal concessions from that country.
Bilateral Agreements:
Definition: Agreements that set trade rules between two countries, two blocs, or a bloc and a country. These can be limited to specific goods, services, or types of market entry barriers. **Example:** A Free Trade Agreement (FTA) between Australia and New Zealand, covering specific sectors and aiming to reduce trade barriers between them.

Regional Preferential Trade Agreements:

Definition: Agreements among a group of countries that reciprocally and preferentially reduce trade barriers for only the members of the group.
Example: The South Asian Preferential Trade Agreement (SAPTA) among SAARC member states, aiming to reduce tariffs on goods traded between them.

Trading Bloc:

Definition: A group of countries that have a free trade agreement among themselves and may apply a common external tariff to other countries.
Example: The Economic Community of West African States (ECOWAS), which has internal free trade among members and a common external tariff.

Free-Trade Area:

Definition: A group of countries that eliminate all tariff and quota barriers on trade among themselves to increase the exchange of goods. Member states maintain their own distinct external tariffs with respect to imports from non-member countries, retaining independence in determining these tariffs.
Example: The European Free Trade Association (EFTA), where member states trade freely among themselves but each sets its own trade policy with non-EFTA countries.

Customs Union:

Definition: A group of countries that eliminate all tariffs on trade among themselves, similar to a free-trade area, but crucially maintain a common external tariff on trade with countries outside the union. This common external tariff distinguishes it from a free-trade area.
Example: The Southern African Customs Union (SACU), where member countries have free trade among themselves and apply a common external tariff to goods from outside the union.

Common Market:

Definition: This form deepens a customs union by providing for the free flow of output and factors of production (labour, capital, and other productive resources). It involves reducing or eliminating internal tariffs on goods and creating a common set of external tariffs. Member countries also attempt to harmonise some institutional arrangements and commercial and financial laws and regulations among themselves.
Example: The East African Community (EAC), which aims for free movement of goods, people, labour, services, and capital among member states.

Economic and Monetary Union:

Definition: This is the next stage after a common market, where members share a common currency. Adopting a common currency necessitates a strong convergence in macroeconomic policies. The free transit of goods and services in a common market increases the need for foreign exchange operations, leading to higher financial and administrative expenses, which a monetary union aims to alleviate.
Example: The Eurozone, a subset of the European Union, where member states have adopted the Euro as their common currency and coordinate their monetary and fiscal policies.

THE GENERAL AGREEMENT ON TARIFFS AND TRADE (GATT)

The General Agreement on Tariffs and Trade (GATT) was a political process and a set of political institutions that provided the rules for most of the world's trade for 47 years, from 1948 to 1994. It covered international trade in goods.

Its operations were overseen by the Council for Trade in Goods (Goods Council), composed of representatives from all WTO member countries, and supported by 10 committees dealing with specific subjects like agriculture, market access, and anti-dumping measures.

Reasons for GATT's Loss of Relevance by the 1980s:

GATT became obsolete due to several factors:

It could not keep pace with the <u>fast-evolving contemporary complex world trade scenario</u>, characterised by emerging globalisation.
<u>International investments had expanded substantially</u>, which GATT did not cover.
<u>Intellectual property rights and trade in services were not covered</u> by GATT.
<u>World merchandise trade increased exponentially</u>, surpassing its scope.
The <u>ambiguities in the multilateral system could be heavily exploited</u>.
Efforts to liberalise <u>agricultural trade were largely unsuccessful</u>.
There were <u>inadequacies in its institutional structure and dispute settlement system</u>.
GATT was <u>not a formal treaty</u>, meaning its terms were only binding if they were consistent with a nation's domestic rules.

THE URUGUAY ROUND AND THE ESTABLISHMENT OF WTO

By the late 1980s, many countries recognised the need for a more powerful and comprehensive formal international organisation. The Uruguay Round, the eighth and most ambitious round of multilateral trade negotiations, initiated in Punta del Este, Uruguay, in September 1986.

It aimed to address virtually every outstanding trade policy issue and brought about the biggest reform of the world's trading system.

Key Aspects of the Uruguay Round:

▶ Negotiating Agenda:

Members established 15 groups to work on limiting restrictions in areas such as tariffs, non-tariff barriers, tropical products, natural resource products, textiles and clothing, agriculture, safeguards against import surges, subsidies, countervailing duties, trade-related intellectual property restrictions, trade-related investment restrictions, and services.

It also dealt with GATT itself, including its system, dispute settlement procedures, and the implementation of NTB Codes from the Tokyo Round.

▶ Duration and Conclusion:

Originally scheduled for completion by December 1990, the Round-faced delays due to significant differences, particularly over agriculture. It finally concluded in December 1993 after seven years of elaborate negotiations, with 123 countries participating.

▶ Establishment of WTO:

The agreement was signed on 15 April 1994 and took effect on 1 July 1995. This marked the birth of the World Trade Organization (WTO), which became the single institutional framework encompassing the GATT, as modified by the Uruguay Round.

THE WORLD TRADE ORGANIZATION (WTO)

The World Trade Organization (WTO) is the only global international organisation that establishes and enforces rules for trade between nations. Its foundation lies in the WTO agreements, which are negotiated and signed by the majority of the world's trading nations and ratified by their parliaments.

▶ Principal Objective:

To facilitate the flow of international trade smoothly, freely, fairly, and predictably.

Six Key Objectives of the WTO:

Setting and enforcing rules for international trade.	Providing a forum for negotiating and monitoring further trade liberalisation.	Resolving trade disputes.	Cooperating with other major international economic institutions involved in global economic management.	Helping developing countries benefit fully from the global trading system

The WTO's primary purpose is to open trade for the benefit of all, functioning as a forum for trade negotiations, administering trade agreements, reviewing national trade policies, assisting developing countries through technical assistance and training, and cooperating with other international organisations.

Membership:

The WTO currently has 164 members, accounting for approximately 95% of world trade, with 117 members being developing countries or separate customs territories. Around 24 more are negotiating membership, and all members' parliaments have ratified the WTO agreements.

The Structure of the WTO

The WTO operates with a three-tier decision-making system and a Secretariat located in Geneva, headed by a Director-General.

Ministerial Conference:

The top-level decision-making body, capable of taking decisions on all matters under any multilateral trade agreement. It meets at least once every two years.

General Council:

Meets several times a year at the Geneva headquarters. It also functions as the Trade Policy Review Body and the Dispute Settlement Body.

Specialised Councils:

The Goods Council, Services Council, and Intellectual Property (TRIPS) Council report to the General Council. These councils are responsible for overseeing the implementation of WTO agreements in their respective areas.

Secretariat and Committees:

The WTO Secretariat maintains working relations with almost 200 international organisations, supporting activities like statistics, research, and technical assistance. Numerous specialised committees, working groups, and working parties address individual agreements, environmental issues, development, membership applications, and regional trade agreements.

The Guiding Principles of the World Trade Organization (WTO)

The WTO is built upon several fundamental principles that underpin the multilateral trading system:

Trade without Discrimination (Most-Favoured-Nation - MFN Treatment):

Definition:

Countries normally <u>cannot discriminate between their trading partners</u>. If a special favour, such as a lower customs duty rate, is granted to one trading partner, it must be extended to all other WTO members.

Importance:

This principle is fundamental and is the first article of GATT (governing trade in goods), also a priority in GATS (services) and TRIPS (intellectual property), although applied with slight differences in each. It ensures that whenever a trade barrier is lowered or a market is opened, it applies equally to the same goods or services from all trading partners, irrespective of their economic status.

Exceptions (under strict conditions):

➜ Countries can establish <u>free trade agreements</u> that apply only to goods traded within that group, discriminating against goods from outside.

➜ Special market access can be given to <u>developing countries</u>.

➜ In services, discrimination is allowed in limited circumstances.

Example: If Country A lowers its import tariff on coffee beans from Country B, under MFN, Country A must automatically apply the same lower tariff to coffee beans from all other WTO member countries, such as Country C or Country D.

National Treatment: Treating Foreigners and Locals Equally:

Definition:

After foreign goods have entered the market, <u>imported and locally-produced goods should be treated equally</u>. This principle also applies to foreign and domestic services, as well as foreign and local trademarks, copyrights, and patents.

Application:

This principle is found in GATT (Article 3), GATS (Article 17), and TRIPS (Article 3), with slight variations.

Key Distinction:

National treatment only applies *once* a product, service, or intellectual property item has entered the market. Therefore, charging customs duty on an import is <u>not a violation</u> of national treatment, even if locally-produced products are not charged an equivalent tax.

Example: Once imported automobiles from Country X clear customs in Country Y, they should be subject to the same sales tax, safety regulations, and environmental standards as domestically produced automobiles in Country Y.

Freer Trade: Gradually, Through Negotiation:

Objective:

To encourage trade by <u>gradually lowering trade barriers</u>, including customs duties (tariffs) and quantitative restrictions like import bans or quotas. Other issues like red tape and exchange rate policies are also discussed.

Implementation:

WTO agreements allow countries to introduce changes progressively ("progressive liberalisation"), with developing countries often given longer periods to fulfil their obligations.

Example: Through subsequent rounds of negotiations, WTO members agree to progressively reduce average tariffs on industrial goods over a period of several years, rather than immediately eliminating them all.

▶ Predictability: Through Binding and Transparency:

Importance:

Promises not to raise trade barriers are as crucial as lowering them, as they provide businesses with a clearer outlook, encouraging investment, job creation, and consumer benefits from competition (choice and lower prices).

Binding Commitments:

When countries agree to open their markets, they "bind" their commitments. For goods, these bindings set **ceilings on customs tariff rates**. While countries can tax imports at rates lower than bound rates (common in developing countries), developed countries often match actual and bound rates.

Changing Bindings:

A country can change its bindings, but only after negotiating with trading partners and potentially compensating them for trade losses. The Uruguay Round significantly increased trade under binding commitments, with 100% of agricultural products now having bound tariffs, enhancing market security.

Transparency:

The system promotes predictability and stability by discouraging quotas (which can lead to red tape and unfair play accusations) and by requiring countries to make their trade rules as clear and public ("transparent") as possible. Governments must disclose policies and practices publicly or by notifying the WTO. Regular surveillance through the Trade Policy Review Mechanism (TPRM) further encourages transparency.

Example: Country P commits to a bound tariff of 10% on imported electronics. Even if it currently charges 5%, businesses importing to Country P can be confident that the tariff will not exceed 10% without prior negotiations and potential compensation, providing investment certainty.

Promoting Fair Competition:

Nature of WTO:
Often described as a "free trade" institution, the WTO is more accurately a system of rules dedicated to **open, fair, and undistorted competition**. It allows tariffs and, in limited circumstances, other forms of protection.
Mechanisms:
Non-discrimination principles (MFN and national treatment) ensure fair trade conditions. Rules on **dumping** (exporting below cost to gain market share) and **subsidies** establish what is fair or unfair, guiding government responses, such as charging additional import duties to compensate for damage caused by unfair trade.
Supporting Agreements:
Many other WTO agreements, such as those on agriculture, intellectual property, and services, support fair competition. The plurilateral Agreement on Government Procurement extends competition rules to purchases by thousands of government entities.   *Example:* If Company A from Country X sells its products in Country Y at a price below its production cost, which harms Country Y's domestic industry, the Anti-Dumping Agreement allows Country Y to impose anti-dumping duties to restore fair competition.

Encouraging Development and Economic Reform

Contribution to Development:
The WTO system is designed to contribute to development.
Flexibility for Developing Countries:
Developing countries are granted **flexibility in implementing agreements**, including longer transition periods to adjust to WTO provisions. The agreements also incorporate earlier GATT provisions for special assistance and trade concessions for developing countries.
Active Participation:
Over three-quarters of WTO members are developing countries or transition economies, and they have become increasingly active and influential in negotiations, particularly in the current Doha Development Agenda.
Support for Least-Developed Countries:
Following the Uruguay Round, a ministerial decision called for better-off countries to accelerate market access commitments for least-developed countries' exports and increase technical assistance. More recently, developed countries have begun allowing duty-free and quota-free imports for almost all products from least-developed countries.
Doha Development Agenda:
This agenda specifically addresses developing countries' concerns about difficulties in implementing Uruguay Round agreements.

UNIQUE
ACADEMY FOR COMMERCE

Example: The WTO's "Aid for Trade" initiative provides financial and technical assistance to developing countries to help them build trade capacity, overcome supply-side constraints, and implement trade agreements, enabling them to better integrate into the global trading system.

Overview of the WTO Agreements

The WTO agreements, often referred to as the WTO's trade rules, cover goods, services, and intellectual property. They are dynamic and renegotiated over time, with new agreements evolving from negotiations, such as those under the Doha Development Agenda.

Important agreements under the WTO include:

Agreement on Agriculture:

Aims to strengthen GATT disciplines and improve agricultural trade by including specific and binding commitments on market access, domestic support, and export subsidies.

Agreement on the Application of Sanitary and Phytosanitary (SPS) Measures:

Establishes multilateral frameworks for planning, adopting, and implementing sanitary and phytosanitary measures to prevent their use as arbitrary or unjustifiable trade discrimination or disguised trade restraints.

Agreement on Textiles and Clothing (ATC):

Replaced the Multi-Fibre Arrangement (MFA) from 1974. It mandated the deregulation of textile trade by gradually integrating it into GATT disciplines over a 10-year transition period.

Agreement on Technical Barriers to Trade (TBT):

Seeks to prevent standards and conformity assessment systems from becoming unnecessary trade barriers. It achieves this by promoting transparency and harmonisation with international standards, addressing issues like excessive standards or misuse of regulations for manufactured goods and safety/environment.

