

ISBN: 978-93-47587-37-5



FUNDAMENTALS OF AGRICULTURAL ECONOMICS

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Bhumi Publishing, India
First Edition: July 2026

Fundamentals of Agricultural Economics

(ISBN: 978-93-47587-37-5)

DOI: <https://doi.org/10.5281/zenodo.21307987>

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Bhumi Publishing

July 2026

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Published by Bhumi Publishing,

a publishing unit of Bhumi Gramin Vikas Sanstha



Nigave Khalasa, Tal – Karveer, Dist – Kolhapur, Maharashtra, INDIA 416 207

E-mail: bhumipublishing@gmail.com



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PREFACE

Agriculture has always been the backbone of human civilization, providing food, raw materials, and livelihood to millions of people across the world. In the present era of rapid technological advancements, changing market dynamics, climate variability, and globalization, understanding the economic principles governing agriculture has become more important than ever. Agricultural economics serves as a bridge between economic theory and agricultural practices, enabling students, researchers, policymakers, and farmers to make informed decisions regarding production, resource utilization, marketing, and rural development.

This book, *Fundamentals of Agricultural Economics*, has been written to provide a comprehensive introduction to the basic concepts and principles of agricultural economics in a simple and systematic manner. It covers essential topics such as the nature and scope of economics, consumption and theory of demand, Indifference curve analysis, theory of supply, factors of production, theory of firms and market, theory of factor pricing, public finance, concepts and measurement of national income and theory of inflation and deflation.

The primary objective of this book is to develop a strong conceptual foundation for undergraduate and postgraduate students pursuing agricultural economics. It is also intended to serve as a useful reference for teachers, extension workers, competitive examination aspirants, and professionals interested in understanding the economic dimensions of agriculture.

I sincerely hope that this book will contribute to enhancing the knowledge and analytical skills of its readers and encourage them to appreciate the significance of economics in achieving sustainable agricultural growth and rural prosperity. Constructive suggestions and valuable feedback from readers are always welcome and will be greatly appreciated for improving future editions.

- Dr. Girish Mahajan

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CHAPTER 1

NATURE AND SCOPE OF ECONOMICS

Economics is the social science that studies how individuals, businesses, and governments utilize limited resources to satisfy unlimited human wants. It examines the production, distribution, exchange, and consumption of goods and services while addressing the problem of scarcity and choice. The nature of economics encompasses both theoretical and practical aspects, integrating principles of efficiency, welfare, and sustainable development. The scope of economics is broad, covering microeconomics, which focuses on individual economic units, and macroeconomics, which analyzes the economy as a whole. Understanding the nature and scope of economics helps individuals make informed decisions and contributes to economic growth and societal well-being.

Father of economics: Adam Smith

The science economics was born within the publication in 1776 of Adam Smith Magnus opus. He had written a book entitled, “An enquiry into the nature and cause of wealth of nation.”

Economics: Economic is the study of economic problems of a living commodity.

How does the economic problem arise?

Economic problems are arising because of three things: a. Human wants are unlimited; b. Resources are scarce; c. there is alternative uses.

How best to make use of these scarce resources having alternative uses for fulfilling the unlimited wants is in the field of science of economics.

Economic problem: A problem is known as economic problem if it is characterized by scarcity and price is attached to it.

Agricultural economics: The economic principles which are applied in agriculture are known as agricultural economics. It is the study of those principles which are related to production, distribution and consumption in agricultural sector. It is an art to get the maximum profit by using/ consuming limited resources like land, labour and capital. There are various economic principles which are applied in agriculture and these are: - Law of variable proportion; Costs Principles, Principles of substitution between inputs, Principle of substitution between products, Law of Equi-marginal Return or opportunity cost; and Time Comparison Principle.

Important aspects of agricultural economics: These are:

- **Production economics:** to promote production by minimising/ reducing cost.
- **Agricultural marketing:** to sell the produce at reasonable rate.
- **Agricultural finance:** credit and investment.
- **Agricultural policy:** agricultural related policies by the government.

Goal/ aim/ objective of agricultural economics:

- To promote farmer's income.
- Reasonable use of resources
- To understand market demand and supply.

The ultimate goal of agricultural economics is how to increase the efficiency in agriculture.

The content of economic theory: There has been a lot of controversy among economists about the true content of economic theory or its subject matter. The subject matter of economics or economic theory has been variously defined.

- According to Adam Smith, economics enquires into the nature and causes of the wealth of nations.
- According to Ricardo, economist studies, "how the produce of earth is distributed." That is, economics deals with the distribution of income and wealth.
- According to Marshall, economics is a study of mankind in the ordinary business of life and it examines that part of individual and social action which is connected with the material requisites of well-being.
- According to Pigou, economics studies that part of social welfare which can be brought directly or indirectly into relationship with the measuring rod of money.
- Professor Lionel Robbins defines economics as a study of the allocation of scarce resources among competing ends or uses.

Each definition of economics given above is incomplete and inadequate since they do not indicate the true scope and subject matter of economics. The following are the main questions which have been raised by the economists from time to time. It is worth remembering that all these fundamental questions arise because of the basic problem of scarcity confronting an economy.

- Are all the available productive resources being fully utilized by the economy, or are some of them lying unemployed and unutilized?
- What goods are produced and in what quantities by the productive resources which are employed?
- How are different goods produced that is what production methods are employed for the production of various goods?
- How is the total output of goods and services distributed among the members of the society?
- Are the productive resources being used efficiently?
- Is the economy's productive capacity increasing, declining or remaining static over time?

The six questions listed above have been the concern of economic theory from time to time. All of them arise from the fundamental problem of scarcity.

Definitions of economics: At present, there are plethora's (excess) of definitions of economics available in the field. Broadly speaking, the various definitions of economics can be classified together under four heads: (a.) Wealth (b.) Welfare (c.) Scarcity (d.) Growth.

Wealth definition: The early economists defined it as the science of wealth. Economics was regarded as the science which studied the consumption and production of wealth. Adam Smith for example, considered his Magnus opus to be "An Enquiry into the Nature and Causes of the Wealth o Nations;" while S.S. Mill looked upon economics, "As the practical science of production and distribution of wealth".

Wealth definition: Marshall was the first economist who lifted the science of economics from the masses into which it has fallen towards the close of 19th century. He shifted the emphasis from wealth to welfare. His definition run as follows: "Political economic or economics is a study of mankind in the ordinary business of life. It examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of well-being".

Besides Marshall, Prof. Pigou remarks, "The range of our enquiry becomes restricted to that part of social welfare that can be brought directly or indirectly into relation with measuring rod of money".

Scarcity definition: The publication of Professor Lionel Robbins, "An essay into the nature and significance of economic science in 1932", initiated all together fresh controversy regarding the definition of economics. According to Robbins, "Economics is a science which studied human behaviour as a relationship between ends (human wants) and the scarce means (resources) which have alternative uses".

Growth definition: The Robbins definition had excluded the problem of economic growth and was entirely based on static view. This inherent defect or lacuna in Robbins definition had been sought to be removed in the recent past century by Prof. Samuelson's definition of economics. The great merit of Samuelson definition is that it takes into consideration the dynamic changes that taking place both in the means (resources) as well as the ends (human wants) with lack of time. It has therefore, been rightly termed as the growth definition of economics. He defined economics as, "the study of how people and society choose to employ scarce productive resources—which have alternative uses—to produce various commodities over time and distribute them for consumption, now or in the future, among various persons and group of society".

Nature of economics: The subject matter or the study of economics has been divided by modern economists into two parts viz. micro economics and macro economics. These two terms were

first coined and used by Ragnar Frisch. The term micro economics is derived from the Greek word micros, meaning 'small' and the term macro economics are derived from the Greek word macros, meaning 'Large'. When we are analyzing the problem of the economy as a whole and its large aggregation such as total national output and income, total employment, total consumption, saving and investment, aggregate demand, aggregate supply, general price level etc. it is macro economics, while micro economics deals with the analysis of small individual unit of the economy such as individual consumer, individual firm and small aggregates are the group s of individual units such as various industries and markets. Micro economics is also called as Price Theory and Macro-economics is called as Income theory.

Micro economics: Its key branches are market economy, the theories of factor pricing/distribution and the theory of economic welfare (welfare economics). Market economy (also called Theory of product pricing) is again divided into two branches viz., theory of demand (consumption) and theory of production and cost. The theory of distribution or the factor pricing consists of theories of rent, wages, interest and profit.

Macro economics: Its key branches are the following: theory of income and employment; theory of general price level and inflation; theory of economic growth; macro theory of distribution in relation to shares of wages and profit; theory of consumption function; and theory of investment. Macro economics shows how to solve the major economic problem – poverty, unemployment, inequalities in the distribution of income and wealth, inflation and deflation etc. - through different economic policies measure such as monetary, fiscal, commercial policies.

Scope of economics: Economics deals with problem and question affecting individual and family. For Example- the type of job which is available, the level of wages in industries, the effect of rising in prices on the standard of living of the people and so on. Economics studies the action and behaviour of business man, investors and speculators under different circumstances. Economic considerations play a significant role in local, national and international affairs. For example- the problem of providing water, electricity, underground sewage, compulsory education for all children. These problems raise various economic issues. How much money is required for each of these purposes are come under the scope of economics.

Whether economics is a science or art? Economics is not only a science but also an art. It is a science in its methodology and an art in its application. It has a theoretical aspect and has also an applied science in its practical aspects.

Science is a systematically organized body of knowledge based on principles, theories or laws which traces out the casual relationship between cause and effect. A branch of knowledge becomes systematized when facts are collected and analyzed to find out the relation between cause and effect. It lays down general principles which help to explain things and guide us. Economics in this sense is a science. For example- rise or fall in price is lead to contraction or

extension in demand respectively. Here, rise or fall in price is the cause and contraction and extension is its effect.

Economics is also an art which is also a systematized body of knowledge. Art is the practical applicability of the scientific principles. Science is based on some principle while art put these principles into practical use. So, economics is both science and art in this sense. But, the economists prefer to use the term applied science in place of art.

Positive and normative science: In discussing the scope of economics, we have also to consider whether economics is a positive or a normative science. Positive science explains why and wherefore of things that means their cause and effect. A normative science discusses the rightness or wrongness of the things. Economics is both a positive and a normative science. For example- per capita income of a country is less and poor persons are becoming poorer and rich persons becoming richer. Whether it is good sign or bad? If it is bad then what should be done, etc. So, economics is positive as well as normative science.

- **Positive science:** It studies what is or how the economic problems facing a society are actually solved.
- **Normative economics:** It studies what ought to be i.e how the economic problems facing the society should be solved.

Science: Science is used to denote a systematically organised body of knowledge obtained through the use of scientific method. There are four types of sciences viz. physical sciences, biological sciences, social sciences and humanities.

1. **Physical sciences:** In physical sciences, we study physics, chemistry, and mathematics. Physical sciences are also known as natural sciences or pure sciences.
2. **Biological sciences:** The biological sciences study living things. This field includes zoology, botany with all their subject field and specialisation such as agronomy, soil science, animal science and plant breeding.
3. **Social sciences:** Social sciences are the study of society, social activities and mutual relationship between human beings. This field includes anthropology, political science, sociology, psychology and history to some extent.
4. **Humanities:** This field includes language and geography.

Relationship of economics with other sciences:

- **Economics and history:** The knowledge of economic activities or events can be obtained only from history which helps us in solving particular type of economic problem by telling us when and why that problem arose and what methods were adopted to solve it. To study the economic development of a country, we read its economic history.
- **Economics and sociology:** Sociology studies the origin of the society, social activities and mutual relationship of human beings. Social activities of human beings are the chain

of social activities. Social activities, organisation of society and social institution affect economic activities. All these facts establish relationship between economics and society.

- **Economics and political science:** Political science is the study of government administration and citizenship in the country. Economic system, political organisation and the economy of a country depend upon the political condition. For example, the worst economic conditions were the main cause of political revolution and state- mutiny in Russia.
- **Economics and psychology:** Psychology is a science that studies the mental action or reaction and mental activity of man. Most of the laws of economics are based on the psychological behaviour of human beings.
- **Economics and mathematics:** Economics is fast becoming mathematics oriented. Mathematics is an object science and almost every law of economics is explained with the help of mathematical equations.
- **Economics and statistics:** Statistics is a science of facts and figures. In every sphere of economics facts and figures are required which can be collected with the help of statistics only. Hence, economics and statistics are not only closely
- **Economics and ethics:** Ethics deals with the principle of morality while economics is a study of the behaviour of man in wealth. Human behaviour is influenced by moral consideration. Men's actions are usually guided by their ideas of what is right and proper. Economics is therefore, closely related to ethics.

CHAPTER 2

BASIC TERMS AND CONCEPTS

Goods: The term good in economics is used in the sense of anything which is capable of satisfying human wants. For example, air, water, food, clothes, etc.

Kinds of good: There are four kinds of good viz. free good, economic good, consumption good and production good.

Free Good: Free goods are those good which are found in abundance and no payment is made for them for satisfying human wants. For example, air, sunlight, rain water.

Economic good: Economic goods are those goods which are scarce and we have to make payment for them for satisfying our wants. For example, bed, chair, food, books etc..... A good may be a free good today and become an economic good tomorrow or it may be a free good at one place and economic good at another. Water is the free good in natural spin but not in city. For example, water which is flowing in a river is a free good today and when it is used in home and price is attached to it then it becomes economic good.

Consumption good: Consumption goods are those goods which directly satisfying our demand. For example, vegetables, bread, shirt, shoes etc....

Production good/ capital good: It is those good which do not satisfy our demand directly but by indirectly. These goods help us to produce other goods which satisfy our demand. For example: tools, machine and machinery and other raw material.

Public good: Public goods are common to all and owned by the society collectively. For example, town hall, college, hospital etc.

Private good: Private goods are the property of private individuals. For example, land, building, house, livestock owned by him and not shared with others.

Transferable and non-transferable good: Transferable goods are those goods which can change their ownership, while non-transferable goods such as skill, ability, intelligence etc, which are personal qualities and cannot be utilized by others.

Service: Service means an act perform by one person for the benefit of other. Since every person provides utility to the receiver, we can say that service is non-material goods. For example, services of a lawyer, teacher, doctor. Goods are material while, services are non-material. Goods are also known as commodities.

Production: It is the creation of utility or service and defined as the process of changing the resources into product.

Consumption: It is the destruction of utility or service.

Utility: It is the power of a good or service to satisfy human wants. Any commodity or service which can satisfy human wants is said to have utility. It is measured in util.

Kinds of utility: Utility of a commodity may increase due to several reasons.

1. **Form utility:** If the physical form of a commodity is changed, its utility may increase. For instance, the utility of cotton increases, if it is converted into clothes. The other examples are processing of paddy into rice, wheat into flour, and butter into ghee. 20
2. **Place utility:** If a commodity is transported from one place to another, its utility may increase. For instance, if rice is transported from Tamil Nadu to Kerala, its utility will be more.
3. **Time utility:** If the commodity is stored up for future usage, its utility may increase. During rainy season, water is stored up in reservoirs and it is used at a later time. This increases the utility of that stored water. Agricultural commodities like paddy, wheat, oilseeds, pulses, etc are stored for the regular uses of consumers throughout the year.
4. **Possession utility:** Commodities in the transaction process change the hands from one person to another person. Commodities in the hands of producers have some utility and by the time they reach consumers through the traders their utility is increased. Such utility due to possession or transfer of ownership of the commodity is called, possession utility. For example, paddy in the hands of producers, i.e. farmers are having less utility compared to that of consumer in the form of rice.

Factors of production: Production requires the use of certain resources. Each particular resource may be called a factor of production. Therefore, anything that contributes towards output is the factor of production. For the sake of convenience, it is usual to group all the productive resources under the four heads viz. land, labour, capital and management.

Value and price: Value of a commodity simply means what other commodity or commodities can be got in exchange of it. Value is the power of commodity demands other things in exchange for itself. While, expression of value in terms of money is known as price.

Money: Money is that money does.

Cost: Cost is the total amount of funds used in the production process. Cost outlay for productive services is directly related to laws of production. Nature of production function and prices thus, determined the cost structure. Always remember, cost is always a function of output while production is always a function of input. It depicts that cost is dependent upon the level of output being produced while production level is dependent upon the quantity and quality of input used.

Cost Curves: Show the minimum cost of producing various levels of output.

Explicit Costs: The actual expenditures of the firm to purchase or higher the inputs it needs.

Implicit Costs: The value of owned inputs used by the firm in its own production process.

Price: The expression value in terms of money is called price. It includes cost of production of any product plus profit.

Income and wealth: Income is the money you *make* over a specific period (such as a paycheck or business profits), representing a flow of funds.

Wealth, or net worth, is what you *have*—the total value of your assets (like cash, property, and investments) minus any debts you owe, representing an accumulated stock.

Difference between wealth and income: Wealth is a stock of resources which makes production possible while income is a flow of goods and services. For example: A person having a property of Rs. 5.00 Lac whereby gets there an annual income of Rs. 50,000. The property is wealth and what its yield is income.

Equilibrium: Equilibrium means a state of rest. The attainment of a position from which there is no incentive to move. In other words, equilibrium means a state of balance or rest. There are four kinds of equilibrium viz. stable equilibrium, unstable equilibrium, neutral equilibrium and general equilibrium.

Stable equilibrium: When an object after having being disturbed tends to resume its original position. It is a case of stable equilibrium.

Unstable equilibrium: When slight disturbance evokes (generates) further disturbances so that the original position never restored that is a case of unstable equilibrium.

Neutral equilibrium: When the forces of change are absent. The position is known as neutral equilibrium.

General equilibrium: General equilibrium is an economic model that analyzes the supply, demand, and pricing of goods across *all* markets simultaneously. It seeks to prove that prices will adjust across interconnected markets until supply equals demand concurrently in the entire economy, ensuring all markets "clear" at the same time. While partial equilibrium examines a single market in isolation, general equilibrium recognizes that changes in one market (e.g., a spike in oil prices) create ripple effects across other markets (e.g., transportation, agriculture, and consumer goods).

CHAPTER 3

ECONOMY: TYPES, FUNCTIONING AND PROBLEMS

Economy: The whole economic activities of a man consist of an immense cooperation of workers and producers to make thing and do thing which consumers want is an economy.

For example, all around us we see factories, mines, roads, railways, cinemas, shops and other business establishments etc. These units enable people to earn an income and at the same time to produce goods and services which consumers require. All these units or institutions may be collectively called as an economy.

Vital functions of economy: As feeding, digestion and growth are vital for human existence. In the same way, every economy has its vital process which is grouped as:

1. **Production of goods and services:** The first vital function of an economy is production which takes place continuously. It consists of final consumption of goods, services of all types and product in different stages of production and so on.
2. **Consumption of goods and services:** Production of goods and services has no meaning unless it satisfies human wants. Hence, consumption, an act of satisfying one's wants, is the second vital process of the economy.
3. **Growth:** Unless an economy uses its resources fully, it will become stagnant. In a growing economy, the rate of output steadily increases. The rate of growth should exceed the rate of increase in population of a country. Thus, a growing economy will ultimately mean an increase in the country's per capita income.

Per capita income: GNP/ Population

Kinds of economy: The economy may be classified in a number of ways. a layman, for example, may classify economies as rich and poor. In a rich economy, the per capita income and standard of living are very high, whereas in a poor economy like that of India, the per capita income is extremely low and the standard of living is low. Broadly speaking, there are six kinds of economy:

1. Simple and Complex Economy.
2. Developed, Underdeveloped and Developing economies.
3. Capitalist, Socialist and Mixed economies.
4. Open and Closed Economy.
5. Agricultural and Industrial Economy
6. Planned Economy:

Simple economy and complex economy: The economy of an isolated village in which every family attempts to produce everything to satisfy all its meets is an example of a simple economy. In a complex economy, there is a high degree of specialisation and extreme dependence of each

one upon everyone else. If something goes wrong in one part of the economy, the entire system may collapse and it may take a long time to set it functioning smoothly again.

Developed, underdeveloped and developing economy: An advanced or developed economy is one which carries on production with a large amount of machinery and advanced techniques. An advanced economy employs its human and other resources to the maximum extent possible. Developed economy enjoys, high per capita income; standard of living is high; advanced level of economy; optimum population, dynamic leadership; and high rate of capital formation. England, France, U.S.A, Germany, Canada, Australia, New Zealand is advanced economy.

In an underdeveloped economy, production is carried out with a relatively smaller amount of capital and with primitive and old techniques. Application of scientific and technological improvement in agriculture or industry is limited. In these countries, the per capita income is low; natural resources are underutilized; there is deficiency of capital; population pressure is high; low level of technology used; and economic backwardness are the main causes which inhibit this country to develop and develop further. Most of the countries of Asia with the exception of Japan, the whole Africa, South America with the exception of Argentina and some countries of Eastern and Southern Europe could be considered as underdeveloped economy. In brief, we can say that those countries which have no potential for further development are categorised as underdeveloped countries. All under developed countries are not in the same degree of economic development. Some are primitive but some have already taken steps towards rapid economic growth. The later have commonly come to be known as developing economy. India, Brazil, South Africa, Russia, China, Ethiopia is the examples of major developing economies. In Short, we can say that those countries which have lot of potential for further development are put under the categories of developing economies.

Capitalist, socialist and mixed economy: Capitalist economy also known as free enterprise economy is one in which the means of production is land; labour and capital are owned and managed privately. The predominant motive force of all economic activities is to maximise their profit. The government does not interfere in the working of the economic system except at the time of national emergency like war or a business depression. For example, H.R.TC. is a government enterprise while, New Prem Bus Service, Jaryal Bus Service is a private enterprise.

The socialist economy on the other hand is one in which all the means of production are owned and operated by the state on behalf of the community and the predominant motive force of all economic activities is public welfare and not private profit. All the economic activities are controlled, regulated and guided by the government according to a pre-determined plan.

The mixed economy is one which attempts to combine the good features of both capitalism as well as socialism without the defects of either. It is a socio-economic system in which we try to follow the middle path of moderate state control and moderate capitalism. It is operated both by private enterprises and public enterprises. In a mixed economy, there is a private sector which is

based on profit motive and a public sector (government sector) is controlled by the government. There can be a joint sector too in which both the public and the private sector participate in share capital and management. India is a good example of mixed economy.

Open and closed economy: Open economy is one in which there is free import and export while, closed economy is when in which there is no import and export. In open economy, production, consumption, government and international trade come into the picture whereas in closed economy, there are only three sectors that come into the picture and these are production sector, household sector and the government while the last one, namely international trade is absent.

Export and import: When a country sends its home manufactured products to outside countries, we call it as export while import refers to the purchases made of goods and services of the other countries.

Agricultural and industrial economy: The economy can further be classified as agricultural and industrial. In an agricultural economy, agriculture is the main occupation of the mass of the people; economy largely produces agricultural products, raw materials for industry and food grains. They export these commodities and import manufactured goods. Such economy is generally backward and poor. On the other hand, industrial economy is rich and advanced. The town and cities represent industrial economy. A country where the bulk of population resides in rural area is an example of agricultural economy; whereas a country with predominantly urban population is an example of industrial economy.

Planned economy: In the planned economy, however, there is a central authority which chalks out the entire plan for the economy. It is immaterial whether the economy is capitalist or socialist, a central planning authority is essential. In the field of production, all enterprise must fit in the overall plan.

Basic economic problems: Below listed the fundamental questions that arise because of the basic problem of scarcity confronting the economy.

1. **What to produce:** what goods are to be produced and in what quantities by the productive resources.
2. **How to produce:** It means the problem of choice of techniques. Which combination of resources is to be used for the production of a thing and which technology is to be made use of in production? For example, labour intensive method or capital-intensive method.
3. **For whom to produce:** The problem of distribution of national product. This is the problem of sharing of the national product among the various individual and groups in the society.
4. **Are the resources being utilized efficiently:** It means the problem of economic efficiency? The production is said to be efficient if the productive resources are utilized in such a way that it optimises profit. It is impossible to produce more of one good

without producing the output of any other goods. There is to be no waste or misuse of resources since they are limited.

5. **Are all available resources being fully utilized:** It means the problem of full employment of resources? In capitalist society, it so happens that resources may remain ideal.
6. **Are the economy's productive capacity increases:** It means the problem of economic growth. The productive capacity of the economy must increase as a result the living standard of the people will raise.

Labour intensive and capital extensive method: Labour-intensive methods rely primarily on human workers rather than machines, resulting in higher labour costs relative to equipment. Conversely, **capital-intensive** methods rely heavily on automated machinery, technology, and equipment, requiring large initial investments and higher fixed costs.

Deductive and inductive method in economics: In economics, the deductive method derives specific conclusions from general assumptions, while the inductive method observes real-world data to establish general economic principles. It means that in deductive method, the direction of logic is from general to specific while in inductive method, the direction of logic is from specific to general. Both are foundational to economic analysis, though they approach problem-solving from opposite directions.

Statics, dynamics and comparative statics: A student of modern economic analysis frequently comes across the term economic statics and economic dynamics

Statics meaning: In common usage the term statics connotes position of rest or absence of movement. However, economic static does not imply absence of movement, rather it denotes a state in which there is a

Economic dynamics: In economics, dynamic refers to the study of economic change. It is thus a process of change through time. In dynamic economic analysis we investigate the behavior of system which results from the passage of time. The main purpose is to know as to how a complex of current events will shape themselves in the future. To do so, it is necessary to visualize the way it has arisen out of the past events. In this view, the economics essentially assumes a dynamic character. The movements we talk of reference of events, the element of time creeps into our analysis. It is this time element and its passage that impact a dynamic color to our economic problems.

Comparative statics: An analysis in which we start with a system in equilibrium, then introduce a change and study the ultimate effect of the change. This is the method of comparative statics. We compare one equilibrium with another and ignore the time element. It is a method whereby we can ignore time as a variable and still make a purposeful study of the economic system.

Economies: means to make the most of what we have.

Economic activities: Anything in which money is involved, we call it as economic activity. These involve production, consumption and distribution of goods and services.

Economic and non-economic activities:

Human activities are classified into economic and non-economic activities. Economic activities aim to earn income and livelihood, while non-economic activities are performed for personal satisfaction, social welfare, or emotional well-being.

Economic activities involve the production, distribution, and consumption of goods and services to generate wealth. They are measurable in monetary terms, directly contribute to a nation's economy (GDP), and help satisfy materialistic needs. For example, a farmer growing and selling crops in the market. These activities contribute to national economy.

Non-economic activities are the actions which are performed without any expectation of financial return. They are driven by love, affection, sympathy, hobbies, or religious and cultural beliefs. These activities do not generate income, but are essential for social stability and a balanced life. For example, a mother cooking dinner for her family. These activities do not contribute to national income.

Economic needs: These are those needs which can be fulfilled with wealth by spending money.

Non-economic needs: These are, however, wants which cannot satisfy by spending money. For example, being kind, worship of God, desire to love etc.

Internal and external economies: Internal and external economies are cost advantages that lower the average cost of production. Internal economies are perks specific to an individual company's growth. External economies are benefits shared by an entire industry or geographic region as the whole sector expands.

Core assumptions of economics: There are mainly two and these are:

1. Rational behaviour of the man
2. *Ceteris Paribus* (means keeping other thing constant)

Since human beings are independent, changeable and intellectual by nature and human behaviour is deeply influenced by different conditions, views and action of another person, while making analysis of a particular behaviour, we assume other thing remaining the same (*Ceteris paribus*)

Secondly, we assume rationality of human behavior. It is assumed that every man behaves like an economic man i.e. he tries to get maximum satisfaction by satisfying more and more wants out of his limited income. Besides these assumptions, the assumption of unlimited wants, scarcity of resources and person are independent are also included in economics.

Micro economics: Its key branches are market economy, the theories of factor pricing/distribution and the theory of economic welfare (welfare economics). Market economy (also called Theory of product pricing) is again divided into two branches viz., theory of demand (consumption) and theory of production and cost. The theory of distribution or the factor pricing consists of theories of rent, wages, interest and profit.

CHAPTER 4

CONSUMPTION AND THEORY OF DEMAND

Theory of demand: In theory of demand or consumer behavior, there are two approaches and these are:

1. Utility Approach/ Marshallian Approach.
2. Modern Approach / Indifference Curve Technique.

The Marshallian analysis assumes the measurability of utility and deals with one commodity world whereas Indifference curve technique does not rely on the measurability of utility and gives an analysis of the various combinations of two commodities having the same total utility or more or less, but not exactly how much. First of all, we shall take up the Marshallian analysis commonly known as utility analysis. To start, we shall give a brief note on consumption and standard of living.

Consumption: Consumption in its broadest sense means the use of economic goods and personal services in the satisfaction of human wants.

Human wants: Human wants shows important characteristics and these are:

1. They are unlimited in number.
2. Each particular want is satiable.
3. Wants are complementary. This means to satisfy one want fully; we want several things together. For example, horse and the carriage, eye-glass and the frame, shoes and laces etc are wanted together.
4. Wants are competitive- - As our wants are unlimited but the means at our disposal are limited. We are compelled, therefore, to choose. These competing wants give rise to a law known as the law of substitution.
5. Some wants have alternatives—it means for the satisfaction of a particular want, different alternatives are open to us.
6. Want recur—it means repeated satisfaction changes wants into habit.

Commodities used for a satisfaction of wants: Commodities used for a satisfaction of wants may be classified as:

1. Necessaries
2. Comfort
3. Luxuries

Necessaries: By necessities, we mean those commodities and services, the want s of which must be satisfied. Necessaries have been classified as:

- i. **Necessaries of life:** It refers to commodity that are absolutely essential for our very existence;
- ii. **Necessaries of efficiency:** It refers to commodity which are essential for improving our efficiency;

- iii. **Conventional necessities:** Conventional necessities are goods or services that are not biologically required to survive, nor physically necessary to increase your work productivity, but are considered essential due to social customs, traditions, or peer pressure in a specific society. For example, Traditional clothing: Wearing specific, often expensive, traditional attire for weddings or religious festivals. Social events: Spending significant money on grand wedding receptions or funeral feasts. Cultural holidays: Buying decorative items, sweets, or gifts during festivals (like Diwali, Christmas, or Eid).

Comforts: Comfort refers to such commodities and services which a person likes to consume over and above the necessities in order to make him comfortable.

Luxuries: Luxuries refers generally to once living beyond once means or sustain in life. It means “wasteful expenditure”. An “Ely” says luxury in its ordinary sense means anything that satisfy as superfluous wants. Luxury in our mind is associated with bad consumption, but, there are people who support the use of luxury. It is said that luxuries are the provision adopted against the rainy days. Fr example ornaments and jewelry stand good in times of adversity. Luxuries are said to provide employment but, on the whole, expenditure on luxuries is not commendable especially when a large majority of population can’t get even two-time bread in a day which is the necessities of life, as in the case of India. But, luxuries, necessities and comfort are related terms. Necessaries, comforts and luxuries are relative terms and we cannot attach permanent and fixed labels to commodities. The same thing may be necessities under one set of conditions and luxuries in another. A car may be a luxury for a person living in small city but for a busy official or a doctor, it is necessities. The luxuries of yesterday have become the necessities of today due to rising standard of living and growing prosperity.

Engel’s law: Ernest Engel’s, a law called the Engel’s law of consumption has been propounded on the basis of a study of the standard of living of family budget. Ernest Engel was the head of the Russian Statistical Bureau.

Engel’s law is a basic economic principle stating that as a household's income increases, the *percentage* of income spent on food decreases, even though the *actual amount* of money spent on food might increase.

The core idea

Because human beings only need to eat a certain amount to survive, our physical need for food doesn't grow at the same speed as our paycheck.

- **Low-income households:** Spend a large portion of their total earnings just to keep food on the table.
- **High-income households:** Have more money left over after buying food, allowing them to spend a smaller *percentage* of their overall income on groceries.

Why it matters

When people have leftover money after buying necessities, they use it for other things. Therefore, as a population gets richer, you will see spending shift away from basic food and toward things like education, travel, luxury items, and savings.

A simple example: Imagine a family that earns (Rs. 5,000) a month.

- They spend (Rs. 2,000) on food, which means (40%) of their income goes toward food.
- Now imagine their income increases by (40%) to (Rs. 7,000) a month.
- They start buying slightly better or more expensive groceries, spending (Rs. 2,500) on food.
- Even though they are spending *more money* on food, that (Rs. 2,500) now only represents (35.7%) of their total income.

Because the percentage drops, the law holds true.

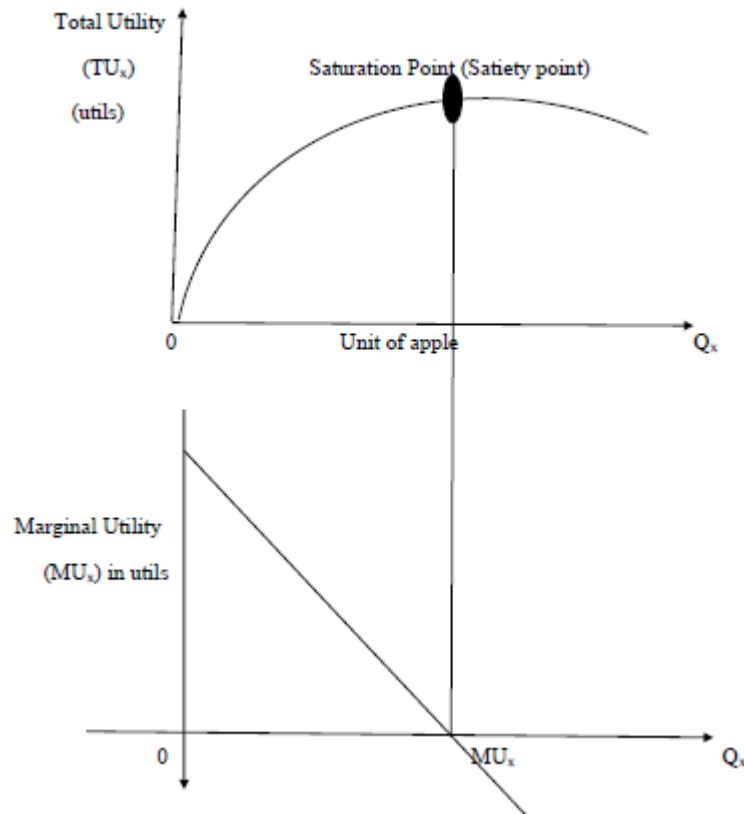
Law of diminishing marginal utility: Satisfaction of human wants follows some very important laws and one of them is the law of diminishing marginal utility. The law states as “the additional benefit which a person derives from a given increase of his stock of a thing diminishing with every increase in stock that he already has”. It means that utility varies inversely with stock although not necessarily in the same proportion. Two important reasons can be given for diminishing marginal utility:

- Each particular want is satiable.
- Goods are imperfect substitute for one another and they tend to be consumed in appropriate proportion.

The law refers to the common experience of every consumer. Suppose a person start eating apples one after another. The first apple gives him great pleasure. By the time, he starts taking his second, the egg of his appetite has been blunted and second apple meeting with a less urgent wants yielding less satisfaction; the satisfaction of third will be less than that of second; and that of fourth is less than that of third and so on. The satisfaction will go on decreasing with every successive apple till it drops down to zero. This is the saturation point, and if consumer is forced to take more, the satisfaction may become negative or utility may change into disutility.

Total and marginal utility schedule:

Unit of Apple (Q _x)	Total Utility (TU _x) (Unit of satisfaction)	Marginal Utility (MU _x)
0	0	-
1	10	10
2	18	8
3	24	6
4	28	4
5	30	2
6	30	0
7	28	-2
8	24	-4



Saturation point: It is that point where the total utility is maximum and the marginal utility reaches to zero. It is also called satiety point.

Total utility: The addition of all the marginal utility (MU_x) is called total utility.

Marginal utility: The change in total utility resulting from a unit change in the quantity of the commodity consumed.

$$MU_x = \frac{\text{Change in Total Utility } (\Delta TU_x)}{\text{Change in Quantity Consumed } (\Delta Q_x)}$$

Relationship between marginal utility and total utility:

- When marginal utility (MU_x) declining then total utility (TU_x) increasing but at a diminishing rate.
- When marginal utility (MU_x) is zero then total utility (TU_x) is maximum.
- When marginal utility (MU_x) is negative then total utility (TU_x) declines from the maximum.

Consumer equilibrium: The object of a rational consumer is to maximize the total utility or satisfaction derived from spending his income. The objective is reached or said to be in equilibrium, when the consumer spends his or her income in such a way that the utility or satisfaction of the last rupee spent on various commodity is the same. This can be expressed mathematically as:

$$MU_x / P_x = MU_y / P_y$$

If there are 'n' commodities then the formula becomes:

$$MU_x / P_x = MU_y / P_y = \dots \dots \dots MU_n / P_n$$

Subject to the constraint that

$$P_x Q_x + P_y Q_y = M \text{ (Individual money income)}$$

Suppose in tabular form, the given data is

Q	1	2	3	4	5	6	7	8
MU _x	16	14	12	10	8	6	4	2
MU _y	11	10	9	8	7	6	5	4

Let us suppose

$$P_x = \text{Rs. } 2/\text{unit and } P_y = \text{Rs. } 1/\text{unit}$$

The condition for consumer equilibrium is

$$MU_x / P_x = MU_y / P_y$$

Subject to the constraint, $P_x Q_x + P_y Q_y = M$ (Individual money income)

Let us suppose

$$M = \text{Rs. } 12$$

Table above gives an individual marginal utility of x (MU_x) and marginal utility of y (MU_y) schedule. Let $P_x = \text{Rs. } 2/\text{unit}$ and $P_y = \text{Rs. } 1/\text{unit}$. The individual money income is Rs.12 / time period and is all spent.

The overall total utility received by the individual is 93 utils (unit of utility) which is obtained by adding the MU_x of the first three unit of x and first six unit of y.

$$MU_x / P_x = MU_y / P_y$$

$$12/2 = 6/1 \text{ or } 6 = 6$$

$$\text{Total Utility} = 16+14+12+11+10+9+8+7+6 = 93$$

This represent the maximum utility that individual can receive from all expenditure. If the consumer spends his total income in any other way, the total utility would be left when $Q_x = 3$ and $Q_y = 6$.

The two conditions for the consumer equilibrium are simultaneously satisfied.

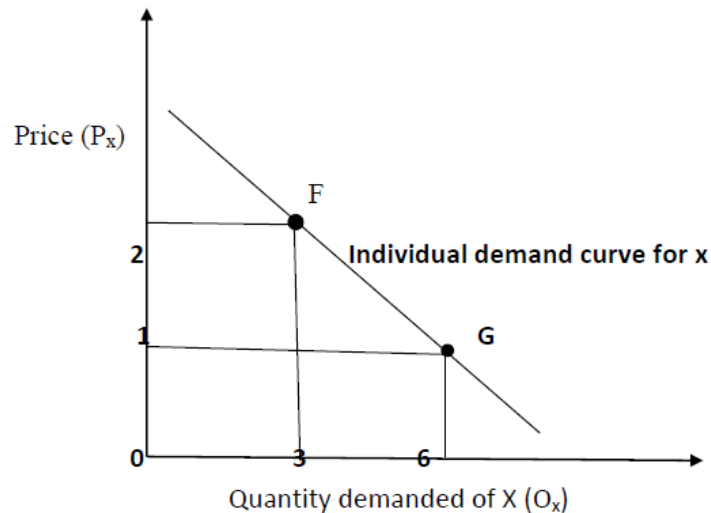
$$P_x Q_x + P_y Q_y = M \text{ (Individual money income)}$$

$$Q_x = 3 \text{ and } Q_y = 6.$$

$$2 \times 3 + 1 \times 6 = 12 \text{ or } 6 + 6 = 12 \text{ or } 12 = 12$$

Derivation of an individual demand curve from the law of diminishing marginal utility: By using the principle of diminishing marginal utility and the concept of consumer equilibrium, we can now derive the demand curve of an individual for a particular commodity. To do this, we began from a condition of consumer equilibrium. From this equilibrium condition, we get one point on the individual demand curve for the commodity under consideration. We then allow the price of commodity to change. This will disturb the original equilibrium. In the process of

reaching another equilibrium point, the quantity of commodity demanded must change. From this new equilibrium condition, we obtain another point on the individual demand curve for the commodity. The process can be repeated any number of times. By joining the resulting point, we get the individual demand curve for the commodity.



Demand, meaning and types: demand is always at price. “The demand for anything at a given price is the amount of it which will be bought per unit of time at that price”. There are three types of demand viz. price demand, income demand and cross demand.

Price demand: This demand refers to the various quantity of commodity or service that a consumer would purchase at a given time in a market at various hypothetical prices. It is assumed that other things, consumer income, his taste and price of inter related goods remain unchanged.

Income demand: It refers to the various quantities of goods and services which would be purchase by the consumer at various levels of incomes. Here, we assume that the price of the commodity as well as the price of inters related goods and the taste and the desires of the consumer do not change.

Cross demand: This demand means the quantity of good or a service which will be purchased with reference to changes in price not of this good but of other inter related goods. These goods are either substitute or complementary goods. For example, a change in price of tea will affect the demand for coffee.

Of these types of demands, the price demand is the most commonly spoken demand.

- **Individual demand schedule:** It is the presentation of quantity demanded at various prices in tabular form.
- **Individual demand curve:** This shows the graphical representation of individual demand schedule. In other words, the graphical representation of demand schedules is known as demand curve.

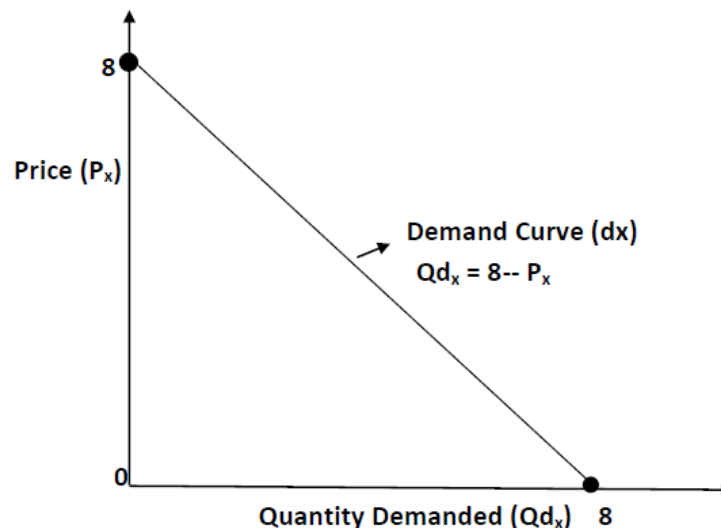
By bearing the price of the commodity under consideration while keeping constant the individual's money, income, tastes and the price of other commodity (*ceteris paribus*), we get the individual demand schedule for the commodity. The graphic representation of the individual demand schedule gives us his or her demand curve. For example, suppose that an individual demand function for the commodity x is:

$$Qd_x = 8 - P_x \text{ (cet.par.)}$$

By substituting the various prices of x into this demand function, we get the individual demand schedule.

P_x	8	7	6	5	4	3	2	1	0
Qd_x	0	1	2	3	4	5	6	7	8

If we take quantity demanded (Qd_x) on x-axis and price (P_x) on y-axis and plotting the above demand schedule, we get the individual demand curve which is given below:



Law of demand: It says that demand varies inversely with price, not necessarily proportionately. If the price fall, the demand will extend and vice-versa. It can also be stated thus, “A rise in the price of a commodity is followed by reduction in demand and a fall in price is followed by an increase in demand if the conditions of demand remain constant.” Demand curve is always negatively sloped.

Market demand curve: In a particular region/ area, apples are demanded by thousands of consumers. Market demand refers to the demand of all the consumers in a region. The market demand which is the aggregate demand for a commodity is calculated by adding the quantity demanded by all the consumers. Suppose that the market for apples consist of four consumers. The market demand is calculated as follows:

Price/ kg in Rs.	Demand of Consumer				Agreegate / Market Demand
	A	B	C	D	(A+B+C+D)
5	1	2	0	0	3
4	2	3	1	0	6
3	3	4	2	1	10
2	4	5	3	2	14
1	5	5	4	3	17

By plotting the individual demand schedule for consumer, A, B, C, D and aggregate / market demand, we get the individual demand curve for the consumer A, B, C, D and the aggregate/ market demand curve.

Factors affecting demand: There are many factors which affect the demand and these are:

1. Number of consumers.
2. Income and wealth of the consumers.
3. Preferences, habits etc. of the consumers.
4. Expectation of consumers about the future.
5. Existence of substitute and the prices of substitutes.
6. Price of the complementary goods.

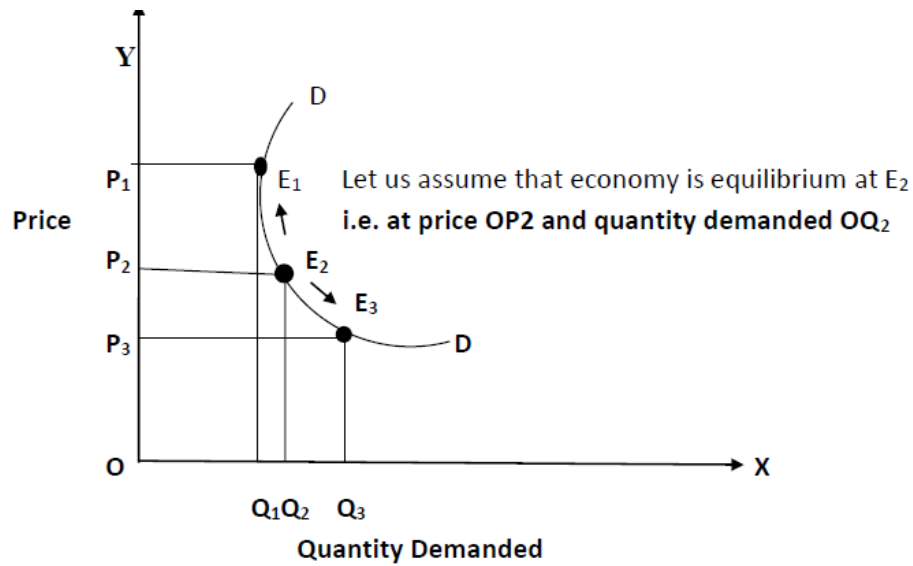
Extension and contraction of demand: Whenever demand changes on account of changes in price, it is called extension and contraction of demand. They are caused by changes in price. The extension of demand curve and the contraction of demand curve is the movement on the same demand curve DD. A downward movement indicating a fall in price and expansion in demand, and an upward movement indicating rise in price and the contraction of demand.

Aspect	Expansion of Demand	Contraction of Demand
Definition	Increase in quantity demanded due to a fall in price of the good.	Decrease in quantity demanded due to a rise in price of the good.
Cause	Caused by a decrease in the price of the product itself.	Caused by an increase in the price of the product itself.
Movement on Demand Curve	Movement downward along the same demand curve.	Movement upward along the same demand curve.
Effect on Quantity	Quantity demanded increases.	Quantity demanded decreases.

Summary:

- Expansion of demand occurs when the price of a good falls, leading consumers to buy more of it.
- Contraction of demand occurs when the price of a good rises, leading consumers to buy less of it.

Both represent movements along the demand curve due to price changes, not shifts of the demand curve itself.



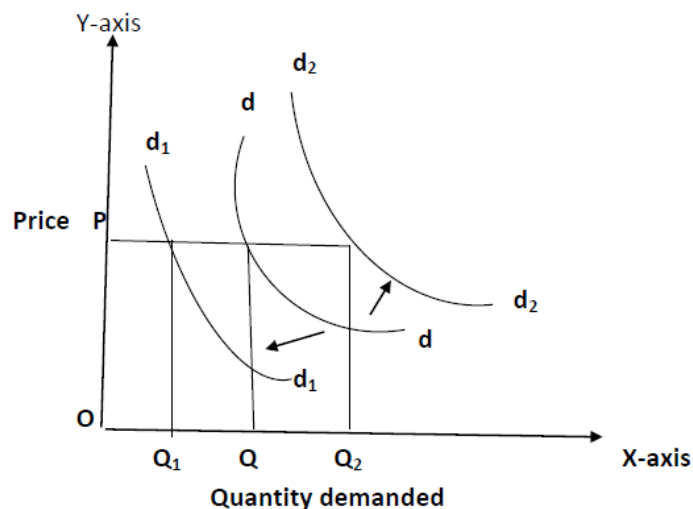
Extension and contraction of demand

Contraction of demand: Let us assume that the price increases from OP_2 to OP_1 , and the quantity demanded reduces from OQ_2 to OQ_1 . This behaviour is referred to as contraction of demand.

Extension in demand: In this case, the price decreases from OP_2 to OP_3 ; due to this the quantity demanded increases from OQ_2 to OQ_3 . This is nothing but the extension of demand.

In the extension and contraction of demand are of importance only when we considered for short period. Here, we take into account ceteris paribus assumption.

Increase in demand and decrease in demand: An increase or decrease in demand refer to changes in factor affecting the demand for a product and is represented by a shift from one demand schedule to another. Increase in demand is the complete shift of demand curve to the right d_2d_2 and decrease in demand is the complete shift of demand curve to the left i.e. d_1d_1 , whereas the price remains the same at OP .



Increase and decrease in demand

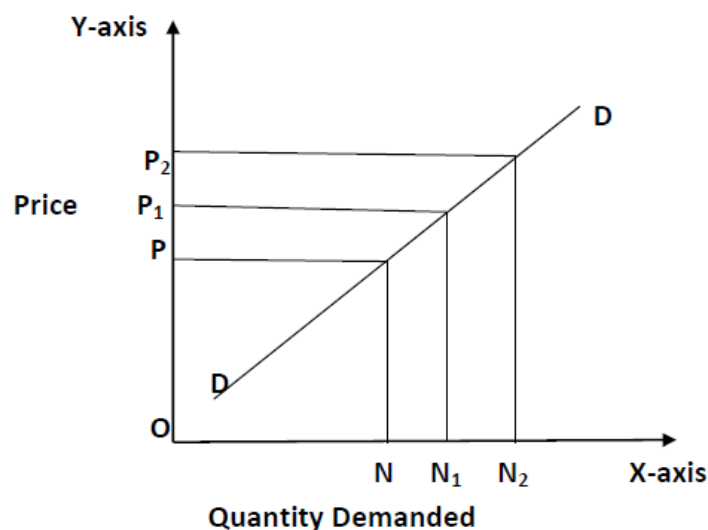
Why the demand curves slope downwards?