Agreement on Trade-Related Investment Measures (TRIMs):

Expands disciplines governing investment measures related to cross-border investments. It prohibits countries receiving foreign investments from imposing measures inconsistent with national treatment and general elimination of quantitative restrictions (e.g., local content requirements, trade balancing requirements).

Anti-Dumping Agreement:

Aims to tighten and codify disciplines for calculating dumping margins and conducting dumping investigations to prevent the abuse or misuse of anti-dumping measures for domestic industry protection.

Customs Valuation Agreement:

Specifies rules for more consistent and reliable customs valuation, harmonising systems internationally by eliminating arbitrary valuation.

Agreement on Pre-shipment Inspection (PSI):

Ensures transparency in pre-shipment inspections, where a company designated by the importing country inspects merchandise (quality, volume, price, tariff classification, customs valuation) in the exporting country on behalf of the importing country's customs office. It also provides a dispute resolution mechanism for PSI agencies and exporters.

Agreement on Rules of Origin:

Provides for the harmonisation of rules of origin for application to all non-preferential commercial policy instruments. It also includes dispute settlement procedures and established the rules of origin committee.

Agreement on Import Licensing Procedures:

Relates to simplifying administrative procedures and ensuring their fair operation to prevent import licensing procedures from acting as trade barriers.

Agreement on Subsidies and Countervailing Measures:

Aims to clarify subsidy definitions, strengthen disciplines by subsidy type, and strengthen/clarify procedures for adopting countervailing tariffs.

Agreement on Safeguards:

Clarifies disciplines for requirements and procedures for imposing safeguards (emergency measures to restrict imports in the event of a sudden surge) and related measures.

General Agreement on Trade in Services (GATS):

Provides general obligations for trade in services, such as most-favoured-nation treatment and transparency. It also enumerates service sectors and stipulates that for sectors where commitments are made, a member country cannot maintain or introduce market access restrictions or discriminatory measures more severe than those committed during negotiations.

Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS):

Stipulates most-favoured-nation treatment and national treatment for intellectual properties like copyright, trademarks, geographical indications, industrial designs, patents, IC layout designs, and undisclosed information. It mandates member countries to maintain high levels of intellectual property protection and administer an enforcement system for such rights, also including dispute settlement procedures.

Trade Policy Review Mechanism (TPRM):

Provides procedures for periodical reviews of members' trade policies and practices conducted by the Trade Policy Review Body (TPRB).

Plurilateral Trade Agreements:

These involve several countries with a common interest but do not include all WTO members. Not all plurilateral agreements are negotiated within the WTO framework.

THE DOHA ROUND

The _Doha Round_, formally known as the _Doha Development Agenda_, is the ninth round of multilateral trade negotiations since World War II. It was launched at the WTO's Fourth Ministerial Conference in Doha, Qatar, in November 2001.

Objectives:
The round aims to achieve significant modifications to the international trading system through <u>lower trade barriers and revised trade rules</u>.
Negotiation Areas:
Negotiations cover 20 areas of trade, including agriculture, services trade, market access for non-agricultural products (NAMA), trade facilitation, environment, geographical indications, and certain intellectual property issues.
Most Controversial Topic:
Agriculture trade has been the most controversial topic in the Doha Agenda.

G20 ECONOMIES: FACILITATING TRADE

G20 economies play a significant role in international trade, though trends indicate a move towards more trade-restrictive measures.

▶ Export Restrictions

There has been an increase in export restrictions by WTO members since 2020, initially due to the pandemic and subsequently exacerbated by the war in Ukraine and the food crisis. These restrictions contribute to shortages, price volatility, and uncertainty.

As of mid-October 2022, 52 export restrictions on food, feed, and fertilisers, and 27 on COVID-19 essential products were still in place, with G20 economies maintaining 44% and 63% of these, respectively. While some have been lifted, many remain.

▶ Supply Chain Resilience:

Despite global challenges like the war in Ukraine, the COVID-19 pandemic, high inflation, and monetary tightening, supply chains have largely shown resilience, though specific industries and regions have been impacted differently.

▶ Trade Measures by G20 (Review Period):

G20 economies introduced <u>66 new trade-facilitating measures</u> (covering USD 451.8 billion in trade) and <u>47 trade-restrictive measures on goods</u> (covering USD 160.1 billion), unrelated to the pandemic.
The accumulated stockpile of G20 import restrictions continued to grow, affecting 11.6% of G20 imports by mid-October 2022.
<u>Trade remedy investigations by G20 economies sharply declined</u> during the review period (17 initiations) after a peak in 2020. Anti-dumping measures remained the most frequent type of trade remedy action.
Implementation of new <u>COVID-19-related trade measures decelerated</u>, with four new measures on goods and one on services recorded. Support measures to mitigate the social and economic impacts also fell sharply.
Since the pandemic's start, G20 economies implemented 201 COVID-19 trade and trade-related measures in goods: 61% were trade facilitating, and 39% were trade restrictive.
G20 economies continued to <u>phase out pandemic-related import and export measures</u>, with 77% of export restrictions repealed by mid-October 2022, though 17 restrictions remained with significant trade coverage (USD 122.0 billion).

▶ G20 Members:

Argentina, Australia, Brazil, Canada, China, the European Union, France, Germany, India, Indonesia, Italy, Japan, the Republic of Korea, Mexico, the Russian Federation, Saudi Arabia, South Africa, Türkiye, the United Kingdom, and the United States.

Chapter 9

Unit 4: Exchange Rate and Its Economic Effects

INTRODUCTION TO INTERNATIONAL CURRENCY TRANSACTIONS

Every day, news about currency movements, such as a currency gaining or losing value against another, or rates plummeting or strengthening, highlights the dynamic nature of international finance. These headlines refer to fundamental currency transactions that are essential for global economic interactions.

It's not just domestic currency that is needed; households, businesses, and governments engage in international transactions requiring the exchange of one currency for another. For instance, an Indian company importing machinery from Germany needs Euros, or a British tourist visiting the United States needs US Dollars.

These transactions include:

<u>Buying or selling goods and services</u> priced in a foreign currency [4a].
Example: A British importer buying French wine priced in Euros.
<u>Borrowing or lending funds</u> denominated in a foreign currency [4b].
Example: A Japanese company taking out a loan from a US bank in US Dollars.
<u>Becoming a party to an unperformed forward exchange contract</u> [5c].
Example: A Canadian firm agreeing to buy US Dollars at a future date for a predetermined rate to hedge against currency risk for an upcoming payment.
<u>Acquiring or disposing of assets, or incurring or settling liabilities</u> denominated in a foreign currency [5d].
Example: A Spanish individual purchasing shares in a UK company, requiring conversion of Euros to Pounds Sterling.

These activities necessitate market transactions to determine the price of one currency in terms of another, which is known as the exchange rate.

THE EXCHANGE RATE

A foreign currency transaction is a transaction that is denominated in or requires settlement in a foreign currency, including transactions arising when an enterprise either:

(a) buys or sells goods or services whose price is denominated in a foreign currency.	(b) borrows or lends funds when the amounts payable or receivable is denominated in a foreign currency.	(c) becomes a party to an unperformed forward exchange contract; or	(d) otherwise acquires or disposes of assets, or incurs or settles liabilities, denominated in a foreign currency.

THE EXCHANGE RATE REGIMES

An exchange rate regime is the system by which a country manages its currency with respect to foreign currencies. It defines how the value of the domestic currency is determined against foreign currencies. While demand and supply forces primarily determine exchange rates, governments can significantly influence them.

There are three broad categories of exchange rate systems:

> *Purely market-driven systems:*
>
> *Exchange rates are set solely by private market forces, with values constantly changing due to demand and supply fluctuations.*

> *Market-driven with government influence:*
>
> *Currency values are allowed to change, but governments intervene in currency markets to influence these values.*

> *Fixed value systems:*
>
> *Governments aim to fix their currency values through market participation or regulatory policy.*

The two major types of exchange rate regimes at the extreme ends are:

Floating exchange rate regime	Fixed exchange rate regime

Free-Floating Exchange Rate System

Managed Float Systems

In a managed float system, exchange rates are still free to float, but governments and central banks occasionally intervene in currency markets to influence their values, typically to prevent sudden, large swings.

Example: If the Japanese Yen is appreciating too rapidly, the Bank of Japan might sell Yen in the market to increase its supply and thereby curb its rise, aiming to protect Japanese exports from becoming too expensive. Conversely, if it depreciates too much, the central bank might buy Yen.

Such interventions aim to prevent major reductions in net exports or other undesirable macroeconomic effects. An announcement by the central bank, followed by market actions, can sometimes influence market expectations and achieve the desired exchange rate movement.

Fixed Exchange Rates

In a fixed exchange rate system, the exchange rate between two currencies is set by government policy. There are several mechanisms through which fixed exchange rates may be maintained.

In an open economy, the main advantages of a fixed rate regime are:

(i) A fixed exchange rate avoids currency fluctuations and eliminates exchange rate risks and transaction costs that can impede international flow of trade and investments. International trade and investment are less risky under fixed rate regime as profits is not affected by the exchange rate fluctuations.

(ii) A fixed exchange rate can thus, greatly enhance international trade and investment.

(iii) A reduction in speculation on exchange rate movements if everyone believes that exchange rates will not change.

(iv) A fixed exchange rate system imposes discipline on a country's monetary authority and therefore is more likely to generate lower levels of inflation.

(v) The government can encourage greater trade and investment as stability encourages investment.

(vi) E Exchange rate peg can also enhance the credibility of the country's monetary-policy.

(vii) However, in the fixed or managed floating exchange rate regimes (where the market forces are allowed to determine the exchange rate within a band), the central bank is required to stand ready to intervene in the foreign exchange market and, also to maintain an adequate amount of foreign exchange reserves for this purpose.

Basically, the free floating or flexible exchange rate regime is argued to be efficient and highly transparent as the exchange rate is free to fluctuate in response to the supply of and demand for foreign exchange in the market and clears the imbalances in the foreign exchange market without any control of the central bank or the monetary authority.

A floating exchange rate has many advantages:

(i) A floating exchange rate has the greatest advantage of allowing a Central bank and/or government to pursue its own independent monetary policy.

(ii) Floating exchange rate regime allows exchange rate to be used as a policy tool: for example, policy-makers can adjust the nominal exchange rate to influence the competitiveness of the tradable goods sector.

(iii) As there is no obligation or necessity to intervene in the currency markets, the central bank is not required to maintain a huge foreign exchange reserves.

However, the greatest disadvantage of a flexible exchange rate regime is that volatile exchange rates generate a lot of uncertainties in relation to international transactions and add a risk premium to the costs of goods and assets traded across borders.

In short, a fixed rate brings in more currency and monetary stability and credibility; but it lacks flexibility. On the contrary, a floating rate has greater policy flexibility; but less stability.

NOMINAL VERSUS REAL EXCHANGE RATES

➔ *Nominal exchange rates are the exchange rates between countries, were one currency can be used to buy multiple foreign currencies. Economists use indexes to analyse these exchange rates, converting them into a single measure of currency value.*

➔ *Nominal Exchange Rates determine domestic foreign goods prices, but trade flows are influenced by real exchange rates, as buyers are interested in what can be bought with another currency.*

➔ *The real exchange rate is the exchange rate between countries, determining how many goods or services a country can trade for one in another, and is crucial for a country's net exports.*

The real exchange rate (RER) between two currencies is calculated by combining the nominal exchange rate and the ratio of prices between the two countries.

<u>*It is calculated as:*</u>

$$\textbf{\textit{Real exchange Rate}} = \frac{(Nominal\ exchange\ Rate)x\ Domestic\ price}{Foreign\ price}$$

$$\textbf{\textit{Or}}$$

$$\textbf{\textit{Real exchange Rate}} = Nominal\ exchange\ Rate\ x \frac{Domestic\ price}{Foreign\ price}$$

✓ *Thus, real exchange rate depends on the nominal exchange rate and the prices of the good in two countries measured in the local currencies.*

✓ <u>*Real exchange rate will then be:*</u>

$$\textbf{\textit{Real exchange Rate}} = Nominal\ exchange\ Rate\ x \frac{Domestic\ price\ Index}{Foreign\ price\ Index}$$

✓ *Another exchange rate concept, the Real Effective Exchange Rate (REER) is the nominal effective exchange rate (a measure of the value of a domestic currency against a weighted average of various foreign currencies) divided by a price deflator or index of costs. An increase in REER implies that exports become more expensive and imports become cheaper; therefore, an increase in REER indicates a loss in trade competitiveness.*

THE FOREIGN EXCHANGE MARKET

➔ *Forex market involves commercial banks, executing orders from various sources, and also performing trading operations in their own interests, with daily turnover exceeding billions of U.S. Dollars.*

➔ *Brokerage houses act as contractors between banks, funds, commission houses, and dealing centres, influencing price formation and market life by setting their own prices and executing currency exchange operations.*

➔ *Passive market players, unlike active market players, cannot set their own quotations and trade at active ones. They typically aim for export-import contracts, foreign investments, tourism, rate speculation, and currency risk hedging.*

In the foreign exchange market, there are two types of transactions:

(i) current transactions which are carried out in the spot market and the exchange involves immediate delivery, and

(ii) future transactions wherein contracts are agreed upon to buy or sell currencies for future delivery which are carried out in forward and/or futures markets Spot exchange rates are used for spot trading, which typically takes two days to settle. Forward exchange rates are used in future-date foreign exchange transactions. Currency forward contracts are similar to spot rates, but delivery occurs at a specified time. Forward premiums occur when forward exchange rates exceed spot rates, while discounts occur when quoted lower.

Foreign exchange transactions often involve U.S. dollars, often referred to as a 'vehicle currency' due to its critical role in forex markets.