The demand curve slopes downward from left to right because as the price of good or service decreases, consumers are willing and able to buy more of it. This inverse relationship is driven by three primary economic principles:

- **Law of diminishing marginal utility:** The satisfaction you get from each additional unit of good decreases. Because each extra unit is valued less than the one before it, consumers will only buy more if the price drops to match that lower value.
- **Substitution effect:** When a product becomes cheaper, it becomes more attractive compared to similar alternatives. Consumers naturally shift their spending toward the now-cheaper option, increasing its quantity demanded.
- **Income effect:** A drop in price effectively increases your purchasing power. You spend less to buy the same amount you usually do, leaving you with "extra" money to buy more of that item or other goods.

Additionally, as prices fall, products become more affordable, which draws new buyers into the market that were previously priced out.

Upward slopping demand curve or Positive slope demand curve: The downward slopping demand curve express relationship between price and quantity demanded and the exceptional demand curve on the other hand will have a positive slope (upward slope) which indicates that more will be demanded at higher price.



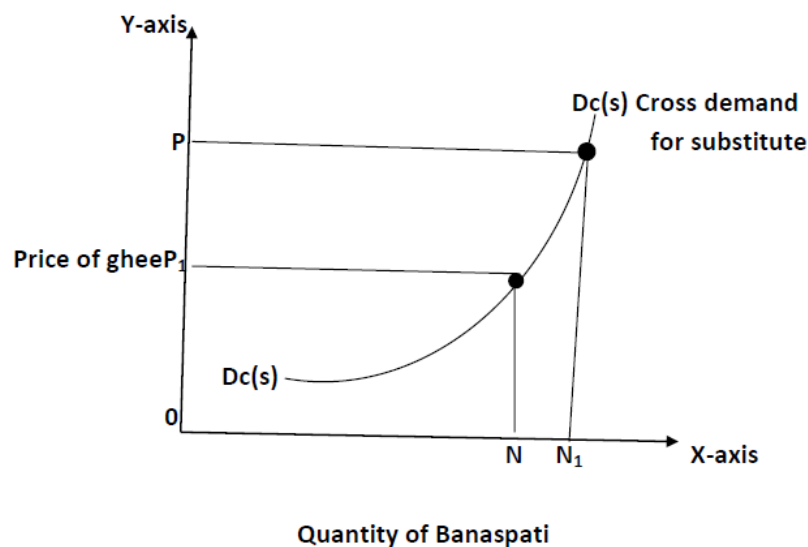
One exception to the normal demand curve is associated with Sir Robert Giffen who demonstrated that a rise in the price of bread in England in the 19th century made the British workers consume more bread and not less.

Sir Robert Giffen was the first to discover this paradox, so it is called Giffen's Paradox, which states that when the price of Giffen goods or inferior goods falls, the demand for such goods also falls and the demand rises with a rise in their prices. In other words, a good that does not obey the

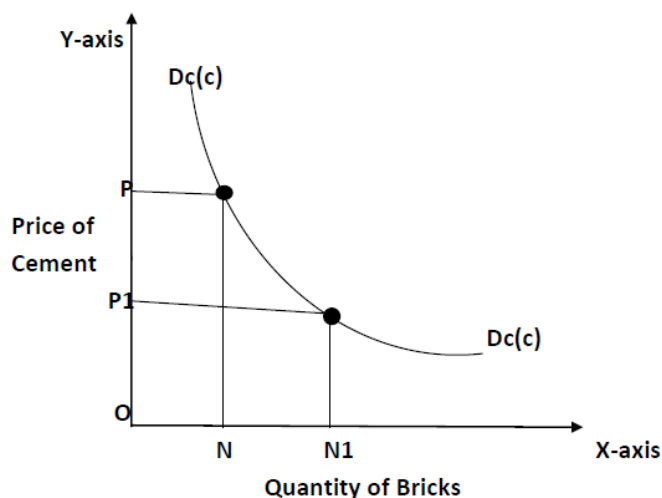
law of demand is called Giffen's paradox. It is just contrary to what the law of demand lays down.

- **Inferior goods:** Good of which less will be purchased with an increase in income and no change in price.
- **Derived demand:** The producers demand for the factor of production is called derived demand. For example, the demand for petrol can be regarded as being derived from the demand of motor car.

Demand curve for substitute goods: If we take the quantity of Banaspati on x-axis and the price of Ghee on y-axis and plot the demand schedule, this will give us the demand curve having positive slope for substitute goods.



Demand curve for the complementary goods: When the goods are complementary for example, if we take the quantity of bricks on X-axis and price of cement on y-axis then the cross demand with negative slope is given as under.



Elasticity of demand curve: There are mainly three types of elasticity of demand curve.

- Price elasticity of demand curve
- Income elasticity of demand curve.
- Cross elasticity of demand curve.

Price elasticity of demand curve: The proportionate change of quantity demanded due to proportionate change in price is called price elasticity of demand and is represented by E_p .

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

or

$$E_p = \frac{[\Delta Q/Q] \times 100}{[\Delta P/P] \times 100} = [\Delta Q / \Delta P] \times [P/Q]$$

Income elasticity of demand curve: The proportionate change in quantity demanded due to proportionate change in income is called income elasticity of demand and is represented by E_y .

$$E_y = \frac{\text{Proportionate change in quantity demanded}}{\text{Proportionate change in income}}$$

or

$$E_y = \frac{[\Delta Q/Q] \times 100}{[\Delta Y/Y] \times 100} = [\Delta Q / \Delta Y] \times [Y/Q]$$

Cross elasticity of demand curve: The proportionate change in the quantity demanded of a product (x) / commodity (x) due to proportionate change in the price of product (y)/ commodity (y). This is represented by E_c .

$$E_c = \frac{\text{Proportionate change in quantity demanded of 'x'}}{\text{Proportionate change in price of 'y'}}$$

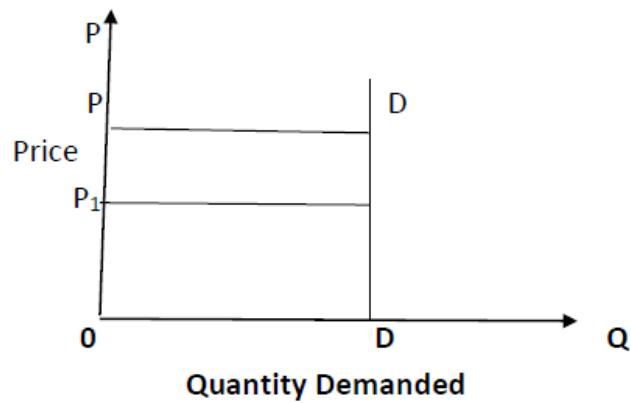
or

$$E_c = \frac{[\Delta Q_x/Q_x] \times 100}{[\Delta P_y/P_y] \times 100} = [\Delta Q_x / \Delta P_y] \times [P_y/Q_x]$$

Kind of price elasticity of demand: There are five different relationships possible between change in price and the corresponding change in quantity demanded.

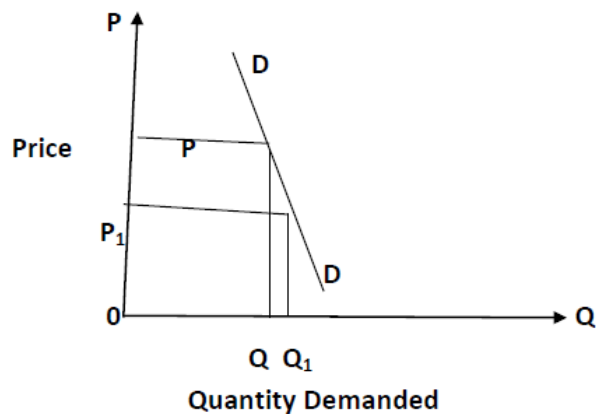
- Perfectly inelastic demand Curve:** No change in demand whatever is the change in price.

$$E_p = 0 / \text{something} = \text{zero}$$



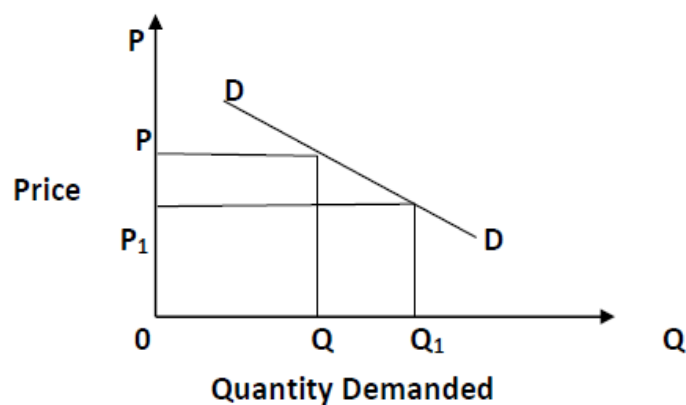
- ii. **Comparatively inelastic demand curve:** The change in demand is less than change in price and consequently the elasticity of price is less than one.

$$E_p = \text{Less/ More} < 1$$



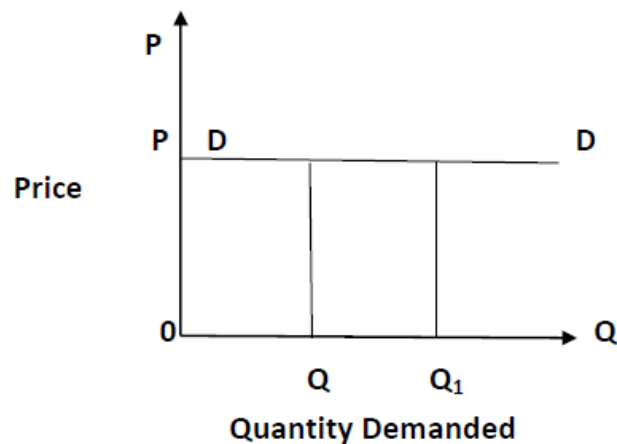
- iii. **Comparatively Elastic Demand Curve:** The change in demand is more than change in price and consequently the price elasticity of demand is greater than one.

$$E_p = \text{More/ Less} > 1$$



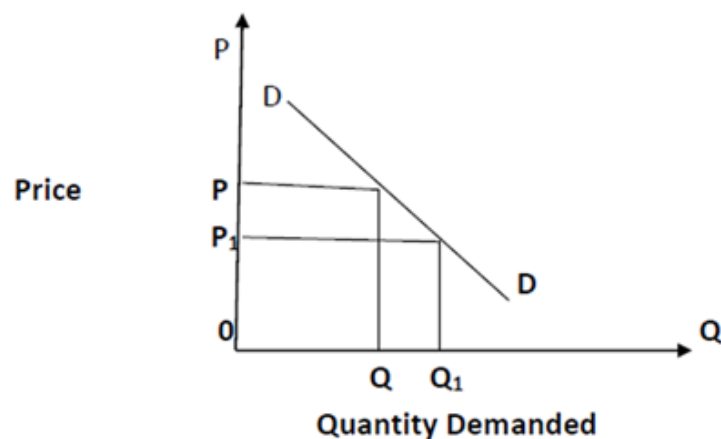
- iv. **Perfectly Elastic Demand Curve:** The change in demand is something positive even though the change in price is zero and hence the price elasticity of demand is equal to infinity (∞).

$$E_p = \text{Something/ Zero} = \infty$$



Unitary elastic demand curve: When the change in demand is exactly equal to change in price and due to this the price elasticity of demand is equal to one.

$$E_p = \frac{\Delta Q}{\Delta P} = 1$$



Zero income elasticity of demand: When an increase in consumer money income fails to bring any quantity demanded in question, it is called zero income elasticity of demand.

Measurement of price elasticity of demand: Price elasticity of demand measures how much the quantity demanded changes when its price changes. There are four primary methods to measure this sensitivity: the Percentage Method (math-based), Total Expenditure (revenue-based), Point Method (graph-based), and Arc Method (average-based).

Consumer's surplus: Consumer's surplus is one of the most important concepts in economics. It was expounded by Alfred Marshall. Consumer's surplus means what a consumer is ready to pay and what he is actually paid i.e. the difference between the excess of maximum over the actual price paid. Thus,

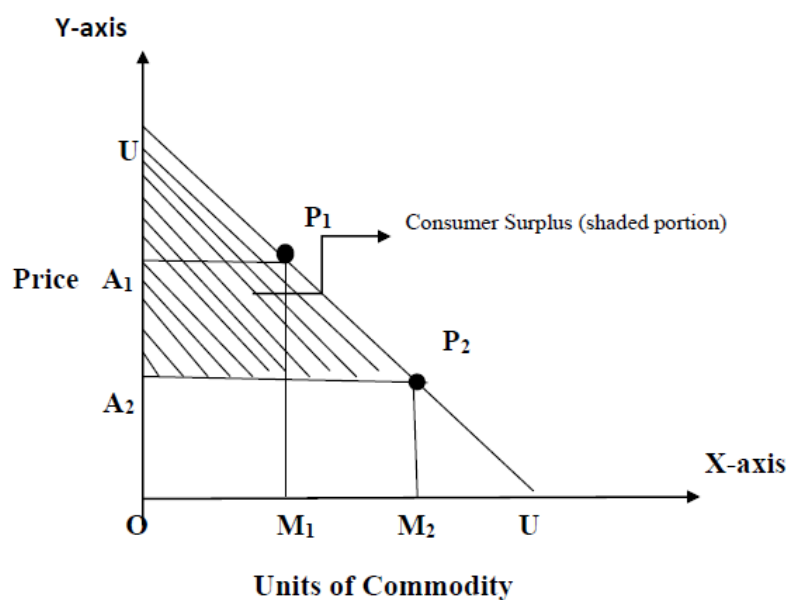
$$\text{Consumer's Surplus} = \text{what one is prepared to pay} - \text{what one actually pays.}$$

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

$$\text{Consumer's Surplus} = \text{Total Utility} - \text{Total Amount Spent.}$$

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

1	2	3	4
Unit (Oranges)	Marginal Utility	Price (Rs.)	Consumer's Surplus
1	2.0	0.5	1.5
2	1.8	0.5	1.3
3	1.5	0.5	1.0
4	1.1	0.5	0.6
5	0.5	0.5	0.0
Total unit purchased = 5	Total Utility= 6.9	Total Money Spend= Rs.2.50	4.4

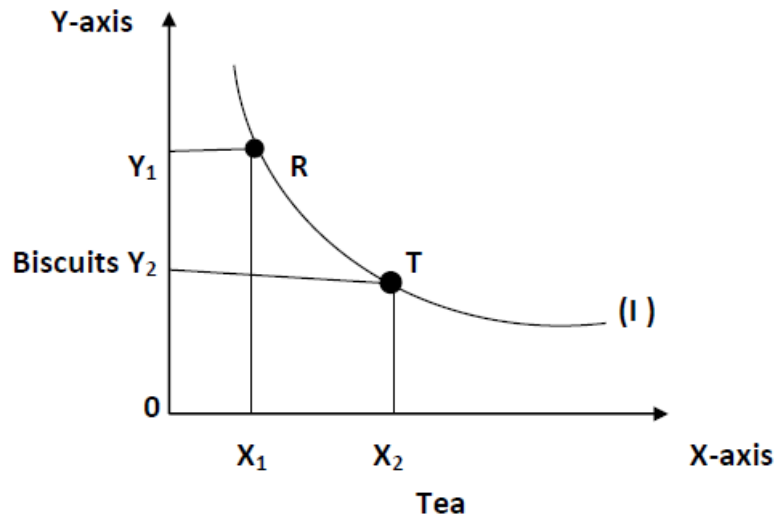


Producer surplus: Producer surplus is the quantity of produce which is made available by the farmers to the non-farmers population. It is of two type's viz. marketable surplus and marketed surplus. Marketable surplus is the amount of product meant for sale after meeting his family and farm requirements while, marketed surplus is the amount of product which is actually sold in the market irrespective of his requirements for family consumption, farm needs and other payments

CHAPTER 5

INDIFFERENCE CURVE ANALYSIS

The indifference curve shows the combination of the two commodities which can bring the same level of satisfaction to the consumer or the same level of utility to the consumer. This curve is also known as iso-utility curve (iso-means same).



The indifference curve analysis was originally developed by the economists such as Edgeworth, Pareto and Slutsky. But, the most detailed presentation of the analysis is to be found in Prof. Hicks well known book “Value and Capital (1938)”. The indifference approach starts with the assumption that

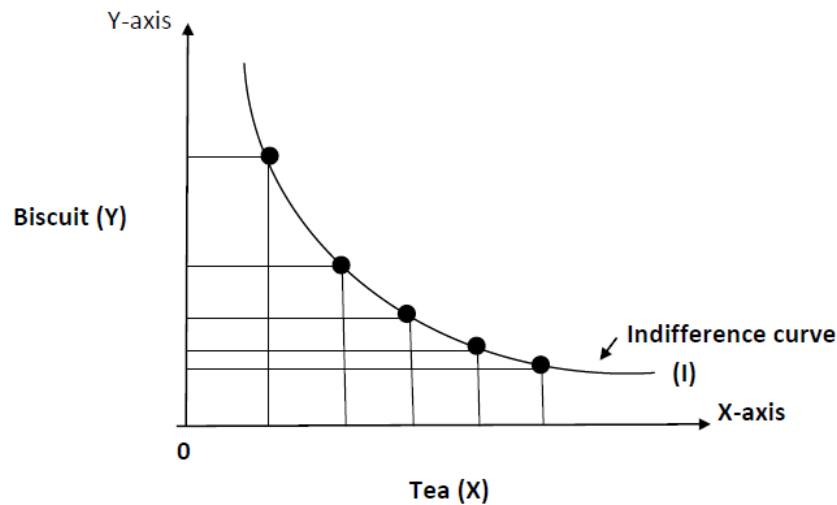
- Consumers are rational.
- Consumers are aware of their preferences of any two or more goods ($A > B$; $B > A$).

A scale of preference consists of a number of alternate combinations of two goods which give the consumer the same amount of satisfaction. Since all the alternative combinations of two goods give the consumer the same level of satisfaction, he can choose any one of them. If he chooses one combination, he is indifferent about the other combination.

Indifference schedule for tea and biscuits:

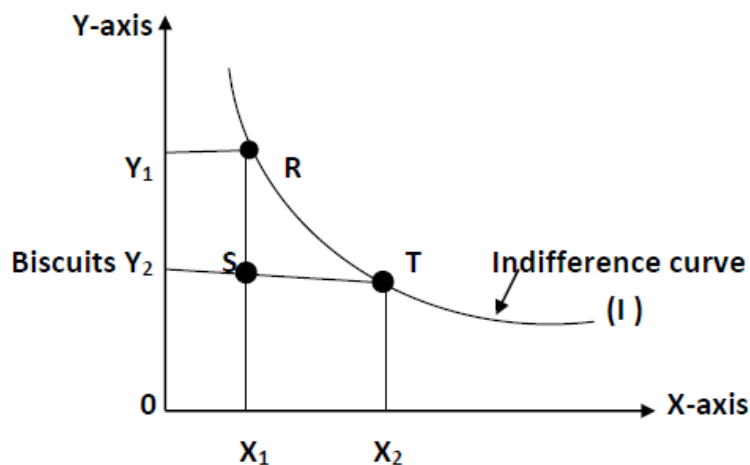
Tea Cups	▲ X	Biscuits Unit	▲ Y	Rate of Substitution
(X)		(Y)		▲ Y/ ▲ X
1		20		
2	1	15	5	$5/1=5$
3	1	12	3	$3/1=3$
4	1	10	2	$2/1=2$
5	1	9	1	$1/1=1$

If we plot this indifference schedule then this will give us an indifference curve.



The curve obtained by plotting the various combinations is shown in the above figure and is known as the indifference curve. An indifference curve is also known as an iso-utility curve as every point on the indifference curve represents the same level of utility to the consumer.

Law of diminishing marginal rate of substitution: Marginal rate of substitution can be defined as the rate at which a consumer can exchange a very small amount of one commodity for a very small amount of another commodity, without affecting the total utility.



$$MRS_{XY} = \text{Marginal Rate of Substitution of X, Y} = \frac{Y_2 - Y_1}{X_2 - X_1} = RS/ST = \Delta Y / \Delta X$$

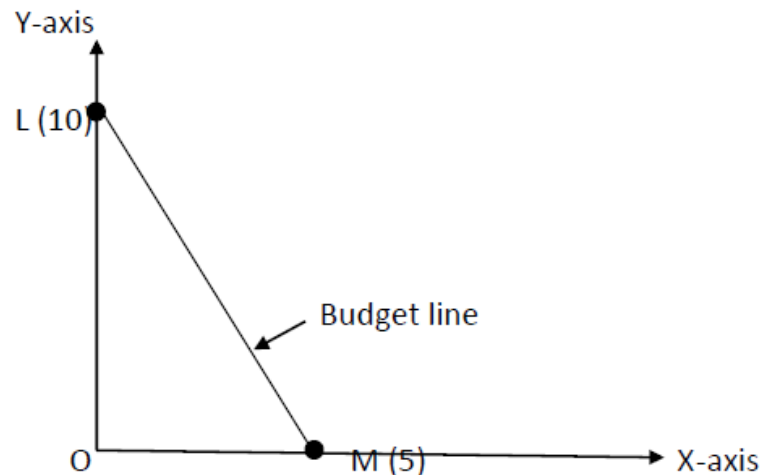
$$MRS_{XY} = \Delta Y / \Delta X = \text{Replaced / Added}$$

The properties of the indifference curve:

- i. They always slope downwards from left to right.
- ii. They are convex to the point of origin of two axes.
- iii. They never intersect or touch each other.
- iv. The higher indifference curve lies right to the lower one.

Budget line of the consumer: The line which gives the possible combinations of two commodities which could be purchased with a given amount of budget or outlay.

Suppose the budget = Rs. 50 and the price of product x (P_x) = Rs.5/unit and the price of product y (P_y) = Rs.10/unit then the budget line is shown as given in below picture:



Slope of the budget line: Slope is nothing but the ratio of vertical distance upon horizontal distance.

$$\text{Slope} = \text{Vertical Distance} / \text{Horizontal Distance} = OL/OM$$

$$\text{Slope} = \frac{B/P_x}{B/P_y} = P_y / P_x$$

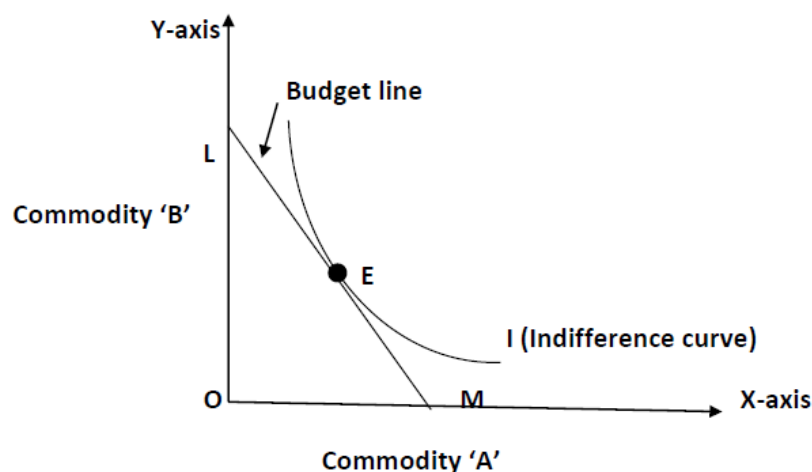
In other words, the inverse of price ratio is known as the slope of the budget line.

Equilibrium of the consumer: The consumer is said to be in equilibrium at a point (E) where the slope of the indifference curve is equal to the slope of the budget line.

$$\text{Slope} = \text{Vertical Distance} / \text{Horizontal Distance} = \Delta Y / \Delta X$$

$$\text{or } \Delta Y / \Delta X = P_y / P_x$$

This is the condition of consumer equilibrium.



Price Consumption Curve (PCC) and Income Consumption Curve (ICC):

Both the Price Consumption Curve (PCC) and Income Consumption Curve (ICC) are fundamental tools in microeconomics used to analyze consumer behavior and determine how demand shifts under changing market conditions. Both are plotted using indifference curves and budget lines.

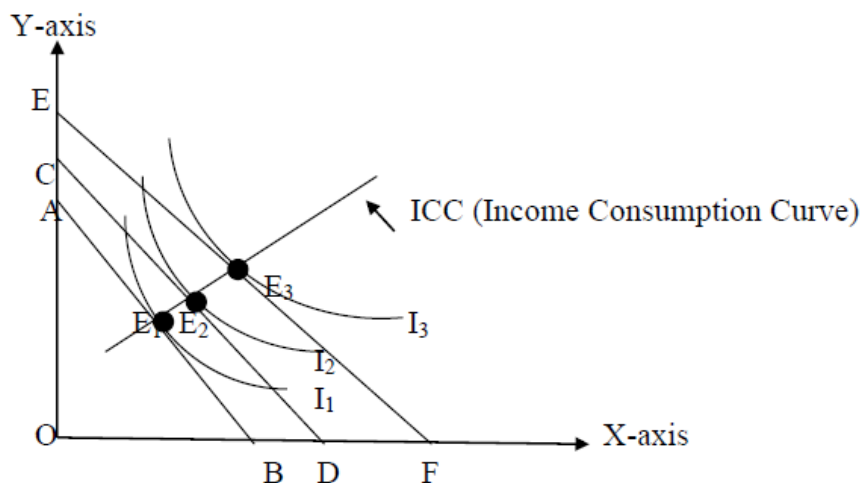
1. Income Consumption Curve (ICC):

The **ICC** (also known as the income expansion path) shows how a consumer's optimal consumption of goods changes as their **income changes**, while all prices and preferences remain constant.

How it works: As a consumer's income rises, their budget line shifts outward parallel to itself. At each new income level, the consumer finds a new utility-maximizing point (tangency between the budget line and a higher indifference curve). Connecting these points traces the ICC.

Shape and interpretation:

- **Normal Goods:** The ICC slopes upward and to the right, meaning consumption of both goods increases as income increases.
- **Inferior Goods:** The ICC bends backward or slopes downward for one of the goods. This happens when a consumer's income increases, but they buy less of a cheaper, lower-quality good in favor of a higher-quality alternative.
- **Derivation:** The ICC serves as the basis for deriving the Engel Curve, which plots quantity consumed against income levels.



2. Price Consumption Curve (PCC): Let us suppose that

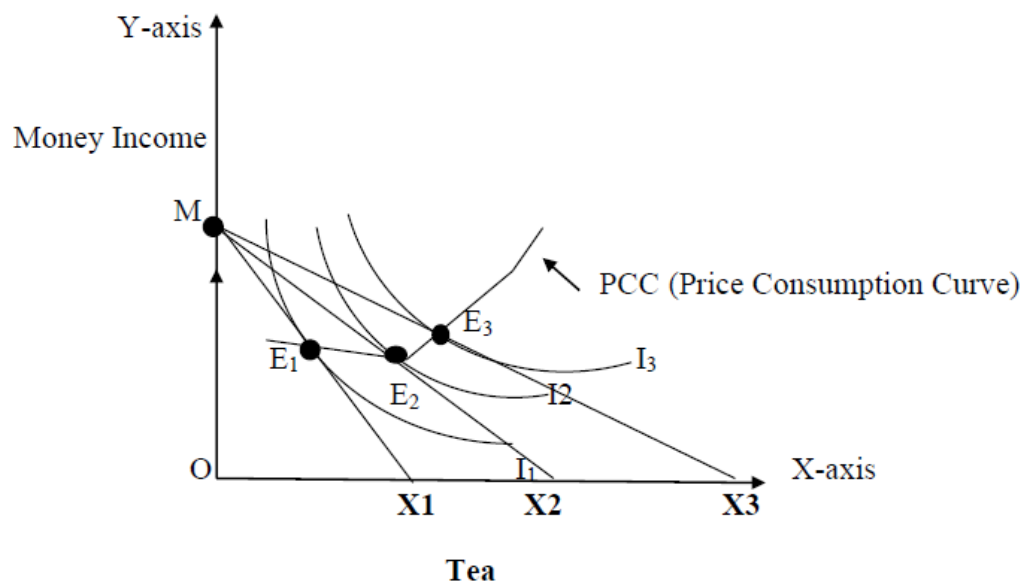
- The price of one commodity alone falls;
- The prices of all other goods remain the same;
- The income of the consumers continuous to remain the same;
- There is no change in the taste and preferences of the consumer.

The PCC shows how a consumer's optimal consumption of goods changes as the price of one good change, while income, preferences, and the price of the other good remain constant.

How it works: As the price of one good (e.g., Good X) drops, the budget line pivots outward along that good's axis. This gives the consumer higher purchasing power. Connecting the new utility-maximizing points creates the PCC.

Shape and interpretation:

- **Normal / substitute goods:** If the PCC slopes downward, it indicates that as the price of Good X falls, the consumer buys more of it and less of Good Y, meaning the two goods are substitutes.
- **Complementary goods:** If the PCC slopes upward, it indicates that the goods are consumed together.
- **Derivation:** The PCC is the foundational tool used to derive a consumer's demand **curve**.



$$\text{Substitution Effect} = \text{Income Effect} + \text{Price Effect}$$

Summary of differences

- **Focus:** ICC examines the effect of wealth, keeping prices fixed. PCC examines the effect of changing relative prices, keeping wealth fixed.
- **Budget Line Movement:** ICC moves via parallel shifts in the budget line. PCC moves via pivoting the budget line.

Characteristics of indifference curve:

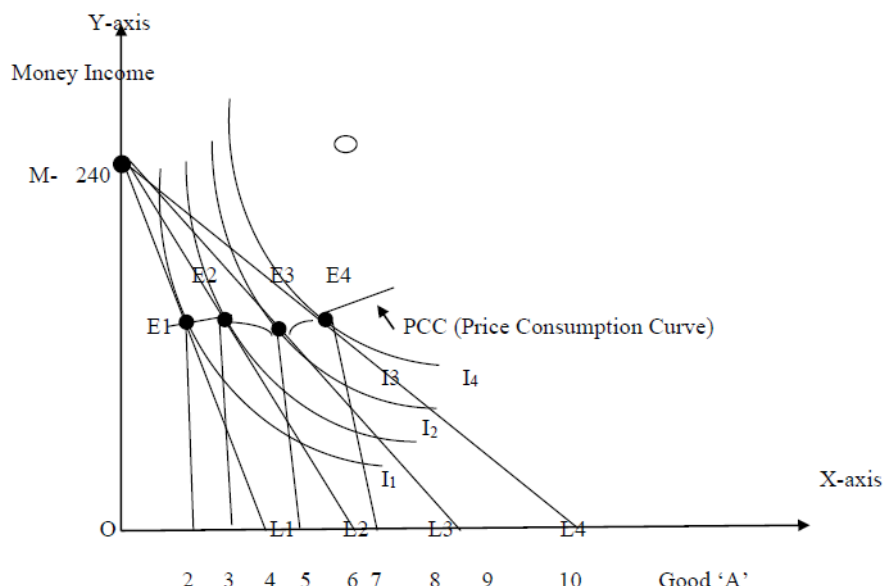
There are three characteristics of indifference curve:

- Downward sloping to the right.
- Non-intersecting and
- convex to the origin

Social science: Economics is a social science because it studies human behavior and interaction, focusing on how people and societies make choices about the use of scarce resources. Economics

is the social science studying how individuals, businesses, and governments allocate scarce resources to satisfy unlimited wants. It combines scientific methods for analyzing cause-and-effect in human behavior with the art of applying these theories to solve practical problems. Key components include analyzing scarcity, choices, production, and distribution, divided into microeconomics and macroeconomics.

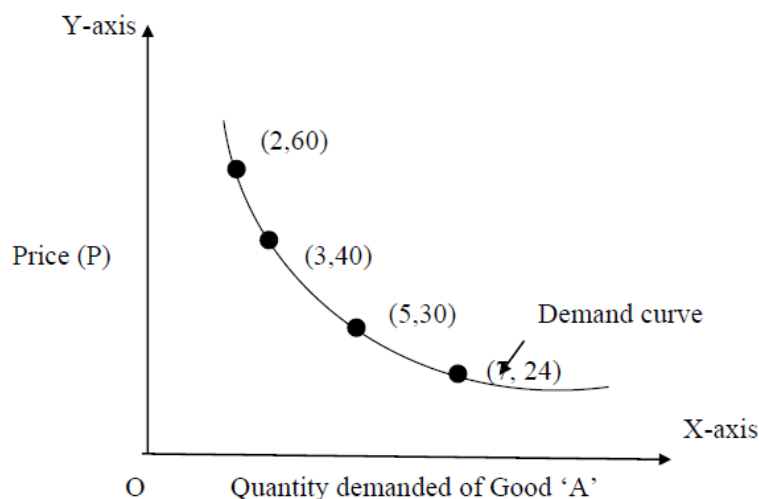
Derivation of demand curve from indifference curve:



Demand schedule:

Price Line	Price of Good 'A' in Rs.	Quantity Demanded of good 'A'
ML1	$240/4 = 60$	2 units
ML2	$240/6 = 40$	3 units
ML3	$240/8 = 30$	5 units
ML4	$240/10 = 24$	7 units

Table shows that there is an inverse relationship between price and quantity demanded. From this demand schedule, we can plot the demand curve as under:



CHAPTER 6

SUPPLY

Supply: The general meaning of supply of a product refers to the various amounts of a product offered in the market at a given time at various prices.

Law of supply: The law of supply is just the reverse of the law of demand. According to the law of supply, larger quantity of a product will be supplied at higher prices, other thing being equal. The higher the price, the greater is the inducement of the producer to produce and sell more.

$$S_x = f(P_x, C_x)$$

Where, x = commodity; S_x = supply of commodity x ; $C_x = f$ (Taste, price of input, climate and weather); C_x = cost of the commodity x .

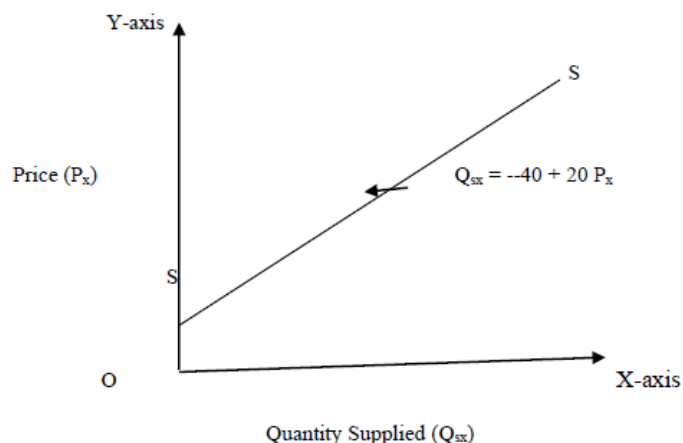
Suppose the supply function is

$$Q_{sx} = -40 + 20 P_x$$

By putting the various hypothetical values of the price of the commodity, we get the quantity of commodity supplied and the resulting supply schedule is given as under:

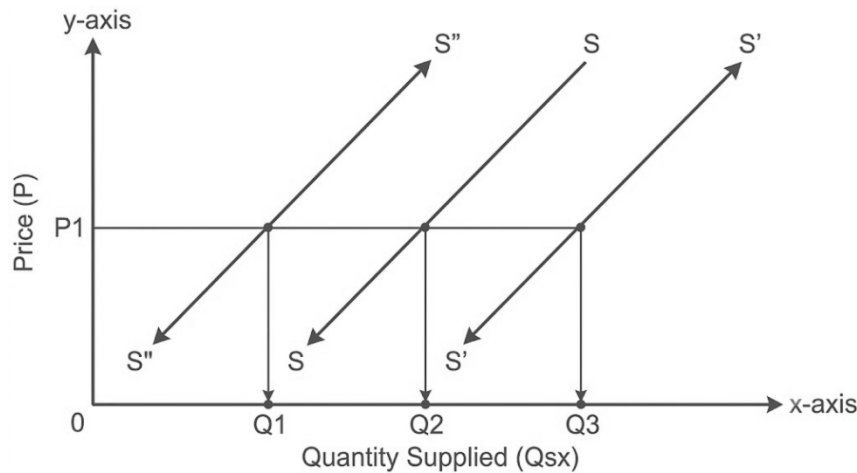
P_x	Q_{sx}
6	80
5	60
4	40
3	20
2	0

By plotting the above supply schedule, we get the supply curve which is given as under:



Shift in the supply curve: When the factors which held constant in defining the supply schedule and a supply curve change, the entire supply curve shift. This is refers to as a change or shift in supply and must be clearly distinguish from a change in quantity supplied which is a movement along the same supply curve.

If there is an improvement in technology so that the cost of production falls, the supply curve will shift downward. The downward shift is referred to as an increase in the supply. It means that at the same price for the commodity, the producer offers more of it for sale per time period.



Market supply curve: The addition of total quantity supplied by different producers in the market for the same good for time period is known as the market supply curve. For example, if there are 100 identical producers in the market, each with a supply of commodity 'x' given by

$$Q_{sx} = -40 + 20 P_x \text{ (Supply function of a producer)}$$

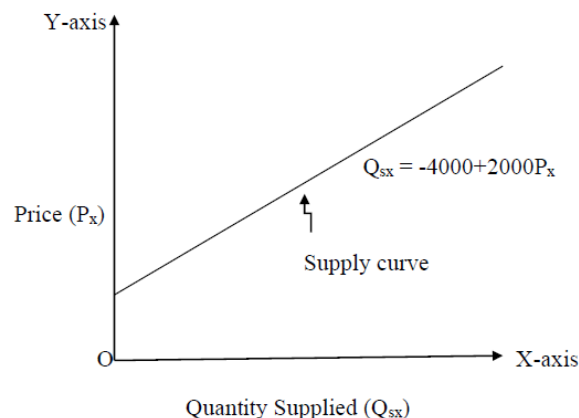
then, the market supply function is given by

$$Q_{sx} = 100 \{-40 + 20 P_x\}$$

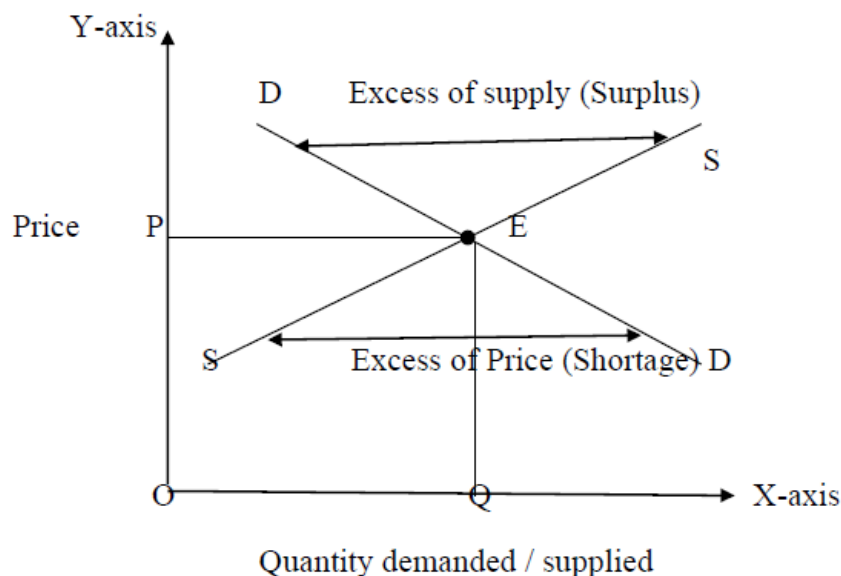
This is the total quantity supply function of 100 identical producer for a given product. The market supply schedule is thus given by putting the various hypothetical prices in the market supply function.

P_x	Q_{sx}
6	8000
5	6000
4	4000
3	2000
2	0

If we plot the above supply schedule, we get the market supply curve.



Demand- supply equilibrium: The point at which the demand curve intersects the supply curve is called the point of equilibrium. This is a unique position in the sense that only at this price what the suppliers offers is equal to what the consumers demand.



At equilibrium, there exists neither shortage nor surplus of the commodity. The price and the quantity at which the equilibrium exists are known as the equilibrium price and the equilibrium quantity.

For example: If Demand function is $D = 250 - 50P$ and the Supply function is $S = \{100/3\} \times P$. Find the equilibrium price and the equilibrium quantity.

As we know that at equilibrium demand curve intersects the supply curve i.e. we equate demand equation and supply equation.

$$D = S$$

$$250 - 50P = \{100/3\} \times P \text{ or } 750 - 150P = 100P \text{ or } P = 3$$

Put this value of P in supply equation we get: $S = 100$

Put $P = 3$ in demand equation, we get: $D = 100$

This was a case of stable equilibrium or we call it as static equilibrium.

Elasticity of supply: The proportionate change in quantity supplied/ offered due to proportionate change in price is known as elasticity of supply and is denoted by E_s .

$$E_s = \frac{\text{Proportionate change in quantity supplied}}{\text{Proportionate change in price}}$$

$$E_s = \frac{[\Delta Q/Q] \times 100}{[\Delta P/P] \times 100} = [\Delta Q / \Delta P] \times [P/Q]$$

For example: Suppose 1000 pens are supplied at a price of Rs. 4 and a price of Rs.5. The supply increases to 1500. Find the elasticity of supply and interpret the result.

Solution:

Price	Quantity Supplied	Change
$P_1 = \text{Rs. } 4$	$Q_1 = 1000$	$\Delta Q = Q_2 - Q_1 = 1500 - 1000 = 500$
$P_2 = \text{Rs. } 5$	$Q_2 = 1500$	$\Delta P = P_2 - P_1 = 5 - 4 = \text{Rs. } 1$

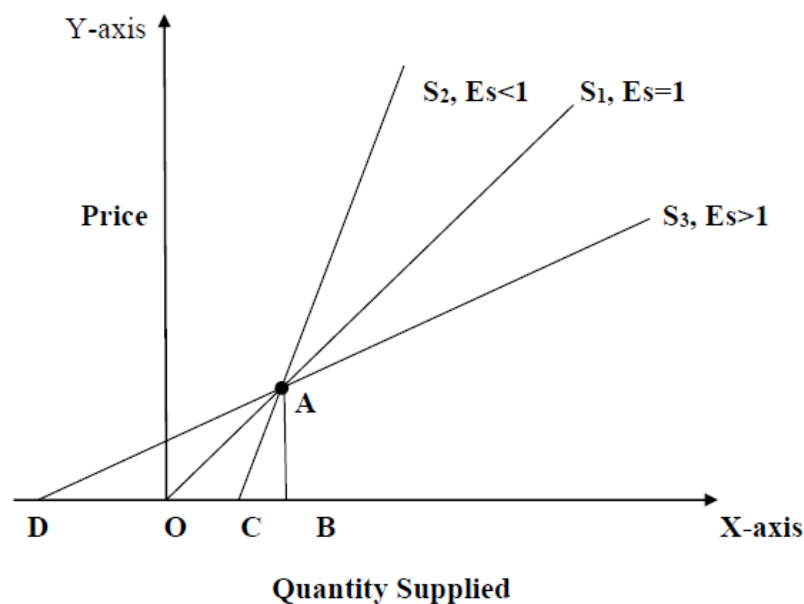
$$E_s = \{500/1\} \times \{4/1000\} = 2$$

Elasticity of supply (E_s) is equal to 2 means that if the price is increased by 1 per cent the supply will increase on an average by 2 per cent.

If $E_s > 1$, Then, supply curve is elastic; if $E_s < 1$, supply curve is inelastic; and if $E_s = 1$, then Supply curve is unitary elasticity.

If we consider, normally upward slopping supply curve, then as the price rise, total expenditure (price and quantity) will increase and if the price fall, total expenditure will decrease.

When any supply curve passing through the origin will have a coefficient of price elasticity of supply equal to one. This is demonstrated in the figure below:



Slope of the supply curve S_1 = vertical distance/ horizontal distance = AB / OB

$$\text{Since } E_s = [\Delta Q / \Delta P] \times [P/Q]$$

$$\text{Therefore, } \Delta Q / \Delta P = 1/\text{slope} = 1 / \{AB/OB\} = OB / AB$$

$$\text{Since } E_s = [\Delta Q / \Delta P] \times [P/Q] = OB/AB \times AB/OB = 1$$

If any straight line supply curve that cut the price axis will have a coefficient of price elasticity of supply greater than one.

Slope of the supply curve S_3 = AB / DB

$$\text{Since } E_s = [\Delta Q / \Delta P] \times [P/Q]$$

$$\text{Therefore, } \Delta Q / \Delta P = 1/\text{slope} = 1 / \{AB/DB\} = DB/AB$$

$$\text{Since } E_s = [\Delta Q / \Delta P] \times [P/Q] = DB/AB \times AB/OB = DB/OB > 1$$

If any straight line supply curve that cut the quantity axis will have a coefficient of price elasticity of supply less than one.

$$\text{Slope of the supply curve } S_2 = \text{Vertical distance} / \text{Horizontal distance} = AB / CB$$

$$\text{Since } E_s = [\Delta Q / \Delta P] \times [P/Q]$$

$$\text{Therefore, } \Delta Q / \Delta P = 1/\text{slope} = 1 / \{AB/CB\} = CB/AB$$

$$\text{Since } E_s = [\Delta Q / \Delta P] \times [P/Q] = CB/AB \times AB/OB = CB/OB < 1$$

Comparison of marginal utility analysis and IC analysis:

Sl. No.	Marginal Utility Analysis	Indifference Curve (IC) Analysis
1	Cardinal approach.	Ordinal approach.
2	Developed by Marshall.	Developed by Allen and Hicks.
3	Involves measurement of marginal utility (MU).	Does not involve measurement of MU; Marginal Rate of Substitution (MRS) is determined directly by observing how much of one commodity a consumer is willing to sacrifice for an additional unit of another commodity.
4	Assumes constant marginal utility of money.	Does not make this assumption.
5	Based on only one commodity.	Based on two or more commodities.
6	Equilibrium condition: $MU_x / P_x = MU_y / P_y$ (Law of Equi-Marginal Utility).	Equilibrium conditions: (i) $MRS_{xy} = P_x / P_y$ (ii) Diminishing MRS.

CHAPTER 7

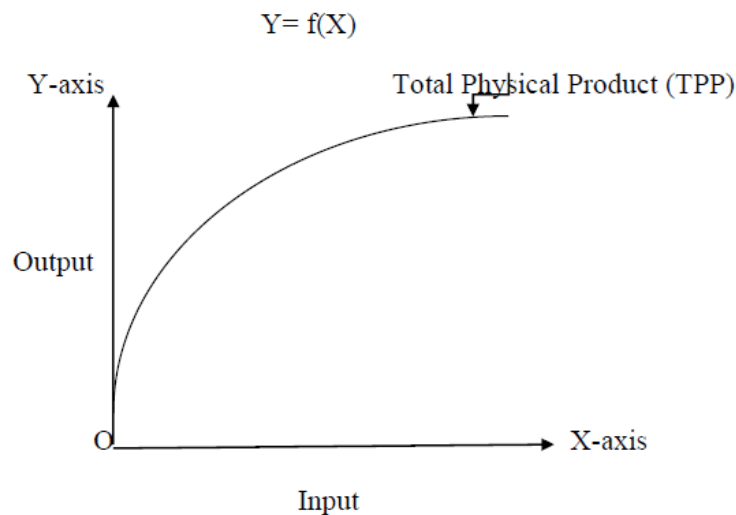
PRODUCTION, COSTS AND FACTORS OF PRODUCTION

Resource, product and production: Resources are any agent which is used in production. Products are the result of the use of resources or the services of resources while, production is a process by which resources are converted into products.

Transformation or the production Period: The time required for a resource to be completely transformed into a product is called transformation period or the production period.

Short period and long period: Short period is a period in which the production can be changed by various factors (Inputs, or resources) While, in long period, the production can be changed by changing the fixed factor.

Production relationship: In any production process, there is a unique relationship between input and output. For example, how much fertilizers should be applied to wheat and sugarcane? How much labor will be used? This unique relationship between inputs and output is called production function.



Where, X is called the independent variable (input) and Y is called the dependent variable (Output). If X is fertilizer and Y is wheat yield then we can say that yield of wheat is dependent upon the quantity of fertilizer used. Sometimes, there are more than one input. In that case, production function is written as:

$$Y = F(x_1/ x_2, x_3)$$

Here, x_1 is a variable factor say fertilizer and x_2 and x_3 are fixed factors say x_2 is labor and x_3 is capital.

Slope of a line or curve: It indicates the rate of change in vertical axis for one unit change in horizontal axis. This can be measured by $\Delta Y / \Delta X$. It is also measured by the tangent of the angle which the line makes with the X -axis.

Marginal product or Marginal Physical Product (MPP): It refers to the change in output for one unit change in input. Mathematically, it can be written as $\Delta Y / \Delta X = MPP$.

Concept of derivative: The slope of the Total Product Curve and is given by:

$$\Delta Y / \Delta X = dy/dx$$

Average product or Average Physical Product (APP): It the total output divided by total input and is given by:

$$APP = Y/X$$

Cost: Cost is the total amount of funds used in the production process. The cost outlay for productive services is directly related to laws of production. The nature of production function and prices thus determined the cost structure. Cost is always a function of output while production of any commodity is always a function of input.

Types of Costs: There are two types of costs viz. - fixed costs and variable costs. Those costs which do not change with the change in output are called fixed cost. For example, we have a tractor. Whether we plough the field or not plough the field. This investment is fixed. On the other hand, those costs which vary with the level of output i.e. the output are directly dependent upon the variable inputs. Such cost is called variable costs. For example, in case of tractor, we have to use fuel, diesel. So, the cost of fuel is variable cost.

Both fixed and variable costs are further sub-divided into seven types of costs and these are:

a. **Total Fixed Cost (TFC):** All costs mentioned under fixed costs are summed up. Graphically, it is a straight line parallel to horizontal level. Total Fixed Cost remains same for all output level.

b. **Total Variable Cost (TVC):** Multiply quantity of variable input by its price is known as Total Variable Cost. These costs vary with the level of output. Mathematically,

$$TVC = X (P_x)$$

c. **Total Cost (TC):** It starts from the point from where the Total Fixed Cost starts. It is like Total Variable Cost. Mathematically,

$$TC = TFC + TVC$$

d. **Average Fixed Cost (AFC):** It is worked out by dividing the Total Fixed Cost (TFC) by output level. Mathematically,

$$AFC = TFC/Y$$

e. **Average Variable Cost (AVC):** It is worked out by dividing the Total Variable Cost by output. In mathematical terms, it can be written as:

$$AVC = TVC/Y$$

f. **Average Total Cost (ATC) or Average Cost (AC):** It can be worked out by dividing the Total Cost by output. In notation form, we can write it as:

$$ATC = TC/Y$$

It can also be worked out by summing the Average Fixed Cost and Average Variable Cost. i.e.

$$ATC = AFC + AVC$$

- g. Marginal Cost (MC):** Marginal cost is the change in total cost(TC) because of a small change in the output level . If ΔQ is the change in the output level and ΔTC is the change in total cost then,

$$\text{Marginal Cost (MC)} = \Delta TC / \Delta Y = (\Delta TFC + \Delta TVC) / \Delta Y$$

Since fixed cost does not affect marginal cost so we can also write and workout marginal cost as:

$$MC = \Delta TVC / \Delta Y$$

Short –Run Cost Curve: In short run, some costs are fixed and some are variable. We study all short run costs because of short run production function.