DETERMINATION OF NOMINAL EXCHANGE RATE

The analysis of prices relies on the forces of supply and demand in markets, with the external value of a country's exchange rate determined by these forces.
Individuals, institutions and governments participate in the foreign exchange market for a number of reasons.

On the demand side, people desire foreign currency to:

• purchase goods and services from another country

• for unilateral transfers such as gifts, awards, grants, donations or endowments

• to make investment income payments abroad

• to purchase financial assets, stocks or bonds abroad

• to open a foreign bank account

• to acquire direct ownership of real capital, and

• for speculation and hedging activities related to risk-taking or risk-avoidance activity

➔ *The participants on the supply side operate for similar reasons. Thus, the supply of foreign currency to the home country results from purchases of home exports, unilateral transfers to home country, investment income payments, foreign direct investments and portfolio investments, placement of bank deposits and speculation.*

➔ *The exchange market also faces a downward-sloping demand curve and an upward- sloping supply curve.*

Determination of Nominal Exchange Rate

The equilibrium rate of exchange is determined by the interaction of the supply and demand for a particular foreign currency.

The demand curve (DS) and supply curve (S$) of dollars intersect to determine equilibrium exchange rate e_{eq} with Qe as the equilibrium quantity of dollars exchanged.
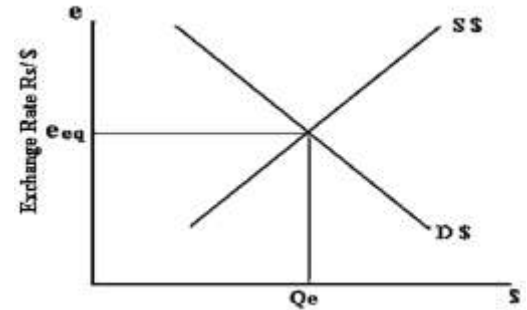
CHANGES IN EXCHANGE RATES

➔ *Changes in exchange rates portray depreciation or appreciation of one currency. The terms, currency appreciation' and 'currency depreciation describe the movements of the exchange rate.*

➔ *Currency appreciates when its value increases with respect to the value of another currency or a basket of other currencies.*

➔ *Currency depreciates when its value falls with respect to the value of another currency or a basket of other currencies.*

For example, *the Rupee dollar exchange rate in the month of January is $1 = 70. and, we find that in the month of April it is $1 = 75. What does this indicate? In April, you will have to exchange a greater amount of Indian Rupees (75) to get the same 1 unit of US dollar.*

As such, the value of the Indian Rupee has gone down or Indian Rupee has depreciated in its value. Rupee depreciation here means that the rupee has become less valuable with respect to the U.S. dollar.

Simultaneously, if you look at the value of dollar in terms of Rupees, you find that the value of the US dollar has increased in terms of the Indian Rupee. One dollar will now fetch 75 instead of 70 earlier. This is called appreciation of the US dollar. You might have observed that when one currency depreciates against another, the second currency must simultaneously appreciate against the first.
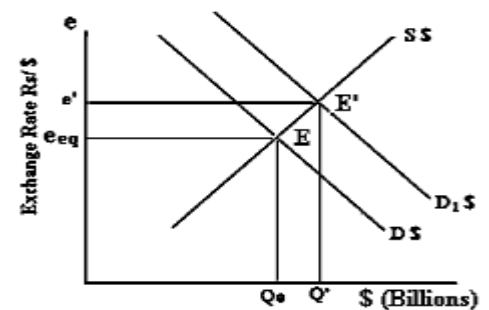
»To put it more clearly:

- Home-currency depreciation (which is the same as foreign currency appreciation) takes place when there is an increase in the home currency price of the foreign currency (or, alternatively, a decrease in the foreign currency price of the home currency). The home currency thus becomes relatively less valuable.

- Home-currency appreciation (or foreign-currency depreciation) takes place when there is a decrease in the home currency price of foreign currency (or alternatively, an increase in the foreign currency price of home currency). The home currency thus becomes relatively more valuable.

➢ Under a floating rate system, if for any reason, the demand curve for foreign currency shifts to the right representing increased demand for foreign currency, and supply curve remains unchanged, then the exchange value of foreign currency rises and the domestic currency depreciates in value.

Home-Currency Depreciation under Floating Exchange Rates

The market initially is in equilibrium at point E with equilibrium exchange rate e_{eq}. An increase in domestic demand for the foreign currency, with supply of dollars remaining constant, is represented by a rightward shift of the demand curve to $D_1\$$. The equilibrium exchange rate rises to e^1.

This indicates that more units of domestic currency (here Indian Rupees) is required to buy one unit of foreign currency (here dollar) and that the domestic currency (the Rupee) has depreciated.

Home-Currency Appreciation under Floating Exchange Rates

An increase in the supply of foreign exchange shifts the supply curve to the right to $S^1\$$ and as a consequence, the exchange rate declines to e^1. It means, that lesser units of domestic currency (here Indian Rupees) is required to buy one unit of foreign currency(dollar), and that the domestic currency (the Rupee) has appreciated.

As we are aware, in an open economy, firms and households use exchange rates to translate foreign prices in terms of domestic currency. Exchange rates also permit us to compare the prices of goods and services produced in different countries. Furthermore, import or export prices could be expressed in terms of the same currency in the trading contract. This is the reason why exchange rate movements can affect intentional trade flows.
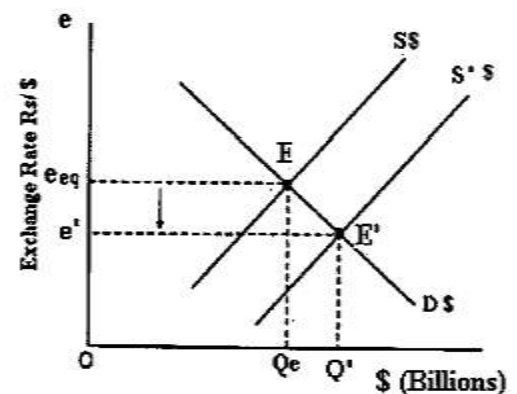
DEVALUATION (REVALUATION) VS DEPRECIATION (APPRECIATION)

➔ *Devaluation is a deliberate downward adjustment in the value of a country's currency relative to another country's currency or group of currencies or standard. It is a monetary policy tool used by countries that have a fixed exchange rate or nearly fixed exchange rate regime and involves a discrete official reduction in the otherwise fixed par value of a currency.*

➔ *The monetary authority formally sets a new fixed rate with respect to a foreign reference currency or currency basket. In contrast, depreciation is a decrease in a currency's value (relative to other major currency benchmarks) due to market forces of demand and supply under a floating exchange rate and not due to any government or central bank policy actions.*

➔ *Revaluation is the opposite of devaluation and the term refers to a discrete official increase of the otherwise fixed par value of a nation's currency. Appreciation, on the other hand, is an increase in a currency's value (relative to other major currencies) due to market forces of demand and supply under a floating exchange rate and not due to any government or central bank policy interventions.*

IMPACTS OF EXCHANGE RATE FLUCTUATIONS ON DOMESTIC ECONOMY

Exchange Rates and Economic Performance

Exchange rates are a key macroeconomic variable closely monitored and manipulated.

Unpredictability of markets due to exchange rate fluctuations can significantly impact a country's economic performance.

Understanding exchange rate fluctuations helps in assessing the appropriateness of exchange rate policy, especially in developing countries.

Foreign exchange market developments directly and indirectly affect the domestic economy.

Economic agents directly involved in international trade or finance initially feel the direct impact of rate fluctuations.

(i) Exchange rate fluctuations significantly influence a country's trade nature and extent.

(ii) Fluctuations in the exchange rate affect the economy by changing the relative prices of domestically-produced and foreign-produced goods and services. All else equal (or other things remaining the same), an appreciation of a country's currency raises the relative price of its exports and lowers the relative price of its imports. Conversely, depreciation lowers the relative price of a country's exports and raises the relative price of its imports.

When a country's currency depreciates, foreigners find that its exports are cheaper and domestic residents find that imports from abroad are more expensive. An appreciation has opposite effects

i.e., foreigners pay more for the country's products and domestic consumers pay less for foreign products.

(iii) Exchange rate changes affect economic activity in the domestic economy. A depreciation of domestic currency primarily increases the price of foreign goods relative to goods produced in the home country and diverts spending from foreign goods to domestic goods. Increased demand, both for domestic import-competing goods and for exports, encourages economic activity and creates output expansion.

Overall, the outcome of exchange rate depreciation is an expansionary impact on the economy at an aggregate level. The positive effect of currency depreciation, however, largely depends on whether the switching of demand has taken place in the right direction and in the right amount, as well as on the capacity of the home economy to meet that increased demand by supplying more goods.

(iv) For an economy where exports are significantly high, a depreciated currency would mean a lot of gain. In addition, if exports originate from labour-intensive industries, increased export prices will have positive effect on employment and potentially on wages.

(v) Depreciation is also likely to add to consumer price inflation in the short run, directly through its effect on prices of imported consumer goods and also due to increased demand for domestic goods. The impact will be greater if the composition of domestic consumption baskets consists more of imported goods. Indirectly, cost push inflation may result through possible escalation in the cost of imported inputs. In such an inflationary situation, the central bank of the country will have no incentive to cut policy rates as this is likely to increase the burden of all types of borrowers including businesses.

(vi) The fiscal health of a country whose currency depreciates is likely to be affected with rising export earnings and import payments and consequent impact on current account balance. A widening current account deficit is a danger signal as far as growth prospects of the overall economy is concerned. If export earnings rise faster than the imports spending then current account balance will improve.

(vii) Companies that have borrowed in foreign exchange through external commercial borrowings (ECBS) but have been careless and did not sufficiently hedge these loans against foreign exchange risks, would also be negatively impacted as they would require more domestic currency to repay their loans.

A depreciated domestic currency would also increase their debt burden and lower their profits and impact their balance sheets adversely. These would signal investors who will be discouraged from investing in such companies.

(viii) Countries with foreign currency denominated government debts, currency depreciation will increase the interest burden and cause strain to the exchequer for repaying and servicing foreign debt. Fortunately, India's has small proportion of public debt in foreign currency.

(ix) Exchange rate fluctuations make financial forecasting more difficult for firms and larger amounts will have to be earmarked for insuring against exchange rate risks through hedging.

(x) With growth of investments across international boundaries, exchange rates have assumed special significance. Investors who have purchased a foreign asset, or the corporation which floats a foreign debt, will find themselves facing foreign exchange risk. Exchange rate movements have become the single most important factor affecting the value of investments at international level. They are critical to business volumes, profit forecasts, investment plans and investment outcomes. Depreciating currency hits investor sentiments and has radical impact on patterns of international capital flows.

(xi) Foreign investors are likely to be indecisive or highly cautious before investing in a country that has high exchange rate volatility. Foreign capital inflows are characteristically vulnerable when local currency weakens. Therefore, foreign portfolio investment flows into debt and equity as well as foreign direct investment flows are likely to shrink. This shoots up capital account deficits affecting the country's fiscal health.

➔ *An appreciation of currency or a strong currency (or possibly an overvalued currency) makes the domestic currency more valuable and, therefore, can be exchanged for a larger amount of foreign currency. An appreciation will have the following consequences on real economy.*

(i) Currency appreciation leads to decreased exports and imports, resulting in a decrease in domestic aggregate demand and potentially affecting economic growth.

(ii) Appreciation's outcome depends on business cycle stage. Recessionary appreciation leads to higher unemployment and lower aggregate demand, while boom appreciation reduces inflation and slows economic growth.

(iii) Appreciation can lower inflation levels by lowering import costs, reducing production costs, and reducing aggregate demand, leading to improved living standards and lower inflation.

(iv) Export prices negatively impact domestic industry competitiveness, leading firms to introduce technological innovations and capital-intensive production to reduce costs and stay competitive.

(v) Imports and exports can lead to larger deficits and worsen the current account. Appreciation's impact depends on demand elasticity, with inelastic demand improving the current account position. Higher demand elasticity leads to greater export losses.

(vi) The loss of competitiveness is negligible if currency appreciation is due to robust economic fundamentals.

This unit discusses the importance of understanding exchange rate developments and their impact on economic welfare, emphasizing the need for countries to be informed about these developments.

Chapter 9
Unit 5: International Capital Movements

TYPES OF FOREIGN CAPITAL

Foreign capital is a broad term encompassing any capital inflow from abroad into a home country. It is important to distinguish between the general movement of capital and specific foreign investments.

Key components of foreign capital flows include:

▶ *1. Foreign aid or assistance which may be:*

(a) Bilateral or direct inter government grants.

(b) Multilateral aid from many governments who pool funds with international organizations like the World Bank.

(c) Tied aid with strict mandates regarding the use of money or untied aid where there are no such stipulations

(d) Foreign grants which are voluntary transfer of resources by governments, institutions, agencies or organizations.

▶ *2. Borrowings which may take different forms such as:*

(a) Direct inter government loans

(b) Loans from international institutions (e.g., world bank, IMF, ADB)

(c) Soft loans for e.g., from affiliates of World Bank such as IDA

(d) External commercial borrowing, and

(e) Trade credit facilities

▶ *3. Deposits from Non-Resident Indians (NRI):*

Funds placed in accounts in India by Indian citizens residing abroad.
Example: An Indian software engineer working in the United States maintains a savings account in a private bank in Mumbai, depositing a portion of their overseas earnings into it.

▶ *4. Investments in the form of:*

(i) Foreign portfolio investment (FPI) in bonds, stocks and securities, and

(ii) Foreign direct investment (FDI) in industrial, commercial and similar other enterprises

A detailed discussion about all types of capital movements is beyond the scope of this unit and therefore, we shall concentrate only on foreign investments.