Long-Run Cost Curve: In the long run all the costs are variable and none are fixed. Long run cost is the envelop of all short run cost curve. The minimum of the long run cost is the tangent at the minimum of one and only one short run cost curve. The long run cost curve first decreases and then increases for the same reason as did the Average Variable Cost (AVC).

Various Concepts of Revenue:

Total Revenue (TR) or Total Value Product (TVP): Monetary unit of output is called TVP or TR.

$$TR \text{ OR } TVP = (TPP) (P_y) = Y. P_y$$

Average Value Product (AVP): It is the value of output per unit of some important factor of production such as land, labor, and capital.

$$AVP = TVP / X = Y.P_y / X = (Y/X). P_y = APP. P_y$$

Average Revenue (AR): It is defined as the value per unit of output and not input.

$$AR = TVP / Y = Y.P_y / Y = P_y = \text{Price of output}$$

It is clear from the above that Total Revenue is synonymous with the Total Value Product. But, Average Revenue is not the same as the Average Value Product.

Marginal Revenue (MR) or Marginal Value Product (MVP):

$$MR \text{ or } MVP = MPP_x . P_y = (\Delta Y / \Delta X). P_y = \Delta TR / Y$$

Gross Margin (GM): For an enterprise,

$$GM = TVP - TVC$$

Where, TVP = Total Value Product and TVC = Total Variable Cost

$$\text{Profit } (\pi) = TR - TC = TR - (TFC + TVC) = (TR \text{ or } TVP - TVC) - TFC$$

$$\text{Hence, Profit } (\pi) = GM - TFC$$

(π) is Positive for profit and negative for loss.

Factors of Production and their Characteristics: Production is a process by which the resources are changing into a product while, product are the results of the use of resources or services of resources and resources are any agent which are used in production. There are four factors of production viz. land, labour, capital and entrepreneurship or management.

Production of any commodity or service is a result of cooperation between different factors of production namely, land, labour, capital and management.

Land as a factor of production refers to all the natural resources which are the free gift of nature.

Labour refers to the service render by the workers and as such it refers to the services of all types of workers -- manual workers (labourer), technical as well as non-technical workers and the classical workers and so on. Those who organize and manage a business known as **organizer and entrepreneurs**. By **capital**, we mean all man-made appliances and all types of wealth used in production. Capital consists of tools, machinery, building material, fuel etc. The general **distinction between land and capital** is that the former refers to the natural resources while, later refers to the man-made productive assets.

Characteristics of land: Land has features which are common to capital also. At occasion, it becomes difficult to distinguish one from the other. It is because of this fact that some writers regard them as the two species of the same gene.

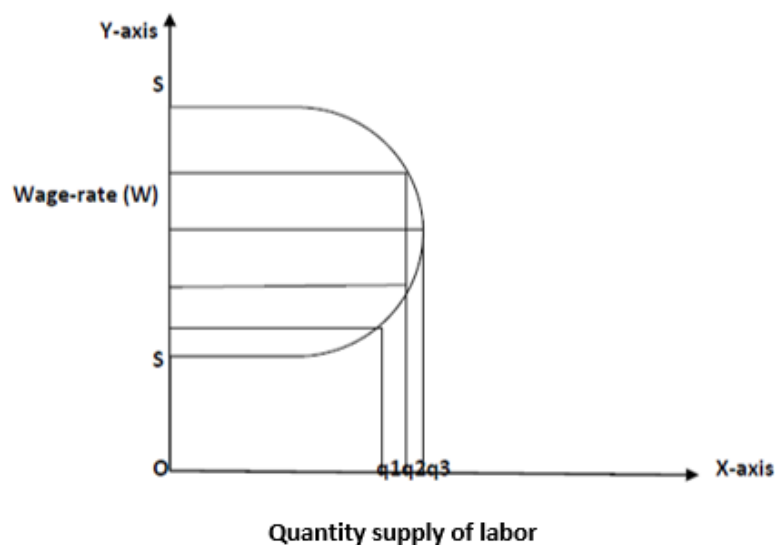
Main Features of land:

- a. **Fixity of Supply:** The most important characteristic of land is the fixity of its supply. The quantity of land surface available to the world or country is given and so is most of the free gift of nature. Some change may take place. For example, land surface may be reduced by coastal soil erosion or flooding.
- b. **Heterogeneity:** Land is a heterogeneous factor. No two pieces of land are exactly alike in fertility. Some are highly fertile and some are less; some are situated near market and some at a distance.
- c. **No cost of Production:** Land has not caused any cause and curse to the society.

Characteristics of Labor:

- a. The first important characteristics of labor are its inseparability from the worker. Labor and laborer go together. The service can't be separated from the owner. Land and capital can be separated from the land-lord and the capitalist but laborers can't be separated from the labor.
- b. **Perishable:** Labor is a perishable factor. If we fail to make use of service, it is lost forever, labor once gone forever. It is a permanent loss to the society. It is a waste of productive resource. This is not so in case of land and capital. If not used today, they can be used tomorrow without any loss of value.

- c. **Heterogeneous:** Labor is highly heterogeneous factor. It includes on the one hand the manual workers and on the other hand most skilled worker. There are skilled as well as unskilled labors. There are trained as well as untrained labors.
- d. **Backward slopping Supply Curve of Labor:** The supply of labor may contract when the wages rise and the supply of labor may increase when wages falls. Workers like to earn a certain minimum income to maintain a standard of living to which they are accustomed. If wages rise beyond their customary standard of living, workers are tempted to enjoy more leisure.



Characteristics of Capital:

- a. **Man-made Factor:** Capital is distinguished from land. The former is man-made while the later consists of those durable goods which are given to us by nature. It is essentially a man-made factor. The land on the other hand is a free gift of nature.
- b. **Elasticity of Supply:** The supply of capital is not fixed. It can be changed according to the need.
- c. **A wasting asset:** Capital losses its value through wear and tear. As we use it for producing goods, its value depreciates. After sometime, a machine becomes unit for production. It has a life of its own. But land by and large is more lasting and is some time eternal. A mine is also a wasting asset. Once we have taken out its deposits. It is lost for good for that purpose. It is known as replaceable.

Characteristics of Entrepreneur: There are four characteristics of entrepreneur and these are:

- a. What to produce
- b. How to produce
- c. How much to produce
- d. When to produce

CHAPTER 8

THEORY OF FIRM AND MARKET

Market and marketing: Market is a place where commodities are bought and sold. On the other hand, marketing is a process where buyers and sellers are come together and decide about the price of the commodities.

Classification of market: On the basis of the nature of the commodities and the number of buyers and sellers in the market, marketing can be classified into two general categories/ groups:

1. **Perfect market**
2. **Imperfect market-** These markets are further classified into following type's viz. Monopoly; Duopoly; Oligopoly; and Monopolistic Competition.

If the competition is perfect in the market, market is known as perfect competitive market and if there is imperfection in the market then, it is known as imperfect competitive market. In perfect market, there will be only one price at a time.

Firm: A firm is any producing unit or plant.

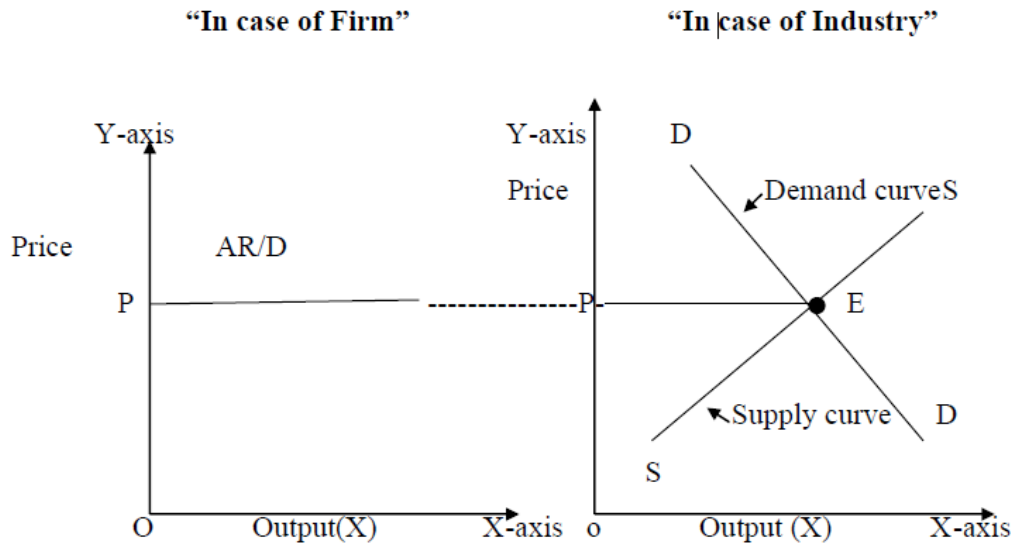
Industry: It is any potential place where more than one firm exists.

Important types of market situation:

1. Pure Competition
2. Perfect Competition
3. Imperfect Competition
4. Monopoly
5. Duopoly
6. Oligopoly,
7. Monopolistic Competition
8. Bilateral Monopoly
9. Monopsony, Duopsony and Oligopsony
10. Dumping Monopoly

Pure competition: A competition is said to be pure if a product may be bought and sold under condition of pure competition if following four assumptions are fulfilled.

- There should be large number of buyers and sellers.
- Product should be homogeneous.
- There is free entry and exit from the industry.
- No price fixation by the government



Perfect competition: It is broader than pure competition for it is based on some more assumptions besides those for pure completion. The market for a product will become perfectly competitive if following assumptions are fulfilled.

- Large numbers of buyers and sellers
- Homogeneity of the product
- Freedom of firm to enter or leave the market
- No price fixation by the government
- Perfect knowledge about the market, market price on the part of buyers and sellers.
- Absence of transportation cost
- Perfect mobility of factors of production

For example: Rice or Pulse or any other agricultural commodities.

Imperfect competition: John Robinson made popular the market situation known as imperfect competition. A market becomes imperfect when any one of the assumptions we have listed under perfect completion is not found in practice. We make particular mention of such imperfection as product variation. Ignorance of the part of consumer and distance and transport cost involve.

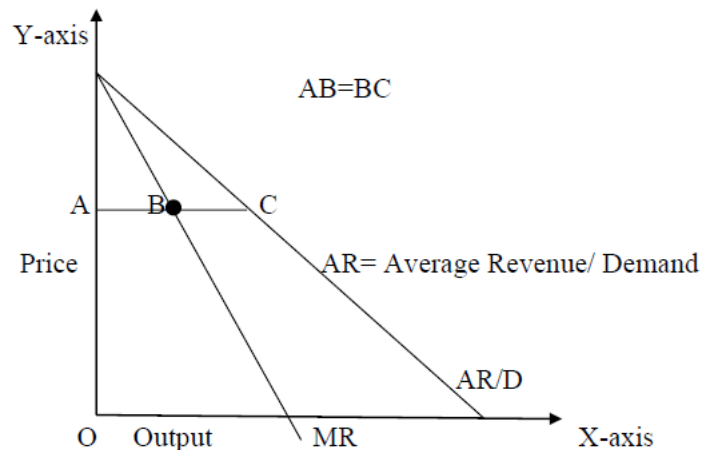
Monopoly: A market is said to be a monopoly market in which there will be only one firm in the industry. The difference between the firm and the industry is that firm is a single entity which converts the resources into product while a set or the group of firms is called industry. Monopoly firm has a complete control over the supply of the product and therefore, has the power over price as well and the firm is a price maker.

For example, public utilities (supply of drinking water and electricity)

In pure and perfect competition, the firm is a price taker

The monopoly may charge uniform price or discriminatory prices. The firm and the industry refer to one and the same thing; a single firm constitutes the entire industry. In an isolated

locality, the existence of only one hotel or banker or doctor or general store may command monopoly power over the consumers in that locality. In the field of public utility, telephone and telegraph, railways, provision of water supply etc are the example of monopoly. Since there is a single firm in the industry, the firm demand curve is the industry demand curve. This demand curve is assumed to be known and has a downward slope.



Duopoly: In this market situation, there are two firms which control the entire supply of the product. Naturally, there is a great scope for collusion between the two firms and also possibility of cut throat competition with a view to eliminating the other from the market and setting himself as a monopolist. Such competition may be ruins for both. Therefore, they may agree to cooperate. The two firms are interdependent as regard to their price output decision. They may fix the same price and restrict competition to advertisement.

Oligopoly: In this market situation, there are few firms i.e. more than two but not too many. Under an oligopoly situation, the rival firms are producing an identical or standardized product or they may produce close substitute. There is mutual dependence between firms and the price output decision of one would affect the other firms. If the firms in oligopoly produces homogeneous product such as steel, cement, plate and glass, the market structure is called **pure oligopoly**. When the product is differentiated as in automobiles and cigarettes, the industry is referred to as differentiated oligopoly.

Monopolistic competition: It is made popular by Chamberlin is said to be a leading type of imperfect completion. In this market situation, there are large number of buyers and sellers and the product is not homogeneous. The firm incur considerable amount of selling costs to push the sale of their product.

For example, soap, cosmetics, clothing, service station, beauty salons and so on in big cities.

Bilateral monopoly: In this market situation, there is one seller and one buyer (monopsony). Such a market situation is rare but may sometime be within the labor market where the employee will be represented by employs federation and work by their trade union.

Suppose that in a town, there is one cement factory offering an employment for labor in the area and suppose the trade union controls the entire labor supply. Here we have an example of bilateral monopoly. The trade union which controls the supply of labor is the monopoly and the cement factory which is the sole buyer of labor services is the monopsony. Other examples include textile, plastic units etc.

Monopsony, duopsony and oligopsony: If market is dominated by single buyer, we will have a **monopsony**. In case the government abolishes private trade in food-grains and interest the function of purchase to Food Corporation of India, the food-grain market will be characterized as monopsony. Other example includes Coffee Board.

Duopsony is a market in which there are two buyers and Oligopsony is a market situation which refers to a market with a few buyers. Example includes Natural and synthetic rubber purchased by tyre companies.

Price discrimination: It occurs when the same product is sold at different prices to different buyers in the market.

CHAPTER 9

THEORY OF FACTOR PRICING

Marginal productivity theory of distribution:

The marginal productivity theory of distribution states that the remuneration of a factor of production depends upon its productivity or the contribution it makes to the production process. According to this theory, each factor of production, such as land, labour, capital, and entrepreneurship, is rewarded according to its marginal productivity. The remuneration of a factor is determined by and is equal to the value of the additional output produced by employing one more unit of that factor while keeping other factors constant. In the long run, under conditions of perfect competition, the remuneration of a factor unit tends to become equal to its average product.

Assumption:

- The marginal productivity theory of distribution is based on the assumptions of perfect completion both in the output market and in the input market.
- All unit of a factor of production are homogeneous.
- The employers or the firm hires input with the objective of profit maximization.
- All factor units are employing and no unit is preparing to come for work for any remuneration which is less than that of market remuneration.
- The production can be increased or decreased by changing the factor unit by small quantity.
- Every unit of a factor of production is perfectly mobile
- The theory assumes a long period to prove that the remuneration of a factor will be equal to both the average and marginal product of a factor.

Marginal Value Product (MVP) and Value of Marginal Physical Product (VMPP):

$$\text{MVP} = \text{MPP} \times \text{MR} \text{ and } \text{VMPP} = \text{MPP} \times \text{Price}$$

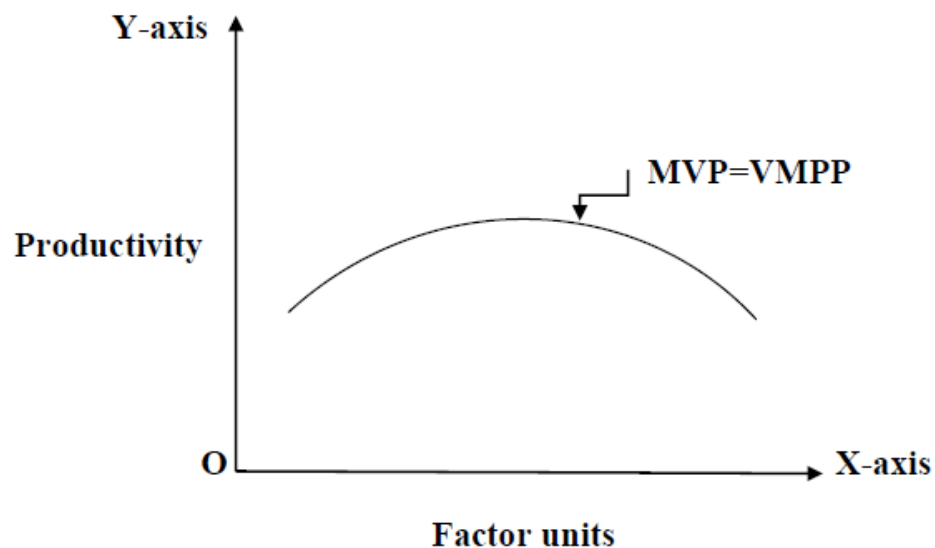
VMPP and MVP under perfect competition:

Under condition of perfect competition in the commodity market, the price of a product will be constant (let's say $P_y = 2$ in the below given example) which means that the price and the marginal revenue will be the same.

But, under condition of imperfect competition or monopoly, the price of a factor decline with larger output and naturally the marginal revenue (MR) declines at a higher rate. Marginal Physical Product (MPP) when multiplied by MR (MVP) will obviously differ; the former will be higher than the later.

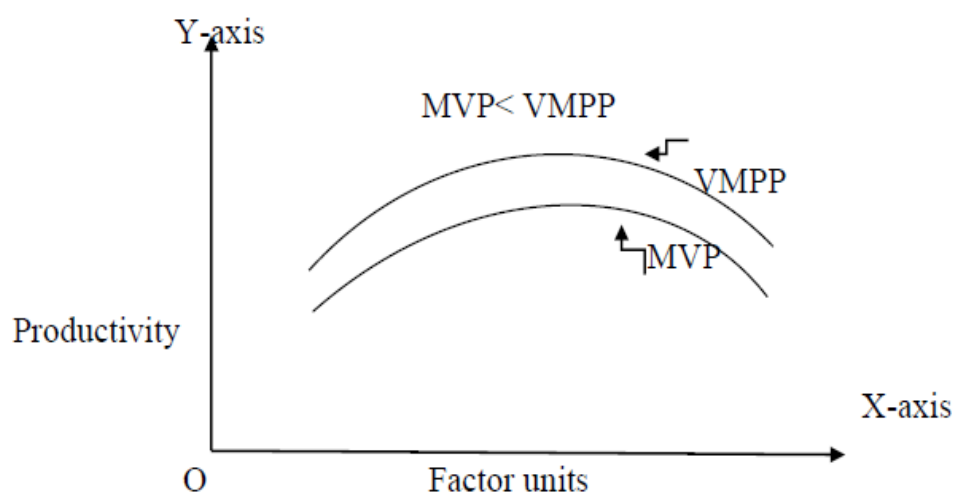
Under perfect completion:

Units of labor		Total Output		MPP	Total Revenue (TR)= Y.Py	Marginal Revenue (MR)	VMPP	MVP
X	ΔX	Y	ΔY	ΔY/ΔX	Y x Price of Output	ΔTR/Y	MPP x Price	MPP x MR
0		0			0	0		
1	1	5	5	5	10	2	10	10
2	1	12	7	7	24	2	14	14
3	1	20	8	8	40	2	16	16
4	1	30	10	10	60	2	20	20
5	1	40	10	10	80	2	20	20
6	1	48	8	8	96	2	16	16
7	1	54	6	6	108	2	12	12
8	1	58	4	4	116	2	8	8
9	1	60	2	2	120	2	4	4
10	1	60	0	0	120	2	0	0



Under Imperfect Competition:

Units of labor (X)		Total output (Y)		MPP	Price of the produce	Total Revenue (TR)	Marginal Revenue (MR)	VMPP	MVP
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
X	▲X	Y	▲Y	▲Y/▲X	Py	Y x Py	▲TR/▲Y	(5) x (6)	(5) x (8)
0	-	0	-	-	-	-	-	-	-
1	1	5	5	5	2.00	10	2.00	10.00	10.00
2	1	12	7	7	1.90	22.80	1.83	13.30	12.80
3	1	20	8	8	1.80	36.00	1.65	14.40	13.20
4	1	30	10	10	1.70	51.00	1.50	17.00	15.00
5	1	40	10	10	1.60	64.00	1.30	16.00	10.00
6	1	48	8	8	1.50	72.00	1.00	12.00	8.00
7	1	54	6	6	1.44	77.26	0.96	8.64	5.76
8	1	58	4	4	1.44	81.20	0.86	5.60	3.44
9	1	60	2	2	1.38	82.80	0.80	2.76	1.60
10	1	60	0	0	1.38	82.80	nil	nil	nil



Theory of rent:

In ordinary language, the term rent denotes a periodical (over the period) payment made for hiring of say a plot of land, a house, a machine etc. The payment made for the use of fixed factor of production is rent. In the past, rent was a payment for the use of land only. Since land was fixed and it was regarded as a free gift of nature, whatever was paid by the tenant to the land-lord for the use of land was regarded as surplus as Ricardo use it.

Modern economists define rent as the payment for any factor of production over and above the minimum amount which is necessary to keep the factor in a particular occupation. It is necessary to distinguish between the three different concepts of rent.

Ordinary definition:

In ordinary language, rent is a periodic payment for the use of land, building, and machinery etc for the use of a fixed factor.

Ricardian definition:

In Ricardian sense, rent is a payment made by a tenant-farmer to the land-lord for the use of land.

Modern definition:

In modern sense, payment for any factor of production over and above the minimum transfer cost.

Economic rent and transfer cost:

Whenever a factor unit gets a payment over and above which is really necessary to induce it to work, the extra payment is economic rent. The payment which is necessary to make a factor unit work is called the transfer earnings of the factor unit i.e. the payment it can get from the next best alternative occupation. Transfer earning is also called as alternative or opportunity cost. If, however, any payment is made to the factor unit above the transfer earning, the extra payment is surplus or an unnecessary payment. This surplus is known as **economic rent**.

For example:

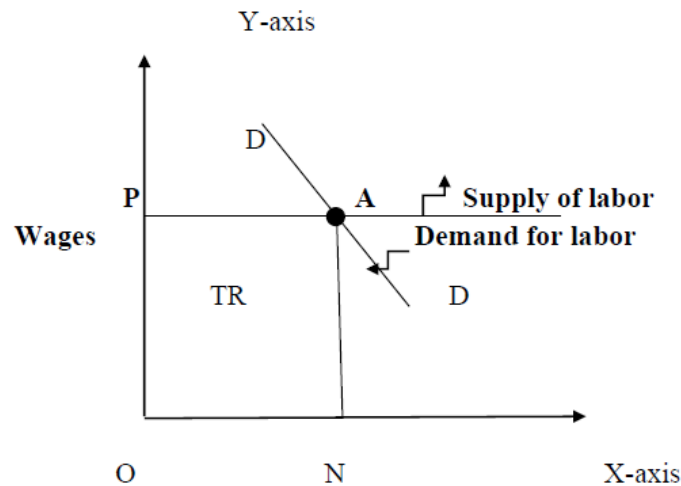
- a. If a lecturer is willing to work in a college for Rs. 500 but, if his actual salary is Rs. 800, then Rs. 300 is unnecessary payment for his service or economic rent for his service.
- b. Suppose that a plot of land is available for cultivation at a rate of Rs. 30 but if the tenant is actually paying Rs.40/ acre, then Rs. 10 is the economic rent for the land-owner.

Thus, whenever a factor of production, whether labor, capital, entrepreneur or land receiver payment over and above its minimum transfer earning, it is said to receive economic rent. In formula shape, economic rent is given by:

$$\text{Economic Rent (ER)} = \text{Actual Receipts (AR)} - \text{Transfer Earnings (TE)}$$

How does economic rent arise? There are three cases

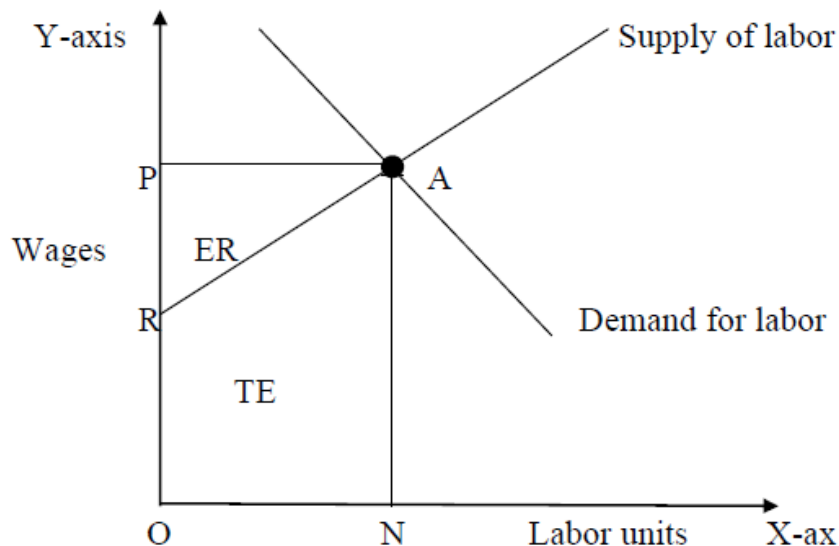
Case 1: The main cause for the emergence of economic rent is the scarcity of a factor of production. If the supply of a factor of production is perfectly elastic then whatever is paid will be of the nature of transfer earning; no surplus or economic rent will arise.



In the above diagram, Total remuneration = $ONAP$; Total Transfer Earning = $ONAP$; Surplus or Economic Rent = Nil

Case –II: When the supply of labor is less than perfectly elastic

The figure below indicates that additional worker will be available only if higher wages are paid. This does not mean that additional workers are more efficient but they are already employed somewhere else and hence can be attracted only by paying higher wages. A rising supply curve employs inelasticity in the supply of factor unit. Thus, economic rent arises when the supply of a factor is not perfectly elastic but is less than perfectly elastic.

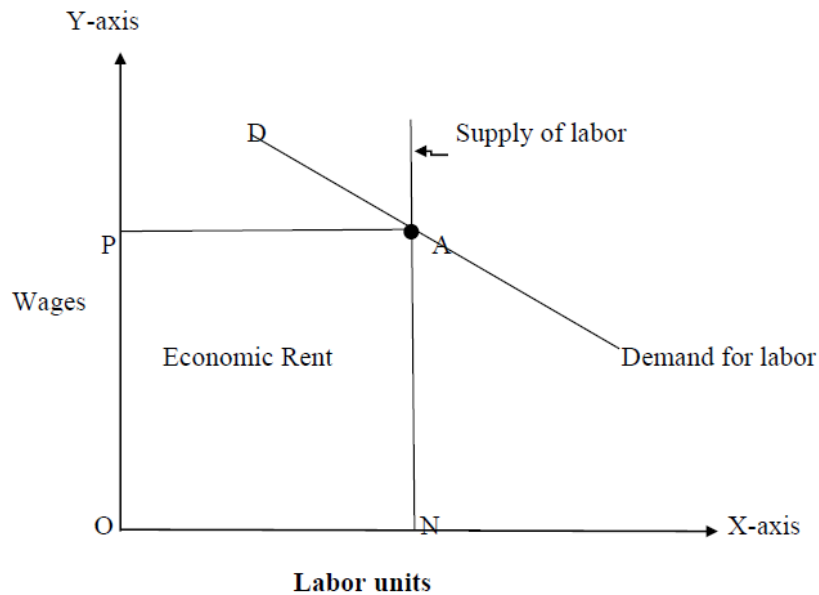


In the above diagram, Total Remuneration = $ONAP$; Total Transfer Earning = $ONAR$; and Economic Rent = RAP

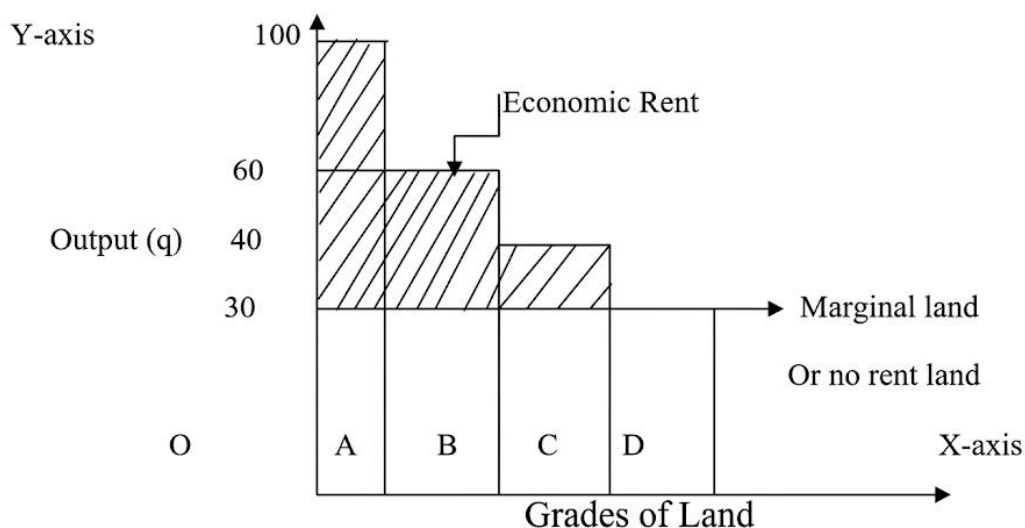
Case –III: When the supply of labor is perfectly inelastic.

Suppose that the supply of labor is absolutely inelastic i.e. the supply of the factor is so fixed that whatever the remuneration whether it is zero or very high, the same amount of factor unit will be applies. In the figure below, here the supply of labor is fixed at ON and it will remain fixed

whether any payment is made or not. This factor has no alternative occupation and the minimum supply price for it will be zero even if no payment is made. This factor will be available to this industry. But the actual wage will be determined by the location of the demand curve. In the diagram below, the actual wage for the factor unit is NA and the total number of workers is ON. Then, Total Remuneration = ONAP; Total Transfer Earning = Nil; and Economic Rent = ONAP.



Ricardian theory of rent: The most important theory of rent is associated with the name of David Ricardo, an English economist. Ricardo defines rent as that portion of the produce of the earth which is paid to the land-lord for the use of original and indestructible power of the soil. According to this theory, rent arises because of differential advantage enjoyed by the superior grades of land over the inferior one.



In case of D-grade land, cost = output and in case of C-grade land cost < output.

Let us suppose that land in a given country falls into four grades A, B, C, D. 'A' grade land stands at the top in the matter of fertility and 'B', 'C', and 'D' are second, third and fourth grades of land respectively.

The marginal land is the lowest grade land which is under cultivation at any time enabling the cultivators as a whole to meet the total demand for the produce of the land. Marginal land is called no rent land for the reason that the price of the produce raised on it is sufficient to recover the cost of cultivation. It just compensates the tiller to bring this land into cultivation.

Quasi-rent: The concept of Quasi-rent was introduced and popularized by Marshall. It is defined as the income which arises for man-made appliances and certain types of labor which are fixed in the short period. Quasi-rent can be taken to be difference between the actual price and the average variable cost.

$$\text{i.e. } QR = AP - AVC$$

Theory of wages:

Wages are the remuneration of a labor as a factor of production. In ordinary language, by wages we understand payment to the hire labor. Wages may also be defined as the price paid for the use of labor.

Nominal wages and real wages: The amount of money received by the workers for their services in production is known as money or nominal wages whereas, the sum total of goods and services the money wages will buy is termed as real wages.

Factors affecting real wages: There are eight different factors which affects the real wages. These are:

- a. **Purchasing power of money:** When price level rises, the purchasing power of the money gets reduced which adversely affecting the real wages of the workers. Thus, every increase in the price level yields into the purchasing power of money.
- b. **Money wages:** The size of the pay pocket received by the worker is an important determinant of real wages. Greater the nominal wages, greater will be the real wages under the assumption that other things remain the same.
- c. **Regularity of work:** A permanent job even though it carries a smaller money income is considered to be better than a temporary one which may yield high revolt in terms of money.
- d. **Nature of work:** Nature of work also plays an important role in determine the level of real wages. Some jobs are pleasant while, others are not. All these considerations have to be given due weightage in determining the level of real wages.
- e. **Future Prospects:** An occupation carrying the promise of a bright future is considered to be better than the one which does not do so. Even though the money wages offered by the later will be high.

- f. **Extra benefit:** In some occupation, employees receive in addition to their pay pocket, some extra benefit like free bungalow. Government servants are also entitled to free medical help etc. It is necessary to take into account this point before calculating the real wages of an employee.
- g. **Form of payment:** Real wages are also influenced by the form of payment. Generally, workers are paid money wages. But, in certain occupation, in addition to money wages, workers receive subsidized or free lunch or certain other facilities. All these facilities increase the real wages of the worker.
- h. **Condition of work:** Condition of work also affects the real wages. In some cases, it is found that the conditions of work are not proper and these exercise harmful effects on health. In such cases, the real wages of the worker are considered to be low.

Theory of wages: There are five theories of wages and these are:

- a. Subsistence Theory of Wages
- b. Wage Fund Theory
- c. Residual Claimant Theory
- d. Marginal Productivity Theory of Wages
- e. Modern Theory of Wages

Subsistence theory of wages: The subsistence theory of wages was first formulated by French economist of the 18th century. The theory was further developed by German economist, 'Lassalle' who called it as 'Iron Law of Wages' or 'Brazen (Brass) Law of Wages'.

According to this theory, labor power is a commodity and its price is determined by the cost of production i.e the minimum subsistence expenses required for the support of the worker and his family in order that continuous supply of labor is maintained.

The subsistence theory of wages reaches the conclusion that wage level can neither rise or fall below the minimum subsistence level.

The theory was highly criticized on the ground that the theory approaches the problem of wage determination from the side of supply and completely ignored the demand aspect of the problem. Secondly, the theory is highly pessimistic for the working class.

Wage fund theory: This theory was propounded by J. S. Mill, a well-known economist of the 19th century. This theory is a definite improvement over the subsistence theory as it allows for the influence of demand as well as of supply. According to this theory, 'wage depends upon the proportion between population and capital.' The theory says that wages are determined by two factors viz. i) wage fund and ii) population.

Wage fund: wage fund is that amount of capital which is set apart by the entrepreneurs for the purchase of the services of labor.

Population: It refers to that section of population which enters the labor market for employment. Wages depend upon the proportion or ratio between capital or wage fund and population. Therefore,

$$\text{Wage} = \text{Wage fund} / \text{Population}$$

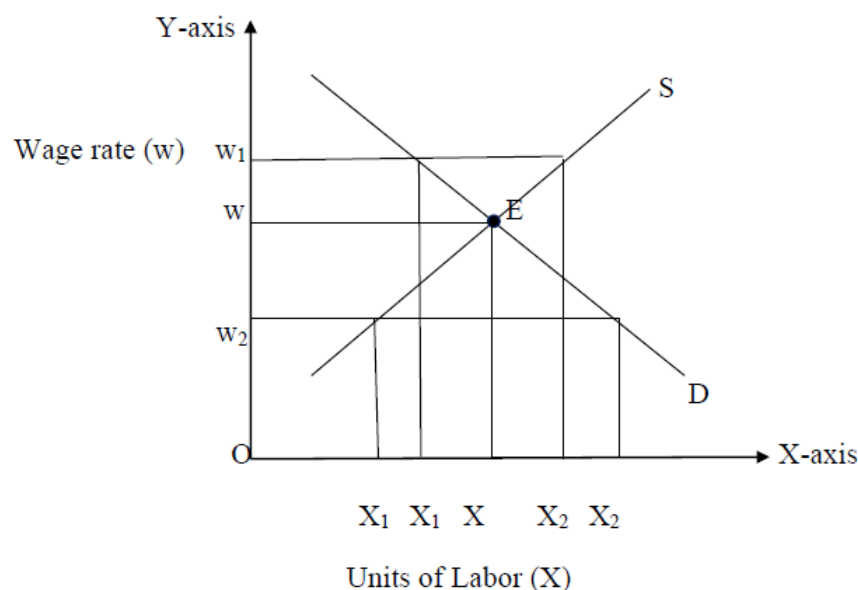
The wage fund theory is superior to the substance theory in the following aspects:

- i. The theory asserts that wages depend upon the supply of and demand for labor
- ii. The subsistence theory maintains that wages can't be more than or less than the subsistence level whereas the wage fund theory has no such implication. This theory was also criticized and stands unacceptable now.

Residual claimant theory: It was propounded by American economist, Walker. The theory holds that wages equal to the product of the industry minus deduction for the other three factors of production (Land-rent; Labor-wages; Capital-interest; Management-profit). Thus, the theory regards worker as the residual claimant of the product of the industry.

Marginal productivity theory of wages: It is just an application of the marginal productivity theory of distribution. Wage rate differs from place to place because of different marginal productivity of labor at different places.

Modern theory of wages: Modern theory of wages regards wages at price of labor and like all other prices determined by the usual supply and demand analysis. According to this theory, wages are determined by the interaction of market forces of demand and supply. The equilibrium rate of wage is one at which the supply of labor offered by the workers for sale is equal to the quantity of labor demanded by the entrepreneurs. The equilibrium rate of wage is not possible at higher or lower wage –rate.



From the diagram given above, it is clear that when wage rate is w_1 , then the supply of labor is more than the demand and hence the wage-rate is decreased. Likewise, when the wage-rate is

w₂, then the supply of labor is less than the demand of labor and hence the wage rate is increased.

Theory of profit:

Land, labor, capital and management or organization are the four factors of production. The earnings of land, labor, and capital as a factor of production are known as rent, wages and interest respectively. The earnings of organization are known as profit. Thus, profit is the payment received by the entrepreneur for his contribution to the productive process.

Profit is the income received by the organizer or entrepreneurs. A firm makes profit when it received a surplus after his paid interest on borrowed capitals, wages to laborer and rent for land. It is equal to the difference between the total revenue and total cost of profit.

$$\text{i.e. Total Profit} = \text{Total Revenue} - \text{Total Cost}$$

$$\text{or } \pi = TR - TC$$

Numerical: Suppose that a firm manufacture 10,000 pens in a year and sells them at the rate of Rs.10/pen. If its expenses (cost) come to be Rs. 70,000 then, find the profit.

Solution: Total Revenue from sale = Rs. 1, 00,000

- Wages of laborers = Rs. 25,000
- Raw Materials = Rs. 25,000
- Interest on Capital @ Rs.10/ pen = Rs. 10,000
- Rent = Rs. 10,000

$$\text{Total Cost (TC)} = (a) + (b) + (c) + (d) = \text{Rs. 70,000}$$

$$\text{Total Profit} = TR - TC = 1, 00,000 - 70,000 = \text{Rs. 30,000}$$

Gross profit and net profit: Gross profit of an entrepreneur equals the total receipts less the explicated costs (or expenditure cost). Explicit cost (expenditure) costs are those cost which are plaid by the employer to the owner of factor unit. These costs are in the nature of contractual payment (on the basis of contract) and they consist of the basis of salary paid, payment of raw material, interest on borrowed capital funds, rent on hired land and taxes paid to the government. In other words, gross profit equal to that which is left with an entrepreneur after deducting total cost (explicit cost) of production from the total receipts.

Organizer should include in his cost

- Wages for his own labor.
- Interest for his own capital
- Rent for his own land and business premises.
- Depreciation of machinery, building etc.

These are the implicit costs (non-expenditure costs) and all these costs should also be deducted from the gross profit. The balance or surplus may be known as net profit. Therefore,

$$\text{Gross Profit} = \text{Total Receipt} - \text{Explicit Costs}$$

$$\text{Pure or Net Profit} = \text{Gross Profit} - \text{Implicit Costs}$$

This can be summarized as follows:

$$\text{Gross Profit} = \text{Total Receipt} - \text{Total Explicit Costs}$$

$$\text{Pure or Net Profit} = \text{Gross Profit} - \text{Implicit Costs}$$

$$\text{Or Net Profit} = \text{Total Revenue} - (\text{Total Explicit Cost} + \text{Total Implicit Cost})$$

Depreciation: When there is loss of value of an asset due to use and wear and tear over time, it is called depreciation.

For example: In case of seed-drill.

Appreciation: When there is an increase in value of an asset over time, it is called appreciation.

For example: In case of buffalo.

Numerical: Find out the gross and net profit from the table given below:

- a. Total Revenue from sale in 1987 = Rs. 1, 65, 000
- b. Paid-out (Explicit cost) cost of production in 1987 are as follows:
 - i. Wages and Salaries = Rs. 40,000
 - ii. Rent and Interest = Rs. 10,000
 - iii. Taxes and Duties = Rs. 5,000
 - iv. Raw Material = Rs. 60,000
 - v. Other costs in 1987 (Implicit costs):
 - vi. Depreciation = Rs. 5,000
 - vii. Wages for personal labor by the organizer = Rs.4,000
 - viii. Rent for land and building owned by the organizer = Rs. 5,000
 - ix. Component of implicit cost is interest on owned capital = Rs. 6,000

Solution: Given that

Total revenue = Rs. 1, 65,000

Total Explicit Cost = Wages and Salaries' + Rentand Interest + Taxes Duties +Raw Material

Therefore, Total Explicit Cost = 40,000+10,000+5,000+60,000 = Rs.1, 15, 000

Total Implicit cost = 5,000+ 4,000+5,000+6,000 = Rs. 20,000

Gross Profit = Total Revenue – Total Explicit Cost

Gross Profit = 1, 65,000 – 1, 15,000 = Rs. 50,000

Also, we know that

Net Profit = Gross Profit – Total Implicit Cost

Net Profit = 50,000- 20,000 = Rs. 30,000

Normal profit and super normal profit: Normal profit may be defined as the profit normally expected in any business. Such a profit is the minimum profit necessary to induce the entrepreneurs to remain and work in the business.

Super normal profit or excess profit on the other hand is a return above the normal profit. It is excess profit which may be termed as a residual surplus which is of the nature of economic rent. In economics, normal profit is the minimum return required to keep a business operating, occurring when Average Revenue (AR) = Average Total Cost (ATC). Supernormal profit (or economic profit) occurs when $AR > ATC$, meaning the business earns extra profit above and beyond covering all its costs.

Functions of organizer:

- i. Organizer start a business, takes the trouble of finding the initial capital.
- ii. He manages and supervises the business.
- iii. He controls the business.
- iv. He undertakes the risk of running the business.

Theories of profits: A number of theories have been put forward to explain the nature of profit. The most well known theories are given here under:

- i. Dynamic theory of Clark
- ii. Risk Theory of Hawley
- iii. Rent Theory of Walker
- iv. Uncertainty Theory of Knight
- v. The Innovation Theory of Schumpeter
- vi. Marginal Productivity Theory of Marshall

Dynamic Theory of Clark: According to J.B.C lark, profit emerges in a dynamic society. A dynamic society is one in which the following changes are in constant progress:

- i. Population increases
- ii. Capital increases
- iii. Improvement in the techniques of production
- iv. Industrial development are undergoing changes
- v. Consumer's wants are multiplied

In a static society, profit has no place. There can only be wages of management.

Risk Theory of Hawley: It was Hawley who propounded the risk theory. According to this theory profits are a reward for the assumption of risk by an entrepreneur. It is on the expectation of profit that an entrepreneur takes a new venture because every venture involves some element of risk. Greater the risk in a particular venture, greater is the expectation of profit.

Rent Theory of Walker: Rent theory of profit was developed by an American economist Walker. According to this theory essential nature of profit does not differ from that of rent. Just as rent is the differential advantage possessed by the superior tracks of land over the marginal one. So, profit is the reward which accrues the entrepreneurs of superior ability over the marginal

entrepreneurs who earn as wages of management. Walker maintains that profit is the rent of ability.

Schumpeter's Innovation Theory of Profit: According to this theory, profits are the result of innovation. The entrepreneur who introduces a new product adopts a new technique of production so that he may earn economic profit. The innovation theory of profit is closely connected with the analysis of profit under conditions of perfect completion.

Uncertainty Theory of Knight: The uncertainty bearing theory of profit is the brain child of Knight. Actually, it is a synthesis of Hawley's risk bearing theory and Clark's dynamic theory. According to him risks are of two kinds: foreseeable and unforeseeable.

Theory of Interest:

Interest is the payment made and received for the use of money or for the use of capital. Interest has been defined by different economists. According to Carver, "Interest is the income which goes to the borrower of capital by virtue of its productivity as a reward for its abstinence." Marshall has defined interest as "the price paid for the use of capital in any market." According to the real theory of rate of interest, it is the payment for the services rendered by capital goods.

Net interest and gross interest:

Net interest is the payment made for the use of capital when there is no risk of loss. Gross interest includes payment for some other elements besides net interest. Gross interest includes the following elements:

- Net Interest
- Insurance against Risk
- Payment for Inconvenience
- Payment for Book-keeping

$$\text{Net Interest} = \text{Gross Interest} - (\text{Payment against risk} + \text{Payment for inconvenience} + \text{Wage of management or book-keeping})$$

Net interest: It is the payment for the use of capital only.

Insurance against risk: The lender while lending the money under takes a certain amount of risk. It is possible that the borrower may not return the money at all. Interest includes an appropriate amount by way of insurance. The quantum of insurance charge varies with the degree of risk. The greater the risk greater will be the insurance premium and higher would be the rate of interest.

Payment for inconvenience: Gross interest also includes payment for inconvenience experienced by the money lender in the matter of time of realization of capital. The money lender is put to unnecessary inconvenience if the borrower does not repay the loan by due date.

Payment for book-keeping: The money lender has to maintain accounts of all the loan transaction and has to make arrangement for the recovery of loan. Thus, the business of money lending involves clerical work. Money lender adds a charge of discount to the net interest.

Theories of rate of interest: Various theories have been advanced to explain the nature and determination of rate of interest. Some of these are given here under:

Marginal productivity theory of interest: According to this theory, rate of interest is the price paid for the use of capital and this price depends upon the productivity of capital.

The classical theory of interest rate: The classical theory of interest rate is also known as the real theory of interest as it is not monetary in character. It regards the interest rate as the mechanism whereby equality is established between demand for and supply of savings. This theory treats interest like any other pricing problems. Just as the price of a commodity is determined by the forces of demand and supply, so rate of interest is determined at a point where the demand for saving equals the supply of savings. This is why this theory is also known as the demand and supply theory of interest rate.

The loan able funds theory of rate of interest: This theory is also known as New Classical Theory of Interest. The loanable funds theory asserts that interest is the price paid for the use of loanable funds; that the rate of interest is determined by the demand for and supply of loanable funds in the credit market.

Keynes's liquidity preference theory of interest: The classical and neo-classical (loanable funds) theories of rate of interest were rejected by Keynes as indeterminate. The traditional analysis rested on the premise that saving and investment schedules are independent of each other.

Modern theory of rate of interest: The modern theory of rate of interest is superior to either the classical or Keynesian theory. The modern theory looks at the problem of interest rate determination by considering both the monetary and non-monetary factors.

CHAPTER 10

PUBLIC FINANCE

Public finance is the study of how governments manage their money. It looks at how governments at all levels (local, state, and central) generate revenue, spend it on public services, and manage their debt, with the ultimate goal of improving society's overall welfare and keeping the economy stable.

The subject matter revolves around five core topics, often called the "pillars" of public finance:

1. Public revenue

This is how the government collects money to fund its operations.

- **Main sources:** Taxes (such as income tax, corporate tax, and GST), fees, fines, and profits from government-owned businesses.
- **Key focus:** Designing fair and efficient tax systems without stifling economic growth.

2. Public expenditure

This is how the government spends the money it has collected.

- **Main areas:** Infrastructure (roads, bridges, power), public goods (defense, police, parks), and social welfare programs (education, healthcare, subsidies).
- **Key focus:** Allocating funds to where they provide the greatest benefit to the public.

3. Public debt

When a government spends more money than it collects in a given year (running a deficit), it must borrow.

- **Main sources:** Selling government bonds, borrowing from citizens, or obtaining loans from international institutions.
- **Key focus:** Managing the amount of money owed so it remains sustainable and doesn't overburden future generations.

4. Financial administration

This refers to the systems, rules, and processes the government uses to manage its finances.

- **Key focus:** Preparing and passing the annual budget, auditing how money is spent to prevent corruption, and ensuring transparency.

5. Economic stabilization and growth

Using revenue and expenditure to manage the overall health of the economy.

- **Key focus:** Controlling inflation during economic booms (e.g., raising taxes or lowering government spending) and boosting the economy during a recession (e.g., investing in new projects and providing subsidies).
- **Taxation:** A tax is a compulsory payment by the person on whom it is levied, irrespective of any corresponding return on goods and services by the authority concern.

- **Agricultural taxation:** Agricultural income put under taxation is called agricultural taxation.

Direct and indirect taxes:

Direct taxes are levied directly on individuals or organization's income and wealth, and the burden cannot be shifted. Indirect taxes are levied on goods and services, and their burden is passed on to the end consumer through the final price of the product.

The fundamental differences break down as follows:

Feature	Direct Tax	Indirect Tax
Who pays it	Paid directly to the government by the taxpayer.	Collected by an intermediary (e.g., a seller or vendor) and remitted to the government.
Shift of burden	The burden cannot be shifted to another person.	The burden can be shifted to someone else (the end consumer).
Levied upon	A person's income, profits, or wealth.	Consumption or expenditure on goods and services.
Nature	Progressive (higher-income earners typically pay a higher percentage).	Regressive (the same tax rate applies to everyone regardless of income).
Examples	Income Tax, Corporate Tax, Property Tax, Capital Gains Tax.	Goods and Services Tax (GST), Sales Tax, Customs Duty.