WEALTH -HOLDER DECISIONS

Foreign direct investment (FDI) involves long-term relationships between a resident entity in one economy and an enterprise in another, typically through acquisition of over 10% of the target asset, including initial transactions and subsequent transactions among affiliated enterprises. The IMF and OECD categorize foreign direct investment (FDI) as acquisition of at least 10% of ordinary shares in a public or private enterprise, with India following the same pattern.

Foreign direct investors can include individuals, private enterprises, governments, estates, trusts, or organizations. Common forms include opening overseas companies, joint ventures, natural resource development, and purchasing or annexing companies in receiving countries.

Direct investments involve foreign ownership of production facilities, allowing investors to control capital use and decision-making. This long-term relationship fosters a significant influence on enterprise management, ensuring lasting interest.

Based on the nature of foreign investments, FDI may be categorized as horizontal, vertical or conglomerate.

i. Horizontal direct investment involves establishing the same business operation in a foreign country as in its home country, such as a US cell phone service provider moving to India.

ii. Vertical investment involves acquiring a foreign business activity that supplements the main business activity, such as a manufacturing company acquiring an interest in a foreign company providing necessary parts or raw materials.

iii. A conglomerate type of foreign direct investment involves an investor investing in a business unrelated to their home country, often through joint ventures with existing foreign firms.

Two-way direct foreign investments involve reciprocal investments between countries, where advanced industries are more advanced in one nation and efficient industries are more efficient in another.

FOREIGN PORTFOLIO INVESTMENT (FPI)

Foreign portfolio investment involves the flow of financial capital, not real capital, and is primarily affected by individuals and institutions through the capital market.

Examples include depositing funds in Indian or British banks by Italian companies or purchasing.

Swiss bonds by French citizens. Foreign portfolio investment (FPI) focuses on earning are moderative return through foreign securities, primarily concerned with capital safety, potential appreciation, and return generated.

Investors do not exercise voting power or control company affairs, moving their capital to a recipient country with higher returns.

Portfolio investments, characterized by a lower stake in companies below 10%, are typically short-term and do not aim to boost an economy's productive capacity through capital asset creation. Portfolio investments are speculative, with investors evaluating each independent unit's prospects and shifting capital accordingly. If investor confidence is shaken, capital may quickly shift, potentially leading to financial crises.

Foreign direct investment (FDI) VS Foreign portfolio investment (FPI)

Foreign Direct Investment (FDI)	Foreign Portfolio Investment (FPI)
Investment involves creation of physical assets	Investment is only in financial assets
Has a long-term interest and therefore remain invested for long	Only short-term interest and generally remain invested for short periods
Relatively difficult to withdraw	Relatively easy to withdraw
Not inclined to be speculative	Speculative in nature
Often accompanied by technology transfer	Not accompanied by technology transfer
Direct impact on employment of labour and wages	No direct impact on employment of labour and wages
Enduring interest in management and control	No abiding interest in management and control
Securities are held with significant degree of influence by the investor on the management of the enterprise	Securities are held purely as a financial investment and no significant degree of influence on the management of the enterprise

REASONS FOR FOREIGN DIRECT INVESTMENT

Economic prosperity and capital abundance are essential for exporting capital to other countries. Reserve capital accumulation attracts economic agents to maximize interests and generate profits in other countries.

Capital movement between regions or industries is driven by the expectation of higher returns, often due to firm-specific knowledge or assets that enable foreign firms to outperform domestic firms.

Other reasons for international capital movements include economic growth and strategic location.

the increasing interdependence of national economies and the consequent trade relations and international industrial cooperation established among them
internationalisation of production and investment of transnational corporations in their subsidiaries and affiliates.
desire to reap economies of large-scale operation arising from technological growth
Lack of feasibility of licensing agreements with foreign producers in view of the rapid rate of technological innovations
necessity to retain direct control of production knowledge or managerial skill (usually found in monopolistic or oligopolistic markets) that could easily and profitably be utilized by corporations
desire to procure a promising foreign firm to avoid future competition and the possible loss of export markets
risk diversification so that recessions or downturns may be experienced with reduced severity
shared common language or common boundaries and possible saving in time and transport costs because of geographical proximity
necessity to retain complete control over its trade patents and to ensure consistent quality and service or for creating monopolies in a global context
promoting optimal utilization of physical, human, financial and other resources
desire to capture large and rapidly growing high potential emerging markets with substantially high and growing population
ease of penetration into the markets of those countries that have established import restrictions such as blanket bans, high customs duties or non-tariff barriers which make it difficult for the foreign firm to sell in the host-country market by 'getting behind the tariff wall'.
lower environmental standards in the host country and the consequent relative savings in costs
stable political environment and overall favourable investment climate in the host country
higher degree of openness to foreign capital exhibited by the recipient country and the prevalence of preferential investment systems such as special economic zones to encourage direct foreign investments
the strategy to obtain control of strategic raw material or resource so as to ensure them uninterrupted supply at the lowest possible price, usually a form of vertical integration
desire to secure access to minerals or raw material deposits located elsewhere and earn profits through processing them to finished form (E.g., FDI in petroleum)
the existence of low relative wages in the host country because of relative labour abundance coupled with shortage and high cost of labour in capital exporting countries, especially when the production process is labour intensive.
lower level of economic efficiency in host countries and identifiable gaps in development.

tax differentials and tax policies of the host country which support foreign direct investment. However, a low tax burden cannot compensate for a generally fragile and unattractive FDI environment.

Inevitability of defensive investments in order to preserve a firm's competitive position.

high gross domestic product and high per capita income coupled with their high rate of growth. There are also other philanthropic objectives such as strengthening of socio-economic infrastructure, alleviation of poverty and maintenance of ecological balance of the host country, and

prevalence of high standards of social amenities and possibility of good quality of life in the host country.

Host Country Determinants of Foreign Direct Investment

Economic Determinants	Policy Framework
Market-seeking FDI: Market size and per capita income Market growth Access to regional and global markets Country-specific consumer preferences Structure of markets	Economic, political, and social stability Rules regarding entry and operations Standards of treatment of foreign affiliates
Resource - or asset-seeking FDI: Raw materials Low -cost unskilled labour Availability of skilled labour Technological, innovative, and other created assets (e.g., brand names) Physical infrastructure	Policies on functioning and structure of markets (e.g., regarding competition, mergers) International agreements on FDI Privatization policy Trade policies and coherence of FDI and trade policies Tax policy
Efficiency -seeking FDI: Costs of above physical and human resources and assets (including an adjustment for productivity) Other input costs (e.g., intermediate products, transport costs) Membership of country in a regional integration agreement, which could be conducive to forming regional corporate networks	**Business Facilitation** Investment promotion (including image building and investment generating activities and investment facilitation services) Investment incentives "Hassle costs" (related to corruption and administrative efficiency) Social amenities (e.g., bilingual schools, quality of life) After-investment services

Factors in the host country discouraging inflow of foreign investments are infrastructure lags, high rates of inflation, balance of payment deficits, poor literacy and low labour skills, rigidity in the

labour market, bureaucracy and corruption, unfavourable tax regime, cumbersome legal formalities and delays, difficulties in contract enforcement, land acquisition issues, small size of market and lack of potential for its growth, political instability, absence of well-defined property rights, exchange rate volatility, poor track-record of investments, prevalence of non-tariff barriers, stringent regulations, lack of openness, language barriers, high rates of industrial disputes, lack of security to life and property, lack of facilities for immigration and employment of foreign technical and administrative personnel, double taxation and lack of a general spirit of friendliness towards foreign investors.

MODES OF FOREIGN DIRECT INVESTMENT (FDI)

FDI can be undertaken through various operational strategies:

(i) Opening of a subsidiary or associate company in a foreign country,

(ii) Equity injection into an overseas company,

(iii) Acquiring a controlling interest in an existing foreign company.

(iv) Mergers and acquisitions (M&A) 33308

(v) Joint venture with a foreign company.

(vi) Green field investment (establishment of a new overseas affiliate for freshly starting production by a parent company).

(vii) Brownfield investments (a form of FDI which makes use of the existing infrastructure by merging, acquiring or leasing, instead of developing a completely new one. For e.g., in India 100% FDI under automatic route is allowed in Brownfield Airport projects

BENEFITS OF FOREIGN DIRECT INVESTMENT

The benefits from and concerns about FDI are widely discussed and well documented. While recognizing the fact that there are also benefits and costs to the home country from capital outflow, in this unit we focus only on host-country effects of FDI with particular attention to the developing countries.

Following are the benefits ascribed to foreign investments:

1. Entry of foreign enterprises usually fosters competition and generates a competitive environment in the host country. The domestic enterprises are compelled to compete with the foreign enterprises operating in the domestic market.

This results in positive outcomes in the form of cost-reducing and quality-improving innovations, higher efficiency and increasing variety of better products and services at lower prices ensuring wider choice and welfare for consumers.

2. International capital allows countries to finance more investment than can be supported by domestic savings. The provision of increased capital to work with labour and other resources available in the host country can enhance the total output/GDP (as well as output per unit of input) flowing from the factors of production.

3. From the perspective of emerging and developing countries, FDI can accelerate growth and foster economic development by providing the much-needed capital, technological know-how, management skills, marketing methods and critical human capital skills in the form of managers and technicians. The spill-over effects of the new technologies usually spread beyond the foreign corporations. In addition, the new technology can clearly enhance the recipient country's production possibilities.

4. Competition for FDI among national governments also has helped to promote political and structural reforms important to attract foreign investors, including legal systems and macroeconomic policies.

5. Since FDI involves setting up of production base (in terms of factories, power plants, etc.), it generates direct employment in the recipient country. Subsequent FDI as well as domestic investments propelled in the downstream and upstream projects that come up in multitude of other services, generate multiplier effects on employment and income/GDP.

6. FDI not only creates direct employment opportunities but also, through backward and forward linkages, generate indirect employment opportunities. This impact is particularly important if the recipient country is a developing country with an excess supply of labour caused by population pressure.

7. Foreign direct investments also promote relatively higher wages for skilled jobs. More indirect employment will be generated to people in the lower-end services sector occupations thereby catering to an extent even to the less educated and unskilled persons engaged in those units.

8. Foreign corporations provide better access to foreign markets. Unlike portfolio investments, FDI generally entails people-to-people relations and is usually considered as a promoter of bilateral and international relations. Greater openness to foreign capital leads to higher national dependence on international investors, making the cost of discords higher.

9. There is also greater possibility for the promotion of ancillary units resulting in job creation and skill development for workers.

10. Foreign enterprises possessing marketing information with their global network of marketing are in a unique position to utilize these strengths to promote the exports of developing countries. If the foreign capital produces goods with export potential, the host country is in a position to secure scarce foreign exchange needed to import capital equipment's or materials to assist the country's development plans or to ease its external debt servicing.

11. If the host country is in a position to implement effective tax measures, the foreign investment projects also would act as a source of new tax revenue which can be used for development projects.

12. It is likely that foreign investments enter into industries in which economies of scale can be realized so that consumer prices may be reduced. Domestic firms might not always be able to generate the necessary capital to achieve the cost reductions associated with large-scale production.

13. Increased competition resulting from the inflow of foreign direct investments facilitates weakening of the market power of domestic monopolies resulting in a possible increase in output and fall in prices.

14. Since FDI has a distinct advantage over the external borrowings, it is considered to have a favourable impact on the host country's balance of payment position, and

15. Better work culture and higher productivity standards brought in by foreign firms may possibly induce productivity related awareness and may also contribute to overall human resources development.

POTENTIAL PROBLEMS ASSOCIATED WITH FOREIGN DIRECT INVESTMENT

Foreign direct investment (FDI) can yield numerous benefits, but critics argue it's often focused on profits and exploiting natural resources, rather than addressing the development needs of host countries. They view foreign capital as an instrument of imperialism, a source of inequality, and a tool for exploitation.

Following are the general arguments put forth against the entry of foreign capital:

1) FDIs are likely to concentrate on capital-intensive methods of production and service so that they need to hire only relatively few workers. Such technology is inappropriate for a labour-abundant country as it does not support generation of jobs which is a crucial requirement to address the two fundamental areas of concern for the less developed countries namely, poverty and unemployment

2) The inherent tendency of FDI flows to move towards regions or states which are well endowed in terms of natural resources and availability of infrastructure has the potential to accentuate regional disparity. Foreign capital is also criticized for accentuating the already existing income inequalities in the host country.

3) In the context of developing countries, it is usually alleged that the inflow of foreign capital may cause the domestic governments to slow down its efforts to generate more domestic savings, especially when tax mechanisms are difficult to implement. If the foreign corporations are able to secure incentives in the form of tax holidays or similar provisions, the host country loses tax revenues.

4) Often, the foreign firms may partly finance their domestic investments by borrowing funds in the host country's capital market.

This action can raise interest rates in the host country and lead to a decline in domestic investments through 'crowding-out' effect. Moreover, suppliers of funds in developing economies would prefer foreign firms due to perceived lower risks and such shifts of funds may divert capital away from investments which are crucial for the development needs of the country.

5) The expected benefits from easing of the balance of payments situation might remain unrealised or narrowed down due to the likely instability in the balance of payments and the exchange rate.

Obviously, FDI brings in more foreign exchange, improves the balance of payments and raises the value of the host country's currency in the exchange markets. However, when imported inputs need to be obtained or when profits are repatriated, a strain is placed on the host country's balance of payments and the home currency leading to its depreciation.

Such instabilities jeopardize long term economic planning. Foreign corporations also have a tendency to use their usual input suppliers which can lead to increased imports. Also, large scale repatriation of profits can be stressful on exchange rates and the balance of payments.