Classification of taxes: Taxes are classified as progressive, proportional or regressive based on how the tax rate changes as an individual's income rises. These systems determine who bears the heaviest financial burden and are used by governments to balance budgets, fund public services, and redistribute wealth.

1. Progressive tax

A progressive tax takes a larger percentage of income from high-income earners than from low-income earners.

- **How it works:** Tax rates increase as taxable income increases. People are divided into "tax brackets," meaning you only pay the higher rate on the portion of your income that falls into that specific bracket.
- **Impact:** It reduces income inequality by placing a larger burden on those most able to pay.
- **Examples:** Individual income taxes and estate taxes.

2. Proportional tax

A proportional tax (often called a "flat tax") takes the same percentage of income from all taxpayers, regardless of how much they earn.

- **How it works:** Every individual pays a fixed, constant rate. If the flat rate is 10%, someone earning \$30,000 pays \$3,000, and someone earning \$300,000 pays \$30,000.
- **Impact:** While it seems mathematically fair because everyone plays by the same rules, it takes a much larger toll on lower-income individuals because that money represents a higher percentage of their essential living expenses.
- **Examples:** Corporate flat taxes or specific state-level flat income taxes.

3. Regressive tax

A regressive tax takes a larger percentage of income from low-income earners than from high-income earners.

- **How it works:** The tax rate decreases as the taxable amount increases. In practice, this happens when everyone pays the exact same flat monetary amount for a tax or good. Because lower-income individuals spend almost all of their income on basic necessities, they end up paying a much higher proportion of their total earnings in taxes.
- **Impact:** It exacerbates income inequality by disproportionately burdening working-class and low-income populations.
- **Examples:** Sales taxes, Goods and Services Tax (GST), excise taxes (like on fuel or alcohol), and property taxes.

Principles of taxation: A good tax system must adhere to certain fundamental principles. These principles were first stated by Adam Smith in 1776 in the *Wealth of Nations* which he calls the canons of taxation. These principles guide governments in designing tax policies that are equitable, efficient, predictable, and convenient for taxpayers. These canons of taxation are:

- **Canon of equity / equality:** Taxes should be levied based on a taxpayer's ability to pay. This principle argues that those who earn more or benefit more from the state should contribute proportionally or progressively more to public expenses.
- **Canon of certainty:** Tax laws should be clear, transparent, and predictable. Taxpayers must know exactly how much they owe, when payment is due, and how the amount is calculated, leaving no room for arbitrary collection or corruption.
- **Canon of convenience:** The payment process should be as easy and practical as possible for the taxpayer. Taxes should be collected at times or in a manner that causes minimal disruption, such as deducting income taxes directly from a monthly salary.
- **Canon of economy:** The cost of collecting and administering the tax should be kept to a minimum. The system should be designed to ensure that as little money as possible is "lost" between the taxpayer's pocket and the government's treasury.

Subsequent to Adam Smith, other economist suggested another canon of taxation in view of changes in economic policy and the problems of modern state. These are:

- **Canon of productivity:** A tax should generate substantial, reliable revenue for the government.
- **Canon of elasticity / flexibility:** The tax structure should be easily adaptable to changing economic conditions, allowing revenues to grow as the economy or population expands.
- **Canon of simplicity:** Tax rules should be easy to understand and straightforward for everyday citizens to file without excessive professional help.
- **Canon of diversity:** A nation's tax system should rely on multiple sources of revenue (e.g., a mix of income, property, and consumption taxes) rather than depending entirely on one type of levy.
- **Canon of buoyancy:** The tax system should be so elastic as to ensure that any

What is deficit financing?

When the current expenditure of the government is more than its current receipts, it is known as deficit financing. Thus, the deficit represents the gap between the current expenditure and current income of the government and when this gap is filled by obtaining funds by means other than taxation, it is known as deficit spending or financing. Funds for meeting the budget deficit can be obtained either by:

1. Borrowing from the Central bank.
2. By withdrawal of cash balances.
3. Borrowing from Commercial banks
4. Issue of new currency.

Various concepts of deficit:

1. Revenue deficit= Revenue expenditure---Revenue receipt
2. Budget deficit= Total expenditure---- Total receipts
3. Fiscal deficit= Budget deficit+ Borrowings
4. Primary deficit= Fiscal deficit--- Interest payments

Let us suppose that a country is rich in resources but, on the other hand the government is poor. This is reflected by working out the primary deficit. Primary deficit is worked out by subtracting the interest payments from the fiscal deficit. If the primary deficit is found out to be negative that shows our economy is not a healthy one or otherwise i.e. if it's figured out to be positive which shows a state of affair is a healthy one.

Balanced budget: is one in which revenues are equal to expenditure. Thus, neither a budget deficit nor a budget surplus exists. More generally, it is a budget that has no budget deficit, but could possibly have a budget surplus.

Public/ government revenue: Broadly speaking the government or the public revenue can be classified as Tax Revenue and Non-tax Revenue.

Tax revenue: Tax revenue is the revenue derived by the government by taxes its citizen. E.g. Individual income taxes, payroll taxes, and corporate income tax are the primary income streams for the federal govt. Excise duty, estate tax and other taxes and fees are sources of tax collection.

Non-tax revenue: It is the periodic income government receives from sources other than taxes. They are the tax revenues that do not come from taxing the general public. Profit from state-owned enterprises, proceeds from bonds issues, custom duty, railways, post and telegraph are the sources of non-tax revenue.

Tax rate: The rates at which the taxes on various goods and services are increasing or decreasing during the year.

Sources of Revenue:

1. **Union excise duty (Utpadan kar):** Excise duty is an indirect tax imposed on commodity produce and manufacture in the country. It is a tax on domestic goods.
2. **Custom duty:** These are the indirect taxes imposed on imported and exported goods of the country. In simple terms, it is a tax imposed on imported goods at the port or at the entry point.
3. **Income tax:** It is imposed on the income of the individual, unregistered firm and the profit of Joint Stock Company. It is a direct tax.
4. **Corporation tax:** The net profit of Joint Stock Company is also subject to income tax.
5. **Estate duty:** This tax was introduced in 1953. It is also called as Inheritance tax. It is direct tax imposed on the total value of the property of a deceased person before it is distributed to their heirs or beneficiaries.
6. **Wealth tax:** It has been there since 1957. It is a direct tax imposed on the net wealth of the individual and the undivided families.
7. **Gift tax:** It was introduced in 1958 and is a direct tax with the aim of checking tax evasion of estate duty. All gifts exceeding Rs. 50,000 will have to be a gift tax.
8. **Capital gain tax:** It came into being from 1956. Capital gains tax is the levy applied to the profit earned when you sell a capital asset, such as real estate, stocks, mutual funds, or gold, at a higher price than you paid for it. The rate you pay depends on how long you held the asset and its category.

Non-tax sources of revenue:

1. **Railway:** The central government gets only a share in the net profit of the railway.
2. **Post and telegraph:** They are public services and are not run for profit but still it provides some revenue to the union government.
3. **Interest receipts:** Central government gets revenue in the form of interest on the loan advanced to state government and others.

- 4. Profit of the Public enterprises:** The profit of public enterprises (Public Sector Undertakings or PSUs) represents the surplus revenue remaining after deducting all operating expenses, taxes, and interest from their gross revenue. This profit is a major source of non-tax revenue for the government and is used to fund public welfare and national development.

Heads of public expenditure:

- i. Collection of taxes and duties
- ii. Education
- iii. Agriculture and allied services
- iv. Administrative services
- v. Health, medical and family planning
- vi. Departmental services
- vii. Transport and communication
- viii. Multi-purpose projects, irrigation water and power development.
- ix. Social and community services.

Public expenditure: The expenditure incurred by public authorities is called public expenditure. Public expenditure has to provide not only social welfare but it has also to ensure economic stability and economic growth.

Canons of public expenditure: The following are the rules or canons that should guide the public authorities in the administration of public expenditure.

- i. **Canon of maximum benefit:** Public expenditure should promote the maximum welfare of the society as a whole.
- ii. **Canon of economy:** Unnecessary expenditure and wastage of financial resources should be avoided.
- iii. **Canon of sanction:** The public expenditure has to be sanctioned by a competent authority before it is actually incurred.
- iv. **Canon of elasticity:** It should be possible to the government to vary the expenditure according to the need or circumstances.
- v. **Canon of surplus:** Public expenditure should be always kept well within the revenue of the state so that a surplus is left at the end of the year. Government should avoid deficit budget in which public revenue is less than the public expenditure.
- vi. **Promotion of economic growth and stability:** Public expenditure should promote economic development and economic stability directly and indirectly.

Capital outlay: Capital outlay is nothing but the sum of revenue expenditure (RE) and capital expenditure (CE).

Symbolically,

$$\text{Capital Outlay} = \text{Revenue Expenditure (RE)} + \text{Capital Expenditure (CE)}$$

Revenue expenditure is the expenditure on the amount of interest paid on loan taken, subsidies, expenditure on salaries and pension, while the capital expenditure is nothing but the expenditure on infra-structure. Out of the total capital outlay, government spends 60% of their share on revenue expenditure and 40% of the share on capital expenditure.

Difference between revenue expenditure and capital expenditure:

- Capital expenditure (CapEx) is money spent to buy, build, or upgrade long-term assets (like machinery or buildings) that benefit a business for many years.
- Revenue expenditure (RevEx) is the day-to-day money spent to keep the business running (like rent or salaries), which is used up quickly.

A direct comparison highlights the main differences:

Feature	Capital Expenditure (CapEx)	Revenue Expenditure (RevEx)
Purpose	To grow the business, expand capacity, or buy long-lasting assets.	To maintain daily business operations and keep the lights on.
Lifespan	Long-term; benefits are spread across multiple years.	Short-term; usually consumed within the current financial year.
Examples	Buying a new vehicle, constructing building, or upgrading factory equipment.	Paying employee salaries, utility bills, office rent, or routine repairs.

Planned and non-planned expenditure: Planned expenditure means that the expenditure which is created for new employment, new schemes, new roads, new hospital etc for new generation. On the other hand non-planned expenditure is one which is for the maintenance of existing infrastructure like payment to old staffs, maintenance of roads, hospitals etc.

CHAPTER 11

MONEY AND BANKING

Money: In simple term we define “money is that money does”. Money is anything that is generally accepted as payment for goods and services and for repaying debts. It is a universal tool that powers trade and replaces the complicated "barter system" where people had to trade physical items directly.

Fiduciary money: Any form of money which has a greater value in exchange than its intrinsic value.

Barter system: The act of direct exchange of one commodity with the other without the mediation of money is called Barter System.

Functions of money: Money achieves its purpose by serving four distinct functions:

1. Medium of exchange

Instead of trading goods directly (like a baker swapping bread for shoes), you use money to buy what you need. Money acts as a middleman in transactions, allowing you to easily sell your labor or products and use that money to buy anything else. [

2. Unit of account

Money is a standard measuring stick for the worth of everything around us. Instead of valuing a car as "100 chickens" or "3 couches," we price items in exact dollar amounts. This makes it incredibly easy to compare the values of different products and services.

3. Store of value

Money allows you to save purchasing power for the future. Unlike perishable items (e.g., fruit) that rot and lose their value, money can be kept in a bank account or wallet for years and still be used to buy goods tomorrow.

4. Standard of deferred payment

Because money holds a relatively stable value over time, it makes borrowing and lending possible. It serves as a reliable benchmark for calculating future payments, meaning you can take out a loan, buy something on credit, or sign a contract to pay someone back in the future.

Banking system:

Bank is defined as an institution for the custody of money which it pays out on customers order. Banking system we mean the process of lending and borrowing of funds from the public. Earlier times, this business was carried out by the rich people like traders, lenders and land –lord’s tec. This system of banking is known as indigenous banking institution. The main advantage of these indigenous bank institutions was that firstly funds are readily available in an adequate amount and at the proper time. These types of banking institution continued their business and were dominated the process of borrowing and lending upon the public.

In countries like India where there is an absence of net banking branches especially in the rural areas, these institutions are the most important banking institutions. The most important pitfall of these institution were that of first they discharge very high interest rate; second, these institutions were interested in keeping their funds busy and they did not encourage the farmers to repay back their loan; and lastly, with the operation of these institutions, the farmers had been reduced to landless labourers.

Structure of Indian banking system:

There are two sectors.

I. Organised sector

II. Un-organised sector

I. Organised Sector: It consists of

- i. Commercial Bank
- ii. Reserve Bank of India (Apex body of general banking)
- iii. NABARD (Apex body of agricultural banking)
- iv. Cooperative credit/ banking system:

II. Un-Organised Sectors:

It is of two categories, one which is operated in town and city and is known as Indigenous bankers and the other which is operated in villages by the money lenders.

Commercial banking in India: Commercial banking in India are classified into schedule and non-scheduled banks. Schedule banks are those banks which have a paid-up capital (actual amount of capital that share holders have subscribe) of Rs. Five lacs or more and are put on the schedule of reserve bank. It is of two types viz. Nationalised banks and Non-nationalised bank. Nationalised banks are those banks which have been nationalised by the Government of India and their loaning policy is controlled by the reserve bank while, all those banks which are owned privately and are in private hands are called non-nationalised banks. On the other hand, all those banks which have a paid –up capital of less than Rs. Five lacs are called non-scheduled bank. Commercial banks are the most common and important types of banking institutions. They carry on the general banking business of accepting deposits and advancing loans. Commercial banks may be owned by the government or they may be run in the private sector. For instance, twenty major commercial banks were nationalised with effect from March, 1980 in India. Other private sector banks were organised on the lines of Joint Stock Company. The important functions of commercial banks are given here under:

- To mobilize the saving in the economy.
- To open branches in the potential areas of the country and divert the funds for productive purposes.

- To lend the money at cheaper rate to agriculture, industries and other economic activities.
- It helps the government in adopting successful monetary and fiscal policy.
- To create credit and help the government in overall economic development.
- These institutions promote the banking habits among the rural people by opening more and more branches.

Nationalised banks in India: In the wake of our nation's independence, a multitude of banks emerged with the primary aim of addressing the economic aspirations and needs of our citizens. These banks, in their pivotal role within our economy, are entrusted with the crucial responsibility of managing our finances. They not only provide a vital guarantee for safeguarding our money but also offer interest on our deposits. Additionally, banks play a pivotal role in extending financial support to individuals, institutions, and businesses for a diverse range of personal and commercial activities. As a result, banks exert a direct and substantial influence on various facets of our lives.

Motive of bank nationalisation: The main aim behind bank nationalisation are to prevent the concentration of wealth which the banking sector has been promoting in the past; to ensure adequate flow of credit to the neglected and weaker section of the society; to provide adequate banking facilities particularly in the rural areas; and to reduce regional imbalances and economic disparity in the country.

In July 19, 1969, fourteen major banks were nationalised by the then Government of India. These were as under:

- i. Allahabad Bank (Calcutta)
- ii. Baroda Bank (Baroda)
- iii. Bank of India (Bombay)
- iv. Bank of Maharashtra (Puna)
- v. Canara Bank (Bangalore)
- vi. Central Bank of India (Bombay)
- vii. Dena Bank
- viii. Indian Bank (Madras)
- ix. Indian Over-seas Bank (Madras)
- x. Punjab National Bank (New Delhi)
- xi. Syndicate Bank (Karnataka)
- xii. Union Bank of India (Bombay)
- xiii. United Bank of India (Calcutta)
- xiv. United Commercial Bank (Calcutta)

In addition to these nationalised banks, six more banks were nationalised by the Government of India with effect from 14th March, 1980. These were

- i. Andhra Bank (Hyderabad)
- ii. Corporation Bank (Mangalore)
- iii. New Bank of India (New Delhi)
- iv. Punjab and Sindh Bank (New Delhi)
- v. Oriental Bank of Commerce (New Delhi)
- vi. Vijay Bank (Bangalore)

At the present juncture and with the formation of Modi's Government in May, 2014 at the centre, since then it has been of late, there are only twelve government banks or public sector banks as Modi government took initiative to merge some of 20 nationalised banks as per the present days need. Government banks also called public sector banks (PSBs) are the financial institutions in which the Government of India holds the majority of shares, typically more than 51 per cent. While they are not under the direct control of the government, the government is the primary stakeholder in these banks. Here is the list of these 12 Nationalised banks:

- i. Bank of Baroda
- ii. Bank of India
- iii. Bank of Maharashtra
- iv. Canara Bank (With merger of Syndicate Bank)
- v. Central Bank of India
- vi. Indian Bank (With merger of Allahabad Bank)
- vii. Indian Overseas Bank
- viii. Punjab and Sindh Bank
- ix. Punjab National Bank (With the merger of Oriental Bank of Commerce and United Bank of India)
- x. State Bank of India
- xi. UCO Bank
- xii. Union Bank of India (With the merger of Andhra Bank and Corporation Bank)

State Bank of India: State Bank of India was earlier known as imperial bank of India which was set up in 1921, with the collaboration of three presidency banks of Bombay, Madras and Calcutta. It was nationalised on July 1st, 1955 and was renamed as State Bank of India. The head quarter of SBI is located at Bombay. In the recent past, SBI had seven subsidiary banks namely, State Bank of Bikaner and Jaipur; State Bank of Hyderabad; State Bank of Mysore; State Bank of Patiala; State Bank of Saundra; State Bank of Travancore; and State Bank of Indore. In addition to RBI, there are about 1227 share holders who hold about 8 per cent of the paid-up capital of State Bank. The important functions of State Bank of India are as under:

- i. Branch expansion in the country.
- ii. Lending to priority sector like agriculture and rural industry.
- iii. It gives aid to cooperative institutions
- iv. It finances for foreign trade.
- v. It is an agent to RBI.
- vi. It controls over the business of other banks.

Industrial Banks: Industrial banks refer to those financial institutions which provide finance to industry on a long-term basis. Indian Finance Corporation (IFC) or an Investment Corporation of India (ICI) is the examples of Industrial banks in our country.

Agricultural Banks: These banks give loan for agricultural purposes such as for the purchase of seed, fertilizers, implements etc. They charge concessional rate of interest. In India, we have cooperative banks and land mortgage banks for this purpose. In the recent past, Regional Rural Banks have been set up to help agricultural development through an adequate supply of finance. NABARD (National Bank for Agriculture and Rural Development) is the apex body of the agricultural banks which was set up in 1982 with its head quarter at Bombay.

Exchange Banks: Exchange banks are that bank which deals in foreign exchange. India dealing in foreign exchange is conducted by foreign exchange bank as well as Indian commercial banks. Exchange rate is the value of one nation currency in terms of others.

Saving Banks: The major aim of these institutions is to promote saving of the middle-income group of the society. In India, Postal Saving Banks are the good example of such banks.

Reserve Bank of India/ Central Bank: A central bank is central to the whole banking system. It is an apex institution and generally there is a central bank in every country. The main function of central bank is to regulate and supervise the whole banking system. It controls and regulates the currency and perform the other essential functions to achieve a rapid rate of development.

At present, there is no country in the world which has not set up a central bank of its own. A central bank is so called because it occupies a central pivotal position in the monetary and banking system of the country and is the highest financial authority.

The RBI which is the central bank of the country was established on 1st April, 1935. The bank was nationalised in 1949. The management of RBI vests with a central board of director of twenty members. The Governor; four Deputy Governors and 15 others are nominated by the government. RBI is the leader of the banking system and it control all the banking and financial operations in the country. The important functions of RBI's are given here under:

- i. Bank of issue.
- ii. Bankers, agent and advisor to the government.
- iii. As a custodian of cash reserve of the commercial bank.
- iv. As a custodian of nation's reserve of international currency.

- v. Bank of rediscount and lenders of last resort.
- vi. As a bank of central clearance, settlement and transfer.
- vii. As a controller of credit.

Apart from these functions, the central bank also maintain relationship among international banks such as International Monetary Fund's (IMF), World Bank (IBRD), Asian Development Banks (ADB) and other international financial institutions when the needs arise.

Difference between Central Bank and Commercial Bank:

- i. Commercial bank is run for profit but, the central bank is set up for public services rather than saving.
- ii. The central bank does not compete with commercial banks. But, on the other hand, it acts as a banker's bank and the lender of last resort.
- iii. Unlike the commercial banks, the central bank does not directly deal with the public. Normally, it does not accept deposits from the public nor does it pay interest on such deposits.
- iv. A central bank is normally a state an institution whereas, commercial banks are generally privately owned.
- v. A central bank acts as the custodian on the cash reserve of commercial banks.
- vi. A central bank acts as a custodian of nation's reserve of international currency.

International banking institutions:

International Monetary Fund (IMF): IMF was established in 1944 at Breetton Woods conference along with World Bank (WB) both known as Breetton Woods Twins. Its head quarter is at Washington, D.C. IMF established for promoting international economic stability by promoting and helping the expansion of international trade. The fund is a pool of central bank reserves and national currencies which are made available to member countries with certain condition.

Purpose of IMF:

The primary goal of the International Monetary Fund (IMF) is to ensure the stability of the international monetary system—the system of exchange rates and international payments that enables countries to buy goods and services from one another. Established in 1944, it aims to foster global monetary cooperation, secure financial stability, facilitate international trade, promote high employment and sustainable economic growth, and reduce poverty around the world.

Key objectives and functions:

- **Monetary cooperation:** To provide a permanent institution for consultation and collaboration on international monetary problems.

- **Exchange rate stability:** To promote exchange stability and maintain orderly exchange arrangements among members.
- **Facilitating trade:** To facilitate the expansion and balanced growth of international trade, contributing to high levels of employment and real income.
- **Balance of payments assistance:** To help member countries experiencing temporary balance-of-payments problems by providing financial assistance, allowing them to correct adjustments without resorting to measures that harm national or international prosperity.
- **Technical assistance:** To provide policy advice and training to help nations build sustainable economies.

The IMF was created to prevent a repeat of the competitive exchange rate devaluations that contributed to the Great Depression of the 1930s. Today, it focuses on economic surveillance and crisis prevention in its 191 member countries.

International Bank for Reconstruction and Development (IBRD) also known as World Bank (WB): The World Bank was born at the same time when IMF was born in 1944 during world war-II. Its head quarter is at Washington, D.C. The economics of all the countries were shattered while the need was recognized to reconstruct the war damages. The need was then felt to develop the economics of these countries. Hence, IBRD was born. Its main aim is to help the member nations in reconstruction and development of their economy.

The World Bank is an international financial institution providing loans, grants, and technical assistance to developing nations to reduce poverty, fund infrastructure (dams, roads), and foster economic growth. Established in 1944, it also offers policy advice and aids in crises. Key criticisms include the imposition of stringent neoliberal structural adjustment programs (SAPs), disproportionate influence of wealthy nations in governance, and financing projects with severe environmental or social drawbacks.

Core Functions of the World Bank Group

- **Financial assistance:** Provides low-interest or interest-free loans (IDA) and grants to low-income countries, and loans to middle-income countries (IBRD).
- **Infrastructure and development projects:** Finances large-scale projects like irrigation, energy, education, and health to boost economic development.
- **Technical assistance and policy advice:** Offers expertise to help governments improve governance, economic policy, and sector-specific strategies.
- **Private sector development:** Through the International Finance Corporation (IFC) and MIGA, the bank supports private enterprise growth and manages investment risk in developing nations.

Key criticisms and challenges

- **Governance structure:** Critics argue the institution is dominated by wealthy nations (particularly the U.S.), limiting the voice and decision-making power of developing nations.
- **Structural Adjustment Programs (SAPs):** Loans in the 1980s/90s were often tied to conditions like privatization and subsidy cuts, which were blamed for increasing poverty and harming social welfare.
- **Environmental and social impact:** The bank has been criticized for funding large "mega-projects" (e.g., dams) that cause significant environmental damage or displace local communities.
- **Focus on growth models:** Some argue its focus on a growth-based model overlooks long-term sustainability, including the financing of some fossil fuel projects, although it is increasingly pivoting toward climate-friendly investments.

Key institution involved:

The World Bank Group consists of five institutions:

1. **International Bank for Reconstruction and Development (IBRD):** Loans to middle-income governments.
2. **International Development Association (IDA):** It gives loans/grants to poorest countries. IDA was set up in 1959 with the proposal of World Bank and USA. IDA is affiliated to World Bank and has been set up to give loans on liberal terms to underdeveloped countries. It was set up in 1960. The main function of IDA is to provide development finance to developing and underdeveloped countries on concessional term and thereby help these countries in achieving higher level of per capita income. The main sector benefitted from this credit has been agriculture and irrigation.
3. **International Finance Corporation (IFC):** Private sector investment. This is also affiliated to World Bank. IFC is also open to all countries which are the members of World Bank.
4. **Multilateral Investment Guarantee Agency (MIGA):** Risk insurance. The Multilateral Investment Guarantee Agency (MIGA) is an international financial institution which offers political risk insurance and credit enhancement guarantees. Such guarantees help investors to protect foreign direct investment against political and non-commercial risks in developing countries. MIGA is a member of the World Bank Group and its head quartered in Washington, D.C. (U.S.A.). It was established in 1988 as an investment insurance facility to encourage confident investment in developing countries. MIGA's stated mission is "to promote foreign direct investment into developing countries to support economic growth, reduce poverty, and improve people's lives".

5. International Centre for Settlement of Investment Disputes (ICSID): Dispute arbitration. The International Centre for Settlement of Investment Disputes (ICSID) is an international arbitration institution which facilitates legal dispute resolution and conciliation between international investors. The ICSID is a member of the World Bank Group, from which it receives funding, and is headquartered in Washington, D.C., in the United States. It was established in 1966 as an autonomous, multilateral specialized institution to encourage international flow of investment and mitigate non-commercial risks by a treaty drafted by the IBRD's directors and signed by the member countries.

Asian Development Bank (ADB): The Asian Development Bank started its operation in December, 1966 at Manila (Philippines). It is a regional institution which aims at fostering the economic development of the countries of Asia and Far East.

New Development Bank (NDB): New Development Bank (NDB) formerly referred to as the BRICS Development Bank, is a multilateral development bank established by the states (Brazil, Russia, India, China and South Africa). According to the Agreement on the NDB, "the Bank shall support public or private projects through loans, guarantees, equity participation and other financial instruments." Moreover, the NDB "shall cooperate with international organization and other financial entities, and provide technical assistance for projects to be supported by the Bank". NDB is currently headquartered in Shanghai, China. The first regional office of the NDB is in Johannesburg, South Africa.

Gresham's Law:

A statement generally attributed to Gresham's Finance minister of Eliza betta-I "A bad money derives out good," People always tending to hoard good money and spend bad money when the two form of money are in circulation at the same time.

Bank –rate:

The bank rate is the minimum rate at which the central bank of a country provides financial accommodation to commercial bank. This is also known as discount rate. Because, in the earlier days the central bank used to provide assistance to commercial bank by rediscounting bills of exchange. When the bank rate is raised, the cost of borrowing by the commercial banks from the central bank goes up. This ultimately leads to decrease in the borrowing by the customers and adversely affect the level of production and prices. The bank rate is usually raise when there is an inflationary situation in the economy.

Bank Note:

It is a promissory note of a bank payable to the bearer on demand.

Difference between Nationalised and Private Banks:

Parameter	Nationalised Banks	Private Banks
Ownership	Majority stake owned by GOI	Majority stake owned by private entities or individuals
Objective	Serve public interest, financial inclusion, and economic development	Focus on profitability, customer experience, and innovation
Customer Trust	High level of trust due to government backing	Gaining trust through service quality and efficiency
Interest Rates	Generally offer lower interest rates on loans and higher rates on deposits	May offer competitive rates based on market strategy
Service and Technology	Slower adoption of new technology, though improving	Faster in adopting latest technologies and digital banking
Loan Approval Process	Slower due to extensive documentation and strict verification	Faster processing with streamlined procedures
Job Security for Employees	High, with most employees considered government staff	Comparatively lower job security
Branch Network	Extensive presence in rural and semi-urban areas	Strong presence in urban and metro cities
Example Banks	Punjab National Bank, SBI, Bank of Baroda, Canara Bank	HDFC Bank, ICICI Bank, Axis Bank, Kotak Mahindra Bank

Note: ICICI: Industrial, Credit, and Investment Corporation of India; HDFC: Hindustan Development Finance Corporation; SBI: State Bank of India.

CHAPTER 12

NATIONAL INCOME: CONCEPTS AND ITS MEASUREMENT

Concepts of national income: There are various concepts of national income. These are in essence and in details are discussed below:

- i. $\text{GNP (Gross National Product)} - \text{Depreciation} = \text{NNI}_{\text{MP}}$ (Net National Income at Market Price)
- ii. NNI_{MP} (Net National Income at Market Price) - Indirect Taxes + Subsidies = NNI_{FC} (Net National Income at Factor Cost = NI (National Income)). This is a hypothetical case.
- iii. NNI_{FC} (Net National Income at Factor Cost) - Undistributed Profit + Transfers = Personal Income (PI)
- iv. $\text{PI (Personal Income)} - \text{Direct Taxes} = \text{Disposable Income (DI)}$
- v. $\text{PCI (Per Capita Income)} = \text{GNP} / \text{Population}$

It is clear from the above five concepts of National Income that when there is no difference between indirect taxes and subsidies, in that case Net National Income at Market Price (NNI_{MP}) is equal to Net National Income at Factor Cost (NNI_{FC}).

Gross National Product (GNP): GNP is defined as the total market value of all final goods and services produced in a year. (Here final goods mean end product e.g. cloth). Two things must be noted in regards to GNP.

- i. It measures the market value of annual output. In other words, GNP is a monetary measure.
- ii. For calculating GNP accurately, all goods and services produces in any given year must be counted once but not more than once. Most of the goods go through a series of production stages before reaching into the market.

Final goods: These are those goods which are being purchase for final use and not for resale or for further processing.

Intermediate goods: Intermediate goods on the other hand are those which are purchased for further processing or for resale.

The sale of final goods is included in GNP, while the sales of intermediate goods are excluded from GNP. GNP values goods at market price and not at factor cost because there are some components of GNP that are difficult to value, for instance the services of a home maker.

Net National Product or Net National Income at Market Price (NNP or NNI_{MP}): In the production of GNP in a year, we consume or use-up some capital i.e. equipment, machinery etc. The capital goods like machinery wear out or fall in value as a result of its use in the production process. The fall or loss in value of capital due to wear and tear is called depreciation.

When charges of depreciation are deducted from the GNP, we get NNP or NNI_{MP} . Clearly, it means the market value of all final goods and services after providing for depreciation. Therefore, it is called National Income at market price.

GNP (Gross National Product) – Depreciation = NNI_{MP} (Net National Income at Market Price)

National Income or Net National Income at Factor Cost “(NI or NNI_{FC}): National income at factor cost means the sum of all the income earned by resource supplier for their contribution of land, labor, capital and entrepreneurial ability which goes into the year’s net production or in other words, national income shows how much it costs the society in terms of economic resources to produce net output.

The difference between NNI_{FC} (NI) and NNI_{MP} (NNP) arises from the fact that the indirect taxes and subsidies cause market prices of output is different from the factor income resulting from indirect taxes.

For instance,

- a. Suppose a yard of cloth mill sold for Rs.100 includes Rs 20 on account of the exercise and sale tax. In this case while the market price of cloth is Rs.100 a yard, the factor engaged in its production and distribution would receive Rs. 75 a yard. The value of cloth as factor cost would thus be equal to its value at the market price less the indirect taxes on it.
- b. Suppose a handloom cloth is subsidized at the rate of Rs.90 a yard and it sells at Rs. 81 then, while the consumer pays Rs.81 per yard, the factor engaged in the production and distribution of such cloth Rs 100 per yard. The value of the handloom cloth at factor would thus be equal to its market price plus the subsidies paid on it.

It follows therefore, that National Income is equal to Net National Income at Market Price (NNI_{MP}) or NNP less Indirect Taxes plus Subsidies.

$$NI = NNP - \text{Indirect Taxes} + \text{Subsidies}$$

Factor cost: Market price minus indirect taxes (sale tax, excise tax) is the factor cost which is the amount received by the factors of production that manufactured goods.

Personal income: Personal Income is the sum of all income actually received by all individual or household during a given year. Personal income is the current income received by person from all sources viz.

- i. Wages and non-wages income for the productive services provided by the persons (i.e. earned income).
- ii. Transfer payment for which no productive services are provided by the recipient (non-earned income). Thus,

Personal Income (PI) = NNI_{FC} or NI less (a) Undistributed corporate profit (b) Corporate profit taxes (c) Contribution for social insurance plus (a) Government transfer payment (this includes

old age pension, unemployment compensation, relief payment, scholarship etc.) (b) Net interest paid by the government (c) Business transfer payment.

Disposable income: After a good part of personal income is paid to the government in the form of personal taxes (direct taxes) like income tax, personal property tax, the remains of personal income is called disposable income.

$$\text{Disposable Income (DI)} = \text{Personal Income (PI)} - \text{Direct Taxes}$$

$$\text{DI} = \text{Consumption(C)} + \text{Saving(S)}, \text{ Also } \text{DI} = \text{Consumption(C)} + \text{Investment (I)}$$

$$\text{Therefore, } C + S = C + I \text{ or } S (\text{Saving}) = I (\text{Investment})$$

Per Capita Income: Per capita income is arrived at by dividing the GNP by the total population. It is per head average share in the national income.

$$\text{Per Capita Income (PCI)} = \text{GNP} / \text{Population}$$

Gross Domestic Product (GDP): It is value of all final goods and services produced by domestically owned factors of production in a given year.

Difference between GNP and GDP: A part of GNP is earned abroad. For example, the income of an American citizen working in Japan is a part of US GNP but it is not a part of US GDP because it is not earned in the united state.

What happens when GNP exceeds GDP? Residents of a given country say US are earning more abroad than the foreigners are earning in that country.

Nominal GNP or Current dollar GNP: Nominal GNP measures the value of output at the prices prevailing in the period during which the output is produced (Current dollar GNP).

Real GNP or Constant dollar GNP: Real GNP measures the value of output produced in any one period at the prices of some base year.

GNP deflator: It is the ratio of nominal GNP in a given year to real GNP, and it is a measure of inflation from the period for which the base prices for calculating the real GNP are taken to the current period.

Measurement of national income: There are three methods for the measurement of national income and these are:

- i. Total Income flow
- ii. Net Output
- iii. Final Expenditures

All these methods arrive at the same result. Which of this method is adopted in actual practice i.e. calculating the national income of a country depends on the nature and conditions of its economy as well as the purpose of undertaking this exercise?

- a. **Production or Output Method:** According to this method, the economy is divided into different sectors such as agriculture, mining, manufacturing, small enterprises, commerce, transport, communication and other services. Then the gross product is found

out by adding up net values of all the production that has taken place in these sectors during the year.

The aggregate or the net value of production of all the industries and sectors of the economy plus the net income from abroad will give us the gross national product. By subtracting the total amount of depreciation from the figure of gross national product, we get the net national product or national income.

This method can be used where there exists a census of production for the year. The one great advantage of this method is that it reveals the relative importance of the different sectors of the economy by showing their respective contribution to the national income. This method is called national income by industrial origin.

- b. **Income Method:** According to this method, national income is obtained by summing up of the incomes of all the individuals in the country. Therefore, national income is calculated by adding up the incomes of land, wages and salaries of employees, interest on capital, profits of the entrepreneurs (including undistributed profits of joint stock companies) and income of self employed people. This method has the great advantage of indicating the distribution of national income among different income groups such as land-lords, capitalists, workers etc., therefore, this is called national income by distributed shares.
- c. **Expenditure Method:** According to this method, we get the national income by summing up all the consumption expenditure and investment expenditures made by all individuals as well government of a country during the year. Hence, the gross national product is found by adding up:
 - What private individuals spend on consumer goods and services? This is called personal consumption expenditure.
 - What private businesses spend on replacement, renewals and new investment? This is called gross domestic private investment.
 - What the government spends on the purchase of goods and services i.e., government purchases.
 - What the foreign countries spend on the goods and services of the national economy over and above what this economy spends on the output of foreign countries i.e. exports minus imports.

Difficulties in the calculation of national income: Generally, two types of difficulties are encountered while calculating the national income viz. conceptual and the statistical difficulties. The conceptual difficulties are the following:

- i. The definition of nation for computing the national income.
- ii. The method employed in national income calculation

- iii. The stage of economic activity at which the national income is to be calculated.
- iv. The type of commodities and services which are to be taken into account in national income estimation.

The statistical Difficulties are:

- i. Lack of statistical data collection.
- ii. Problem of double counting.
- iii. Problem of transfer payment.

Significance of national income:

- i. It tells us the nature of the economy i.e. how economy works.
- ii. It tells us the relative importance of different economic activities of the economy.
- iii. National income data helps the planners and the policy makers to make future plans.
- iv. It tells us the standard of living of the economy.
- v. National income accounts if available for years can help us in making comparison.
- vi. With the help of National income accounting, we can assess the success of economic policies.

National income is not a true index of economic welfare, comment: National income is not a true index of economic development because of the following reasons:

- i. When NNI is very- very high but the distribution is very- very skewed, then it is not a true index of economic welfare.
- ii. If 80 per cent of GDP comes from defense, then it is not a true index of economic welfare.
- iii. National income is not a true index if we go through cultural values.
- iv. National income is not a true index of economic welfare due to environmental degradation.
- v. When the firm is more labor intensive or capital intensive, then it is not a true index of economic welfare.

Sectors of the economy: There are three sectors of the economy and these are:

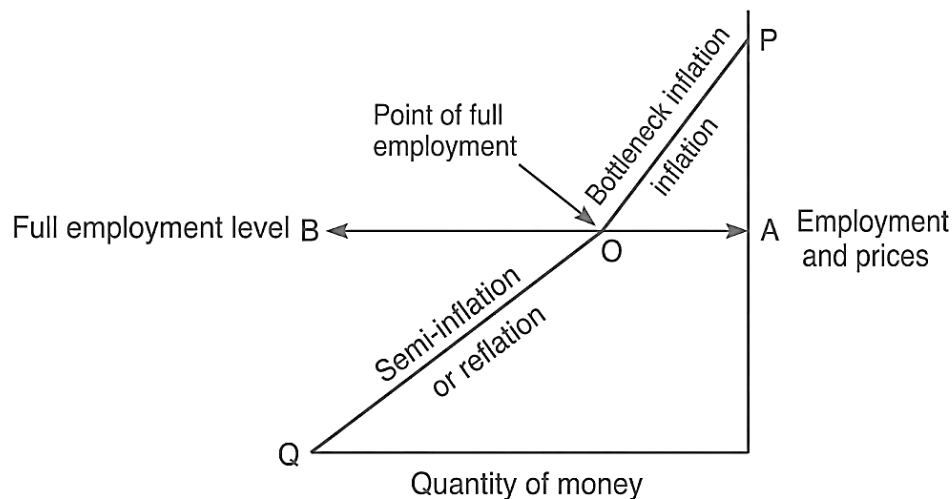
- i. **Primary sector:** It is that sector which provide raw material to industry. For example, agriculture, animal husbandry, forestry, fishing, mining, and quarrying (Slate mines).
- ii. **Secondary sector:** It is that sector which manufacture raw material provided by the primary sector. For example, manufacturing, construction, electricity, water supply.
- iii. **Tertiary sector:** It is that sector which provides services to primary as well as secondary sectors of the economy. For example, Transport, storage, trade hotels, communication and banking.

CHAPTER 13

INFLATION AND DEFLATION

Inflation: Crowther says inflation is a state in which the value of money is falling i.e. prices are rising. According to Autkley defines inflation as persistent and appreciable rise in the general price level. Inflation, thus, is a phenomenon characterized by high prices (falling value of money).

Keynes views of inflation and inflationary gap: According to him inflation is caused by an excess of effective demand. According to him, “so long as there is unemployment, employment will change in the same proportion as the quantity of money and when there is full employment, prices will change in the same proportion as the quantity of money”.



Inflationary gap: It shows a situation in an economy when anticipated expenditure (demand) exceeds that available output (supply) at the base prices or pre-inflation prices. Chancellor of exchequer (England) defines the gap as the amount of government expenditure against which there is no corresponding release of real resources of man power or material by some other member of the community. Thus, inflationary gap is measured by the difference between the disposable incomes on one hand output available for consumption on the other hand.

Deflation: Deflation is defined as a decrease in the level of prices in an economy and an increase in the purchasing power. In other words, it refers to the sustained decline in the price level of goods and services. It is just the reverse of inflation. Once deflation starts, it is harder to stop than inflation. It can be damaging to an economy.

Reflation: It refers to the process of bringing down prices moderately from their high level.

Types of inflation:

Creeping inflation: Creeping or mild inflation occurs when prices rise slowly. According to Federal Reserve, when prices increase by 2% or less and is scheduled to rise in the all the

coming years. Such inflation is not harmful but, it is beneficial for economic growth. It is also called as moderate inflation.

Walking inflation: In this case inflation rates falls between 3-10% annually. Such inflation can be harmful to the economy.

Running inflation: It is characterized by the price increase rate between 10-20% and is highly damaging to the poor and middle class.

Galloping inflation: Galloping inflation is a disaster for the economy when this increases to 10% or more than 10%. In this, money loses its value very rapidly. In such situation, there is too much instability in the economy.

Chronic inflation: If the creeping inflation persists (continue to increase) for a longer period, then it is often called as chronic or secular inflation.

Hyperinflation: it occurs when the prices go out of control and the monetary authorities are unable to impose any check on it. In such situation, prices rise at an alarming rate. It occurs when prices rise by more than 50% per month. Many example of this hyperinflation take place when the government pays during wars by printing more money.

Open inflation: Inflation is open when there is no barrier to price rise and it exists in the economy in the absence of government controls on price rise.

Ratchet inflation: Ratchet inflation (often called the "ratchet effect" in economics) describes a scenario where prices, wages, or production costs easily increase due to high demand, but refuse to drop back down when the demand cools off.

Stagflation: It is a condition in which slow economic growth (stagnation), rising prices (inflation) and rising unemployment all happen at the same time. In other word, it is a situation in which high rate of unemployment and inflation occurs simultaneously.

Demand-pull inflation: Demand poll inflation occurs when the demand for goods and services in an economy increases faster than the supply. In other words, we can say that when the economy's aggregate demand exceeds the economy's aggregate supply.

Cost-push inflation: This type of inflation occurs when it becomes more expensive to produce goods and provides services. This can be caused by rapidly increases wages or material costs.

Wage inflation: It occurs when worker's pay rises more than the cost of living. It can happen when there is shortage of workers or in other situation where wages are driven up quickly.

Inflation swap: Inflation swap is a contract used to transfer inflation risk from one party to another through an exchange or fixed cash flows.

Cause of inflation: Inflation is the gradual decrease in the purchasing power of money, meaning your money buys less over time. In simple terms, it happens when there is too much money chasing too few goods, which causes the overall price of goods and services to rise.

It can be caused by a variety of factors. Prices usually go up for one of three main reasons:

- **Too much demand (Demand-Pull):** When consumers and businesses have more money to spend, demand surges. If businesses cannot produce enough goods fast enough, they raise prices.
- **Higher production costs (Cost-Push):** If the cost to make or ship products goes up (like higher wages or more expensive raw materials), businesses pass those extra costs onto the customer.
- **Money supply:** If a central bank prints or circulates too much currency, the value of that currency goes down. Because the money is worth less, sellers require more of it to buy the same item.
- If a government prints a lot of money to pay its debts, this can lead to a wide spread decrease in the value of money which lead to inflation.

Control of inflation and deflation:

Inflation and deflation are managed through a combination of monetary, fiscal, and supply-side policies. The primary goal of these measures is to stabilize the money supply, balance aggregate demand with productive capacity, and restore healthy economic growth. [

Controlling inflation

Inflation is primarily caused by an excess of money chasing too few goods, which drives up prices.

- **Monetary policy:** Central banks (like the Reserve Bank of India) increase benchmark interest rate (e.g., the repo rate) to make borrowing expensive, which cools down consumer spending and business investments. They may also sell government securities in the open market to reduce overall money supply in the economy.
- **Fiscal policy:** Governments can reduce public spending on non-essential projects and increase direct or indirect taxes, effectively lowering disposable income and overall consumer demand.
- **Supply-side measures:** Authorities work to increase the availability of goods by boosting agricultural and industrial production, reducing import tariffs, and cracking down on hoarding.
- **Price controls:** In severe cases, governments may temporarily fix ceiling prices on essential items or offer subsidies to protect vulnerable consumers from extreme spikes.

Controlling deflation

Deflation is characterized by falling prices and reduced economic activity, often leading to lower wages, higher unemployment, and delayed consumer spending.

- **Monetary policy:** Central banks decrease interest rates to make borrowing highly accessible and affordable, encouraging consumers and businesses to spend and invest

rather than hoard cash. They may also implement unconventional measures like Quantitative Easing to pump money directly into the financial system.

- **Fiscal policy:** Governments increase public expenditure (such as on infrastructure) to stimulate job creation and directly boost aggregate demand. They may also cut taxes to leave individuals with more money to spend.

In India, The RBI control inflation and deflation by employing a variety of monetary policy tools such as Repo rate, Reverse Repo Rate, Bank Rate, Open market operation, Statutory Liquidity Ratio (SLR), Cash Reserve Ratio (CRR), Liquidity Adjustments Facilities (LAF) and market stabilization Schemes. Monetary policy primarily involves changing interest rates to control inflation. Government can reduce spending and increase taxes as a way to help reduce inflation. Quantitative easing, cutting tax rates, lowering interest rates, open market operations, lowering bank reserve limits, increasing spending by the government are the ways in which deflation can be controlled

Philips curve: An empirical relationship between the rate of change in wage rate and prices and the rate of unemployment which shows the inverse relationship between the rate of unemployment and that of inflation.

Price index, consumer price index, producer price index:

Price index: It is an indicator which measures the percentage change in the general price level with respect to base year taken as 100.

Consumer price index: Consumer Price Index (CPI) measures the cost of buying a fixed basket of goods and services representative of the purchases of urban consumer. It is used to measure the retail inflation. It covers both goods and services. It focuses on goods that are being purchased by the consumers. It is calculated by using the calendar year as a reference. It is published by Central Statistical Office. It is the final or the last stage of transaction.

Producer Price Index or Wholesale Price Index (WPI): The WPI is a measure of cost of a given basket of goods. It differs from the CPI partly in its coverage, which include for example raw material and semi finished goods. WPI is constructed from prices at the level of first significant commercial transaction. It is used to measure the wholesale inflation. It covers only goods. It focuses on goods that are traded only between wholesalers or businesses. It is calculated by using financial year as a reference. It is published by the office of Economic Advisor. It measures the initial or the first stage of transaction.

How to calculate retail inflation:

To better understand how inflation is calculated we can use an example. In this example we calculate inflation for a basket that has two items in it – books and childcare. The formula for calculating inflation for a single item is below.

$$\text{Inflation} = \frac{\text{Price}_{\text{year2}} - \text{Price}_{\text{year1}}}{\text{Price}_{\text{year1}}}$$

The price of a book was \$20 in 2016 (year 1) and the price increased to \$20.50 in 2017 (year 2).

The price of an hour of childcare was \$30 in 2016, and this increased to \$31.41 in 2017.

Using the formula, inflation for each of the individual items can be calculated.

- For books, annual inflation was 2.5 per cent
- For childcare, annual inflation was 4.7 per cent

To calculate inflation for a basket that includes books and childcare, we need to use the CPI weights that are based on how much households spend on these items. Because households spend more on childcare than books, childcare has a greater weight in the basket. Assume in this example, childcare accounts for 73 per cent of the basket and books account for the remaining 27 per cent. Using these weights and the change in prices of the items, annual inflation for this basket was 4.1 per cent – calculated as $(0.73 \times 4.7) + (0.27 \times 2.5)$.

How many commodities and services are taken into account for calculating inflation in India?

The exact number and types of commodities taken into account vary by the specific index and country:

In India:

- The CPI (calculated by the Ministry of Statistics and Programme Implementation - MOSPI) tracks a basket containing over 299 commodities and services. These are broadly categorized into groups like Food and Beverages, Fuel and Light, Housing, Clothing and Footwear, and miscellaneous services like education, healthcare, and transport.
- The WPI (managed by the Ministry of Commerce and Industry) calculates inflation for 697 commodities, grouped into three main categories: Primary Articles (117 items), Fuel and Power (16 items), and Manufactured Products (564 items).

Economic policy: Those rules and guidelines which control, regulate and direct the functioning of an economy, we call it as economic policy. These are monetary, fiscal and commercial policy.

Monetary policy: It is concerned with the amount of money in an economy.

Fiscal policy: It is in general concerned with taxes. Fiscal policy is the policy of the government with regard to the level of government purchases, level of transfer payment (pensions, unemployed compensation, and scholarships) and the tax structure.

Transfer payment: Transfer payment is the payment that does not represent compensation for current productive activities. For example: pension, scholarships and unemployment compensation.

Deferred payment: those payments which are to be paid later on.

International trade:

Balance of payment position:

The nation's Balance of payment is a summary statement of all the transactions of a nation with the rest of the world during the calendar year. Its main aim is to inform the government authority about the nation's national and international position in the international market and helps them to formulate monetary, fiscal and commercial policies. When a country's exports exceed the country's imports during the year, then we call it as a country is having favorable balance of payment position during the year. It is also known as trade surplus as the exports are greater than imports.

In contrast, if the nation's imports of the commodities' exceeds country's exports, then it is regarded as unfavorable balance of payment position of a country during the year. It can also be called as trade deficit as the as the country's exports are less than imports. India is suffered from an unfavorable BOP position or trade deficit with the rest of the world. It is balanced through accommodating capital. In other words, when the country is being suffered from unfavorable balance of payment position or trade deficit, then we go for devaluation. Devaluation brings about BOP's equilibrium primarily through an improvement in domestic versus international cost-price ratio. When country's BOP's position is very worst than we go for devaluation. When we have to increase our export, then also we go for devaluation. Devaluation simply means decrease in the value of a currency in terms of foreign currency. Whole sale prices are determined by demand and supply forces in the respective market.

When the country's exported the goods in the same proportion as that of country's imported the commodities, and then we call it as trade balance as the value of exported goods are equal to or in same proportion as that of imported goods. It means zero accommodating capital is required.

There are mainly three accounts that are made in BOP. These are current account; capital account; and official reserve account.

- **Current account:** shows the flow of goods, services and government grants between the nations and the rest of the world.
- **Capital account:** Shows the flow of investment and loans between the nations and the rest of the world.
- **Official reserve account:** shows the change in nation's official reserve (i.e. government) and liabilities needed to balance the current and capital account.

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Fundamentals of Agricultural Economics

(ISBN: 978-93-47587-37-5)

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