6) Jobs that require expertise and entrepreneurial skills for creative decision making may generally be retained in the home country and therefore the host country is left with routine management jobs that demand only lower levels of skills and ability. The argument of possible human resource development and acquisition of new innovative skills through FDI may not be realized in reality.

7) High profit orientation of foreign direct investors tends to promote a distorted pattern of production and investment such that production could get concentrated on items of elite and popular consumption and on non-essential items.

8) Foreign entities are usually accused of being anti-ethical as they frequently resort to methods like aggressive advertising and anticompetitive practices which would induce market distortions.

9) A large foreign firm with deep pockets may undercut a competitive local industry because of various advantages (such as in technology) possessed by it and may even drive out domestic firms from the industry resulting in serious problems of displacement of labour. The foreign firms may also exercise a high degree of market power and exist as monopolists with all the accompanying disadvantages of monopoly.

The high growth of wages in foreign corporations can influence a similar escalation in the domestic corporations which are not able to cover this increase with growth of productivity. The result is decreasing competitiveness of domestic companies which might prove detrimental to the long-term interests of industrial development of the host country.

10) FDI usually involves domestic companies 'off –shoring', or shifting jobs and operations abroad in pursuit of lower operating costs and consequent higher profits. This has deleterious effects on employment potential of home country.

11) The continuance of lower labour or environmental standards in host countries is highly appreciated by the profit seeking foreign enterprises. This is of great concern because efforts to converge such standards often fail to receive support from interested parties.

12) At times, there is potential national security considerations involved when foreign firms function in the territory of the host country, especially when acute hostilities prevail.

13) FDI may have adverse impact on the host country's commodity terms of trade (defined as the price of a country's exports divided by the price of its imports). This could occur if the investments go into production of export-oriented goods and the country is a large country in the sale of its exports. Thus, increased exports drive down the price of exports relative to the price of imports.

14) FDI is also held responsible by many for ruthless exploitation of natural resources and the possible environmental damage.

15) With substantial FDI in developing countries there is a strong possibility of emergence of a dual economy with a developed foreign sector and an underdeveloped domestic sector.

16) Perhaps the most disturbing of the various charges levied against foreign direct investment is that a large foreign investment sector can exert excessive amount of power in a variety of ways so that there is potential loss of control by host country over domestic policies and therefore the less developed host country's sovereignty is put at risk. Mighty multinational firms are often criticized of corruption issues, unduly influencing policy making and evasion of corporate social responsibility.

The benefits of foreign direct investment (FDI) cannot be assessed without considering individual country and firm's investment. Countries implement safeguards and performance requirements to improve the ratio of benefits to costs, such as domestic content requirements, reservation of key sectors, minimum local employee percentage, and repatriation ceilings.

FOREIGN DIRECT INVESTMENT IN INDIA

Foreign Direct Investment (FDI), in addition to being a key driver of economic growth, has been a significant non-debt financial resource for India's economic development. Foreign corporations invest in India to benefit from the country's particular investment privileges such as tax breaks and comparatively lower salaries. This helps India develop technological know- how and create jobs as well as other benefits. These investments have been coming into India because of the government's supportive policy framework, vibrant business climate, rising global competitiveness and economic influence.

The government has recently made numerous efforts, including easing FDI regulations in various industries, PSUs, oil refineries, telecom and defence. India's FDI inflows reached record levels during 2020-21. The total FDI inflows stood at US$ 81,973 million, a 10% increase over the previous financial year.

According to the World Investment Report 2022, India was ranked eighth among the world's major FDI recipients in 2020, up from ninth in 2019. Information and technology, telecommunication and automobile were the major receivers of FDI in FY22 With the help of significant transactions in the technology and health sectors, multinational companies (MNCs) have pursued strategic collaborations with top domestic business groupings, fuelling an increase in cross-border M&A of 83% to US$ 27 billion.

OVERSEAS DIRECT INVESTMENT BY INDIAN COMPANIES

India's domestic demand-driven economy, primarily driven by consumption and investments, has recovered from the Covid-19 pandemic shock, making it well-positioned for global growth. Despite risks, robust policy measures have allowed Indian businesses to expand their operations abroad, benefiting from knowledge spillover and contributing to the growth of other nations.

Some of the key overseas investments and developments that have taken place in the recent past are mentioned as follows:

According to data released by the Reserve Bank of India (RBI), overseas direct investment stood at US$ 1,922.51 million in September 2022.

The critical investments are as follows:

In June 2022, Tata Steel announced plans to invest 7 million pounds (US$ 837.95 billion) for its Hartlepool Tube Mill in North-East England.
Tata Communications invested US$ 690 million in its wholly-owned subsidiary in Singapore.
Jindal Steel and Power invested US$ 366 million in its wholly owned subsidiary in Mauritius
Wipro invested US$ 204.96 million in its wholly-owned subsidiary in Cyprus.
Jindal Saw invested US$ 64.5 million in its wholly-owned subsidiary in the United Arab Emirates.
Restaurant Brand Aisa and Lupin Ltd invested US$ 141.34 million and US$ 131.25 million in their JVs in Indonesia and the US, respectively.
Reliance New Energy invested US$ 87.73 million in its wholly owned subsidiary in Norway
Mohalla Internet Pvt. Ltd. invested US$ 86 million in its fully owned unit in Mauritius.
ONGC Videsh invested US$ 83.31 million in a joint-venture in Russia.
ICICI Bank ties up with Santander in Britain in a pact aimed at facilitating the banking requirements of corporates operating across both countries.
ANI Technologies, the promoter of OLA, invested US$ 675 million in its wholly-owned subsidiary in Singapore.
Dr Reddy invested US$ 149.99 million in a joint-venture (JV) in the US.
A total of US$ 168.9 million was invested by Reliance New Energy in a JV and wholly-owned subsidy in Germany and Norway.

Gail India, energy PSU invested US$ 70.17 million in a JV and wholly-owned unit in Myanmar and the US.

ONGC invested US$ 74.15 million during the month in various countries in 5 different ventures.

In July 2022, Reliance Brands Ltd. signed a distribution agreement with Maison Valentino, an Italian luxury fashion house, to open its first boutique in Delhi, followed by a flagship store in Mumbai.

In July 2022, Reliance Retail Limited entered into a long-term partnership with Gap Inc. to bring the iconic American fashion brand, Gap, to India.

In July 2022, Tata Steel signed a Memorandum of Understanding (MOU) with BHP, a leading global resources company, with the intention to jointly study and explore low- carbon iron and steelmaking technology.

In January 2022, Ola Electric, the ride-hailing company's electric vehicle (EV) subsidiary, announced its plans to establish Ola Future foundry, a global hub for advanced engineering and vehicle design in the UK, investing US$ 100 million over the next 5 years.

In January, Essar Group of India announced that it had created a joint venture with Progressive Energy of the UK to invest US$ 1.34 billion in a hydrogen manufacturing plant at its Essar Stan low refinery complex.

In January, Hindalco Ltd.'s US subsidiary, Novelis, announced its plans to invest US$ 365 million in a state-of-the-art vehicle recycling facility in North America.

Chapter 10
Indian Economy

STATUS OF INDIAN ECONOMY: PRE INDEPENDENCE-PERIOD (850 -1947)

Between the first and the seventeenth century AD, India is believed to have had the largest economy of the ancient and the medieval world. It was prosperous and self-reliant and is believed to have controlled between one third and one fourth of the world's wealth. The economy consisted of self-sufficient villages as well as cities which were centres of commerce, pilgrimage and administration. Compared to villages, cities presented more opportunities for diverse occupations, trades and gainful economic activities.

Simple division of labour intertwined with attributes such as race, class, and gender were the basis of the structure of the villages and acted as a built-in mechanism of economic and social differentiation. Though agriculture was the dominant occupation and the main source of livelihood for majority of people, the country had a highly skilled set of artisans and craftsmen who produced manufactures, handicrafts and textiles of superior quality and fineness for the worldwide market.

I. Ancient Economic Philosophy of India

The earliest known treatise on ancient Indian economic philosophy is 'Artha shastra' the *pioneering work attributed to Kautilya (Chanakya) (321–296 BCE) Artha shastra is recognized as one of the most important works on statecraft in the genre of political philosophy. It is believed to be a kind of handbook for King Chandragupta Maurya, the founder of Mauryan empire, containing directives as to how to reign over the kingdom and encouraging direct action in addressing political concerns without regard for ethical considerations.*

Artha is not wealth alone; rather it encompasses all aspects of the material well-being of individuals. Artha shastra is the science of 'Artha' or material prosperity, or "the means of subsistence of humanity," which is, primarily, 'wealth' and, secondarily, 'the land'. The major *focus of the work is on the means of fruitfully maintaining and using land. Kautilya emphasizes the importance of robust agricultural initiatives for an abundant harvest which will go toward filling the state's treasury. Taxes, which were charged equal for private and state-owned businesses, must be fair to all and should be easily understood by the king's subjects. Being a multidisciplinary discourse on areas such as politics, economics, military strategy, diplomacy, function of th*e state, and the social organization, Kautilya's writings relate to statecraft, *political science, economic policy and military strategy.*

The advent of the Europeans and the British marked a shift in the economic history of India.

The period of British rule can be divided into two sub periods:

1. The rule of East India Company from 1757 to 1858	2. British government in India from 1858 to 1947

The historical legacy of British colonialism is an important starting point to illustrate the development path of India. With the onset of Industrial revolution in the latter half of the 18th century, the manufacturing capabilities of Britain increased manifold, and consequently there arose the need to augment raw material supply as well as the need for finding markets for finished goods. This led to a virtual reversal of the nature of India's foreign trade from an exporter of manufactures to an exporter of raw materials.

The Indian exports of finished goods were subjected to heavy tariffs and the imports were charged lower tariffs under the policy of discriminatory tariffs followed by the British. This made the exports of finished goods relatively costlier and the imports cheaper. In this backdrop, the Indian goods lost their competitiveness.

Consequently, the external as well as the domestic demand for indigenous products fell sharply culminating in the destruction of Indian handicrafts and manufactures. The destruction of Indian manufactures, mainly due to the hostile imperial policies to serve the British interests and the competition from machine- made goods, had far reaching adverse consequences on the Indian manufacturing sector. The problem was aggravated by the shift in patterns of demand by domestic consumers favouring foreign goods as many Indians wanted to affiliate themselves with western culture and ways of life.

The damage done to the long-established production structure had far reached economic and social consequences as it destroyed the internal balance of the traditional village economy which was characterized by the harmonious blending of agriculture and handicrafts.

These were manifest as:

1. Large scale unemployment and absence of alternate sources of employment which forced many to depend on agriculture for livelihood

2. The increased pressure on land caused sub division and fragmentation of land holdings, subsistence farming, reduced agricultural productivity and poverty.

3. The imports of cheap machine-made goods from Britain and an overt shift of tastes and fashion of Indians in favour of imported goods made the survival of domestic industries all the more difficult.

4. The systems of land tenure, especially the zamindari system created a class of people whose interests were focused on perpetuating the British rule.

5. Excessive pressure on land increased the demand for land under tenancy, and the zamindars got the opportunity to extract excessive rents and other payments

6. Absentee landlordism, high indebtedness of agriculturists, growth of a class of exploitative money lenders and low attention to productivity enhancing measures led to a virtual collapse of Indian agriculture.

We shall now have a look into the stagnated nature of industrialisation during the colonial era. Factory-based production did not exist in India before 1850. The 'Modern industrial enterprises in colonial India started to grow in the mid-19th century. The cotton milling business grew steadily throughout the second half of the 19th century, and achieved high international competitiveness. The cotton mill industry in India had 9 million spindles in the 1930s, which placed India in the fifth position globally in terms of number of spindles.

Jute mills also expanded rapidly in and around Calcutta in response to a mounting global demand for ropes and other products, and Indian jute occupied a large share of the international market by the late 19th century. At the end of the 19th century, the Indian jute mill industry was the largest in the world in terms of the amount of raw jute consumed in production.

In addition, brewing, paper-milling, leather-making, matches, and rice-milling industries also developed during the century. Heavy industries such as the iron industry were also established as early as 1814 by British capital. India's iron industry was ranked eighth in the world in terms of output in 1930. Due to progress in modern industrial enterprises, some industries even reached global standards by the beginning of the 20th century. Just before the Great Depression, India was ranked as the twelfth largest industrialised country measured by the value of manufactured products.

The producer goods industries, however, did not show high levels of expansion. Perhaps, the most important of the factors that led to this state of affairs was the pressure exerted by the English producers in matters of policy formulation to positively discourage the development of industries which were likely to compete with those of the English producers.

India's industrial growth was insufficient to bring in a general transformation in its economic structure. The share in the net domestic product (NDP) of the manufacturing sector (excluding small scale and cottage industries) had barely reached 7% even in 1946. Considering its slow progress, the share of factory employment in India was also small (I.e. 0.4% of the total population in 1900 and 1.4% in 1941).

INDIAN ECONOMY: POST-INDEPENDENCE PERIOD (1947 - 1991)

At the time of independence, India was overwhelmingly rural inhabited by mostly illiterate people who were exceedingly poor. We had a deeply stratified society characterized by extreme heterogeneity on many counts.

With the literacy rate just above 18 percent and barely 32 years of life expectancy in 1951, India's poverty was not just in terms of income alone, but also in terms of human capital, for historical reasons, the Nehruvian model which supported social and economic redistribution and industrialization directed by the state came to dominate the post- Independence Indian economic policy. Centralized economic planning and direction was at the core of India's development strategy and the economic policies were crafted to accomplish rapid economic growth accompanied by equity and distributive justice.

The Planning Commission of India was established to meticulously plan for the economic development of the nation in line with the socialistic strategy. This was carried through the five-year plans which were developed, implemented and monitored by the Planning Commission.

It is pertinent here to have a look at the ideology of industrialization prevailed in the early days of independence. India's political leadership was keen on establishing an economic system in which the central government would have authority to design the economic strategy and to carry out the necessary investments in coordination with the private sector. Rapid industrialization of the economy was the cornerstone of Nehru's development strategy.

The concept of 'planned modernization' meant a systematic planning to support industrialization. The bureaucrats and the technocrats envisioned a substantially significant role for the state in industrialisation.

The Industrial Policy Resolution (1948) envisaged an expanded role for the public sector and licensing to the private sector. It granted state monopoly for strategic areas such as atomic energy, arms and ammunition and railways. Also, the rights to new investments in basic Industries were exclusively given to the state.

The policies in 1950's were guided by two economic philosophies:

1. The then prime minister Nehru's visualization to build a socialistic society with emphasis on heavy industry, and

2. The Gandhian philosophy of small scale and cottage industry and village republics.

The Industrial Policy Resolution of 1956 though provided a comprehensive framework for industrial development, was lopsided as its guiding principle supported enormous expansion of the scope of the public sector. A natural outcome of the undue priority for public sector was the dampening of private initiative and enterprise. For obvious reasons, private investments were discouraged and this had long-lasting negative consequences for industrial growth. India followed an open foreign investment policy and a relatively open trade policy until the late 1950s.

A balance of payments crisis emerged in 1958 causing concerns regarding foreign exchange depletion, Consequently, there emerged a gradual tightening of trade and reduction in investment-licensing of new investments requiring imports of capital goods. The comprehensive import controls were maintained until 1966.

In the first three decades after independence (1950-80), India's average annual rate of growth of GDP- often referred to as the 'Hindu growth rate was a modest 3.5 percent. While agriculture was not neglected, the thrust of the first decade and a half was on capital goods-capital-intensive projects such as dams, power plants, and heavy industrialization-rather than consumer goods.

The first major shift in Indian economic strategy was in the mid-1960s. Agriculture was not given adequate priority during the second plan and the outlays were reduced. The strategy for agricultural development till then was reliance on institutional model i.e., land reforms, farm cooperatives etc. and not much importance was given to technocratic areas such as research and development, irrigation etc. These institutional reforms were only modestly successful and the productivity increase in agriculture was meagre.

With continuous failures of monsoon, two severe and consecutive droughts struck India in 1966 and 1967. The agricultural sector recorded substantial negative growth and India faced a serious food problem. India had to depend on the United States for food aid under PL 480. A quantum jump in the food grain production was the need of the hour. Increasing productivity in agriculture was given the highest priority. This, in fact, kick-started a strategic change in the government's agricultural policies. The new wave of change relied less on the earlier efforts at institutional change and relied more on enhancing productivity of agriculture, especially of wheat.

A thorough restructuring of agricultural policy referred to as the 'green revolution was initiated. The green revolution was materialised by innovative farm technologies, including high yielding seed varieties and intensive use of water, fertilizer and pesticides. The green revolution was successful in increasing agricultural productivity through technical progress and significantly increased food grain production enabling India to tide over the food problem.

While India drastically changed its agricultural policies, the government introduced extra stringent administrative controls on both trade and industrial licensing and launched a wave of nationalization. The government nationalized 14 banks in 1969 and then followed it up with nationalizing another 6 in 1980. The wide sweep of the interventionist policies that had come to exist in the 1960s had irreparable consequences in the next decade.

The economic performance during the period of 1965-81 is the worst in independent India's history. The decline in growth during this period is attributed mainly to decline in productivity. The license-raj, the autarchic policies that dominated the 1960s and 1970s, the external shocks such as three wars (in 1962, 1965, and 1971), major droughts (especially 1966 and 1967), and the oil shocks of 1973 and 1979 contributed to the decelerated growth that lasted two decades.

India being practically a closed economy missed out on the opportunities created by a rapidly growing world economy.

Many government policies aimed at equitable distribution of income and wealth effectively killed the incentive for creating wealth. Equity driven policies were also largely anti-growth.
The Monopolies and Restrictive Trade Practices (MRTP) Act, 1969 was aimed at regulation of large firms which had relatively large market power. Several restrictions were placed on them in terms of licensing, capacity addition, mergers and acquisitions. Thus, policies restricting the possibility of expansion of big business houses kept their entry away from nearly all but a few highly capital-intensive sectors.

In 1967, the policy of reservation of many products for exclusive manufacture by the small-scale sector was initiated with the objective of promotion of small-scale industries. It was argued that this policy will encourage labour-intensive economic growth and allow redistribution of income by shifting incomes towards lower wage earners. However, this policy excluded all big firms from labour intensive industries and India was not able to compete in the world market for these products. Stringent labour laws which were in place also discouraged starting of labour-intensive industries in the organized sector.
There was a growing realisation among policymakers and industrialists that the prevailing strict regime is invariably counterproductive and that most of the controls and regulations had not delivered in the absence of adequate incentives and openness which are necessary conditions for sustained rapid growth

THE ERA OF REFORMS (1980S - 1990)

The seeds of early liberalisation and reforms were sown during the 1980s, especially after 1985. In early 1980s considerable efforts were initiated in different directions to restore reasonable price stability through a combination of tight monetary policy, fiscal moderation and a few structural reforms. These initiatives, spanning 1981 to 1989, practically referred to as 'early liberalization' were specifically aimed at changing the prevailing thrust on 'inward- oriented' trade and investment practices.

In fact, this liberalization is often referred to as 'reforms by stealth' to denote its ad hoc and not widely publicized nature. Despite the fact that these efforts were not in the form of a comprehensive package (as the one in 1991) to reverse the centralised controls and the protectionist bias in policies, they started bearing fruits in the form of higher growth rate during the 1980s as compared with the previous three decades. The average annual growth rate of GDP during the sixth plan period (1980-1985) and the seventh plan period (1985-1990) were 5.7 and 5.8 percent respectively.

UNIQUE

The early reforms of 1980's broadly covered three areas, namely industry, trade and taxation. Simultaneously, the government also embarked on a policy of skilful exchange rate management.

The prominent industrial policy initiatives during this period directed towards removing constraints on growth and creating a more dynamic industrial environment was:

In 1985 delicensing of 25 broad categories of industries was done. This was later extended to many others.
The facility of 'broad-banding' was accorded for industry groups to allow flexibility and rapid changes in their product mix without going in for fresh licensing. In other words, the firms in the engineering industry were allowed to change their product mix within their existing capacity. For example, firms may switch production between different production lines such as trucks and car without a new licence.
To relax the hold of the licensing and capacity constraints on larger MRTP firms, in 1985-86, the asset limit above which firms were subject to MRTP regulations was raised from 20 crore to 100 crore.
The multipoint excise duties were converted into a modified value-added (MODVAT) tax which significantly reduced the taxation on inputs and the associated distortions.
Establishment of the Securities and Exchange Board of India (SEBI) as a non-statutory body on April 12, 1988 through a resolution of the Government of India.
The open general licence (OGL) list was steadily expanded. The number of capital goods items included in the OGL list expanded steadily reaching 1,329 in April 1990.
Several export incentives were introduced and expanded
The exchange rate was set at a realistic level which helped expand exports and in turn reduced pressure on foreign exchange needed for imports
Price and distribution controls on cement and aluminium were entirely abolished.
Based on the real effective exchange rate (REER), the rupee was depreciated by about 30.0 percent from 1985-86 to 1989-90. This reflects a considerable change in the official attitude towards exchange rate depreciation
The budget for 1986 introduced policies of cutting taxes further, liberalising imports and reducing tariffs.

However, the growth performance of the economy was thwarted due to structural inadequacies and distortions. The private sector investments were inhibited due to reasons such as convoluted licensing policies, public sector reservations and excessive government controls. Due to reservation of goods to small scale sector as well as excessive price and distribution controls, the private sector was virtually discouraged from making investments.

The public sector which led the manufacturing and service sectors was plagued by inefficiency, government controls and bureaucratic procedures. Despite the fact that they were of massive in size and enjoyed monopoly in their respective areas, their performance was far from satisfactory and yielded very low returns on investment.

The MRTP act had many restrictive conditions creating barriers for entry, diversification and expansion for large industrial houses. Import controls in the form of tariffs, quotas and quantitative restrictions ensured that foreign manufactures and components did not cross the borders and compete with the domestic industries. Foreign investments and foreign competition were not allowed on grounds of affording protection to domestic industries. Briefly put, the rules and regulations which were aimed at promoting and regulating the economic activities became major hindrances to growth and development.

Though the reforms in 1980's were limited in scope and were without a clearly observable road map as compared to the New Economic Policy in 1990, they were instrumental in bringing confidence in the minds of politicians and policy makers regarding the efficacy of policy changes to produce sustained economic growth. The belief that well-regulated competitive markets can ensure economic growth and also increase total welfare got fostered in the minds of policy makers.

In other words, the idea that government intervention in markets need not always be accepted as 'the standard' and that markets should be given priority over government in the conduct of a good number of economic activities gained a broad acceptance. Thus, the liberalization in the 1980s served as the necessary foundation for the more universal and organized reforms of the 1990s.

THE ECONOMIC REFORMS OF 1991

India embarked on a bold set of economic reforms in 1991 under the Narsimha Rao government. The causes attributed to the immediate need for such a drastic change are:

1. The fiscal initiatives for enhanced economic growth in 1980s saw the government revenue expenditure consistently exceeding revenue receipts. The fiscal deficit was financed by huge amounts of domestic as well as external debt. The high-level current expenditure proved clearly unsustainable and got manifested on extremely large fiscal deficits and adverse balance of payments.

2. Persistent huge deficits led to swelling public debt and a large proportion of government revenues had to be earmarked for interest payments.

3. The surge in oil prices triggered by the gulf war in 1990 and the consequent severe strain on a balance of payments.

4. The foreign exchange reserves touched the lowest point with a reserve of only $1.2 billion which was barely sufficient for two weeks of imports. This was the major context that triggered economic reforms.

5. Tightening of import restrictions to muster forex for essential imports resulted in reduction in industrial output.

6. India had to depend on external borrowing from the International Monetary Fund which in turn put forth stringent conditions in terms of corrective policy measures before additional drawings could be made.

7. The fragile political situation along with the crises in the economic front ballooned into what may be called a crisis of confidence.

The year 1991 marked a paradigm shift in the Indian policy reforms. The nation which had embraced the 'Socialist model', with the state playing an overriding role in the economy had the history of the government persistently intervening in the markets. Collapse of the Soviet Union and the spectacular success of China, based on outward oriented policies were lessons for the Indian policy makers. The reforms instituted in 1991 aimed to move the economy toward greater market orientation and external openness.

The reforms, popularly known as liberalization, privatization and globalisation, spelt a major shift in economic philosophy and fundamental change in approach and had two major objectives:

1. reorientation of the economy from a centrally directed and highly controlled one to a 'market friendly' or market-oriented economy.

2. macroeconomic stabilization by substantial reduction in fiscal deficit.

A detailed description of reform measures is beyond the scope of this unit. We shall now have a brief account of the major measures taken in 1991.

As we know, the momentum for reforms originated in the critical economic, fiscal and balance of payments crises. Therefore, the reform package was structured as a core package of mutually supportive reforms to address the balance of payment crisis and the structural rigidities. The policy paradigm focused on shifting from central direction to market orientation.

The policies can be broadly classified as:

1. stabilisation measures which were short term measures to address the problems of inflation and adverse balance of payment and

2. the structural reform measures which are long term and of continuing nature aimed at bringing in productivity and competitiveness by removing the structural rigidities in different sectors of the economy.

The Fiscal Reforms

The escalating deficit levels rendered the stabilisation efforts rather complicated. Bringing in fiscal discipline by reducing the fiscal deficit was vital because the crisis was caused by excess domestic demand, surge in imports and the widening of the current account deficit (CAD) which was to be financed by drawing down on reserves. This was attempted by radical measures to augment revenues and to curtail government expenditure.

Measures to this effect included:

1. Introduction of a stable and transparent tax structure,
2. Ensuring better tax compliance,
3. Thrust on curbing government expenditure
4. Reduction in subsidies and abolition of unnecessary subsidies
5. Disinvestment of part of government's equity holdings in select public sector undertakings and
6. Encouraging private sector participation.

In order to bring in fiscal discipline, it was essential to do away with the temptation to finance deficit thorough the easy path of money creation. Therefore, the government entered into a historic agreement with the Reserve Bank in September 1994 to bring down the fiscal deficit in a phased manner to nil by 1997-98.

Monetary And Financial Sector Reforms

Drastic monetary and financial sector reforms were introduced with the objective of making the financial system more efficient and transparent. The focus was mostly on reducing the burden of nonperforming assets on government banks, introducing and sustaining competition, and deregulating interest rates.

These included many measures, important among them are:

1. Interest rate liberalization and reduction in controls on banks by the Reserve Bank of India in respect of interest rates chargeable on loans and payable on deposits.

2. Opening of new private sector banks and facilitating greater competition among public sector, private sector and foreign banks and simultaneously removal of administrative constraints that reduced efficiency.

3. Reduction in reserve requirements namely, statutory liquidity ratio (SLR) and cash reserve ratio (CRR) in line with the recommendations of the Narasimham Committee Report, 1991.

4. Liberalisation of bank branch licensing policy and granting of freedom to banks in respect of opening, relocating or closure of branches

5. Prudential norms of accounting in respect of classification of assets, disclosure of income and provisions for bad debt were introduced in tune with the Narasimham Committee recommendations to ensure that the books of commercial banks reflect the accurate and truthful picture of their financial position.

Reforms in Capital Markets

The Securities and Exchange Board of India (SEBI) which was set up in 1988 was given statutory recognition in 1992. SEBI has been mandated as an independent regulator of the capital market so as to create a transparent environment which would facilitate mobilization of adequate resources and their efficient allocation.

The 'New Industrial Policy'

The 'New Industrial Policy announced by the government on 24 July 1991 sought too substantially deregulate industry so as to promote growth of a more efficient and competitive industrial economy.

In order to provide greater competitive stimulus to the domestic industry, a series of reforms were introduced:

1. The New Economic Policy put an end to the 'License Raj' by removing licensing restrictions for all industries except for 18 that 'related to security and strategic concerns, social reasons, problems related to safety and overriding environmental issues. Consequently, 80 percent of the industry was taken out of the licensing framework. This is subsequently reduced to 5, namely, arms and ammunition, atomic substances, narcotic drugs and hazardous chemicals, distillation and brewing of alcoholic drinks and cigarettes and cigars as these have severe implications on health, safety, and environment.

2. Public sector was limited to eight sectors based on security and strategic grounds. Subsequently only two items remained - railway transport and atomic energy

3. The Monopolies and Restrictive Trade Practices (MRTP) Act was restructured and the provisions relating to merger, amalgamation, and takeover were repealed. This has eliminated the need for pre-entry scrutiny of investment decisions and prior approval for large companies for capacity expansion or diversification.

4. Many goods produced by small-scale industries have been de reserved enabling entry of large-scale industries.

5. The policy ended the public sector monopoly in many sectors The number of areas reserved for public sector was narrowed down to ensure liberal participation by the private sector. Only eight industries which are of importance due to strategic and security concerns were reserved for the public sector. The changes continued and we find that now the industries reserved for the public sector are only a part of atomic energy generation and some core activities in railway transport.

6. Foreign investment was also liberalised. The concept of automatic approval was introduced for foreign direct investments up to 51 percent which was later extended to nearly all industries except the reserved ones. FDI is prohibited only in four sectors viz. retail trade, atomic energy, lottery business and betting and gambling.

7. External trade was further liberalised by substituting the positive list approach' of listing license-free items on the OGL list with the negative list approach. The policy did away with import licensing on all but a handful of intermediate and capital goods. The consumer goods which remained under licensing was made free 10 years later. Today, except for a handful of goods disallowed on health, environmental and safety grounds, and few others such as edible oil, fertilizer and petroleum products all goods can be imported

8. In 1990-91, the highest tariff rate was 355%, The top tariff rate was brought down to 85% in 1993-94 and to 50% in 1995-96 and by 2007-08, it has come down to 10% with some exceptions such as automobile at 100%.

9. Rupee was devalued by 18% against the dollar. From 1994 onwards, all current account transactions including business, education, medical and foreign travel were permitted at market exchange rate and rupee became officially convertible on current account.

10. The disinvestment of government holdings of equity share capital of public sector enterprises was a very bold step. The hitherto constrained public sector units were provided with greater autonomy in decision making and opportunity for professional management for ensuring reasonable returns. The budgetary support to public sector was progressively reduced.

Trade Policy Reforms

The trade policy reforms aimed at:

dismantling of quantitative restrictions on imports and exports

focusing on a more outward oriented regime with phased reduction and simplification of tariffs,

removal of licensing procedures for imports.

A number of export incentives were continued and new ones were initiated for boosting exports. Export duties were removed to increase the competitive position of Indian goods in the international markets.

In 1991, India still had a fixed exchange rate system, under which the rupee was pegged to the value of a basket of currencies of major trading partners. In July 1991 the Indian government devalued the rupee by between 18 and 19 percent.

In March 1992 the government decided to establish a dual exchange rate regime. The government allowed importers to pay for some imports with foreign exchange valued at free-market rates and other imports could be purchased with foreign exchange purchased at a government-mandated rate.

In March 1993 the government unified the exchange rate and allowed, for the first time, the rupee to float. From 1993 onwards, India has followed a managed floating exchange rate system.

India has witnessed vast changes over the last 31 years of economic reforms. Changes enumerated below are only broad observations and are in no way comprehensive.

India has increasingly integrated its economy with the global economy.

India has progressively moved towards a market-oriented economy, with a sizeable reduction in government's market intervention and controls.

There is an unprecedented growth of private sector investment and initiatives.

A number of sectors such as auto components, telecommunications, software, pharmaceuticals, biotechnology, and professional services have achieved very high levels of international competitiveness.

Easing of trade controls has enabled easier access to foreign technology, inputs, know-how and finance.

Stable foreign direct investment inflows and substantial foreign portfolio investments.

India enjoys a solid cushion of foreign exchange reserves close to eight months of import cover. India has one of the largest holdings of international reserves in the world.

Robust demand for information technology and financial services has kept the services trade surplus high at around 3.7 percent of GDP

Pressure on the Indian rupee is lower compared to other emerging market economies (EMEs)

Increased incomes, large domestic market and high levels of aggregate demand sustains the economy.

India is better placed than most of the emerging market economies to deal with global headwinds Poverty has reduced substantially

Reforms led to increased competition in sectors like banking, insurance and other financial services leading to greater customer choice and increased efficiency. It has also led to increased investment and growth of private players in these sectors.

Infrastructure sectors have achieved phenomenal growth.

Value-added share of agriculture and allied activities has declined steadily over the past four decades.

India's financial sector has also deepened considerably due to increased financial sector liberalisation.

However, the country is constrained by high levels of fiscal deficit, inflation and a high level of debt as a share of GDP at 86 percent of GDP in FY21/22. Among the emerging market and developing economies (EMDES), India's debt is higher than their average of 64.5% for 2022(IMF).

GDP GROWTH RATES POST 1991 REFORMS

As we are aware, GDP growth rate is regarded as the most reliable indicator of economic growth. The following table and graphical presentation present data on GDP growth rate post 1991 reforms.

GDP Growth (Annual %) - India from 1991 to 2021			
Year	GDP Growth (Annual %)	Year	GDP Growth (Annual %)
1991	1.056831	2006	8.060733
1992	5.482396	2007	7.660815
1993	4.750776	2008	3.086698
1994	6.658924	2009	7.861889
1995	7.574492	2010	8.497585

Year	GDP Growth (Annual %)	Year	GDP Growth (Annual %)
1996	7.549522	2011	5.241315
1997	4.049821	2012	5.456389
1998	6.184416	2013	6.386106
1999	8.845756	2014	7.410228
2000	3.840991	2015	7.996254
2001	4.823966	2016	8.256306
2002	3.803975	2017	6.795383
2003	7.860381	2018	6.453851
2004	7.922937	2019	3.737919
2005	7.923431	2020	-6.59608
		2021	8.681229

GDP Growth (Annual %) – India from 1991 to 2021
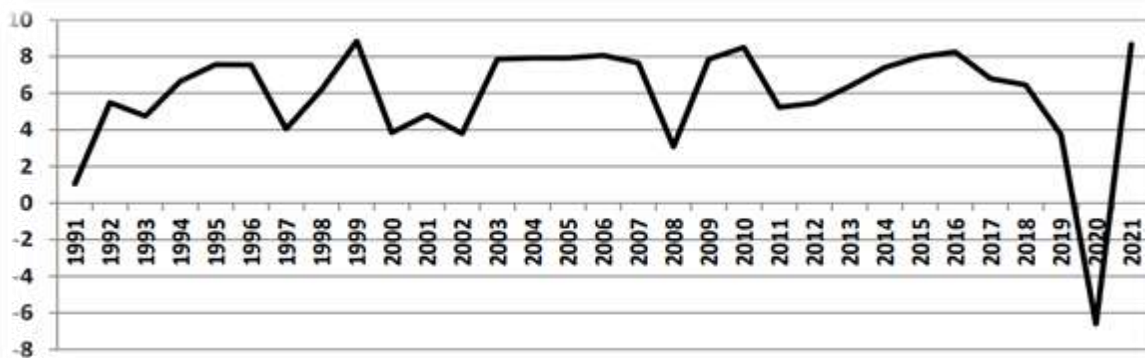
NITI AAYOG: A BOLD STEP FOR TRANSFORMING INDIA

For nearly sixty-four years, the Planning Commission of India – a powerful advocate of public investment-led development – was one of the most important institutions within India's central government. The new ideologies of the neoliberal era with their centre of attention on market orientation and shrinking roles of the government and the collapse of the planning system called for a change in the nature, composition and scope of institutions of governance.

On 1st January 2015, the apex policy-making body namely Planning Commission, was replaced by the National Institution for Transforming India (NITI) Aayog. The major objective of such a move was to 'spur innovative thinking by objective 'experts' and promote 'co-operative federalism' by enhancing the voice and influence of the states. NITI Aayog is expected to serve as a 'Think Tank' of the government. [and] a 'directional and policy dynamo'.

NITI Ayog will work towards the following objectives*:

1. To evolve a shared vision of national development priorities, sectors and strategies with the active involvement of states.

2. To foster cooperative federalism through structured support initiatives and mechanisms with the states on a continuous basis, recognizing that strong states make a strong nation.

3. To develop mechanisms to formulate credible plans at the village level and aggregate these progressively at higher levels of government.

4. To ensure, on areas that are specifically referred to it, that the interests of national security are incorporated in economic strategy and policy.

5. To pay special attention to the sections of our society that may be at risk of not benefiting adequately from economic progress.

6. To design strategic and long-term policy and programme frameworks and initiatives, and monitor their progress and their efficacy

7. To provide advice and encourage partnerships between key stakeholders and national and international like-minded think tanks, as well as educational and policy research institutions.

8. To create a knowledge, innovation and entrepreneurial support system through a collaborative community of national and international experts, practitioners and other partners.

9. To offer a platform for the resolution of inter-sectoral and inter departmental issues in order to accelerate the implementation of the development agenda.

10. To maintain a state-of-the-art resource centre, be a repository of research on good governance and best practices in sustainable and equitable development as well as help their dissemination to stake-holders.

11. To actively monitor and evaluate the implementation of programmes and initiatives, including the identification of the needed resources so as to strengthen the probability of success and scope of delivery.

12. To focus on technology up gradation and capacity building for implementation of programmes and initiatives.

13. To undertake other activities as may be necessary in order to further the execution of the national development agenda, and the objectives mentioned above. "NITI Aayog https://niti.gov.in/objectives-and-features.

The key initiatives of NITI Aayog are:

1. "Life' which envisions replacing the prevalent 'use-and-dispose' economy

2. The National Data and Analytics Platform (NDAP) facilitates and improves access to Indian government data

3. Shoonya campaign aims to improve air quality in India by accelerating the deployment of electric vehicles

4.E-Amrit is a one-stop destination for all information on electric vehicles

5. India Policy Insights (IPI)

6. 'Methanol Economy' programme is aimed at reducing India's oil import bill, greenhouse gas (GHG) emissions, and converting coal reserves and municipal solid waste into methanol, and

7. 'Transforming India's Gold Market' constituted by NITI Aayog to recommend measures for tapping into the potential of the sector and provide a stimulus to exports and economic growth There are arguments put forth by experts about the weaknesses of the system.

They argue that NITI has a limited role; it does not produce national plans, control expenditures, or review state plans. The major shortcoming of NITI is its exclusion from the budgeting process. It also lacks autonomy and balance of power within the policy making apparatus of the central government.

The termination of the Planning Commission has strengthened the hand of the Ministry of Finance, with its fixation on near-term macroeconomic stability and the natural instinct to limit expenditure.

But NITI lacks the independence and power to perform as a 'counterweight' to act as a "voice of development" concerned with inequities.

THE CURRENT STATE OF THE INDIAN ECONOMY: A BRIEF OVERVIEW

On account of the enormity of the economic phenomena and the dynamic nature of economic variables, it is not possible to have an up-to-date and comprehensive documentation on the current state of the economy.

Given the constraints of the unit, an attempt is made in the following sections to present the broad nature of the present-day Indian economy based on the three sectors namely, primary, secondary and tertiary.

The Primary Sector

Agriculture, with its allied sectors, is indisputably the largest source of livelihood in India. Till the end of 1960's, India was a food deficient nation and depended on imports. India has emerged as the world's largest producer of milk, pulses, jute and spices. India has the largest area planted under wheat, rice and cotton.

It is the second-largest producer of fruits, vegetables, tea, farmed fish, cotton, sugarcane, wheat, rice, cotton, and sugar. Indian food and grocery market is the world's sixth largest, with retail contributing 70% of the sales. India has the world's largest cattle herd (buffaloes).

The Indian livestock sector attained a record growth of 6.6 per cent during the last decade (2010-19) emerging as a major producer of milk, egg and meat in the world. India grows large varieties of cash crops of which cotton, jute and sugarcane are prominent. Although the share of agriculture has been declining in overall gross value added (GVA) of India, it continues to grow in absolute terms.

According to the latest estimates, 47 per cent of India's population is directly dependent on agriculture for living.

It also contributes a significant figure to the *Gross Domestic Product (GDP). Gross Value Added by the agriculture and allied sector was 18.8% in 2021-22 (until 31 January, 2022).*

The index numbers of agricultural production in *2021-22 (base: triennium ending 2007- 08=100)* for categories namely, all crops, food-grains, cereals, wheat and coarse cereals was above 140; and that of rice and pulses was 138.7 and *196.2 respectively.* For non-food grains, it was *142.9.* These figures show sustained increase in agricultural output.

Food grains production has reached *315.7 million tonnes in 2021-22.* Private investment in agriculture has increased *to 9.3% in 2020-21. (Source: Handbook of Statistics on the Indian Economy, 2021-22).*

As per the economic survey, 2022-23, agriculture remained robust, *recording a growth of 3.5 per cent in 2022-23,* driven by buoyant rabi sowing and allied activities.

The performance of the agriculture and allied sectors has been buoyant over the past several years, much of which is on account of the measures taken by the government to:

augment crop and livestock productivity,

ensure certainty of returns to the farmers through price support (The Minimum Support Price (MSP) of all 23 mandated crops is fixed at 1.5 times of all India weighted average cost of production).

promote crop diversification,

improve market infrastructure through the impetus provided for the setting up of farmer-producer organisations and

promotion of investment in infrastructure facilities through the Agriculture Infrastructure Fund.

India has achieved a remarkable shift from a food deficient and import dependent nation during the early nineteen sixties to a food exporting nation. India is among the top ten exporters of agricultural products in the world. Export of agricultural and allied products has witnessed significant increase during the last few years and touched an all-time peak of *374611 crore during the last one year.* Exports of agricultural and processed food products rose by 25 percent within *six months of the current financial year 2022-23 (April-September)* in comparison to the corresponding period in *2021-22. Agricultural and Processed Food Export Development Authority (APEDA)* is entrusted with the responsibility of export promotion of Agri-products.

A number of liberalization measures are adopted by the government. *The Government of India has allowed 100% FDI in marketing of food products and in food product E-commerce* under the automatic route. Considering the diverse needs of the agricultural sector and the larger farming community, a large number of interventions are undertaken by different governments.

A few such recent measures are:

Income support to farmers through PM KISAN

Fixing of Minimum Support Price (MSP) at one-and-a half times the cost of production

Institutional credit for agriculture sector at concessional rates

Launch of the National Mission for Edible Oils

Pradhan Mantri Fasal Bima Yojana (PMFBY) - a novel insurance scheme for financial support to farmers suffering crop loss/damage

Mission for Integrated Development of Horticulture (MIDH) for the holistic growth of the horticulture sector

Provision of Soil Health Cards

Paramparag at Krishi Vikas Yojana (PKVY) supporting and promoting organic farming, and improvement of soil health.

Agri Infrastructure Fund, a medium / long term debt financing facility for investment in viable projects for post-harvest management Infrastructure and community farming assets

Promotion of Farmer Producer Organisations (FPOs) to ensure better income for the producers through an organization of their own.

Per Drop More Crop (PDMC) scheme to increase water

Setting up of Micro Irrigation Fund

Initiatives towards agricultural mechanization

Setting up of E-NAM-a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities.

Introduction of Kisan Rail for improvement in farm produce logistics, and

Creation of a Start-up Eco system in agriculture and allied sectors.

Despite phenomenal increase in output of both food crops and commercial crops, Indian agriculture faces many issues such as:

Indian agriculture is dominated by small and medium farmers. Small and fragmented landholdings, low farm productivity and subsistence farming result in very little marketable surplus and the consequent lower income levels of the agriculturists. These also reduce their ability to participate in the domestic as well as export market.

Indian agriculture is resource intensive, cereal centric and regionally biased. There is Increasing stress on water resources and soil fertility. Unscientific and wasteful agricultural practices lead to desertification and land degradation in many parts of the country.

Inadequate agro-processing infrastructure and failure to build competitive value chains from producers to urban centres and export markets

Sluggish agricultural diversification to higher-value commodities

Inadequate adoption of environmentally sustainable and climate resistant new farm technology

Poor adoption of new agricultural technologies
Lopsided marketing practices and ineffective credit delivery Complexities associated with adaptation to climate change disturbances
High food price volatility
Heavy dependence on monsoons and loss of crops and livelihood due to vagaries of nature
Issues related to marketing and warehousing of agricultural products Inability to tap the full export potential of primary as well as value added products
Inability to effectively channelize huge surpluses in some commodities to alternative profitable destinations
Inadequate post-harvest infrastructure and management practices
Incidence of poverty and malnutrition

The Secondary Sector

The Indian industry holds a significant position in the Indian economy contributing about 30 percent of total gross value added in the country and employing over 12.1 crores of people. The industrial sector in India broadly comprises of manufacturing, heavy industries, fertilizers, pharmaceuticals, chemicals and petrochemicals, oil and natural gas, food processing, mining, defence products, textiles, retail, micro, small & medium enterprises, cottage industries and tourism. The share of informal sector in the economy is more than 50% of GVA. Rapid industrial growth of domestic industries and diversification of industrial structure are essential elements for sustainable economic growth.

The development of a robust manufacturing sector is a key priority of the Indian Government. A detailed discussion on industrial development is beyond the scope of this unit. Starting with the industrial growth figures, we shall briefly touch upon the general aspects related to industries. In India, industrial production measures the output of businesses integrated in industrial sector of the economy. Manufacturing is the most important sector and accounts for 78 percent of total production.

The manufacturing GVA at current prices was estimated at US$ 77.47 billion in the third quarter of financial year 2021-22 and has contributed around 16.3% to the nominal GVA during the past ten years. In 2022-23 (until September 2022), the combined index of eight core industries stood at 142.8 driven by the production of coal, refinery products, fertilizers, steel, electricity and cement industries. In Jan 31, 2023, the Manufacturing Purchasing Managers' Index (PMI) in India stood at 55.4. India's rank in the Global Innovation Index (GII) improved to 40th in 2022 from 81st in 2015.

[*ICI measures combined and individual performance of production of eight core industries viz. Coal, Crude Oil, Natural Gas, Refinery Products, Fertilizers, Steel, Cement and Electricity. The Eight Core Industries comprise 40.27 percent of the weight of items included in the Index of Industrial Production (IP)].

The Department for Promotion of Industry and Internal Trade (DPIIT) has a role in the formulation and implementation of industrial policy and strategies for industrial development in conformity with the development needs and national objectives. Ever since independence, many innovative schemes are undertaken by different governments from time to time to boost industrial performance.

Some of the policies are presented below:
Introduction of goods and services tax (GST) on 1 July 2017 as a single domestic indirect tax law for the entire country replacing many indirect taxes in India such as the excise duty, VAT, services tax, etc.
Reduction of corporate tax to domestic companies giving an option to pay income-tax at the rate of 22% subject to condition that they will not avail any exemption/incentive.
'Make in India' is a 'Vocal for Local' initiative launched in 2014 to facilitate investment, foster innovation, build excellent infrastructure and make India a hub for manufacturing, design and innovation. Make in India 2.0' is now focusing on 27 sectors, which include 15 manufacturing sectors and 12 service sectors.
'Ease of Doing Business with key focus areas as simplification
of procedures, rationalization of legal provisions, digitization of government processes, and decriminalization of minor, technical or procedural defaults. India ranks 63" in the World Bank's annual Doing Business Report (DBR), 2020 as against 77thrank in 2019 registering a jump of 14 ranks.
The National Single Window System is a one-stop-shop for investor related approvals and services in the country and aims to provide continuous facilitation and support to investors.
PM Gati Shakti National Master Plan to facilitate data-based decisions related to integrated planning of multimodal infrastructure, thereby reducing logistics cost.
National Logistics Policy (NLP) launched in September 2022, aims to lower the cost of logistics and make it at par with other developed countries.
Keeping in view India's vision of becoming 'Atmanirbhar, the Production Linked Incentive (PLI) Scheme was initiated in March 2020 for 14 key sectors to enhance India's manufacturing capabilities and export competitiveness. PLI Scheme is now extended for white goods (air conditioners and led lights).
Industrial Corridor Development Programme: Greenfield Industrial regions/areas/nodes with sustainable infrastructure and to make available 'plug and play' infrastructure at the plot level.

FAME-India Scheme (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles) to promote manufacturing of electric and hybrid vehicle technology and to ensure sustainable growth of the same.

'Udyami Bharat' aims at the empowerment of **Micro Small and Medium Enterprises (MSMEs).**

PM Mega Integrated Textile Region and Apparel (PM MITRA): to ensure world-class industrial infrastructure which would attract cutting age technology and boost FDI and local investment in the textiles sector.

Opening up for global investments: To make India a more attractive investment destination, the government has implemented several radical and transformative FDI reforms across sectors such as defence, pension, e-commerce activities etc.

100 per cent FDI under automatic route is permitted for the sale of coal, and coal mining activities, including associated processing infrastructure and for insurance intermediaries.

Foreign Investment Promotion Board (FIPB) was abolished in May 2017, and a new regime namely Foreign **Investment Facilitation Portal (FIF)** has been put in place. Under the new regime, the process for granting FDI approvals has been simplified. **853 FDI proposals** were disposed of in the **last 5 years.** FDI has increased jumped by **39% since FIF came into being.**

Remission of Duties and Taxes on Export Products (RODTEP) 2021 formed to replace the existing MEIS **(Merchandise Exports from India Scheme)** to boost exports. Its goods exported which have not been refunded under any other existing scheme.

Initiatives towards fostering innovation include incubation, handholding, funding, industry-academia partnership and mentorship and strengthening of IPR regime.

National Logistics Policy (NLP) is comprehensive policy framework for the Logistics Sector.

Start-up India Programme acts as the facilitator for ideas and innovation in the country. India's rank in the **Global Innovation Index (GII)** has improved from 81st in 2015 to 40th in 2022.

Public Procurement (Preference to Make in India) Order, 2017gives preference to locally manufactured goods, works and services in public procurement thereby giving boost to industrial growth.

The **Emergency Credit Line Guarantee Scheme (ECLGS)** is a fully guaranteed emergency credit line to monitor lending institutions

India is gearing up for the fourth industrial revolution or Industry 4.0 in which manufacturing transformation needs to integrate new technologies such as cloud computing, Iot, machine learning, and artificial intelligence (AI). The National Manufacturing Policy which aims to increase the share of manufacturing in GDP to 25 percent by 2025 is a step in this direction.

India is an attractive hub for foreign investments in the manufacturing sector.

Over the last few years, FDI equity inflows in the manufacturing sector have been progressively rising. India continues to open up its sectors to global investors by raising FDI limits and removing regulatory barriers in addition to developing infrastructure and improving the business environment.

According to the Department for Promotion of Industry and Internal Trade (DPIIT), India received a total foreign direct investment (FDI) inflow of US$ 58.77 billion in 2021-22.

There are many challenges to the industrial sector; a few of these are enumerated below.
Shortage of efficient infrastructure and manpower and consequent reduced factor productivity.
Reliance on imports, exchange rate volatility and associated time and cost overruns
The MSME sector is relatively less favourably placed in terms of credit availability.
Industrial locations established without reference to cost-effective points tend to experience unsustainable cost structure.
Heavy losses, inefficiencies, lower productivity and unsustainable returns plaguing public sector industries
Strained labour-management relations and loss of man hours.
Lower export competitiveness, slowing external demand and imposition of non-tariff barriers by other countries.
Global supply chain disruptions and uncertainties.
Inflation and associated macro-economic developments leading to input cost escalations and lower demand.
Global slowdown and related negative sentiments affecting investment.
Aggressive tightening of monetary policy and increases in cost of credit.
High and increasing fuel prices, and Mounting presence of informal sector.

The Tertiary Sector

A remarkable feature of the post reform Indian economy is the overarching role of the services sector in generating growth of income and employment.

Unlike the usual economic development process of nations where economic growth has led to a shift from agriculture to industries, or from the primary sector to the secondary sector, India has the unique experience of bypassing the secondary sector in the growth trajectory by a shift from agriculture to the services sector.

India's services sector covers a wide variety of activities.

The broad classification of services as per the National Industrial Classification, 2008	
1.Wholesale and retail trade and repair of vehicles	9.Public administration, defence and compulsory social security
2.Transportation and storage	10.Education
3.Accommodation and food service activities	11. Human health and social work activities
4. Information and communication	12. Arts, entertainments and recreation

5. Financial and insurance activities Real estate activities	13. Other service activities
6. Real estate activities	14. Activities of households as employers, undifferentiated goods and services producing activities of households for own use.
7.Professional, scientific and technical activities	15.Activities of extra territorial organizations and bodies.
8.Administrative and support services	

The service sector refers to the industry producing intangible goods viz. services as output. The services sector is the largest sector of India and accounts for 53.89% of total India's GVA. The Gross Value Added (GVA) at current prices for the services sector is estimated at *96.54 lakh crore in 2020-21.

The service sector is the fastest growing sector in India and has the highest labour productivity. Both domestic and global factors influence the growth of the services sector. The exceptionally rapid expansion of knowledge-based services such as professional and technical services has been responsible for the faster growth of the services sector. The production and consumption of information intensive service activities such as computing, accounting, inventory management, quality control, personnel administration, marketing, advertising and legal services has increased manifold due to application of state-of-the-art information technology. Services sector growth can also complement growth in the manufacturing sector. The start-ups which have grown remarkably over the last few years mostly belong to the services sector.

India is among the top 10 World Trade Organization (WTO) members in service exports and imports. India's services exports at US$ 27.0 billion recorded robust growth in November 2022 due to software, business, and travel services. While exports from all other sectors were adversely affected, India's services exports have remained resilient during the Covid-19 pandemic. The reasons are the higher demand for digital support and need for digital infrastructure modernization.

The Indian services sector is the largest recipient of FDI inflows. FDI equity inflows into the services sector accounted for more than 60 per cent of the total FDI equity inflows into India. The World Investment Report 2022 of UNCTAD places India as the seventh largest recipient of FDI in the top 20 host countries in 2021. In 2021-22, India received the highest-ever FDI inflows of US$ 84.8 billion including US$ 7.1 billion FDI equity inflows in the services sector.

To ensure the liberalisation of investment in various industries, the government has permitted 100 per cent foreign participation in telecommunication services through the Automatic Route including all services and infrastructure providers. The FDI ceiling in insurance companies was also raised from 49 to 74 per cent. Measures undertaken by the Government, such as the launch of the National Single-Window system and enhancement in the FDI ceiling through the automatic route, have played a significant role in facilitating investment.

Notes